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Veille de l'IREDU

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Sommaire :

Acquisition de compétences 2
Aspects économiques de l'éducation 12
Aspects psychologiques de l'éducation 29
Aspects sociaux de l'éducation 59
Climat de l'école 80
Évaluation des dispositifs d'éducation-formation 82
Formation continue 82
Marché du travail 83
Métiers de l'éducation 86
Numérique et éducation 97
Orientation scolaire et professionnelle 136
Politique de l'éducation et système éducatif 139
Pratiques enseignantes 172
Réussite scolaire 182
Valeurs 185

Accédez au groupe Zotéro qui recense toutes les références citées depuis la veille n°121

Acquisition de compétences

Algan, Y., Beasley, E., Côté, S., Park, J., Tremblay, R. E., & Vitaro, F. (2022). **The Impact of Childhood Social Skills and Self-Control Training on Economic and Noneconomic Outcomes: Evidence from a Randomized Experiment Using Administrative Data**. *American Economic Review*, *112*(8), 2553-2579. https://doi.org/10.1257/aer.20200224
A childhood intervention to improve the social skills and self-control of at-risk kindergarten boys in the 1980s had positive impacts over the life course: higher trust and self-control as adolescents; increased social group membership, education, and reduced criminality as young adults; and increased marriage and employment as adults. Using administrative data, we find this intervention increased average yearly employment income by about 20 percent and decreased average yearly social transfers by almost 40 percent. We estimate that $1 invested in this program around age 8 yields about $11 in benefits by age 39, with an internal rate of return of around 17 percent.

Bonifacci, P., Trambagioli, N., Bernabini, L., & Tobia, V. (2022). **Home activities and cognitive skills in relation to early literacy and numeracy: testing a multifactorial model in preschoolers**. *European Journal of Psychology of Education*, *37*(3), 681-705. https://doi.org/10.1007/s10212-021-00528-2
The aim of the present study was to test environmental and cognitive variables as possible cross-domain predictors of early literacy and numeracy skills. One hundred forty-eight preschool children (mean age = 64.36 months ± 3.33) were enrolled in the study. The battery included a home literacy and home numeracy questionnaire, measures and phonological and visuo-spatial working memory, tasks tapping response inhibition, and predictors of literacy (vocabulary, phonological awareness, letter knowledge) and numeracy (magnitude comparison, number knowledge) skills. The structural equation model indicated that verbal working memory and, to a lesser extent, inhibition represented cross-domain predictors, whereas home numeracy activities and visuo-spatial working memory explained additional variance only for early numeracy skills. Implications for parents and educators are discussed.

Caemmerer, J. M., & Hajovsky, D. B. (2022). **Reciprocal Relations Between Children's Social and Academic Skills Throughout Elementary School**. *Journal of Psychoeducational Assessment*, *40*(6), 761-776. https://doi.org/10.1177/07342829221097186
The purpose of this study was to estimate the longitudinal and reciprocal predictive relations between children's social skills, measured by an adaptation of the frequently used Social Skills Rating Scale, and their standardized academic achievement. A large nationally representative sample of elementary school students were assessed at least annually from kindergarten through fifth grade in the Early Childhood Longitudinal Study, Kindergarten Class of 2010–2011 (n = 7963). Structural equation modeling was used to test a panel model of teacher-rated interpersonal and self-control skills and children's scores on standardized reading, math, and science achievement tests. Reciprocal relations between children's social skills and achievement were supported throughout elementary school, with achievement showing a stronger and consistent pattern of influence on children's subsequent social skills.

Chernyak, N., Harris, P. L., & Cordes, S. (2022). **A counting intervention promotes fair sharing in preschoolers**. *Child Development*, *93*(5), 1365-1379. https://doi.org/10.1111/cdev.13775

Recent work has probed the developmental mechanisms that promote fair sharing. This work investigated 2.5- to 5.5-year-olds' (N = 316; 52% female; 79% White; data collected 2016–2018) sharing behavior in relation to three cognitive correlates: number knowledge, working memory, and cognitive control. In contrast to working memory and cognitive control, number knowledge was uniquely associated with fair sharing even after controlling for the other correlates and for age. Results also showed a causal effect: After a 5-min counting intervention (vs. a control), children improved their fair sharing behavior from pre-test to post-test. Findings are discussed in light of how social, cognitive, and motivational factors impact sharing behavior.

Demeter, E., Dorodchi, M., Al-Hossami, E., Benedict, A., Slattery Walker, L., & Smail, J. (2022). **Predicting first-time-in-college students' degree completion outcomes**. *Higher Education*, *84*(3), 589-609. https://doi.org/10.1007/s10734-021-00790-9
About one-third of college students drop out before finishing their degree. The majority of those remaining will take longer than 4 years to complete their degree at "4-year" institutions. This problem emphasizes the need to identify students who may benefit from support to encourage timely graduation. Here we empirically develop machine learning algorithms, specifically Random Forest, to accurately predict if and when first-time-in-college undergraduates will graduate based on admissions, academic, and financial aid records two to six semesters after matriculation. Credit hours earned, college and high school grade point averages, estimated family (financial) contribution, and enrollment and grades in required gateway courses within a student's major were all important predictors of graduation outcome. We predicted students' graduation outcomes with an overall accuracy of 79%. Applying the machine learning algorithms to currently enrolled students allowed identification of those who could benefit from added support. Identified students included many who may be missed by established university protocols, such as students with high financial need who are making adequate but not strong degree progress.

Elenurm, T. (2022). **Training business students to use online networking for self-development**. *International Journal of Training and Development*, *26*(3), 516-530. https://doi.org/10.1111/ijtd.12269
This paper contributes to understanding opportunities to use social media for developing online networking skills that can be applied in entrepreneurial self-development. Analysis of business students' changing priorities in finding and using online social networks during the years 2008–2019 demonstrated the dominance of Facebook and, more recently, Instagram, compared to LinkedIn and more specialized networks for entrepreneurs. Students involved in knowledge sharing for travelling, sports, music and online gaming have a more detailed understanding of online social media as entrepreneurial self-development tools. Recent years demonstrated some desire to integrate online communication and joint actions in physical locations. Students need a deeper understanding of how their online communication and networking priorities can be aligned with their entrepreneurial network development and knowledge sharing priorities through social media. Our longitudinal research of student priorities in online social network use demonstrates to educators the importance of understanding the self-development paths of students when improving their skills to use online networking. Higher education should guide students to use online media to trace new entrepreneurship opportunities, expand their contact network and prepare them to reflect critically on online information dissemination practices.

Huang, Q. (2022). **Does learning happen? A mixed study of online chat data as an indicator of student participation in an online English course**. *Education and Information Technologies*, *27*(6), 7973-7992. https://doi.org/10.1007/s10639-022-10963-3
Student participation, as a significant indicator of class learning, has been investigated from various perspectives. The present research seeks to explore student participation by drawing on text data from the chat box of an online learning platform. The two main research questions concern the main types of student participation indicated by the online chat data as well as how extensively and frequently students had participated online in class. The written text messages of 84 university students in the chat box were recorded in an online English course for three months in consecutives. The findings revealed that students' online chat data generally fell into five major types: students' responses of factual information (62.77%) social interaction (15.74%), phatic communication (9.95%), tech-related messages (7.5%) and class schedule (4.5%). With 89% of participation concerning meaningful interactions and 11% of participation dealing with simple clarification of tech problems and class schedules, the findings suggest a highly active and meaningful online in-class participation. In addition, further descriptive statistics depicted the level of participation in terms of its frequency and breadth. Results showed that the active and meaningful online participation had been persistent over three months with an average of 74.52% regular participating students and average 410 chat messages sent one day. Implications were discussed in relation to the features of student participation.

Jayawickreme, E., & Fleeson, W. (2022). **How do intellectual virtues promote good thinking and knowing?** *Theory and Research in Education*, *20*(2), 200-204. https://doi.org/10.1177/14778785221113985
In a 2012 Theory and Research in Education article, Spiegel argued that intellectual humility and open-mindedness can mutually reinforce each other to produce good thinking and knowing. In this commentary, we build on this insight and discuss the likely importance of multiple intellectual virtues in producing good thinking. We argue that Spiegel's discussion of the relations between different intellectual virtues suggests new directions for theoretical and empirical work clarifying which virtues work together to promote good thinking.

Katchapakirin, K., Anutariya, C., & Supnithi, T. (2022). **ScratchThAI: A conversation-based learning support framework for computational thinking development**. *Education and Information Technologies*, *27*(6), 8533-8560. https://doi.org/10.1007/s10639-021-10870-z
Computational Thinking (CT) has been formally incorporated into the National Curriculum of Thailand since 2017, where Scratch, a block-based visual programming language, has been widely adopted as CT learning environment for primary-level students. However, conducting hands-on coding activities in a classroom has caused substantial challenges including mixed-ability students in the same class, high student-teacher ratio and learning-hour limitation. This research proposes and develops ScratchThAI as a conversation-based learning support framework for computational thinking development to support both students and teachers. More specifically, it provides learning experiences tailored to individual needs. Students can learn CT concepts and practice online coding anywhere, anytime. Moreover, through its ScratChatbot, students can ask for CT concept explanations, coding syntax or practice exercises. Additional exercises may be assigned to students based on the diagnosed

individual learning difficulties in a particular topic to provide possible and timely intervention. Teachers can track learning progress and performance of the whole class as well as of individuals through the dashboard and can take suitable intervention within limited school hours. Deploying ScratchThAI to several Thai schools has enabled this research to investigate its effectiveness in a school setting. The obtained results indicated positive teacher satisfaction, better learning performance and higher student engagement. Thus, ScratchThAI contributes as a possible and practical solution to CT skill development and CT education improvement under the aforementioned challenges in Thailand.

Kouakou, K. S. (2019). **Évaluation de l'information en milieu universitaire : cas des étudiants du second cycle de la faculté de médecine de pharmacie et d'odontologie de l'université cheikh Anta Diop de Dakar**. *Liens nouvelle série*, *28*(1), 32-45. Consulté à l'adresse https://hal.archives-ouvertes.fr/hal-03437567
Le présent article a pour objectif de décrire les perceptions des étudiants du second cycle de la faculté de médecine, de pharmacie et d'odontologie de l'université Cheikh Anta Diop de Dakar au regard des critères analytiques de l'évaluation de l'information. Pour ce faire, nous avons réalisé une enquête par questionnaire auprès d'un échantillon de 151 étudiants (soit 7% de la population d'étude). Les résultats montrent que les étudiants perçoivent principalement une information commne pertinente, fiable et de qualité que quand elle est objective, son contenu actualisé, en adéquation avec le besoin informationnel initial éditée par une institution reconnue et rédigée par un auteur dont l'expertise dans le domaine est tangible. Egalement, ils considèrent les critères : autorité de l'éditeur dans le domaine, méthodologie, niveau de spécificité de l'information et affiliation institutionnelle de l'auteur comme relativement importants pour déterminer de la qualité et de la crédibilité de l'information.

Lai, Y., Saab, N., & Admiraal, W. (2022). **Learning Strategies in Self-directed Language Learning Using Mobile Technology in Higher Education: A Systematic Scoping Review**. *Education and Information Technologies*, *27*(6), 7749-7780. https://doi.org/10.1007/s10639-022-10945-5
Language learners in higher education increasingly use out-of-class self-directed learning facilitated by mobile technology. In order to make informed educational decisions, this study sets out to provide an overview of empirical research into learning strategies that self-directed learners use with the support of mobile technology in language learning. Twenty studies were selected and systematically analysed, revealing the cognitive, metacognitive, social and affective strategies that self-directed learners used in their language learning processes. Low-cognitive strategies appeared to be more commonly reported than high-cognitive strategies. The use of metacognitive strategies was more closely associated with the forethought phase and performance phase than with the self-reflection phase, yet only a few articles reported all three metacognitive phases. Three kinds of social strategies were examined, and only one affective strategy was reported. Finally, implications of these findings and directions for future research are provided for self-directed learners, practitioners and researchers to facilitate self-directed learning and future work.

Lara-Steidel, H. (2022). **'Do your own research!' Misinformation, ignorance, and social media**. *Theory and Research in Education*, *20*(2), 205-209. https://doi.org/10.1177/14778785221113620

Writing in 2011, Philip Kitcher worried in 'Public knowledge and its enemies' that flaws in the dissemination of public knowledge would lead from a state of widespread ignorance to active resistance against expertise and more. Today, we seem to be living in the world Kitcher predicted, where a wide range of facts ranging from the results of democratic processes to public health information are deemed 'fake' by a significant part of the public. By engaging with Kitcher's piece, this article discusses Kitcher's states of ignorance, their implications, and how we may start addressing them.

May, R. J., Tyndall, I., McTiernan, A., Roderique-Davies, G., & McLoughlin, S. (2022). **The impact of the SMART program on cognitive and academic skills: A systematic review and meta-analysis**. *British Journal of Educational Technology*, *53*(5), 1244-1261. https://doi.org/10.1111/bjet.13192
Online interventions promoted to enhance cognitive ability hold great appeal for their potential positive impact in social, employment, and educational domains. Cognitive training programs have, thus far, not been shown to influence performance on tests of general cognitive aptitude. Strengthening Mental Abilities with Relational Training (SMART) is an online program that claims to raise intelligence quotient (IQ). This systematic review and meta-analysis evaluates the effect of SMART on indices of cognitive aptitude and academic performance. The review protocol was registered at PROSPERO (CRD42019132404). A systematic literature search of bibliographic databases (ERIC, PsycINFO, PubMed, Applied Social Sciences Index and Abstracts, Scopus, Proquest Psychology) identified five studies (N = 195) that met the criterion for inclusion. The risk of bias was assessed using the Cochrane Collaboration Risk of Bias 'RoB 2' tool. Overall, there was a moderate impact of SMART on measures of nonverbal IQ (g = 0.57, 95% CI [0.24, 0.89]). There was insufficient evidence to determine the impact of SMART on any other domain. All studies included in the review were judged to be at a high risk of bias for their primary outcome. Despite the methodological limitations of published studies to date, these initial findings suggest that a large-scale study of SMART is warranted. Practitioner notes What is already known about this topic SMART is a popular, commercially available online program that claims to improve cognitive skills in children. A number of controlled trials have investigated the efficacy of SMART and reported positive findings. There are no existing systematic reviews or meta-analyses of the literature for this intervention. What this paper adds The present study represents the first systematic review and meta-analysis of the effect of SMART on cognitive and educational outcomes. We identified five trials that met the criteria for inclusion in the review. All five studies were rated as having a high risk of bias using the Cochrane Collaboration Risk of Bias tool. We calculated a moderate overall impact of SMART on measures of nonverbal IQ. There was insufficient evidence to determine the impact of SMART in any other cognitive or educational domain. Implications for practice and/or policy Practitioners and/or teachers can use the review to inform their decisions about adopting SMART as an online educational tool. While the current findings are encouraging, the number of controlled trials conducted on SMART is small and the studies have a number of significant methodological limitations. We recommend that SMART be evaluated with larger and more robustly designed trials.

McLeod, S. (2022, août 2). **En vacances, les enfants oublient-ils vraiment tout ce qu'ils ont appris à l'école ?** Consulté 31 août 2022, à l'adresse The Conversation website: http://theconversation.com/en-vacances-les-enfants-oublient-ils-vraiment-tout-ce-quils-ont-appris-a-lecole-187481

Des études estiment que les élèves perdraient en été l'équivalent d'un mois d'apprentissage dans des matières comme les maths et l'orthographe. Mais certaines activités aident à limiter les oublis.

Meda, L., & Waghid, Z. (2022). **Exploring special need students' perceptions of remote learning using the multimodal model of online education**. *Education and Information Technologies*, *27*(6), 8111-8128. https://doi.org/10.1007/s10639-022-10962-4
The global pandemic of COVID-19 forced institutions of higher learning to implement emergency remote learning and to change pedagogical approaches to enhance access and success for all students. Students have mixed views about remote learning. The purpose of this study is to examine special educational needs and disabled students' perspectives of remote learning in the United Arab Emirates. The study was conducted using a qualitative case study within an interpretivist paradigm. Thirty-three special educational needs and disabled students were selected to complete an open-ended questionnaire and participate in semi-structured interviews. It was found that students applauded extraordinary convenience and reasonable accommodation they were getting as a result of remote learning. However, post COVID-19, the majority opted for face-to-face instruction as they described it as 'irreplaceable'. The study concludes that students' nature of special needs and disabilities are influential towards their choice of a mode of instruction.

Minja, J. J., Mbura, O. K., & Charles, G. (2022). **The influence of trainees' characteristics on the transfer of entrepreneurship training: Evidence from microfinance institutions in Tanzania**. *International Journal of Training and Development*, *26*(3), 448-471. https://doi.org/10.1111/ijtd.12266
While entrepreneurship training is essential for the growth and sustainability of enterprises, the literature identifies several challenges which contribute to insufficient transfer (application) of trained materials to enterprises. Yet, the extant literature on training transfer is inconclusive, with minimal focus on trainee personal characteristics and scarce visualization of transfer as a dimensional concept. The study addressed this gap by examining the influence of selected trainee demographics on dimensions of near, far and creative transfer of entrepreneurship training. Based on a survey of 418 trainees in Tanzanian community-based microfinance institutions, findings reveal that, each dimension of training transfer tested was influenced by a different set of demographic determinants. It was evident that elders were less enthusiastic about near and far application of entrepreneurship training. Males perceived slightly more training transfer in far and creative domains while those with higher education levels were more likely to apply training in all transfer dimensions. Those with exposure to entrepreneurship were more convinced of the value of applying the trained skills to near and creative domains. Consequently, the study advances Andragogy by showing the contextual nature of applicability of its principles, as well as the dependence of training transfer on contextual factors surrounding trainees.

Murat, F. (2022). **Que savent les jeunes à la fin de leurs études ? Les compétences en lecture, en calcul et en compréhension orale selon le parcours scolaire**. *Éducation & formations*, (104), 51-75. Consulté à l'adresse https://www.education.gouv.fr/media/116464/download

Ng, P. M. L., Chan, J. K. Y., & Lit, K. K. (2022). **Student learning performance in online collaborative learning**. *Education and Information Technologies*, *27*(6), 8129-8145. https://doi.org/10.1007/s10639-022-10923-x
Online collaborative learning (OCL) has received significant attention, but the ultimate goal of adopting OCL is neglected, especially in higher education context. To bridge the research gap, the present study applied OCL theory integrating with cognitive development to evaluate the effectiveness of student learning performance through OCL. To our knowledge, this is the first study to operationalize the constructs of idea generating, idea organizing and intellectual convergence of the OCL process developed by Harasim (2012)'s framework adapted from knowledge management perspectives. A sample of 373 respondents was collected from Sojump (http://www.sojump.com) using judgmental sampling method. Structural Equation Modelling (SEM) is employed to analyze the research model. All the hypotheses are supported in the model and the findings of this study provide a comprehensively understanding about student learning performance in the OCL process. The study illustrates that there are significant relationships among online collaborative tools, collaboration with peers, student engagement, OCL activities, and student learning performance. The study concludes that OCL promotes student engagement and teacher involvement to facilitate group discussion, ultimately strengthen student learning performance.

Nussenbaum, K., Velez, J. A., Washington, B. T., Hamling, H. E., & Hartley, C. A. (2022). **Flexibility in valenced reinforcement learning computations across development**. *Child Development*, *93*(5), 1601-1615. https://doi.org/10.1111/cdev.13791
Optimal integration of positive and negative outcomes during learning varies depending on an environment's reward statistics. The present study investigated the extent to which children, adolescents, and adults (N = 142 8–25 year-olds, 55% female, 42% White, 31% Asian, 17% mixed race, and 8% Black; data collected in 2021) adapt their weighting of better-than-expected and worse-than-expected outcomes when learning from reinforcement. Participants made choices across two contexts: one in which weighting positive outcomes more heavily than negative outcomes led to better performance, and one in which the reverse was true. Reinforcement learning modeling revealed that across age, participants shifted their valence biases in accordance with environmental structure. Exploratory analyses revealed strengthening of context-dependent flexibility with increasing age.

Oikarinen, R. M., Oikarinen, J. K., Havu-Nuutinen, S., & Pöntinen, S. (2022). **Students' collaboration in technology-enhanced reciprocal peer tutoring as an approach towards learning mathematics**. *Education and Information Technologies*, *27*(6), 7519-7548. https://doi.org/10.1007/s10639-021-10799-3
Technology-enhanced Reciprocal Peer Tutoring (RPT) was carried out with Finnish, nine to ten year-old primary school students (N=40). The RPT as a method of paired mathematics placed specific emphasis on electrical mathematical writing and drawing. Little is known about the important area of implementing digital mathematical skills at the primary level. The contribution of this study is to address the research gap in implementing Technological Pedagogical Content Knowledge (TPACK) into primary school students' digital mathematics learning. Data was collected from one primary school mathematics lessons by videotaping student's peer collaboration. In this empirical educational study, the data was analysed qualitatively with content analysis and

quantified based on the Contact Summary Sheet (CSS)-instrument and TPACK - framework. This work sheds a light on how students' collaboration such as instruction, thinking aloud, feedback, support and new ideas during their peer tutoring arouse students' mathematical attainment and technological discourse. The results indicate that all dimensions of TPACK emerged during primary school students Technology-enhanced RPT. Data reveals that there was a high degree of PK in all videotaped episodes. More research on RPT with an empirical electrical mathematical focus is needed.

Petitat, A. (2022). **Apprentissage et intelligences du vivant**. *Éducation et sociétés*, *48*(2), 115-147. Consulté à l'adresse https://www.cairn.info/revue-education-et-societes-2022-2-page-115.htm
Plusieurs apports scientifiques invitent à repenser l'apprentissage : l'épigénétique a remis en question la classique opposition entre l'inné et l'acquis, les neurosciences ont ouvert la boîte noire de la cognition, l'éthologie a disloqué le mur élevé entre humains et non-humains, la psychologie de l'enfant a mieux cerné l'articulation du sensorimoteur et du symbolique. L'intégration de ces nouveaux développements emprunte dans ce texte une perspective évolutive, en distinguant apprentissages génomique, sensorimoteur et symbolique. Chaque idéaltype d'apprentissage se caractérise par ses dynamismes propres, les transitions de l'un à l'autre demeurant encore relativement obscures. Cette intégration évolutive sollicite des concepts suffisamment amples pour englober le vivant dans son ensemble et suffisamment différenciables pour réfléchir les dynamiques particulières. L'article propose d'étendre et de différencier les concepts d'information, d'algorithme et d'artefact. Tous les vivants fabriquent et apprennent, et c'est en se plaçant sous l'égide de cette épiphanie "technique" que l'article appelle de ses vœux une analyse de la société numérique et de ses modalités d'apprentissage.

Rosales-Veítia, J. A., Cáceres-Barrutia, L., Cárdenas-Llaja, J. C., & Camacho-Guzmán, Y. (2022). **Continuous reading experience for the improvement of reading comprehension in Peruvian students**. *PURIQ*, *4*, e359. https://doi.org/10.37073/puriq.4.359

Ségal, E. (2022). ***Le dévoiement des savoir-être « en entreprise » : Usages sociaux et managériaux des compétences***. Consulté à l'adresse https://www.editions-harmattan.fr/livre-9782140281112?utm_source=phplist&utm_campaign=message_34274&utm_medium=email&utm_content=lienTitre
Dans les débats sociologiques sur le modèle de la compétence,la notion de «savoir-être» fait figure de tabou. Cet ouvrage propose de saisir les enjeux sociaux et managériaux de cette notion. Au-delà de cette vision comportementale présente enentreprise, Élodie Ségal montre que la notion de «savoir-être» recouvre des dimensions concrètes, notamment techniques, dans une activité de travail de plus en plus relationnelle. Les «savoir-être» sont envisagés comme des dispositions professionnelles développées par les individus pour maîtriser les relations formelles et informelles qui traversent l'entreprise, et les modes d'évaluation et de gestion des travailleurs privilégient les qualités morales ou sociales. L'étude menée auprès d'une vingtaine de groupes industriels depuis plus de vingt ans conduit à analyser les formes d'individualisation de la relation salariale provoquées par l'intronisation du modèle de la compétence dans le système productif français.

Shirish, A., Verstraete, N., & Chourabi, O. (2022). **The impact of ICT characteristics on students' learning outcomes during COVID-19 lockdown period: the crucial role of techno eustress perception**. *Human Systems Management*, 1-14. https://doi.org/10.3233/HSM-220059
BACKGROUND: The COVID-19 crisis led to an unprecedented acceleration of digital learning. It pushed many institutions to abruptly switch to fully online learning modes from face-to-face learning. Prior studies show that higher IT demands can cause challenge or hindrance stressors, depending on how the digital technology characteristics are perceived by the end-user. However, there is a gap in our knowledge regarding how ICT characteristics can lead to positive stress appraisals in a remote learning environment. OBJECTIVE: This paper leverages the person-environment fit and technostress literature to examine how usefulness and reliability as demand-ability stressors of ICT tools can positively impact learning outcomes among remote learning students. Techno eustress perceptions are evaluated as a crucial mechanism for theorizing the positive impact. METHODS: We used the survey method, sampling students (N=82) during the lockdown period to test this model. RESULTS: Our findings highlight the ICT characteristic of usefulness as salient in contributing to student learning outcomes as it promotes techno eustress. CONCLUSIONS: This is the first study to demonstrate a positive impact of ICT characteristics on student learning outcomes via techno eustress perceptions.

Tan, M. C. C., Chye, S. Y. L., & Teng, K. S. M. (2022). **"In the shoes of another": immersive technology for social and emotional learning**. *Education and Information Technologies*, *27*(6), 8165-8188. https://doi.org/10.1007/s10639-022-10938-4
There has been increasing use of interactive technologies in the classroom today and a rising popularity of employing virtual environments as a means to engage students in sensorially rich contexts for more embodied forms of experiential learning. In particular, virtual reality (VR) or immersive virtual environments (IVEs) facilitated by head-mounted displays (HMDs) have been used in the teaching of subject content such as history, geography and science. This article presents the findings of an exploratory study of immersive technology, specifically immersive virtual environments (IVES), for the purpose of social and emotional learning (SEL), in the context of Character and Citizenship lessons in the Singapore classroom. The social and emotional competencies (SECs) examined in this project were specifically empathy and perspective-taking, and responsible decision-making. The study involved a sample of n = 75 students from a cohort of students in a Singapore school, averaged at 15 years of age. Students were randomly divided into three treatment conditions: IVEs, pen-and-paper mental simulation and video-viewing. Each treatment contained a problem scenario, told from a first-person perspective, involving a social and ethical dilemma young people today face. A quasi-experimental, pre-test post-test, non-equivalent group design was employed, and the study adopted a mixed-method approach to data collection. The findings reveal that IVEs are not necessarily more effective than the "pen-and-paper" and video viewing approaches to teaching SECs but they can better facilitate perspective-taking and empathy for a higher percentage of students.

van der Baan, N., Raemdonck, I., Bastiaens, E., & Beausaert, S. (2022). **Employability competences of workers in health care and finance. The role of self-directed learning orientation and job characteristics**. *International Journal of Training and Development*, *26*(3), 427-447. https://doi.org/10.1111/ijtd.12264

Employability, defined as a set of competences that allow an individual to create and maintain a job, is pivotal for both organizations and employees. Organizations with an employable workforce remain competitive and individuals who are employable experience better career development. The present study investigates self-directed learning orientation (SDLO), job control, and job demand as predictors for three employability competences: occupational expertise, personal flexibility, and anticipation and optimization. Data were collected from a sample from two different sectors (health care and finance) in the Netherlands. A path model was built to investigate the relationships between the dependent and independent variables. Results indicate that SDLO and job demands relate positively to all three employability competences. These results suggest that employees with a self-directed learning orientation and employees working in a demanding job are more employable. In addition, we found that the positive relationship between SDLO and employability competences was moderated by job control. To create an employable workforce, supervisors and managers can promote employees' orientation toward self-directed learning and pay considerable attention to job design in terms of job demands and job control.

Veldkamp, A., Rebecca Niese, J., Heuvelmans, M., Knippels, M.-C. P. J., & van Joolingen, W. R. (2022). **You escaped! How did you learn during gameplay?** *British Journal of Educational Technology*, *53*(5), 1430-1458. https://doi.org/10.1111/bjet.13194
This study investigates the influence of the educational game design elements immersion, collaboration and debriefing, on fostering learning with educational escape rooms. We based the design of the escape room on an educational game design framework that aligns the learning goal and the game goal, that is, escaping from the room. One-hundred-and-twenty-six students, aged between 16 and 20 played the escape room. Measures for learning were pre-and post-tests. The game experience was measured through questionnaires, classroom observations and interviews with students and teachers. The results show a knowledge gain between pre-and post-test. Correlational analysis showed that all three design elements contributed to students' appreciation of the escape room, whereas only immersion had a direct contribution to knowledge gain. Based on the qualitative data it appeared that the used escape boxes contributed most to perceived immersion. Immersion helps students focus on each other and the tasks. Also, a narrative with distinct roles for each student helped to evoke immersion. Unexpectedly, these roles also scaffolded collaboration except for students in the school that engaged in a collaborative learning pedagogy. The study confirms the usability of the framework for game designs, based on theories for the design of physical and hybrid educational games. Practitioner notes What is already known about this topic The escape room as a learning environment appeals to teachers of different disciplines, ages, gender and teaching experiences. Teachers implement escape rooms to create active (hybrid) learning spaces, where learners need a combination of knowledge and skills to solve the subject-based activities. Students and teachers perceive that while participating in escape rooms, students are more engaged, active and learn more compared to regular classes. The assumption is that escape rooms support collaboration and automatically collaborative learning. Review studies on educational escape rooms show that a systematic evaluation is usually absent, disputable or indicates no knowledge gain. Teachers design their educational escape rooms based on digital escape games and/or their experience as players of escape rooms. For digital educational games, important game design aspects are researched. Three main

challenges in designing educational games are (1) the participants' transition from the real world to the game world, (2) the alignment of game design aspects and educational aspects and (3) the transfer from attained experiences and knowledge back into the real world. What this paper adds This paper evaluates an educational game design framework for escape rooms, focussing on the above-mentioned main challenges in designing educational games. It investigates the influence of the educational game design elements immersion, collaboration and debriefing, on fostering learning with a hybrid educational escape room. It informs that all three design elements contributed to students' appreciation of the escape room, whereas only immersion had a direct contribution to knowledge gain. The used hybrid escape boxes contributed most to the immersion; scaffolding students to focus on each other and the tasks. Students' collaboration was successfully fostered. However, it scarcely led to collaborative learning during gameplay, due to lack of discussion and reflection needed for deeper understanding. Implications for practice and/or policy The educational escape game framework would help educators creating immersive games, which not only confront learners with meaningful contexts but also give learning gains. The educational escape game framework would help researchers focussing on important and difficult aspects of designing and implementing educational escape rooms to develop and research more effective escape rooms. In guidelines on creating immersion in educational escape games, the notion of physical objects is lacking. In this hybrid escape room, the physical objects such as escape boxes were the most powerful in creating immersion. In addition, the use of sound design in escape games in classrooms seems overrated. Debriefing after the gameplay is perceived necessary to discuss common misunderstandings, to make connections between the topics in various puzzles and to add more content to interest high-achieving students.

Aspects économiques de l'éducation

Ahsan, M. N., Emran, M. S., Jiang, H., Han, Q., & Shilpi, F. (2022). ***Growing Up Together: Sibling Correlation, Parental Influence, and Intergenerational Educational Mobility in Developing Countries*** (GLO Discussion Paper Series N° 1123). Consulté à l'adresse Global Labor Organization (GLO) website: https://econpapers.repec.org/paper/zbwglodps/1123.htm

We present credible and comparable evidence on intergenerational educational mobility in 53 developing countries using sibling correlation as a measure, and data from 230 waves of Demographic and Health Surveys (DHS). This is the first paper, to our knowledge, to provide estimates of sibling correlation in schooling for a large number of developing countries using high quality standardized data. Sibling correlation is an omnibus measure of mobility as it captures observed and unobserved family, community, and school factors shared by siblings when growing up together. The estimates suggest that sibling correlation in schooling in developing countries is much higher (average 0.59) than that in developed countries (average 0.41). There is substantial spatial heterogeneity across regions, Latin America and Caribbean with the highest (0.65) and Europe and Central Asia with the lowest (0.48) estimates. Country level heterogeneity within a region is more pronounced. The evolution of sibling correlation suggests a variety of mobility experiences, with some regions registering a monotonically declining trend from the 1970s birth cohort to the 1990s birth cohort (Latin America and Caribbean and East Asia and Pacific), while others remained trapped in stagnancy (South Asia and Sub-Saharan Africa). The only region that experienced monotonically increasing sibling

correlation is Middle East and North Africa. We take advantage of the recent approach of Bingley and Cappellari (2019) to estimate the share of sibling correlation due to intergenerational transmission. We find that relaxing the homogeneity and independence assumptions implicit in the standard model of intergenerational transmission makes the estimated share much larger. In our sample of countries, on average 74 percent of sibling correlation can be attributed to intergenerational transmission, while there are some countries where the share is more than 80 percent (most in Sub-Saharan Africa). This suggests a dominant role for the parents in determining educational opportunities of children. Evidence on the evolution of the intergenerational share, however, suggests a declining importance of the intergenerational transmission component in many countries, but the pattern is very diverse. In some cases, the trend in the intergenerational share is opposite to the trend in sibling correlation.

Alderotti, G., Rapallini, C., & Traverso, S. (2022). ***The Big Five Personality Traits and Earnings: A Meta-Analysis*** [Working Papers - Economics]. Consulté à l'adresse Universita' degli Studi di Firenze, Dipartimento di Scienze per l'Economia e l'Impresa website: https://econpapers.repec.org/paper/frzwpaper/wp2022_5f14.rdf.htm
The past two decades have witnessed an increasing interest in the relationship between personality and labor market outcomes, as well as the emergence of the Five-Factor Model as the reference framework for the study of personality. In this paper, we provide the first meta-analytical review of the empirical literature on the association between personal earnings and the Big Five personality traits. The analysis combines the results of 62 peer-reviewed articles published between 2001-2020, from which we retrieved 896 partial effect sizes. Overall, the primary literature provides robust support for a positive association between personal earnings and the traits of Openness, Conscientiousness, and Extraversion, while simultaneously revealing a negative and significant association between earnings and the traits of Agreeableness and Neuroticism. We find no evidence of a substantial publication bias. Meta-regression estimates suggest that Openness and Conscientiousness are positively associated with earnings even when primary researchers control for individual cognitive abilities and educational attainments. Similarly, the studies that include labor market control variables exhibit weaker associations between earnings and Extraversion and Agreeableness. The results of the primary studies seem unaffected by the time at which the Big Five are measured, as well as by the scale and number of inventory items. Meta-regression estimates suggest that the results of the primary literature are not stable across cultures and gender, and that the ranking and academic field of the journal matter.

Algan, Y., Beasley, E., Côté, S., Park, J., Tremblay, R. E., & Vitaro, F. (2022). **The Impact of Childhood Social Skills and Self-Control Training on Economic and Noneconomic Outcomes: Evidence from a Randomized Experiment Using Administrative Data**. *American Economic Review*, *112*(8), 2553-2579. https://doi.org/10.1257/aer.20200224
A childhood intervention to improve the social skills and self-control of at-risk kindergarten boys in the 1980s had positive impacts over the life course: higher trust and self-control as adolescents; increased social group membership, education, and reduced criminality as young adults; and increased marriage and employment as adults. Using administrative data, we find this intervention increased average yearly employment income by about 20 percent and decreased average yearly social transfers by almost 40 percent. We estimate that $1 invested in this program around age 8 yields about $11 in benefits by age 39, with an internal rate of return of around 17 percent.

Amin, V., Behrman, J., Fletcher, J., Flores, C. A., Flores-Lagunes, A., & Kohler, H.-P. (2022). ***Does Schooling Improve Cognitive Abilities at Older Ages: Causal Evidence from Nonparametric Bounds*** (IZA Discussion Paper N° 15371). Consulté à l'adresse Institute of Labor Economics (IZA) website: https://econpapers.repec.org/paper/izaizadps/dp15371.htm
We revisit the much-investigated relationship between schooling and health, focusing on cognitive abilities at older ages using the Harmonized Cognition Assessment Protocol in the Health & Retirement Study. To address endogeneity concerns, we employ a nonparametric partial identification approach that provides bounds on the population average treatment effect using a monotone instrumental variable together with relatively weak monotonicity assumptions on treatment selection and response. The bounds indicate potentially large effects of increasing schooling from primary to secondary but are also consistent with small and null effects. We find evidence for a causal effect of increasing schooling from secondary to tertiary on cognition. We also replicate findings from the Health & Retirement Study using another sample of older adults from the Midlife in United States Development Study Cognition Project.

Baker, M., Drange, N., & Gjefsen, H. M. (2022). ***An Evaluation of a National Program to Reduce Student Absenteeism in High School*** (NBER Working Paper N° 30194). Consulté à l'adresse National Bureau of Economic Research, Inc website: https://econpapers.repec.org/paper/nbrnberwo/30194.htm
Starting in the 2016/17 academic year, high school students in Norway who missed more than 10 percent of the hours in a given course without a medical excuse could not receive a final grade. We examine the impacts of this policy on student absenteeism, the incidence of the no grade penalty and two measures of student achievement. The policy had the intended impact on absenteeism, reducing total absence by 20-28 percent, and chronic absence by 29-39 percent in the high school grades. This behavioral response was largely sufficient to avoid the academic penalty for absence over the 10 percent threshold under the new law. Finally, we find a mixed impact on student achievement: little impact on externally graded, end of year exams, and modest evidence of a positive impact of 6 percent of a standard deviation on teacher awarded GPA.

Belzil, C., Hansen, J., & Liu, X. (2022). ***The Evolution of Inequality in Education Trajectories and Graduation Outcomes in the US*** (Working Paper N° 2022-12). Consulté à l'adresse Center for Research in Economics and Statistics website: https://econpapers.repec.org/paper/crswpaper/2022-12.htm
We model the joint distribution of (i) individual education trajectories, defined by the allocation of time (semesters) between various combinations of school enrollment with different labor supply modalities and periods of school interruption devoted either to employment or home production and (ii) actual graduation outcomes using two cohorts of the National Longitudinal Survey of Youths which we follow from 16 to 28. We discuss the evolution of family income and ability effects where the latter are decomposed into an academic (cognitive) and a practical (technical-mechanical) latent ability factor component correlated with family income and background variables. We find that the individual cognitive-technical ability differential prevailing at 16 was increasing with income in the early 80's but much less so in the early 2000's. We find no evidence of any income-based « trajectory inequality » in either cohort, after conditioning on abilities.

Among all graduation and enrollment outcomes, college graduation is the only for which the effect of income has increased between the 1980's and the early 2000's but it reached a level no more important than the high school graduation income effect. In both cohorts, cognitive and technical abilities were the dominant factors but they affect most dimensions of individual trajectories and all graduation outcomes in opposite directions. However, the cognitive ability factor lost half of its effect on college graduation while the impact of the technical-mechanical factor has been more stable across cohorts.

Bietenbeck, J., Irmert, N., & Sepahvand, M. H. (2022). ***Teacher Subject Knowledge, Didactic Skills, and Student Learning in Francophone Sub-Saharan Africa*** (CESifo Working Paper Series N° 9781). Consulté à l'adresse CESifo website: https://econpapers.repec.org/paper/cesceswps/_5f9781.htm
We study the effects of two dimensions of teacher quality, subject knowledge and didactic skills, on student learning in francophone Sub-Saharan Africa. We use data from an international large-scale assessment in 14 countries that include individual-level information on student achievement and country-level measures of teacher subject knowledge and didactic skills in reading and math. Exploiting variation between subjects in a student fixed-effects model, we find that teacher subject knowledge has a large positive effect on student achievement, whereas the effect of didactic skills is comparatively small and not statistically significant at conventional levels. Together, the two dimensions of teacher quality account for 36 percent of the variation in average student achievement across countries.

Boero, G., Karanja, B., Naylor, R., & Thiele, T. (2022). ***Awarding gaps in higher education by ethnicity, schooling and family background*** [The Warwick Economics Research Paper Series (TWERPS)]. Consulté à l'adresse University of Warwick, Department of Economics website: https://econpapers.repec.org/paper/wrkwarwec/1410.htm
Previous research has established that undergraduate students in the UK who had attended private schools perform less well at university, on average, than equivalent students who had been educated at a state school prior to university (Smith and Naylor, 2001 and 2005; Crawford, 2014a). This well-known result has provided an evidence base for the use of contextualised offers in admissions across the sector (Schwartz Report, 2004; Hubble and Bolton, 2020) as an instrument for enhancing social mobility. In the current paper, we use a rich dataset for a particular university to examine whether the negative association between private schooling and class of degree awarded holds across all students, independent of ethnicity : we find that it does not. For White students, we obtain the standard result that private schooling is associated negatively with class of degree. However, in stark contrast, among students whose ethnicity is self-reported as either Black, Asian or Mixed Ethnicity, attendance at a private school prior to university is, on average, associated positively with the class of degree awarded. On further exploration, we find this is driven by a strong positive association among Black students and students of Mixed Ethnicity ; the overarching category of Black, Asian and Minority Ethnicity conceals substantive differences within the category. Among Asian students, the absence of any association between private schooling and degree class, on average, masks a very strong negative association for those from lower socioeconomic status backgrounds. We discuss and interpret our results in the context of hypotheses within the literatures on schooling effects and on the ethnicity awarding gap in higher education.

Borgen, N. T., Kirkebøen, L. J., Kotsadam, A., & Raaum, O. (2022). ***Do Funds for More Teachers Improve Student Outcomes?*** (CESifo Working Paper Series N° 9756). Consulté à l'adresse CESifo website: https://econpapers.repec.org/paper/cesceswps/_5f9756.htm
We investigate the effects of a large-scale Norwegian reform that provided extra teachers to 166 lower secondary schools with relatively high student-teacher ratios and low average grades. We exploit these two margins using a regression discontinuity setup and find that the reform reduced the student-teacher ratio by around 10% (from a base level of 22 students per teacher), with no crowding out of other school resources or parental support. However, the reform did not improve test scores and longer-term academic outcomes, and we can reject even small positive effects. We do find that the reform improved the school environment from the students' perspective, but with the largest impact on aspects most weakly associated with better academic outcomes.

Brown, C., Kaur, S., Kingdon, G., & Schofield, H. (2022). ***Cognitive Endurance as Human Capital*** (NBER Working Paper N° 30133). Consulté à l'adresse National Bureau of Economic Research, Inc website: https://econpapers.repec.org/paper/nbrnberwo/30133.htm
Schooling may build human capital not only by teaching academic skills, but by expanding the capacity for cognition itself. We focus specifically on cognitive endurance: the ability to sustain effortful mental activity over a continuous stretch of time. As motivation, we document that globally and in the US, the poor exhibit cognitive fatigue more quickly than the rich across field settings; they also attend schools that offer fewer opportunities to practice thinking for continuous stretches. Using a field experiment with 1,600 Indian primary school students, we randomly increase the amount of time students spend in sustained cognitive activity during the school day—using either math problems (mimicking good schooling) or non-academic games (providing a pure test of our mechanism). Each approach markedly improves cognitive endurance: students show 22% less decline in performance over time when engaged in intellectual activities—listening comprehension, academic problems, or IQ tests. They also exhibit increased attentiveness in the classroom and score higher on psychological measures of sustained attention. Moreover, each treatment improves students' school performance by 0.09 standard deviations. This indicates that the experience of effortful thinking itself—even when devoid of any subject content—increases the ability to accumulate traditional human capital. Finally, we complement these results with quasi-experimental variation indicating that an additional year of schooling improves cognitive endurance, but only in higher-quality schools. Our findings suggest that schooling disparities may further disadvantage poor children by hampering the development of a core mental capacity.

Charousset, P., & Monnet, M. (2022). ***Gendered Teacher Feedback, Students' Math Performance and Enrollment Outcomes: A Text Mining Approach*** [PSE Working Paper]. Consulté à l'adresse HAL website: https://econpapers.repec.org/paper/halpsewpa/halshs-03733956.htm
This paper studies how student gender influences the feedback given by teachers, and how this affects the student's performance in school. Using the written feedback provided to the universe of French high school students by their math teachers over a five-year period, we show that teachers use different words to assess the performance of equally able male and female students. Teachers highlight the positive behavior and encourage the efforts of their female students while, for similarly-performing males, they criticize the students for unruly behavior and praise them for their intellectual skills. To

understand how this relates to the student's subsequent educational outcomes, we then match these data to records from French national examinations, as well as these students' higher education application behavior and ultimate institution of enrollment. Using the quasi-random allocation of teachers to classes, we estimate that being assigned to a teacher with feedback that is one standard deviation more gendered improves student math performance by 1.6 percent of a standard deviation on average, but does not affect students' enrollment in higher education in the following year.

Cilliers, J., Dunford, E., & Habyarimana, J. (2022). **What Do Local Government Education Managers Do to Boost Learning Outcomes?** *The World Bank Economic Review*, *36*(3), 629-645. https://doi.org/10.1093/wber/lhac001
Recent public sector reforms have shifted responsibility for public service delivery to local governments, yet little is known about how their management practices or behavior shape performance. This study reports on a comprehensive management survey of district education bureaucrats and their staff that was conducted in every district in Tanzania, and employs flexible machine-learning techniques to identify important management practices associated with learning outcomes. It finds that management practices explain 10 percent of variation in a district's exam performance. The three management practices most predictive of performance are (a) the frequency of school visits, (b) school and teacher incentives administered by the district manager, and (c) performance review of staff. Although the model is not causal, these findings suggest the importance of incentives and active monitoring to motivate district staff, schools, and teachers, that include frequent monitoring of schools.

Clark, D. (2022). ***The Quality of Lower-Track Education: Evidence from Britain*** (NBER Working Paper N° 30174). Consulté à l'adresse National Bureau of Economic Research, Inc website: https://econpapers.repec.org/paper/nbrnberwo/30174.htm
For much of the 20th century, British students were tracked into higher-track (for the « top » 20%) or lower-track (for the rest) secondary schools. Opponents of tracking contend that the lower-track schools in these systems will inevitably provide low-quality education. In this paper I examine this claim using a 1947 reform that increased the minimum school leaving age from 14 to 15. First, I show that over 95% of the students affected by the reform (« compliers ») attended lower-track schools. Second, using new data, I show that for both men and women, the additional schooling induced by the reform had close to zero impact on a range of labor market outcomes including earnings. Third, I show that lower-track schools featured, among other things, large classes and a curriculum that promoted practical education. I conclude that my findings shed new light on the potential consequences of educational tracking.

Cockx, B., Declercq, K., & Dejemeppe, M. (2022). ***Losing Prospective Entitlement to Unemployment Benefits. Impact on Educational Attainment*** [Working Papers of Faculty of Economics and Business Administration, Ghent University, Belgium]. Consulté à l'adresse Ghent University, Faculty of Economics and Business Administration website: https://econpapers.repec.org/paper/rugrugwps/22_2f1049.htm
Providing income support to unemployed education-leavers reduces the returns to investments in education because it makes the consequences of unemployment less severe. We evaluate a two-part policy reform in Belgium to study whether conditioning the prospective entitlement to unemployment benefits for education-leavers on age or schooling attainment can affect educational achievements. The results show that the

prospect of financial loss in case of unemployment can significantly raise degree completion and reduce dropout in higher education, but not in high school. We argue that the higher prevalence of behavioral biases among lower educated and younger students could explain these contrasting findings.

Cohodes, S., Ho, H., & Robles, S. C. (2022). ***STEM Summer Programs for Underrepresented Youth Increase STEM Degrees*** (NBER Working Paper N° 30227). Consulté à l'adresse National Bureau of Economic Research, Inc website: https://econpapers.repec.org/paper/nbrnberwo/30227.htm
The federal government and many individual organizations have invested in programs to support diversity in the STEM pipeline, including STEM summer programs for high school students, but there is little rigorous evidence of their efficacy. We fielded a randomized controlled trial to study a suite of such programs targeted to underrepresented high school students at an elite, technical institution. The STEM summer programs differ in their length (one week, six weeks, or six months) and modality (on-site or online). Students offered seats in the STEM summer programs are more likely to enroll in, persist through, and graduate from college, with gains in institutional quality coming from both the host institution and other elite universities. The programs also increase the likelihood that students graduate with a degree in a STEM field, with the most intensive program increasing four-year graduation with a STEM degree attainment by 33 percent. The shift to STEM degrees increases potential earnings by 2 to 6 percent. Program-induced gains in college quality fully account for the gains in graduation, but gains in STEM degree attainment are larger than predicted based on institutional differences.

Deming, D. (2022). ***Four Facts about Human Capital*** (NBER Working Paper N° 30149). Consulté à l'adresse National Bureau of Economic Research, Inc website: https://econpapers.repec.org/paper/nbrnberwo/30149.htm
This paper synthesizes what economists have learned about human capital since Becker (1962) into four stylized facts. First, human capital explains at least one-third of the variation in labor earnings within countries and at least half of the variation across countries. Second, human capital investments have high economic returns throughout childhood and young adulthood. Third, we know how to build foundational skills such as literacy and numeracy, and resources are often the main constraint. Fourth, higher-order skills such as problem-solving and teamwork are increasingly valuable, and the technology for producing these skills is not well-understood. We know that investment in education works and that skills matter for earnings, but we do not always know why.

Erdmann, M., Pietrzyk, I. M., Schneider, J., Helbig, M., Jacob, M., & Allmendinger, J. (2022). ***Educational inequality after high school graduation - there is a way to change that: An inquiry into the effectiveness of an intensive counseling program 1.5 years after high school graduation*** (Discussion Papers, Presidential Department N° P 2022-003). Consulté à l'adresse WZB Berlin Social Science Center website: https://econpapers.repec.org/paper/zbwwzbpre/p2022003.htm
The German education system is characterized by strong social inequalities in university access. These may be reduced by offering individual counseling sessions to students in their final two years of high school. The study « Zukunftsund Berufspläne nach dem Abitur » (ZuBAb)1 examines how such intensive and individual guidance counseling affects participants' educational trajectories using an experimental design that allows for making internally valid inferences regarding the program's causal effects. Based on data

(N = 1,064) collected about 1.5 years after participants earned their university entrance diploma (Abitur), we looked at whether the program promotes university enrollment among persons of low educational origin, whether it reduces educational inequalities at the transition from school to higher education, and how educational trajectories change in the period between 0.5 years and 1.5 years after graduation, depending on whether students received counseling or not. The results show a strong program effect of 8 percentage points on university enrollment rates among persons of low educational origin and a strong inequality-reducing effect of the counseling program (15 percentage points or 71 percent in relative terms). The program's positive impact stems from the fact that participation tends to improve fit between a student's academic performance and the educational pathway chosen after graduation. Moreover, the results show that positive program effects begin to emerge only after 1.5 years post-graduation (whereas no positive effect was found 0.5 years after graduation) because persons who start a gap year experience (e.g., voluntary community service year) right after earning their Abitur are especially likely to benefit from program participation. Additionally, a detailed breakdown of educational trajectories over time shows that the program not only promotes university enrollment among persons of low educational origin and enrollment in vocational training schemes among persons of high educational origin but also, in descriptive terms, helps graduates start any kind of post-school educational pathway. The findings make clear that studies designed to make comprehensive inferences about the effects of educational programs should also consider persons of high educational origin and should look not only at university enrollment but also at the smooth transition to any kind of postsecondary educational pathway. They also show that researchers and practitioners need to be patient because there may be some delay until measurable positive effects of individual counseling sessions begin to unfold.

Ferreyra, M. M., Galindo, C., & Urzúa, S. S. (2022). ***Labor Market Effects of Short-Cycle Higher Education Programs: Lessons from Colombia*** (NBER Working Paper N° 30178). Consulté à l'adresse National Bureau of Economic Research, Inc website: https://econpapers.repec.org/paper/nbrnberwo/30178.htm
This paper estimates the heterogeneous labor market effects of enrolling in higher education short-cycle (SC) programs. Expanding access to these programs might affect the behavior of some students (compliers) in two margins: the expansion margin (students who would not have enrolled in higher education otherwise) and the diversion margin (students who would have enrolled in bachelor's programs otherwise). To quantify these responses, we exploit local exogenous variation in the supply of higher education institutions (HEIs) facing Colombian high school graduates in an empirical multinomial choice model with several instruments. According to our findings, the presence of at least one HEI specialized in SC programs in the vicinity of the student's high school municipality increases SC enrollment by 3.7-4.5 percentage points (40-50% of the SC enrollment rate). The diversion margin largely drives this effect. For female compliers, enrollment in SC programs increases formal employment relative to the next-best alternative. For male compliers, in contrast, it lowers formal employment and wages. These results should alert policymakers of the unexpected consequences of higher education expansionary policies.

Gibbons, S., Hupkau, C., McNally, S., & Overman, H. G. (2021). ***The Effects of College Capital Projects on Student Outcome*** [CVER Research Paper]. Consulté à l'adresse

Centre for Vocational Education Research website: https://econpapers.repec.org/paper/cepcverdp/035.htm
The general debate on the relationship between school resources and student outcomes is an old and controversial one (for reviews see, for example, Hanushek, 1989, 1997 and Gibbons and McNally, 2013), although there is less evidence on the effect of capital expenditure. This paper provides new evidence by studying the effect of capital expenditure in Further Education (FE) Colleges in England. These colleges provide post-compulsory schooling education, similar to US Community Colleges. About half of school leavers in England attend FE colleges, though they are generally considered the poor relation of schools and universities, enrolling lower achieving students and with less resources per student (Britton et al. 2019).1 Capital investment projects in these colleges have the potential to improve educational outcomes for large numbers of disadvantaged students and thus to facilitate social mobility. These colleges also have an important role to play in providing the intermediate and higher technical skills which are widely regarded as being in short supply in Britain.

Hall, C., Hardoy, I., & Lundin, M. (2022). ***Schooling in the Nordic countries during the COVID-19 pandemic*** (Working Paper Series N° 2022:13). Consulté à l'adresse IFAU - Institute for Evaluation of Labour Market and Education Policy website: https://econpapers.repec.org/paper/hhsifauwp/2022_5f013.htm
This article provides an overview of the extent of school closures and the use of distance learning in the Nordic countries during the COVID-19 pandemic (March 2020 to June 2021). Taking the preparedness of the educational systems into consideration and combining several reports summarising student and teacher experiences with research on the causal impact of distance learning, we discuss expected and revealed effects on student outcomes in the short and long term. Survey evidence indicates that the Nordic education systems were relatively well-prepared for a transition to distance learning in terms of access to digital technology. Overall, Sweden stands out as having kept compulsory schools open to a greater extent than the other countries, while policies put in place at the upper secondary level were more similar across the region. The literature suggests that school closures can be expected to have long term negative effects on skill formation and future earnings and that the negative impacts are likely to be larger for more disadvantaged students and larger the younger the students are when exposed to remote instruction. Given the extent of school closures, students in compulsory schooling in Norway, Finland and Denmark seem particularly vulnerable as do disadvantaged groups of upper secondary school students in all of the countries, since they have been exposed to distance learning for the longest periods. The size of the long-term effects will eventually depend on the success of policies put in place to counteract the potential negative effects.

Henrekson, M., & Wennström, J. (2022). ***The View of Knowledge: An Institutional Theory of Differences in Educational Quality*** (Working Paper Series N° 1432). Consulté à l'adresse Research Institute of Industrial Economics website: https://econpapers.repec.org/paper/hhsiuiwop/1432.htm
This essay argues that the most crucial institution of any school system is its view of knowledge—from which virtually all other aspects of a school are derived: the content of its curricula, its pedagogical practices, and the incentives that motivate its members. To make this case, we outline the two main conflicting views of knowledge, the classical view and the postmodern social constructivist view. According to the classical view, the

purpose of schooling is to give students objective knowledge and skills that they cannot acquire in any way other than through hierarchical instruction in well-defined disciplines. The social constructivist view rejects the existence of objective knowledge. This rejection translates to a preference for student-directed pedagogy, the mixing of instructional fields, and an emphasis on developing general critical thinking skills rather than on acquiring domain-specific knowledge. Using the history of education in Sweden as an example, our analysis suggests that the recent decline in educational quality in the Western democracies can be remedied by a paradigm shift in the governing view of knowledge toward the classical view.

Hill, D. V., Hughes, R. P., Lenard, M. A., Liebowitz, D. D., & Page, L. C. (2022). ***New Schools and New Classmates: The Disruption and Peer Group Effects of School Reassignment*** (NBER Working Paper N° 30085). Consulté à l'adresse National Bureau of Economic Research, Inc website: https://econpapers.repec.org/paper/nbrnberwo/30085.htm
Policy makers periodically consider using student assignment policies to improve educational outcomes by altering the socio-economic and academic skill composition of schools. We exploit the quasi-random reassignment of students across schools in the Wake County Public School System to estimate the academic and behavioral effects of being reassigned to a different school and, separately, of shifts in peer characteristics. We rule out all but substantively small effects of transitioning to a different school as a result of reassignment on test scores, course grades and chronic absenteeism. In contrast, increasing the achievement levels of students' peers improves students' math and ELA test scores but harms their ELA course grades. Test score benefits accrue primarily to students from higher-income families, though students with lower family income or lower prior performance still benefit. Our results suggest that student assignment policies that relocate students to avoid the over-concentration of lower-achieving students or those from lower-income families can accomplish equity goals (despite important caveats), although these reassignments may reduce achievement for students from higher-income backgrounds.

Kirkebøen, L. J. (2022). ***School Value-Added and Long-Term Student Outcomes*** (CESifo Working Paper Series N° 9769). Consulté à l'adresse CESifo website: https://econpapers.repec.org/paper/cesceswps/_5f9769.htm
Several recent studies find that interventions in schools can have important lasting consequences for students, and that schools differ in their contribution to students' learning. However, there is less research investigating how these differences between schools influence longer-term outcomes, especially outside the US. In this paper I study the value-added (VA) of Norwegian schools, where between-school differences are smaller than in the US. I find that VA indicators are able to predict in-school performance without bias. Furthermore, VA is strongly related to long-term outcomes, and differences between schools in VA correspond to meaningful differences in long-term outcomes. For example, a one standard deviation higher VA corresponds to 1.9 percent higher earnings at around age 32. Three quasi-experiments using variation from student mobility and changes in neighborhoods' assignment to schools indicate that the differences captured by the VA indicators do indeed reflect differences in school quality, rather than unobserved student characteristics. Analyses of teacher grades and exam scores suggest that the former are heavily influenced by relative grading, and that the effect of exam score VA on long-term outcomes reflects the effects of competencies and skills acquired in school. In addition to shedding light on the differences in and mechanisms

of school quality, the findings help connect learning outcomes with later labor market outcomes, e.g. for cost-benefit analysis of interventions in schools.

Kurokawa, H., Igei, K., Kitsuki, A., Kurita, K., Managi, S., Nakamuro, M., & Sakano, A. (2022). ***Nudges to Increase the Effectiveness of Environmental Education*** [Discussion paper]. Consulté à l'adresse Research Institute of Economy, Trade and Industry (RIETI) website: https://econpapers.repec.org/paper/etidpaper/22047.htm
We ran randomized controlled trials to evaluate the effectiveness of our environmental education class and the impact of the nudge and boost on studentsâ€™ attitudes and behaviors toward environmental issues. We found that our environmental education class significantly improves the studentsâ€™ basic knowledge of the environment and concerns about plastic waste. Although there is no evidence that nudges and boosts amplify the effect of environmental education on basic knowledge of the environment, nudges are successful in making students who received environmental education more concerned about plastic waste. Our results also show that nudges and boosts can change studentsâ€™ pro-environmental behaviors. Students who were assigned to treatment groups with nudges or boosts are more likely to refuse free wet wipes provided at convenience stores. These results indicate that our interventions change studentsâ€™ pro-environmental behaviors only if the cost of changing their behaviors is low.

Kuuppelomäki, T. (2021). ***School selectivity and mental health: Evidence from regression discontinuity design*** (Working Paper N° 333). Consulté à l'adresse TyÃ¶n ja talouden tutkimus LABORE, The Labour Institute for Economic Research LABORE website: https://econpapers.repec.org/paper/pstwpaper/333.htm
The school environment forms a large part of adolescents' lives and can thus have a large impact on their mental health. However, fairly little is known on the specific impact of school characteristics, such as selectivity. In this paper, comprehensive Finnish register data is used to investigate how studying at a more selective, preferred upper secondary school affects students'short- and long-term mental health. A regression discontinuity design is employed for the analysis, finding that, while access to more selective school has little overall effect on individual's short- or long-term mental health, it does have positive effects during the time of matriculation examinations. Further analysis also reveals heterogeneity based on the selectivity difference between the preferred school and next-best alternative.

Lesuisse, P. (2022). ***Education, public expenditure and economic growth under the prism of performance*** [Working Paper]. Consulté à l'adresse HAL website: https://econpapers.repec.org/paper/halwpaper/hal-03685311.htm
Recursively in the literature, public spending on education is found to have an ambiguous impact on economic growth. Using World Development Indicators from the World Bank, we revisit an endogenous growth model from Blankenau et al. (2007), over the last thirty years. Considering the fiscal effect, we analyse the empirical relationship between public spending on education and economic development. Despite having a positive and significant impact on the overall group of 65 countries belonging to upper-middle and high-income countries, our main results are not robust to subgroups , focusing on the economic development. Once we control for the performance of public expenditure, to effectively generate human capital, we find a positive and significant impact from increasing expenditure on education, in what we call « performing

countries ». Our results demonstrate that increasing spending on education cannot be growth enhancing without considering the prism of performance.

Machin, S., McNally, S., Terrier, C., & Ventura, G. (2020). ***Closing the Gap Between Vocational and General Education? Evidence from University Technical Colleges in England*** [CVER Research Paper]. Consulté à l'adresse Centre for Vocational Education Research website: https://econpapers.repec.org/paper/cepcverdp/031.htm
Some countries, notably those which have long had a weak history of vocational education like the UK and the US, have recently seen a rapid expansion of hybrid schools which provide both general and vocational education. England introduced « University Technical Colleges » (UTCs) in 2010 for students aged 14 to 18. 48 UTCs are currently open. We use a spatial instrumental variable approach based on geographical availability to evaluate the causal effect of attending a UTC on student academic and vocational achievement and on their labour market outcomes. For those pupils who enter the UTC at a non-standard transition age of 14, UTCs dramatically reduce their academic achievement on national exams at age 16. However, for students who enter at a more conventional transition age of 16, UTCs boost vocational achievement without harming academic achievement. They also improve achievement in STEM qualifications, and enrolment in apprenticeships. By age 19, UTC students are less likely to be unemployed and more likely to study STEM at university.

Marcus, J., Siedler, T., & Ziebarth, N. R. (2022). **The Long-Run Effects of Sports Club Vouchers for Primary School Children**. *American Economic Journal: Economic Policy*, *14*(3), 128-165. https://doi.org/10.1257/pol.20200431
The Long-Run Effects of Sports Club Vouchers for Primary School Children by Jan Marcus, Thomas Siedler and Nicolas R. Ziebarth. Published in volume 14, issue 3, pages 128-65 of American Economic Journal: Economic Policy, August 2022, Abstract: Childhood obesity is one of the most serious public heal...

McNally, S., Schmidt, L., & Valero, A. (2022). ***Do Management Practices Matter in Further Education?*** [CVER Research Paper]. Consulté à l'adresse Centre for Vocational Education Research website: https://econpapers.repec.org/paper/cepcverdp/036.htm
Further Education colleges are a key way in which 16-19 year olds acquire skills in the UK (much like US Community Colleges), especially those from low income backgrounds. Yet, little is known about what could improve performance in these institutions. We design and conduct the world's first management practices survey in these colleges (based on the World Management Survey) and match this to administrative longitudinal data on over 40,000 students. Value added regressions with rich controls suggest that structured management matters for educational outcomes (e.g. upper secondary qualifications), especially for students from low-income backgrounds. In a hypothetical scenario where a learner is moved from a college at the 10th percentile of management practices to the 90th, this would be associated with 8% higher probability of achieving a good high school qualification, which is nearly half of the educational gap between those from poor and non-poor backgrounds. Hence, improving management practices may be an important channel for reducing inequalities.

Moreira, D. B., & Perez, S. (2022). ***Who Benefits from Meritocracy?*** (IZA Discussion Paper N° 15341). Consulté à l'adresse Institute of Labor Economics (IZA) website: https://econpapers.repec.org/paper/izaizadps/dp15341.htm

Does screening applicants using exams help or hurt the chances of lower-SES candidates? Because individuals from lower socioeconomic backgrounds fare, on average, worse than those from richer backgrounds in standardized tests, a common concern with this "meritocratic" approach is that it might have a negative impact on the opportunities of lower-SES individuals. However, an alternative view is that, even if such applicants underperformed on exams, other (potentially more discretionary and less impersonal) selection criteria might put them at an even worse disadvantage. We investigate this question using evidence from the 1883 Pendleton Act, a landmark reform in American history which introduced competitive exams to select certain federal employees. Using newly assembled data on the socioeconomic backgrounds of government employees and a difference-in-differences strategy, we find that, although the reform increased the representation of "educated outsiders" (individuals with high education but limited connections), it reduced the share of lower-SES individuals. This decline was driven by a higher representation of the middle class, with little change in the representation of upper- class applicants. The drop in the representation of lower-SES workers was stronger among applicants from states with more unequal access to schooling as well as in offices that relied more heavily on connections prior to the reform. These findings suggest that, although using exams could help select more qualified candidates, these improvements can come with the cost of increased elitism.

Mountjoy, J. (2022). **Community Colleges and Upward Mobility**. *American Economic Review*, *112*(8), 2580-2630. https://doi.org/10.1257/aer.20181756
Two-year community colleges enroll nearly half of all first-time undergraduates in the United States, but to ambiguous effect: low persistence rates and the potential for diverting students from four-year institutions cast ambiguity over two-year colleges' contributions to upward mobility. This paper develops a new instrumental variables approach to identifying causal effects along multiple treatment margins, and applies it to linked education and earnings registries to disentangle the net impacts of two-year college access into two competing causal margins: significant value added for two-year entrants who otherwise would not have attended college, but negative impacts on students diverted from immediate four-year entry.

Ni, S., Podgursky, M., & Wang, F. (2022). **How Much Are Public School Teachers Willing to Pay for Their Retirement Benefits? Comment**. *American Economic Journal: Economic Policy*, *14*(3), 478-493. https://doi.org/10.1257/pol.20200763
How Much Are Public School Teachers Willing to Pay for Their Retirement Benefits? Comment by Shawn Ni, Michael Podgursky and Fangda Wang. Published in volume 14, issue 3, pages 478-93 of American Economic Journal: Economic Policy, August 2022, Abstract: In a widely cited study, Fitzpatrick (2015) fo...

Oikawa, M., Tanaka, R., Bessho, S., Kawamura, A., & Noguchi, H. (2022). ***Do Class Closures Affect Students' Achievements? Heterogeneous effects of students' socioeconomic backgrounds*** [Discussion paper]. Consulté à l'adresse Research Institute of Economy, Trade and Industry (RIETI) website: https://econpapers.repec.org/paper/etidpaper/22042.htm
This paper examines how class closures affect the academic achievements of Japanese students in primary and middle schools, with a special focus on the heterogeneous effects of the socioeconomic backgrounds of studentsâ€™ households. Utilizing the administrative data of students from a city in the Tokyo Metropolitan Area, we estimated

the effects of class closures due to flu epidemics, on the studentsâ€™ language and math test scores. We find that class closures adversely affect math test scores of economically disadvantaged students. The magnitudes of the negative effects on disadvantaged students are heterogeneous by subject, grade in school, gender, timing of class closures, and studentsâ€™ pre-class-closure achievements. Male students from economically disadvantaged households are more susceptible to class closures, and those with relatively low achievements before class closures suffer more seriously from them. The deleterious effects among economically disadvantaged male students are driven not only by reductions in class hours in school, but also by increases in time spent watching TV and playing video games. We also find that school resources can mitigate the negative impact of class closure among economically disadvantaged students. These results indicate the importance of public programs in preventing a negative temporal shock to student learning environments.

Phillips, M., & Reber, S. (2022). **Does Virtual Advising Increase College Enrollment? Evidence from a Random-Assignment College Access Field Experiment**. *American Economic Journal: Economic Policy*, *14*(3), 198-234. https://doi.org/10.1257/pol.20200515
Does Virtual Advising Increase College Enrollment? Evidence from a Random-Assignment College Access Field Experiment by Meredith Phillips and Sarah Reber.

Pillot, J. (2022, août 10). **« Le pour et le contre » : Faut-il augmenter les droits d'inscription à l'université ?** Consulté 31 août 2022, à l'adresse The Conversation website: http://theconversation.com/le-pour-et-le-contre-faut-il-augmenter-les-droits-dinscription-a-luniversite-175106
Le Conseil Constitutionnel a encore réaffirmé récemment le principe de gratuité de l'enseignement supérieur, mais de nombreux arguments plaident pour un relèvement des frais de scolarité.

Pollakowski, H. O., Weinberg, D. H., Andersson, F., Haltiwanger, J. C., Palloni, G., & Kutzbach, M. J. (2022). **Childhood Housing and Adult Outcomes: A Between-Siblings Analysis of Housing Vouchers and Public Housing**. *American Economic Journal: Economic Policy*, *14*(3), 235-272. https://doi.org/10.1257/pol.20180144
Childhood Housing and Adult Outcomes: A Between-Siblings Analysis of Housing Vouchers and Public Housing by Henry O. Pollakowski, Daniel H. Weinberg, Fredrik Andersson, John C. Haltiwanger, Giordano Palloni and Mark J. Kutzbach. Published in volume 14, issue 3, pages 235-72 of American Economic Jour...

Pugatch, T., & Thompson, P. (2022a). ***Excellence for all? University honors programs and human capital formation*** (GLO Discussion Paper Series N° 1112). Consulté à l'adresse Global Labor Organization (GLO) website: https://econpapers.repec.org/paper/zbwglodps/1112.htm
Can public university honors programs deliver the benefits of selective undergraduate edu- cation within otherwise nonselective institutions? We evaluate the impact of admission to the Honors College at Oregon State University, a large nonselective public university. Admission to the Honors College depends heavily on a numerical application score. Nonlinearities in admis- sions probabilities as a function of this score allow us to compare applicants with similar scores, but different admissions outcomes, via a fuzzy regression kink design. The first stage is strong, with takeup of Honors College programming closely following nonlinearities in admissions prob- abilities. To estimate the

causal effect of Honors College admission on human capital formation, we use these nonlinearities in the admissions function as instruments, combined with course- section fixed effects to account for strategic course selection. Honors College admission increases course grades by 0.10 grade points on the 0-4 scale, or 0.14 standard deviations. Effects are concentrated at the top of the course grade distribution. Previous exposure to Honors sections of courses in the same subject is a leading potential channel for increased grades. However, course grades of first-generation students decrease in response to Honors admission, driven by low performance in natural science courses. Results suggest that selective Honors programs can accelerate skill acquisition for high-achieving students at public universities, but not all students benefit from Honors admission.

Pugatch, T., & Thompson, P. N. (2022b). ***Excellence for All? University Honors Programs and Human Capital Formation*** (IZA Discussion Paper No 15354). Consulté à l'adresse Institute of Labor Economics (IZA) website: https://econpapers.repec.org/paper/izaizadps/dp15354.htm
Can public university honors programs deliver the benefits of selective undergraduate education within otherwise nonselective institutions? We evaluate the impact of admission to the Honors College at Oregon State University, a large nonselective public university. Admission to the Honors College depends heavily on a numerical application score. Nonlinearities in admissions probabilities as a function of this score allow us to compare applicants with similar scores, but different admissions outcomes, via a fuzzy regression kink design. The first stage is strong, with takeup of Honors College programming closely following nonlinearities in admissions probabilities. To estimate the causal effect of Honors College admission on human capital formation, we use these nonlinearities in the admissions function as instruments, combined with course-section fixed effects to account for strategic course selection. Honors College admission increases course grades by 0.10 grade points on the 0-4 scale, or 0.14 standard deviations. Effects are concentrated at the top of the course grade distribution. Previous exposure to Honors sections of courses in the same subject is a leading potential channel for increased grades. However, course grades of first-generation students decrease in response to Honors admission, driven by low performance in natural science courses. Results suggest that selective Honors programs can accelerate skill acquisition for high-achieving students at public universities, but not all students benefit from Honors admission.

Rentería, J. (2022). ***The collateral effects of private school expansion in a deregulated market: Peru, 1996-2019*** [Université Paris1 Panthéon-Sorbonne (Post-Print and Working Papers)]. Consulté à l'adresse HAL website: https://econpapers.repec.org/paper/halcesptp/halshs-03704338.htm
This paper explores the mid-term effects of the de facto privatization that has taken place in the Peruvian educational system. It exploits exogenous policy shocks as well as two sources of variation, namely the geographical location of the new private schools and the year of birth of individuals. Both variables determine the degree of exposure to the private school expansion process. The results suggest that this phenomenon has contributed neither to increasing access to formal education nor to improving wages in the labor market. This evidence raises concerns about the impact of privatization on the quality of the education system as a whole as well the regulatory role of the State

Roson, R. (2022). ***Education, Labor Force Composition, and Growth. A General Equilibrium Analysis*** (Working Paper No 2022:07). Consulté à l'adresse Department of Economics, University of Venice « Ca' Foscari » website: https://econpapers.repec.org/paper/venwpaper/2022_3a07.htm
We propose, in this paper, a novel approach to modelling education and human capital formation in a computable general equilibrium model. Rather than adopting microeconomic-based assumptions of human capital formation, the method is based on an empirical relationship between labor force composition and expenditure in education services. After realizing a set of econometric estimates, we found some robust relationship between workersâ€™ shares in the labor force and educational expenditure, in real terms and per capita. To assess the implications of these findings, we simulate, in a conventional CGE model for Ethiopia, the impact of an increase in public expenditure devoted to education. Our simulation results highlight the existence of a multiplicative effect, such that the overall increase in the supply of education services, in the final equilibrium state, is more than three times larger than the initial demand push. This comes associated with a positive supply shock, entailing gains in productivity, income, and welfare, as well as changes in the structure of the economy.

Rude, B. (2022). ***Can We Grow with our Children? The Effects of a Comprehensive Early Childhood Development Program*** (Ifo Working Paper Series No 372). Consulté à l'adresse ifo Institute - Leibniz Institute for Economic Research at the University of Munich website: https://econpapers.repec.org/paper/cesifowps/_5f372.htm
I exploit the staggered roll-out of a universal early childhood development program in Chile to assess the impact of a comprehensive approach to early childhood development on outcomes in middle childhood. Using variation across time and municipalities, I study outcomes such as school performance, cognitive development, parental stress, household relationships, and health. I use administrative data on students as well as newborns in Chile, standardized test scores of all 4th graders, and an extensive early childhood development survey. I find positive and significant effects on school performance. The effect is less pronounced for girls and the socioeconomically vulnerable population. The improvements in learning outcomes are driven by improvements in intra-household relations. Comprehensive programs are powerful tools but have several flaws.

Schmitz, L. (2022). ***Heterogeneous Effects of After-School Care on Child Development*** (Discussion Papers of DIW Berlin No 2006). Consulté à l'adresse DIW Berlin, German Institute for Economic Research website: https://econpapers.repec.org/paper/diwdiwwpp/dp2006.htm
It is often argued that institutionalized after-school care (ASC) can benefit children lacking adequate homework support at home and, hence, foster equality of opportunity. However, despite considerable policy interest, it is unclear whether these afternoon programs are beneficial for child development and if selection into them is efficient, i.e., whether students benefiting most from the programs choose to attend. In this paper, I examine the effects of ASC on elementary school children's schooling outcomes and non-cognitive skill development. Using a marginal treatment effect framework and regional and temporal variation caused by an extensive reform in Germany, I instrument after-school care attendance with the change in the distance to the next school offering ASC within one district. My findings suggest that children from lower socioeconomic backgrounds, who more often select into treatment, have higher

ASC premiums. Concerning schooling outcomes, I find minor positive local average treatment effects but no effect heterogeneity concerning unobserved characteristics. ASC effects on the treated's non-cognitive skills are more sizable than those on the untreated, suggesting that selection into ASC is positive and efficient. Overall, a universal voluntary offer of ASC will likely help reduce educational inequalities.

Schwerter, J., Netz, N., & H\"ubner, N. (2022). ***Do school reforms shape study behavior at university? Evidence from an instructional time reform*** [Paper]. Consulté à l'adresse arXiv.org website: https://econpapers.repec.org/paper/arxpapers/2207.09843.htm
Early-life environments can have long-lasting developmental effects. Interestingly, research on how school reforms affect later-life study behavior has hardly adopted this perspective. Therefore, we investigated a staggered school reform that reduced the number of school years and increased weekly instructional time for secondary school students in most German federal states. We analyzed this quasi-experiment in a difference-in-differences framework using representative large-scale survey data on 71,426 students who attended university between 1998 and 2016. We found negative effects of reform exposure on hours spent attending classes and on self-study, and a larger time gap between school completion and higher education entry. Our results support the view that research should examine unintended long-term effects of school reforms on individual life courses.

Shan, X., & Zölitz, U. (2022). ***Peers Affect Personality Development*** (IZA Discussion Paper No 15257). Consulté à l'adresse Institute of Labor Economics (IZA) website: https://econpapers.repec.org/paper/izaizadps/dp15257.htm
Do the people around us influence our personality? To answer this question, we conduct an experiment with 543 university students who we randomly assign to study groups. Our results show that students become more similar to their peers along several dimensions. Students with more competitive peers become more competitive, students with more open-minded peers become more open-minded, and students with more conscientious peers become more conscientious. We see no significant effects of peers'extraversion, agreeableness, or neuroticism. To explain these results, we propose a simple model of personality development under the influence of peers. Consistent with the model's prediction, personality spillovers are concentrated in traits predictive of performance. Students adopt personality traits that are productive in the university context from their peers. Our findings highlight that socialization with peers can influence personality development.

Silva, P. L., Sá, C., Biscaia, R., & Teixeira, P. N. (2022). ***High School and Exam Scores: Does Their Predictive Validity for Academic Performance Vary with Programme Selectivity?*** (IZA Discussion Paper No 15350). Consulté à l'adresse Institute of Labor Economics (IZA) website: https://econpapers.repec.org/paper/izaizadps/dp15350.htm
Students are admitted into higher education based on their past performance. This paper compares two measures of past cognitive skills: teacher and national exam scores. By using a nationwide dataset, we look at how the predictive power of teacher assessment and exam scores for selecting successful students may vary with the degree of selectivity of higher education programmes. We find that teacher scores predict students' performance in higher education more accurately, and its predictive power remains the same independently of the selectivity programme indicator considered. We found that national exam scores are noisier and only gain relevance for highly selective

programmes. Furthermore, we explore national exams' volatility and institutional selectivity as potential mechanisms to justify the results. Our results provide solid policy hints on the role that high school scores and admission exams should have for access and performance in higher education.

Wood, W. J., Lai, I., Filosa, N. R., Imberman, S., Jones, N. D., & Strunk, K. O. (2022). ***Are Effective Teachers for Students with Disabilities Effective Teachers for All?*** (NBER Working Paper N° 30212). Consulté à l'adresse National Bureau of Economic Research, Inc website: https://econpapers.repec.org/paper/nbrnberwo/30212.htm
The success of many students with disabilities (SWDs) depends on access to high-quality general education teachers. Yet, most measures of teacher value-added measures (VAM) fail to distinguish between a teacher's effectiveness in educating students with and without disabilities. We create two VAM measures: one focusing on teachers' effectiveness in improving outcomes for SWDs, and one for non-SWDs. We find top-performing teachers for non-SWDs often have relatively lower VAMs for SWDs, and that SWDs sort to teachers with lower scores in both VAMs. Overall, SWD-specific VAMs may be more suitable for identifying which teachers have a history of effectiveness with SWDs and could play a role in ensuring that students are being optimally assigned to these teachers.

Aspects psychologiques de l'éducation

Abrahamson, D., & Mechsner, F. (2022). **Toward Synergizing Educational Research and Movement Sciences: a Dialogue on Learning as Developing Perception for Action**. *Educational Psychology Review*, *34*(3), 1813-1842. https://doi.org/10.1007/s10648-022-09668-3
What could possibly be a meaningful conversation between educational researchers and movement scientists? Curiously, they have much in common. Both groups of researchers increasingly (1) appreciate the human capacity to enact perceptually guided movement as an overarching psychological model of thinking, problem-solving, and learning; (2) theorize the development of perceptual structures, including actual and imaginary percepts, as a key epistemic vehicle for solving motor-control problems; and (3) promote a view of abstract thinking as movement-grounded and movement-oriented perceptual dynamics. Probing toward theoretical synergy between these traditionally disparate fields of research, the present article is built as an interdisciplinary conversation between two researchers—of mathematics education and movement science, respectively—who become aware of their intellectual alignment, garner new insights and inspirations from each other's work, and speculate on implications of this concordance for their fields. Future exploration into the unity of movement and cognition could enrich dialogue between manifold disciplines, with the overall goal of clarifying, developing, and integrating an interdisciplinary common foundation and framework for the benefit of education.

Aldrup, K., Carstensen, B., & Klusmann, U. (2022). **Is Empathy the Key to Effective Teaching? A Systematic Review of Its Association with Teacher-Student Interactions and Student Outcomes**. *Educational Psychology Review*, *34*(3), 1177-1216. https://doi.org/10.1007/s10648-021-09649-y

Teachers' social-emotional competence has received increasing attention in educational psychology for about a decade and has been suggested to be an important prerequisite for the quality of teacher-student interactions and student outcomes. In this review, we will summarize the current state of knowledge about the association between one central component of teachers' social-emotional competence—their empathy—with these indicators of teaching effectiveness. After all, empathy appears to be a particularly promising determinant for explaining high-quality teacher-student interactions, especially emotional support for students and, in turn, positive student development from a theoretical perspective. A systematic literature research yielded 41 records relevant for our article. Results indicated that teachers reporting more empathy with victims of bullying in hypothetical scenarios indicated a greater likelihood to intervene. However, there was neither consistent evidence for a relationship between teachers' empathy and the degree to which they supported students emotionally in general, nor with classroom management, instructional support, or student outcomes. Notably, most studies asked teachers for a self-evaluation of their empathy, whereas assessments based on objective criteria were underrepresented. We discuss how these methodological decisions limit the conclusions we can draw from prior studies and outline perspective for future research in teachers' empathy.

Alsudais, A. S., Alghamdi, A. S., Alharbi, A. A., Alshehri, A. A., Alzhrani, M. A., Keskin, S., … Althubaiti, A. M. (2022). **Social anxiety in E-Learning: Scale validation and socio-demographic correlation study**. *Education and Information Technologies*, *27*(6), 8189-8201. https://doi.org/10.1007/s10639-022-10919-7
During the ongoing coronavirus disease 2019 pandemic, over 1.5 billion students worldwide have been deprived of access to traditional learning. This situation has necessitated the use of social distancing-based educational methods; consequently, a tremendous shift towards e-learning has been observed. This study assesses medical students' social anxiety levels in e-learning environments. The study was conducted in two phases. In the first phase, the original Turkish Social Anxiety Scale for E-Learning Environments (SASE) was adapted in English and tested for validity and reliability. This instrument has two subscales: social anxiety in learner-learner interaction and in learner-instructor interaction. In the second stage, we explored the associations of gender, age, and perceived academic performance with medical students' social anxiety levels in e-learning environments. A total of 325 responses were analysed. Consistent with the original version, the adapted scale is a reliable and valid measure of social anxiety in e-learning. Social anxiety in e-learning was related to gender ($p = 0.008$) and age ($p = 0.013$). Social anxiety levels were higher in students with lower perceived performance during e-learning compared to students with enhanced performance, but the difference was not significant. The SASE is a useful instrument for evaluating social anxiety in e-learning environments across English educational frameworks. Considering the shift in social interaction environments, efforts are required to reduce medical students' social anxiety levels and enhance learning.

Aminu, N., Pon, K., Ritchie, C., & Ivanov, S. (2022). **Student motivation and satisfaction: Why choose an international academic franchise programme rather than a home one?** *International Journal of Training and Development*, *26*(3), 407-426. https://doi.org/10.1111/ijtd.12263
As globalisation increases, Higher Education Institutions are challenged to produce more young graduates to meet the corporate world's demand for highly qualified, mobile

international managers. Business and management programmes are required to have international components to attract the best students. To date, the majority of research has focused on the management and quality of such programmes with few studies undertaken from the students' perspective. This article examines students' motivations to study on an internationally franchised academic programme, prior expectations and whether these were met. Students of international franchised management programmes at both undergraduate and postgraduate level studying in five different countries were asked what motivated them to choose this form of study over other possibilities open to them, their prior expectations and how satisfied they were with their actual experiences. The results confirmed some previous findings, i.e. the significance of enhanced employability potential. However, they also identified new themes, showing how the students' funders influenced the choice of study and how that influence was affected by gender. The results also queried students' true motivation for these programmes and the international academic franchisees' potential to meet those expectations fully.

An, M., Zhang, X., Wang, Y., Zhao, J., & Kong, L. (2022). **Reciprocal relations between achievement goals and academic performance in a collectivist higher education context: a longitudinal study**. *European Journal of Psychology of Education*, *37*(3), 971-988. https://doi.org/10.1007/s10212-021-00572-y
This study examined the bidirectional longitudinal relations between achievement goals and academic performance among Chinese college students. The Achievement Goal Questionnaire was administered to a sample of Chinese college students (N = 311) in their first and third years of study. Their end-of-term grade point averages were used as measures of their academic performance. Two-wave longitudinal data were collected and analyzed using a longitudinal design within a structural equation modeling framework. The results revealed positive reciprocal relations between performance approach goals and academic performance and negative reciprocal relations between performance avoidance goals and academic performance. In contrast, mastery goals were not significantly associated with academic performance. The implications of these results are discussed.

Andrés, M. L., Canet-Juric, L., García-Coni, A., Olsen, C. D., Vernucci, S., Galli, J. I., … Richaud, M. C. (2022a). **Executive Functions and Academic Performance: The Moderating Role of Distress Tolerance**. *Mind, Brain, and Education*, *16*(3), 197-208. https://doi.org/10.1111/mbe.12330
The aim of this study was to analyze the moderating effect of distress tolerance (DT) on the relationship between executive functions and academic performance (AP). Participants were 270 children aged 9–12 years. Executive functions (EFs)—working memory (WM), inhibition, and cognitive flexibility—and DT were evaluated using computerized tasks. Direct measures of reading comprehension and mathematical calculation, as well as school grades, were used to assess AP. Results showed that verbal WM and cognitive flexibility were positively associated with reading indicators, but to a greater extent among children with medium and low DT. A positive association was found between visuospatial WM, and a mathematical indicator, to a greater extent among children with medium and low DT. The EFs did not show explanatory capacity for AP in children with high DT. These results suggest that DT could function as a "compensatory" resource.

Andrés, M. L., Canet-Juric, L., García-Coni, A., Olsen, C. D., Vernucci, S., Galli, J. I., … Richaud, M. C. (2022b). **Executive Functions and Academic Performance: The Moderating Role of Distress Tolerance**. *Mind, Brain, and Education*, *16*(3), 197-208. https://doi.org/10.1111/mbe.12330
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Araújo, S., Domingues, M., & Fernandes, T. (2022). **From Hand to Eye: a Meta-Analysis of the Benefit from Handwriting Training in Visual Graph Recognition**. *Educational Psychology Review*, *34*(3), 1577-1612. https://doi.org/10.1007/s10648-021-09651-4
Handwriting (HW) training seems to boost recognition of visual graphs and learning to read more than other learning experiences. However, effects across studies appear to be variable and the underlying cognitive mechanism has been elusive. We thus conducted a meta-analysis on 50 independent experiments (with 1525 participants) to determine the magnitude of this HW benefit in visual graph recognition, while enlightening the underlying cognitive mechanism, by investigating four types of moderators: training program (type of control training, presence/absence of phonological training, and HW tasks adopted); set size and training regime (duration and frequency of session and total amount of training); granularity of visual discrimination and perceptual learning tasks; and age of participants. The benefit from HW training was moderate-to-large and significant (Hedge's g = 0.58, SE = .09) and was also modulated by the type of control training (larger relative to motor, g = 0.78, than to visual control, g = 0.37), phonological training (larger when it was absent, g = 0.79, than present, g = 0.47), and granularity of visual discrimination (larger for fine-grained, g = 0.93, than coarse-grained, g = 0.19). These results seem consistent with symbolic accounts that hold that the advantage from HW training in visual graph recognition is about perceptual learning rather than the motor act. Multiple meta-regressions also revealed that training regime moderated the HW benefit. We conclude that HW training is effective to improve visual graph recognition, and hence is still relevant for literacy instruction in the present digital era.

Badali, S., Rawson, K. A., & Dunlosky, J. (2022). **Do Students Effectively Regulate Their Use of Self-Testing as a Function of Item Difficulty?** *Educational Psychology Review*, *34*(3), 1651-1677. https://doi.org/10.1007/s10648-022-09665-6
Retrieval practice is beneficial for both easy-to-learn and difficult-to-learn materials, but scant research has examined students' use of self-testing for items of varying difficulty. In two experiments, we investigated whether students differentially regulate their use of self-testing for easy and difficult items and assessed the effectiveness of students' self-regulated choices. Undergraduate participants learned normatively easy and

normatively difficult Lithuanian-English word pair translations. After an initial study trial, participants in the self-regulated learning groups chose whether they wanted to restudy an item, take a practice test, or remove an item from further practice. Participants chose to test items repeatedly while learning but dropped both easy and difficult items after reaching a criterion of about one correct recall per item. Consequently, final test performance 2 days later was lower for difficult items versus easy items, and performance was lower in the self-regulated learning group than in an experimenter-controlled comparison group (in Experiment 1). In Experiment 2, we tested hypotheses for why participants reached a similar number of correct recalls for both easy and difficult items. Three new groups included different scaffolds aimed at minimizing potential barriers to effective regulation. These scaffolds did not change participants' learning choices, and as a result, performance on difficult items was still lower than on easy items. Importantly, participants planned to continue practicing items beyond one correct recall and believed that an optimal student should practice difficult items more than easy items, but they did not execute this plan during the learning task.

Bäulke, L., Grunschel, C., & Dresel, M. (2022). **Student dropout at university: a phase-orientated view on quitting studies and changing majors**. *European Journal of Psychology of Education*, *37*(3), 853-876. https://doi.org/10.1007/s10212-021-00557-x
Student dropout can be conceptualized as a decision-making process, consisting of different phases. Based on previous literature on student dropout, decision-making, and action-phases, we proposed that the process of developing dropout intentions includes the following phases: non-fit perception, thoughts of quitting/changing, deliberation, information search, and a final decision. In the present cross-sectional study, we empirically investigated if the assumed phases can be distinguished from each other, if the phases follow the presumed order, and whether each phase is associated with certain characteristics. Furthermore, we considered a strict separation between quitting studies completely and changing a major. For this purpose, we analyzed data of N = 1005 students (average age of 23.0 years; 53% female; 47% male) from a German University. By using confirmatory factor analyses, we found the supposed factor structure for the different phases concerning both kinds of dropout, quitting studies, and changing majors. In each process, structural equation modelling indicated positive relations between adjoining phases. The factor values correlated to a substantial amount with an assortment of variables associated with student dropout. On a theoretical level, the conception of different phases of student dropout helps to get a better understanding of regulatory processes in the context of student dropout.

Ben-Uri, I., Melfi, G., Arcidiacono, F., & Bova, A. (2022). **Work-family conflict and facilitation among teachers in Israel and Switzerland**. *European Journal of Psychology of Education*, *37*(3), 729-744. https://doi.org/10.1007/s10212-021-00562-0
In this paper, we examine the attitudes toward integrating work and family in a sample of 247 teachers in Switzerland and Israel. More particularly, we focus on the national context's role in mediating the relations between professional and private spheres. The data were collected by a questionnaire implemented and administered in the two countries. The analysis reveals differences between Israeli and Swiss teachers regarding the importance of attribution to life roles and their attitudes toward conflict and facilitation. Findings suggest new insights into the consideration of cultural elements in shaping the teachers' attitudes toward the integration of family and work.

Bialo, J. A., & Li, H. (2022). **Fairness and Comparability in Achievement Motivation Items: A Differential Item Functioning Analysis**. *Journal of Psychoeducational Assessment*, *40*(6), 722-743. https://doi.org/10.1177/07342829221090113
Achievement motivation is a well-documented predictor of a variety of positive student outcomes. However, given observed group differences in motivation and related outcomes, motivation instruments should be checked for comparable item and scale functioning. Therefore, the purpose of this study was to evaluate measurement scale comparability and differential item functioning (DIF) in PISA 2015 achievement motivation items across gender and ethnicity using pairwise and multiple-group comparisons. In addition, DIF was investigated in relation to a common base group that reflected the sample average. Results indicated DIF between gender groups and between the base group and female students. For ethnicity, DIF was consistently flagged in pairwise comparisons with Black/African American students and Asian students as well as in base group comparisons. However, the identified DIF had little practical implications. Implications from these findings are discussed, and recommendations for future research are made.

Blanch, A. (2022). **Chess Instruction Improves Cognitive Abilities and Academic Performance: Real Effects or Wishful Thinking?** *Educational Psychology Review*, *34*(3), 1371-1398. https://doi.org/10.1007/s10648-022-09670-9
In accordance with the outcomes from a number of reports, there are cognitive and academic improvements derived from chess learning and chess playing. This evidence, however, endures three key limitations: (a) ignoring theoretical premises about the concept of transfer, (b) several shortcomings regarding ideal experiment guidelines, and (c) an uncritical faith in null hypothesis significance testing (NHST) statistical analyses. The present review scrutinized the NHST outcomes from 45 studies describing chess instruction interventions (n = 12,705) in nineteen countries that targeted cognitive ability (100 tests) and academic performance (108 tests), with a mean Hedge's effect size g = 572 (95% CI = [0.127, 1.062]). There was a lower average statistical power, a higher proportion of false positive outcomes, larger publication biases, and lower replication rates for the studies in the academic performance domain than in the cognitive ability domain. These findings raised reasonable concerns over the evidence about the benefits of chess instruction, which was particularly problematic regarding academic achievement outcomes. Chess should perhaps be regularly taught, however, regardless of whether it has a direct impact or not in cognitive abilities and academic performance, because these are far transfer targets. The more likely impact of chess on near transfer outcomes from higher quality studies remains at present unexplored.

Blaney & Barrett. (2022). **Advancing Gender Equity and Sense of Belonging in Computing: Are Documented Best Practices Representative of Upward Transfer Students?** *Community College Journal of Research and Practice*, *46*(9), 633-653. https://doi.org/10.1080/10668926.2021.1896396
Supporting upward transfer students is critical to diversifying STEM. This study provides insight into how we can best support upward transfer students in computing, one of the least diverse STEM disciplines. Specifically, we expand upon recent research on sense of belonging to examine how the predictors of belonging might be unique for upward transfer students, focusing closely on upward transfer women's experiences. Findings highlight three unique predictors of sense of belonging for upward transfer students beyond those documented in prior research on students in the aggregate. Other college

experiences – like feeling supported by computing peers – positively predicted belonging for all students, but were not equitably available to upward transfer students, with upward transfer women reporting the lowest levels of peer support compared to all other groups.

Bonifacci, P., Trambagioli, N., Bernabini, L., & Tobia, V. (2022). **Home activities and cognitive skills in relation to early literacy and numeracy: testing a multifactorial model in preschoolers**. *European Journal of Psychology of Education*, *37*(3), 681-705. https://doi.org/10.1007/s10212-021-00528-2
The aim of the present study was to test environmental and cognitive variables as possible cross-domain predictors of early literacy and numeracy skills. One hundred forty-eight preschool children (mean age = 64.36 months ± 3.33) were enrolled in the study. The battery included a home literacy and home numeracy questionnaire, measures and phonological and visuo-spatial working memory, tasks tapping response inhibition, and predictors of literacy (vocabulary, phonological awareness, letter knowledge) and numeracy (magnitude comparison, number knowledge) skills. The structural equation model indicated that verbal working memory and, to a lesser extent, inhibition represented cross-domain predictors, whereas home numeracy activities and visuo-spatial working memory explained additional variance only for early numeracy skills. Implications for parents and educators are discussed.

Bozdağ, F., & Bilge, F. (2022). **Scale Adaptation for Refugee Children: Sense of School Belonging and Social Contact**. *Journal of Psychoeducational Assessment*, *40*(6), 744-760. https://doi.org/10.1177/07342829221094402

Brown, C., Kaur, S., Kingdon, G., & Schofield, H. (2022). ***Cognitive Endurance as Human Capital*** (NBER Working Paper N° 30133). Consulté à l'adresse National Bureau of Economic Research, Inc website: https://econpapers.repec.org/paper/nbrnberwo/30133.htm
Schooling may build human capital not only by teaching academic skills, but by expanding the capacity for cognition itself. We focus specifically on cognitive endurance: the ability to sustain effortful mental activity over a continuous stretch of time. As motivation, we document that globally and in the US, the poor exhibit cognitive fatigue more quickly than the rich across field settings; they also attend schools that offer fewer opportunities to practice thinking for continuous stretches. Using a field experiment with 1,600 Indian primary school students, we randomly increase the amount of time students spend in sustained cognitive activity during the school day—using either math problems (mimicking good schooling) or non-academic games (providing a pure test of our mechanism). Each approach markedly improves cognitive endurance: students show 22% less decline in performance over time when engaged in intellectual activities—listening comprehension, academic problems, or IQ tests. They also exhibit increased attentiveness in the classroom and score higher on psychological measures of sustained attention. Moreover, each treatment improves students' school performance by 0.09 standard deviations. This indicates that the experience of effortful thinking itself—even when devoid of any subject content—increases the ability to accumulate traditional human capital. Finally, we complement these results with quasi-experimental variation indicating that an additional year of schooling improves cognitive endurance, but only in higher-quality schools. Our findings suggest that schooling disparities may further disadvantage poor children by hampering the development of a core mental capacity.

Caemmerer, J. M., & Hajovsky, D. B. (2022). **Reciprocal Relations Between Children's Social and Academic Skills Throughout Elementary School**. *Journal of Psychoeducational Assessment*, *40*(6), 761-776. https://doi.org/10.1177/07342829221097186
The purpose of this study was to estimate the longitudinal and reciprocal predictive relations between children's social skills, measured by an adaptation of the frequently used Social Skills Rating Scale, and their standardized academic achievement. A large nationally representative sample of elementary school students were assessed at least annually from kindergarten through fifth grade in the Early Childhood Longitudinal Study, Kindergarten Class of 2010–2011 (n = 7963). Structural equation modeling was used to test a panel model of teacher-rated interpersonal and self-control skills and children's scores on standardized reading, math, and science achievement tests. Reciprocal relations between children's social skills and achievement were supported throughout elementary school, with achievement showing a stronger and consistent pattern of influence on children's subsequent social skills.

Chen, O., Paas, F., & Sweller, J. (2022). **Reply to Sana et al.'s (2022) Commentary on Rest-from-Deliberate-Learning as a Mechanism for the Spacing Effect**. *Educational Psychology Review*, *34*(3), 1851-1858. https://doi.org/10.1007/s10648-022-09678-1
Sana and colleagues (2022) have raised a number of challenges regarding the operationalisation of constructs and selection of articles to Chen et al.'s (Educational Psychology Review 33:1499–1522, 2021) suggestion that resting from cognitive activity could possibly allow for working memory recovery and so explain some of the data on the spacing effect. In our response, we indicate that the goal of our proposed framework was to try to resolve some mixed results of the spacing and interleaving effects and offer an alternative explanation for those mixed results, rather than proposing a theory of everything. We acknowledge that there are other important factors, which does not however, provide grounds for rejecting our hypothesis. Additional empirical studies are needed to determine whether rest and its effect on working memory are important when analysing the spacing effect.

Chen, Y.-H. (2022). **Validation of Mathematics Construct and Diagnostic Profiles Using a Differential Item Functioning Approach**. *Journal of Psychoeducational Assessment*, *40*(6), 790-806. https://doi.org/10.1177/07342829221100607
The quality of diagnostic profiles and probability assignment depends on the validity of the proposed attributes and Q-matrix. The rule-space method (RSM), one of diagnostic classification models, provides the quality indices of diagnostic profiles, such as the classification rate and the squared Mahalanobis distance. The study aims to further validate the attributes and Q-matrix that represent construct validity of mathematics tests as well as diagnostic profiles by applying differential item functioning (DIF) analysis along with a different grouping technique. The grouping technique is based on the Q-matrix and diagnostic profiles (i.e., attribute mastery patterns and probabilities) from the RSM. For the validity evidence, it is expected to exhibit DIF for all test items in this study. The results indicated that approximately 90% of items were identified as DIF items that all favored the mastery groups. This suggests that the proposed attributes and Q-matrix with RSM work well to map Taiwanese students into appropriate attribute mastery patterns and to assign appropriate attribute mastery probabilities to them. This study also provides evidence that a DIF approach with the new grouping technique is a viable method for the validation research. More discussion and suggestions are presented in the paper.

Chevrier, B., & Lannegrand, L. (2022). **The relationship between academic motivation and basic psychological needs within the freshman year context: a longitudinal person-oriented approach**. *European Journal of Psychology of Education*, *37*(3), 921-947. https://doi.org/10.1007/s10212-021-00569-7
Freshman year is a major life event in emerging adulthood requiring adaptation that is associated with self-determination processes, like academic motivation and basic psychological needs. The purpose of this study was to analyze the way that academic motivation and the satisfaction and frustration of the basic psychological needs are interrelated over the freshman year within a longitudinal person-oriented approach. Such a perspective allows for the identification of patterns and configurations that account for each individual's dynamic nature. The participants were 246 freshmen (84.55% women; Mage = 18.41; SDage = 0.64). The sample was followed longitudinally through two waves. Longitudinal cluster analyses emphasized a diversity of patterns and heterogeneity of evolution. For academic motivation, it revealed four profiles of academic motivation (i.e., combined stable; low autonomous with an increase of amotivation; demotivated stable; amotivated with a decrease) and four profiles of basic psychological needs (i.e., satisfied stable; autonomy frustration becoming undifferentiated; undifferentiated becoming frustrated; frustrated with a decrease). Second, a chi-square test revealed typical relations associating the most and the least adapted profiles. Stable profiles were linked underlying a joint experience of academic motivation, needs satisfaction, and needs frustration. Overall, these findings highlight the importance of considering academic motivation, needs satisfaction, and needs frustration in fostering emerging adult students' adaptation in the freshman year context.

Chow, J. C., & Hampton, L. H. (2022). **A Systematic Review of Sequential Multiple-Assignment Randomized Trials in Educational Research**. *Educational Psychology Review*, *34*(3), 1343-1369. https://doi.org/10.1007/s10648-022-09660-x
The purpose of this systematic review is to describe the state of the art of sequential multiple-assignment randomized trials in education research. An iterative, systematic search strategy yielded thirteen reports for synthesis. We coded eligible reports for study characteristics, population, intervention, outcomes, SMART design components, overall findings, and study quality. Of the thirteen included reports, nine were completed studies at either the full or the pilot design stage, and four were published protocols. All studies measured educational and/or psychosocial outcomes, few studies included measures of achievement, and studies were primarily conducted outside of the classroom setting. We evaluate the current uses of SMARTs in education research and discuss the promise of this design and how it is well-suited for the dynamic nature of education research, diverse student populations, and the field of educational research.

Damsgaard, L., Nielsen, A.-M. V., Gejl, A. K., Malling, A. S. B., Jensen, S. K., & Wienecke, J. (2022). **Effects of 8 Weeks with Embodied Learning on 5–6-Year-Old Danish Children's Pre-reading Skills and Word Reading Skills: the PLAYMORE Project, DK**. *Educational Psychology Review*, *34*(3), 1709-1737. https://doi.org/10.1007/s10648-022-09671-8
The aim of this study was to investigate the effects of embodied learning on children's pre-reading and word reading skills. We conducted a three-armed randomized controlled trial including two intervention groups and one control group. One hundred forty-nine children from grade 0 (5–6 years old) who had just started school were recruited from 10 different classes from four elementary schools. Within each class,

children were randomly assigned to receive teaching of letter-sound couplings and word decoding either with whole-body movements (WM), hand movements (HM), or no movements (CON) over an 8-week period. Children were evaluated on pre-reading, word reading, and motor skills before (T1), immediately after (T2), and after 17–22 weeks of retention period (T3) following the intervention. Between-group analysis showed a significant improvement in children's ability to name letter-sounds correctly from T1 to T2 ($p < 0.001$) and from T1 to T3 ($p < 0.05$) for WM compared to CON. HM and WM improved significantly in naming conditional letter-sounds from T1 to T2 ($p < 0.01$, $p < 0.01$) compared to CON and from T1 to T3 for the HM group compared to CON ($p < 0.05$). We did not find an effect on word reading or a correlation between motor skill performance and reading. Results from the present study suggest that there are beneficial effects of using whole-body movements for children. Hand motor movements indeed also had a performance effect on letter-sound knowledge; however, the whole-body movements had longer-lasting effects. We do not see an effect on whole word reading.

Denovan, A., Dagnall, N., & Drinkwater, K. (2022). **The Ego Resiliency Scale-Revised: Confirmatory Factor Analysis and Rasch Models**. *Journal of Psychoeducational Assessment*, *40*(6), 707-721. https://doi.org/10.1177/07342829221090117
This study examined the psychometric properties of the Ego Resiliency Scale-Revised (ER89-R). Though support exists for a multidimensional conceptualisation using classical test theory approaches (i.e., a higher-order model comprising Openness to Life Experiences and Optimal Regulation factors), this measure has not been subjected to Rasch analysis. Accordingly, this paper evaluated the higher-order model via confirmatory factor analysis (CFA) before assessing Openness to Life Experiences and Optimal Regulation components using Rasch analysis. CFA, using a general population sample (N = 2009), supported the higher-order factor structure. Openness to Life Experiences and Optimal Regulation scales met Rasch model assumptions. Specifically, good item/person fit and item/person reliability, and evidence of unidimensionality. Moreover, most items displayed gender invariance. Overall, findings supported the higher-order conceptualisation of the ER89-R, and indicated that the Openness to Life Experiences and Optimal Regulation scales are relatively useful measures of ego resiliency components in a general population sample.

Diebold, T., & Perren, S. (2022). **Toddlers' peer engagement in Swiss childcare: contribution of individual and contextual characteristics**. *European Journal of Psychology of Education*, *37*(3), 627-648. https://doi.org/10.1007/s10212-021-00552-2
The present study observed 86 three-year-old children (M = 43.7, SD = 6.4) from 15 Swiss childcare groups, to investigate multiple individual and contextual contributions to toddlers' positive engagement with peers. The children's individual characteristics (age, sex and social skills) and childcare-related predictors (emotional and behavioural support from caregivers, and structural group features) were assessed. We employed the child-by-environment perspective and tested the hypothesis that high-quality behavioural and emotional support provided by caregivers benefits children with deficits in social abilities. Results of the multilevel structural equation modelling indicated that toddlers rated by caregivers as sociable and assertive showed more positive situation-specific peer engagement, especially with a concomitant higher quality of caregiver emotional and behavioural support. By contrast, being prosocial-cooperative was negatively associated with observed peer engagement. Thus, children's social skills were found to be the most important factor for peer engagement in childcare settings.

Important suggestions for future research are made, and practical implications are discussed.

Ecalle, J., Magnan, A., Auphan, P., Gomes, C., Cros, L., & Suchaut, B. (2022). **Effects of targeted interventions and of specific instructional time on reading ability in French children in grade 1**. *European Journal of Psychology of Education*, *37*(3), 605-625. https://doi.org/10.1007/s10212-021-00566-w
The aim is to examine the impact of interventions on fluency and reading comprehension and how the effects of these interventions depend on the time that teachers spend with children with reading difficulties. Two groups were involved: an experimental group (n = 600) trained in code-related skills and a control group (n = 597) that received no intervention. In the Exp group, teachers adapted a specific instructional time for reading (SITR) in the light of children's difficulties. A significant gain of .23 σ in fluency and a gain of .33 σ in reading comprehension were observed in favor of the Exp group, (a) but there was no gain in numeracy skills (as expected); (b) the amount of SITR is linked to children's scores in literacy skills; (c) SITR is linked to progress in fluency and reading comprehension. These results argue in favor of differentiated reading instruction for children with difficulties during learning to read.

Emery, A., Louick, R. A., & Sabrowsky, J. (2022). **Moving Beyond the Ableist Roots of Educational Psychology: Audit of the Field and a Path Forward**. *Educational Psychology Review*, *34*(3), 1517-1540. https://doi.org/10.1007/s10648-022-09673-6
In the current literature review, we studied the articles published between 2010 and July 2020 in six prominent educational psychology journals to determine the extent to which students with disabilities (SWD) have recently been included in the field's most visible literature, and the nature of that inclusion when it occurred. Although scholars routinely cite articles from special education journals, findings indicated that SWD were specifically included in only 11.4% of the studies that were published. Most of these studied detailed interventions to support students' math and reading skills, with far fewer articles addressing the remaining breadth of topics across the field of educational psychology. After demonstrating the extent to which SWD have been underrepresented in the field's top journals over the previous decade, we draw on DisCrit theory to describe how constructs such as ableism and multiple models of disability can help scholars resist deficit mindsets about SWD in their classroom-based research samples. We argue for a proliferation of epistemologies (and subsequently methodologies), enabling educational psychologists not only to account for the experiences of SWD in ways that uphold our field's commitment to rigorous and ecologically valid research, but also to better ensure that educational psychology theories account for the full breadth of human diversity.

Fatigante, M., Antici, L., Zucchermaglio, C., Fantasia, V., & Alby, F. (2022). **Orchestrating children's action: an in-depth multimodal analysis of child-educator interactions in one Italian early childhood education setting**. *European Journal of Psychology of Education*, *37*(3), 649-679. https://doi.org/10.1007/s10212-021-00548-y
Early childhood educational centers (ECEC) are contexts where young children make their first contact with specific, culturally determined rules, practices, and values. Only a few studies have analyzed in-depth the practices through which the educators direct the children's action and attention while they are performing routine educational activities. By means of detailed transcription of educators-children conversations and Conversation Analytic methodology, this work examines a set of videorecorded

interactions collected in one Italian ECE center ("nido"), particularly focusing on the verbal and multimodal resources employed by ECEC teachers as they manage episodes, where the children diverge from an expected course of action. Analyses reveal that the educators employ a variety of multimodal resources to orchestrate the child's attention and actions toward the desired course of activity, which open spaces where the child's agency, however more or less strongly reprimanded, is admitted and negotiated.

Fix-Lemaire, S. (2022). ***L'épreuve de l'enseignement moral et civique à l'école: Analyse psychanalytique de l'embarras de trois professeurs des écoles***. Consulté à l'adresse https://www.editions-harmattan.fr/livre-9782140280757?utm_source=phplist&utm_campaign=message_34274&utm_medium=email&utm_content=lienTitre
Pourquoi certains professeurs des écoles, convaincus du bien-fondé de leur mission d'éducation des élèves pour en faire des citoyens libres et éclairés, disent-ils éprouver des difficultés et expriment-ils des résistances à mettre en œuvre l'enseignement moral et civique (EMC) dans leur classe ?Depuis le champ épistémologique de la psychanalyse, l'auteure se propose d'analyser les causes de cet embarras professionnel en regardant en deçà des raisons de surface pour lesquelles le sujet se déclare victime de l'autre, du contexte ou du destin. Ainsi, en donnant la parole à trois professeurs des écoles et en interprétant leurs dires, l'auteure s'attache à comprendre l'épreuve que constitue l'enseignement de l'EMC pour ces enseignants et la manière singulière qu'ils ont de la traverser. Cet ouvrage montre que la prise en charge de l'EMC, objet scolaire complexe, engage le sujet au-delà de ce qu'il perçoit de lui, le dévoilant aux autres et... à lui-même. Dans la traversée de l'épreuve, il éprouve sa condition de sujet divisé, s'éprouve comme sujet désirant et se prouve à lui-même sa qualité d'enseignant.

Gasser, L., Dammert, Y., & Murphy, P. K. (2022a). **Correction to: How Do Children Socially Learn from Narrative Fiction: Getting the Lesson, Simulating Social Worlds, or Dialogic Inquiry?** *Educational Psychology Review*, *34*(3), 1477-1477. https://doi.org/10.1007/s10648-022-09674-5

Gasser, L., Dammert, Y., & Murphy, P. K. (2022b). **How Do Children Socially Learn from Narrative Fiction: Getting the Lesson, Simulating Social Worlds, or Dialogic Inquiry?** *Educational Psychology Review*, *34*(3), 1445-1475. https://doi.org/10.1007/s10648-022-09667-4
Educators read narrative fiction with children not only to promote their literacy skills, but also to support their sociomoral development. However, different approaches strongly diverge in their explanations and recommended instructional activities. Informed by theoretical understandings of reader-text transactions, this integrative review presents three different conceptions about how children learn socially from narrative fiction. The first approach explains sociomoral learning through narrative fiction by children's extraction and internalization of the text's moral message. The second approach refers to children's training of mindreading and empathy as they become immersed in a fictional social world and imaginatively engage with the fictional characters' perspectives. The third approach focuses on children's social reasoning development through engagement in argumentative dialogues with peers about the complex sociomoral issues raised in narrative fiction. The article aims to theoretically position a

wide range of literary programs to clarify their psychological foundations as well as critically discuss their strengths and limitations.

Godwin, K. E., Leroux, A. J., Scupelli, P., & Fisher, A. V. (2022). **Classroom Design and Children's Attention Allocation: Beyond the Laboratory and into the Classroom**. *Mind, Brain, and Education*, *16*(3), 239-251. https://doi.org/10.1111/mbe.12319
Prior laboratory research suggests the visual environment can be a source of distraction for children, reducing attention to instructional tasks and learning outcomes. However, systematic research examining how the visual environment relates to attention in genuine classrooms is rare. In addition, it is unknown what specific aspects of the environment pose a challenge for attention regulation. This observational study aims to (1) provide a nuanced examination of specific elements of the classroom visual environment (e.g., visual noise, display quantity, color variability) by analyzing panoramic classroom photographs (N = 58) and (2) investigate whether specific visual environment elements are related to children's rates of on-task behavior. Results indicate on-task behavior was lower in classrooms containing greater quantities of visual noise and color variability, and in classrooms with either relatively small or large amounts of displays (controlling for observation session, school type, student gender, grade-level, and instructional format). Implications for creating more optimal visual learning environments are discussed.

Guimard, P., Florin, A., Bacro, F., Ferrière, S., Gaudonville, T., Nocus, I., … Le Cam, M. (2022). **Relations entre perceptions de soi et performances scolaires à l'école élémentaire. Analyse des données du Panel CP 2011**. *Éducation & formations*, (104), 77-96. Consulté à l'adresse https://www.education.gouv.fr/media/116467/download

Guo, X., Qin, H., Jiang, K., & Luo, L. (2022). **Parent-Child Discrepancy in Educational Aspirations and Depressive Symptoms in Early Adolescence: A Longitudinal Study**. *Journal of Youth and Adolescence*, *51*(10), 1983-1996. https://doi.org/10.1007/s10964-022-01644-y
Adolescents may have educational aspirations that are different from their parents' educational aspirations for them, and such discrepancy may affect adolescents' psychological adjustment. This longitudinal study examined how parent-child discrepancy in educational aspirations relate to depressive symptoms in early adolescents, both concurrently and prospectively, when controlling for parents' depressive symptoms. Moreover, parent and child gender differences in the effects were explored. Data were collected from 3799 students (52.0% boys; Mage = 10.78) and their fathers and mothers when the students were in fifth and seventh grade over 2 years. Polynomial regression with response surface analysis was used to analyze the effects of parent-child aspiration discrepancy on depressive symptoms separately in four parent-child gender dyads. Cross-sectional results demonstrated that for all parent-child gender dyads, congruently higher aspirations were related to lower depressive symptoms, and greater incongruence in aspirations was related to higher depressive symptoms. Moreover, for parent-son dyads, adolescents whose aspirations were lower than those of their parents reported higher depressive symptoms than adolescents whose aspirations were higher than those of their parents. However, longitudinal results further showed that, for father-son dyads only, congruently higher aspirations were related to increased depressive symptoms over time, while for parent-daughter dyads only, greater incongruence in aspirations was related to increased depressive symptoms over time.

The findings support the importance of considering parent-child discrepancy when exploring the role of educational aspirations in adolescents' psychological adjustment and call for a more detailed and rigorous analysis and interpretation of this relationship.

Hwang, G.-J., Chang, C.-C., & Chien, S.-Y. (2022). **A motivational model-based virtual reality approach to prompting learners' sense of presence, learning achievements, and higher-order thinking in professional safety training**. *British Journal of Educational Technology*, *53*(5), 1343-1360. https://doi.org/10.1111/bjet.13196
Increasing learners' sense of presence is important in professional training, in particular, when aiming to foster their competences of making judgements and solving problems when facing real cases. However, in conventional training programmes, sometimes it is difficult to situate learners in real cases owing to several considerations, such as cost and potential danger. Scholars have indicated that the lack of opportunities to experience real contexts could seriously affect the training outcomes. To cope with this problem, the present study proposes a spherical video-based virtual reality (SVVR)-based professional training (SVVR-PT) approach based on the attention, relevance, confidence and satisfaction (ARCS) model to situate learners in an authentic training environment to experience the process of solving practical cases before facing real cases. To evaluate the effectiveness of the approach, a true experiment was conducted in a hospital by randomly assigning 70 nurses to an experimental group learning with the SVVR-PT approach and a control group learning with the conventional training approach. The experimental results show that the proposed approach outperformed the conventional approach in terms of promoting the learners' sense of presence and learning achievement as well as their problem-solving tendency and critical-thinking awareness. Moreover, the SVVR-PT learners also showed higher technology acceptance than the conventional training group. Practitioner notes What is already known about this topic? Spherical video-based virtual reality (SVVR) immerses learners in an authentic environment that enables them to have more opportunities to experiment and practice. Attention, relevance, confidence and satisfaction model has great potential in promoting learners' motivation and engagement. What this paper adds? A motivational model-based virtual reality approach is proposed to facilitate learners' professional training performance. In addition to promoting learners' training performance, the results claimed that the proposed approach could promote students' sense of presence, problem-solving tendency and critical-thinking awareness. Implications for practice and/or policy It is potentially worth using the motivational model-based virtual reality approach in professional training to facilitate learners' performances and perceptions. The proposed approach can further analyze and compare the effects of the cooperative learning strategy on learners' performance and recorded learning process.

Kismihók, G., McCashin, D., Mol, S. T., & Cahill, B. (2022). **The well-being and mental health of doctoral candidates**. *European Journal of Education*, *57*(3), 410-423. https://doi.org/10.1111/ejed.12519
After a long period of relative neglect, the mental well-being and the mental health of researchers and employees in academia are increasingly entering the limelight. The growing body of evidence suggests that a high number of doctoral researchers work under elevated levels of stress and frustration, and that this has a significant impact not only on their personal health and research output, but also on their future career development. In this paper, therefore, we first discuss what a dystopian and a utopian learning journey of early career researchers may look like from a well-being perspective.

Subsequently, and based on extensive dialogues with more than 250 researchers and professionals active in the researcher mental health domain, we highlight a number of key focal points that both early career researchers, their supervisors, and institutions alike should consider when it comes to planning and delivering mental health oriented educational activities for doctoral researchers.

Kovács Cerović, T., Mićić, K., & Vračar, S. (2022). **A leap to the digital era—what are lower and upper secondary school students' experiences of distance education during the COVID-19 pandemic in Serbia?** *European Journal of Psychology of Education*, *37*(3), 745-764. https://doi.org/10.1007/s10212-021-00556-y
The aim of this paper is to thoroughly examine how students in Serbia experienced their education through distance learning during the 2020 Spring school closures due to the pandemic. Schoolchildren's multigenre narratives about learning during school closure were elicited by online surveys; qualitative thematic and values analyses were conducted; and data was further analysed by cluster analysis, ANOVA, and t-tests. A total of 45 lower and upper secondary school students produced 106 narratives providing 429 thought units for analysis. Altogether, 6 themes and 26 value codes were identified. They demonstrate the wide range, complexity, and nuanced positioning of students' experiences towards the new situation, their role in it, and the role of others i.e. teachers and the technology itself. The paper draws implications on the policy and educational-psychological and methodological level.

Lardy, L., Bressoux, P. P., & De Clercq, M. (2022). **Achievement of first-year students at the university: a multilevel analysis of the role of background diversity and student engagement**. *European Journal of Psychology of Education*, *37*(3), 949-969. https://doi.org/10.1007/s10212-021-00570-0
The massification and diversification of the student population who enters university has become a challenge for Higher Education institutions. A better consideration of this diversity could help to gain a greater understanding of students' achievement process, and this requires observing situations where this diversity is substantial. Thus, in France University Institutes of Technology (IUT) constitute a promising context. This study aims at analyzing to what extent the diversity in student entrance backgrounds and student engagement could explain academic achievement. Analyzing the influence of these two types of variables on achievement allows to question the secondary education determinism on academic achievement. The impact of background diversity was estimated both at the individual level and at the contextual level (through class composition). To do so, multilevel analyses were performed among a sample of 748 first-year students (average age 18.43 with standard deviation of 0.98) from 50 classes in 11 IUT departments. Student engagement was measured using the "Approaches and Study Skills Inventory for Students" (ASSIST) and the "Strategies for Learning Questionnaire" (MSLQ). The results show that engagement in learning and academic background are both important individual factors to understand differences of students' achievement. Moreover, classroom composition explained a significant part of student achievement differences among the classes. Student achievement differences due to the academic background were important enough not to be fully compensated by student engagement. Implications of the findings for practices and further research on the first-year experience at University are discussed.

Laurens-Arredondo, L. (2022). **Mobile augmented reality adapted to the ARCS model of motivation: a case study during the COVID-19 pandemic**. *Education and Information Technologies*, *27*(6), 7927-7946. https://doi.org/10.1007/s10639-022-10933-9
The rushed introduction of online education for universities because of the current covid-19 health crisis, has started to affect the quality of education for millions of students around the world. This pandemic has emphasized the need to improve the teaching process through the use of innovating educational tools, such as mobile augmented reality (mAR). This pilot study intends to evaluate the relationship between motivation and meaningful learning for university students through mAR, as well as the effects and implications of its use how supporting teaching activities in an Industrial Design and Technical Drawing course. A quantitative method research approach was applied to collect, process, and analyze the research data of the students' perception under the health restrictions caused by the current pandemic, using the Instructional Materials Motivation Survey (IMMS). The total number of questionnaires collected was 96, applied to students of the Industrial Engineering major at Universidad Católica del Maule in Chile. The instrument's reliability was measured using Cronbach's alpha, giving an overall value of 0.89. The implementation of an instructional model called ARCS (Attention-Relevance-Confidence-Satisfaction) was achieved. The implementation of mRA was positively valued by most of the students surveyed. An increase the percentage of students who achieved the expected learning objectives was found, in compared to previous versions of the course (without mAR). Finally, the results demonstrate a positive relation between mAR and the learning level achieved by students. There was no evidence of negative effects under the particular imposed conditions, because of sanitary restrictions when implementing the mAR.

Li, S., & Lajoie, S. P. (2022). **Cognitive engagement in self-regulated learning: an integrative model**. *European Journal of Psychology of Education*, *37*(3), 833-852. https://doi.org/10.1007/s10212-021-00565-x
Integrating the two dominant theories of self-regulated learning (SRL) and cognitive engagement could advance our understanding of what makes students more efficient, effective learners. An integration of these theories has yet to be explored, and this paper addresses this gap by proposing a novel integrative model of SRL engagement. Specifically, we identified the nature of cognitive engagement (i.e., changing consecutively, context-dependent, comprising quantitative and qualitative dimensions, occurring consciously or unconsciously), based on which we compared the conceptual differences and similarities between cognitive engagement and SRL. We reviewed three models that have investigated cognitive engagement within the frameworks of SRL, analyzed their features and weaknesses, and proposed an extension of previous models linking SRL and cognitive engagement. The proposed model is one of the first to clarify the mechanisms of how SRL phases and subprocesses relate to the functioning of cognitive engagement. In addition to adding to the theoretical discussions of the relations between cognitive engagement and SRL, the model informs the design of adaptive scaffoldings and the practice of learning analytics. Several recommendations are presented for future research in this area to test this new model empirically.

Long, H., & Wang, J. (2022). **Dissecting Reliability and Validity Evidence of Subjective Creativity Assessment: A Literature Review**. *Educational Psychology Review*, *34*(3), 1399-1443. https://doi.org/10.1007/s10648-022-09679-0

The importance of creativity for learning, an equitable education, and a competitive nation warrants a broader and deeper understanding of this topic, including how creativity is assessed. This review focuses on subjective creativity assessment, a popular assessment approach that uses judges' subjective definitions of creativity, and examines its reliability and validity evidence collected from 84 empirical studies under the theoretical frameworks of the 2014 Standards for Educational and Psychological Testing and rater-mediated assessments. The main findings include: 1) The reviewed studies vary across domains, characteristics of subjects/objects and raters, and rating instructions and scales; 2) The major reliability evidence was provided by Cronbach's alpha and correlations of rating scores, and the major validity evidence came from the evidence based on relationships with other variables through the use of correlations; 3) Cronbach's alpha values differed through an interaction between domains and judges' expertise level, and correlations of rating scores differed by domain and judges' expertise level; 4) There was strong convergent validity evidence between creativity and novelty but a weak discriminant validity evidence between creativity and technical goodness and liking. These findings suggest that the subjective creativity assessment approach shows a good level of reliability and validity but has some degrees of unreliability and invalidity that need to be addressed with good research practices and more advanced measurement theories and methods.

Lundie, M., Dasara, H., Beeghly, C., Kazmi, A., & Krawczyk, D. (2022). **High-Definition Transcranial Direct Current Stimulation Over the Left Frontopolar Cortex Promotes Analogical Reasoning**. *Mind, Brain, and Education*, *16*(3), 209-220. https://doi.org/10.1111/mbe.12325
The objective of this study was to measure the contribution of the left frontopolar cortex (FPC) to analogical reasoning. Our measure of analogical reasoning derives from performance on the radiation problem, a creative problem-solving task first used in Gestalt psychology (Duncker, 1945). Success on this task is as low as 10 % without the presentation of explicit cues that guide inference toward the solution (Gick & Holyoak, 1980). We assessed whether high-definition transcranial direct current stimulation of the left FPC would promote the analogical transfer of the radiation problem. We found that anodal stimulation primed analogical transfer and led to improved task performance compared to the cathode and sham control groups. Results from this study offer evidence favoring the hypothesis that stimulating the left FPC facilitates analogical problem-solving.

Lyle, K. B., Bego, C. R., Ralston, P. A. S., & Immekus, J. C. (2022). **Spaced Retrieval Practice Imposes Desirable Difficulty in Calculus Learning**. *Educational Psychology Review*, *34*(3), 1799-1812. https://doi.org/10.1007/s10648-022-09677-2
After being taught how to perform a new mathematical operation, students are often given several practice problems in a single set, such as a homework assignment or quiz (i.e., massed practice). An alternative approach is to distribute problems across multiple homeworks or quizzes, increasing the temporal interval between practice (i.e., spaced practice). Spaced practice has been shown to increase the long-term retention of various types of mathematics knowledge. Less clear is whether spacing decreases performance during practice, with some studies indicating that it does and others indicating it does not. To increase clarity, we tested whether spacing produces long-term retention gains, but short-term practice costs, in a calculus course. On practice quizzes, students worked problems on various learning objectives in either massed fashion (3

problems on a single quiz) or spaced fashion (3 problems across 3 quizzes). Spacing increased retention of learning objectives on an end-of-semester test but reduced performance on the practice quizzes. The reduction in practice performance was nuanced: Spacing reduced performance only on the first two quiz questions, leaving performance on the third question unaffected. We interpret these findings as evidence that spacing led to more protracted, but ultimately more robust, learning. We, therefore, conclude that spacing imposes a desirable form of difficulty in calculus learning.

Ma, L., Twomey, K., & Westermann, G. (2022). **The impact of perceived emotions on toddlers' word learning**. *Child Development*, *93*(5), 1584-1600. https://doi.org/10.1111/cdev.13799
Others' emotional expressions affect individuals' attention allocation in social interactions, which are integral to the process of word learning. However, the impact of perceived emotions on word learning is not well understood. Two eye-tracking experiments investigated 78 British toddlers' (37 girls) of 29- to 31-month-old retention of novel label-object and emotion-object associations after hearing labels presented in neutral, positive, and negative affect in a referent selection task. Overall, toddlers learned novel label-object associations regardless of the affect associated with objects but showed an attentional bias toward negative objects especially when emotional cues were presented (d = 0.95), suggesting that identifying the referent to a label is a competitive process between retrieval of the learned label-object association and the emotional valence of distractors.

Makransky, G., & Mayer, R. E. (2022). **Benefits of Taking a Virtual Field Trip in Immersive Virtual Reality: Evidence for the Immersion Principle in Multimedia Learning**. *Educational Psychology Review*, *34*(3), 1771-1798. https://doi.org/10.1007/s10648-022-09675-4
This study describes and investigates the immersion principle in multimedia learning. A sample of 102 middle school students took a virtual field trip to Greenland via a head mounted display (HMD) or a 2D video as an introductory lesson within a 6-lesson inquiry-based climate change intervention. The HMD group scored significantly higher than the video group on presence (d = 1.43), enjoyment (d = 1.10), interest (d = .57), and retention in an immediate (d = .61) and delayed posttest (d = .70). A structural equation model indicated that enjoyment mediated the pathway from instructional media to immediate posttest, and interest mediated the pathway from instructional media to delayed posttest score, indicating that these factors may play different roles in the learning process with immersive media. This work contributes to the cognitive affective model of immersive learning, and suggests that immersive lessons can have positive longitudinal effects for learning.

Mameli, C., Grazia, V., Passini, S., & Molinari, L. (2022). **Student perceptions of interpersonal justice, engagement, agency and anger: a longitudinal study for reciprocal effects**. *European Journal of Psychology of Education*, *37*(3), 765-784. https://doi.org/10.1007/s10212-021-00559-9
Based on the premise that classroom interactions unfold through a complex series of circular influences between teacher and students, the aim of this longitudinal study was to test a reciprocal effects model connecting students' perceptions of interpersonal justice, on the one hand, and student engagement, agency and anger, on the other. Self-report measures of interpersonal justice, student engagement, agency and anger were collected from 454 Year Nine students from Northern Italy in a 3-wave longitudinal

research design. Structural equation modelling with latent variables indicated that interpersonal justice in wave 1 had a negative effect on both student agency and anger in wave 2, while interpersonal justice in wave 2 only negatively predicted student anger in wave 3. With respect to the reciprocal effects, student engagement in wave 2 was found to positively predict interpersonal justice in wave 3, while a negative effect close to statistical significance was observed from student agency in wave 2 to interpersonal justice in wave 3. These results are discussed in terms of their implications for teacher practice, as they emphasize that (a) the two main facets of student participation, namely engagement and agency, are differently interconnected with the learning environment, and (b) the perception of being treated fairly is important to the point that its deficiency triggers a persistent feeling of anger in students.

Massonnié, J., Mareschal, D., & Kirkham, N. Z. (2022). **Individual Differences in Dealing With Classroom Noise Disturbances**. *Mind, Brain, and Education*, *16*(3), 252-262. https://doi.org/10.1111/mbe.12322
Classrooms are noisy: when children are engaged in solo work, they also hear background babble, noise from outdoor, and people moving around. Few studies investigating the effects of noise on academic tasks use naturalistic stimuli. Questions also remain regarding why some children are more impaired by noise than others. This study compared primary school children's performance at three academic tasks (text recall, reading comprehension, mathematics) in silence, and while hearing irrelevant verbal noise (storytelling, n = 33) or mixed noise (outdoor noise, movement, babble, n = 31). We found that noise does not impair overall performance. Children might use compensatory strategies (e.g., re-reading) to reach the same level of performance in silence and noise. Individual differences in selective attention and working memory were not related to the impact of noise, with one exception: children with lower working memory were more impaired by noise when doing mathematics. Replication on a larger sample is needed.

Mathias, B., Andrä, C., Schwager, A., Macedonia, M., & von Kriegstein, K. (2022). **Twelve- and Fourteen-Year-Old School Children Differentially Benefit from Sensorimotor- and Multisensory-Enriched Vocabulary Training**. *Educational Psychology Review*, *34*(3), 1739-1770. https://doi.org/10.1007/s10648-021-09648-z
Both children and adults have been shown to benefit from the integration of multisensory and sensorimotor enrichment into pedagogy. For example, integrating pictures or gestures into foreign language (L2) vocabulary learning can improve learning outcomes relative to unisensory learning. However, whereas adults seem to benefit to a greater extent from sensorimotor enrichment such as the performance of gestures in contrast to multisensory enrichment with pictures, this is not the case in elementary school children. Here, we compared multisensory- and sensorimotor-enriched learning in an intermediate age group that falls between the age groups tested in previous studies (elementary school children and young adults), in an attempt to determine the developmental time point at which children's responses to enrichment mature from a child-like pattern into an adult-like pattern. Twelve-year-old and fourteen-year-old German children were trained over 5 consecutive days on auditorily presented, concrete and abstract, Spanish vocabulary. The vocabulary was learned under picture-enriched, gesture-enriched, and non-enriched (auditory-only) conditions. The children performed vocabulary recall and translation tests at 3 days, 2 months, and 6 months post-learning. Both picture and gesture enrichment interventions were found to benefit children's L2 learning relative to non-enriched learning up to 6 months post-training. Interestingly, gesture-enriched

learning was even more beneficial than picture-enriched learning for the 14-year-olds, while the 12-year-olds benefitted equivalently from learning enriched with pictures and gestures. These findings provide evidence for opting to integrate gestures rather than pictures into L2 pedagogy starting at 14 years of age.

Mayordomo, R. M., Espasa, A., Guasch, T., & Martínez-Melo, M. (2022). **Perception of online feedback and its impact on cognitive and emotional engagement with feedback**. *Education and Information Technologies*, *27*(6), 7947-7971. https://doi.org/10.1007/s10639-022-10948-2
Online feedback plays a key role in learning, but this requires that students engage with feedback. Some authors identify students' perception of feedback as relevant to understanding engagement. To measure the effect that perceived feedback (specifically its valence) has upon engagement with feedback, a quasi-experimental study has been carried out between two groups of master's students (191 students, 91.6% women, with a mean age of 30.6 years): a group in which students had the possibility to resubmit an assignment after feedback and another group in which students only received feedback at the end of the assignment. Results show there are no significant differences between both groups regarding the perception of the feedback. However, the results point to the importance of feedback valence perception in resubmission situation. In this situation, a significant relationship between emotional engagement and cognitive engagement with feedback was identified depending on how the feedback was perceived. The main conclusions are the need of incorporating opportunities for resubmission to promote engagement with feedback, the relevance of the perception of feedback, and the role of emotional engagement plays in relation to cognitive engagement with feedback.

Meihami, H., & Husseini, F. (2022). **A self-determination theory into the psychological needs of CALL: Probing EFL teachers' autobiographical narratives**. *Education and Information Technologies*, *27*(6), 7781-7803. https://doi.org/10.1007/s10639-022-10964-2
Addressing psychological needs in computer-assisted language learning (CALL) has a critical role in developing learners' motivation to use CALL-related materials. Taking a self-determination theory into the psychological needs of CALL, the primary purpose of this study was to explore to what extent English as a foreign language (EFL) teachers address the psychological needs when they attempt to introduce CALL materials to their learners. Second, the study sought to understand the EFL teachers' preferences of CALL materials considering their psychological needs coverage. The autobiographical narratives of eight EFL teachers were collected through a descriptive narrative design. The narratives were analyzed by using a deductive-inductive thematic analysis. The findings indicated that EFL teachers addressed the three psychological needs of CALL and believed that they are critical in helping EFL learners use CALL materials. The findings of the Code Map showed that the EFL teachers had three major preferences to introduce CALL materials covering psychological needs: first, materials comprising competence, autonomy, learners' proficiency level, competence-relatedness, cognitive involvement, and accessibility; second, materials including autonomy, learners' personality traits, and relatedness; and third, materials addressing learners' needs, autonomy-relatedness, and autonomy-competence. Therefore, it can be concluded that EFL teachers believed in the importance of psychological needs in suggesting CALL-related materials to develop their learners' motivation.

Nachtigall, V., Shaffer, D. W., & Rummel, N. (2022). **Stirring a Secret Sauce: A Literature Review on the Conditions and Effects of Authentic Learning**. *Educational Psychology Review*, *34*(3), 1479-1516. https://doi.org/10.1007/s10648-022-09676-3
The present conceptual literature review analyzes 50 studies that systematically examined the effects of authentic learning settings on cognitive or motivational learning outcomes. The analysis focuses on describing the context of the studies, the design elements of authentic learning settings, and the pursued intentions of authenticity. The review further describes the effects of authentically designed learning settings on cognitive outcomes, motivational outcomes, and learners' perceived authenticity revealed by previous research. Building on these findings, we conducted Epistemic Network Analysis (ENA) of contrasting cases to identify design elements and intentions of authenticity characterizing studies that show high effectiveness for cognitive and motivational outcomes versus those with low effectiveness. The ENA results suggest, for instance, that providing authentic materials (as a design element of authentic learning settings) to resemble real-life experiences (as an intention of authenticity) could be a double-edged sword, as they feature both authentically designed learning settings with low effects on cognitive outcomes and settings with high effects on motivational outcomes. Overall, the results of the present literature review point to critical limitations of previous research, such as a lack of clear definitions and operationalizations of authentic learning. Consequently, we draw specific conclusions about how future research could improve our understanding of how to create and implement powerful methods of authentic learning.

Naumann, S., Byrne, M. L., de la Fuente, A., Harrewijn, A., Nugiel, T., Rosen, M., … Matusz, P. J. (2022). **Assessing the Degree of Ecological Validity of Your Study: Introducing the Multidimensional Assessment of Research in Context (MARC) Tool**. *Mind, Brain, and Education*, *16*(3), 228-238. https://doi.org/10.1111/mbe.12318
In cognitive neurosciences, fundamental principles of mental processes and functional brain organization have been established with highly controlled tasks and testing environments. Recent technical advances allowed the investigation of these functions and their brain mechanisms in naturalistic settings. The diversity in those approaches have been recently (Matusz, P. J., Dikker, S., Huth, A. G., & Perrodin, C. (2019). Are we ready for real-world neuroscience? Journal of Cognitive Neuroscience, 31(3), 327–338. doi:10.1162/jocn_e_01276) classified via a three-category cycle, including controlled laboratory, partially naturalistic laboratory, and naturalistic real-world research. Based on this model, we developed the Multidimensional Assessment of Research in Context (MARC) tool to easily delineate the approach researchers have taken in their study. MARC provides means to describe the degree of ecological validity for each component of a study (e.g., sample, stimuli, measures, etc.), and the study's location on the cycle. The tool comprises seven questions concerning a study's characteristics. It outputs a summary of those and a compass plot, which can be used for presentations, preregistration, grant proposals, and papers. It aims to improve drawing conclusions across studies and raise awareness about the generalizability of research findings.

Nouwen, W., Clycq, N., Struyf, A., & Donche, V. (2022a). **Correction to: The role of work-based learning for student engagement in vocational education and training: an application of the self-system model of motivational development**. *European Journal of Psychology of Education*, *37*(3), 901-902. https://doi.org/10.1007/s10212-021-00564-y

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Nouwen, W., Clycq, N., Struyf, A., & Donche, V. (2022b). **The role of work-based learning for student engagement in vocational education and training: an application of the self-system model of motivational development**. *European Journal of Psychology of Education*, *37*(3), 877-900. https://doi.org/10.1007/s10212-021-00561-1
Educational policy strategies give work-based learning (WBL) and dual learning pathways a prominent role in strengthening student engagement. Given this mounting policy attention, the current study aims to fill a knowledge gap with regard to the relation between WBL and student engagement, particularly within the context of dual pathways combining school- and work-based learning. To this end, we situated student engagement in the wider motivational framework of the self-system model of motivational development (SSMMD) to help theorize its antecedents in students' learning contexts and psychological self-system processes. The main purpose of this study was to test the hypotheses based on the SSMMD within a WBL context and to relate student engagement in WBL to engagement in school-based learning. As most measurements of the elements making up the SSMMD were validated within a school-based learning context, we used confirmatory factor analyses to test the measurement transferability to a WBL context. Our findings show the relevance of applying the SSMMD to the context of WBL, hereby confirming the facilitating or inhibiting role of a WBL context in fulfilling the basic psychological needs of needs of autonomy, relatedness and competence, which in turn supports engagement in WBL. Our findings also show the potential to study work- and school-based learning as two interrelated learning contexts, stimulating researchers, policy makers and practitioners to further study and invest in dual learning pathways that purposefully combine learning in school- and work-based contexts.

Padgett, R. N., Jiang, S., Shero, L., & Kettler, T. (2022). **Development of a Perceptions of Online Learning Scale to Assess Teachers' Beliefs**. *Journal of Psychoeducational Assessment*, *40*(6), 691-706. https://doi.org/10.1177/07342829221088696
During the COVID pandemic, the sudden switch to online learning brought an unintended spotlight to this gradually expanding educational innovation. However, while numerous tools exist to assess student perceptions of or readiness for online learning quantitatively, a research gap exists regarding teachers' perceptions of online learning. To facilitate future research among teachers, the authors describe the development of a new perceptions of online learning scale (POOLS). The POOLS seeks to measure teachers' perceptions of online learning across four theoretical constructs associated with quality education in online and traditional face-to-face formats. The POOLS was constructed using expert review and a sample (N=654), where an exploratory and confirmatory factor analysis were conducted on split halves of these data. The results of this initial validation study provide the basis for using the POOLS as an approach to measuring four aspects of perceptions of online learning: Effective Learning ($\omega 2 = 0.77$), Student-Centered Learning ($\omega 2 = 0.67$), Interactive Learning ($\omega 2 = 0.73$), and Engaged Learning ($\omega 2 = 0.66$). We recommend that the POOLS be used in research settings to describe the relationship among POOLS factors and other characteristics such as self-efficacy, amount or type of experience with online learning, and personality traits.

Poole, K. L., Degnan, K. A., Harrewijn, A., Almas, A., Fox, N. A., & Henderson, H. A. (2022). **Trajectories of socially anxious behavior from age 5 to 13: Temperamental and**

sociocognitive pathways. *Child Development*, *93*(5), 1334-1346. https://doi.org/10.1111/cdev.13767
The authors examined temperamental and sociocognitive predictors of socially anxious behavior from preschool to early adolescence. Children (N = 227; 59% male; 69% White) completed a speech task at ages 5, 7, 10, and 13 and socially anxious behaviors were coded. Behavioral inhibition (BI) was assessed at ages 2/3 and Theory of Mind (ToM) was assessed at age 4. Data collection occurred between 2003 and 2016. Three trajectories of socially anxious behavior were identified: high stable, average increasing, and low stable. Higher BI was related to the high stable trajectory, whereas lower ToM was related to the increasing trajectory of socially anxious behavior. There are heterogenous pathways of socially anxious behavior, which may be uniquely influenced by early temperamental and sociocognitive factors.

Radoslaw, C. (2022). **Webinar satisfaction factors in the stories of participants**. *International Journal of Training and Development*, *26*(3), 531-555. https://doi.org/10.1111/ijtd.12275
The purpose of this study was to explore the factors that affect participants' webinar satisfaction, with special emphasis on the dissatisfaction factors. The method of empathy-based stories was chosen for the research due to its potential to eliminate bias from other qualitative methods. The research collected 280 different factors potentially impacting training satisfaction. Some of them had not been raised in subject literature before. In contrast to previous studies, this research concluded that the length of the webinar and finding it interesting might not be critical from the participants' point of view. Moreover, participants of the study valued the depth of content more than breadth. The research also discovered a potentially disregarded important satisfaction factor of webinar description, shaping participants' expectations.

Roloff, J., Kirstges, J., Grund, S., & Klusmann, U. (2022). **How Strongly Is Personality Associated With Burnout Among Teachers? A Meta-analysis**. *Educational Psychology Review*, *34*(3), 1613-1650. https://doi.org/10.1007/s10648-022-09672-7
Teachers' burnout has severe consequences for themselves and their students. The identification of factors related to burnout can provide valuable information about the relevance of interindividual differences. Beyond work-related factors, burnout is assumed to be affected by individuals' personality traits, and several empirical studies already exist that have investigated this association in teachers. However, a comprehensive meta-analytical examination is missing so far. The current meta-analysis, including 18 primary studies with 19 samples (total N = 4,724), aimed to examine the relation between burnout dimensions (emotional exhaustion, depersonalization, and reduced personal accomplishment) and the Big Five personality traits (neuroticism, extraversion, openness to experience, agreeableness, and conscientiousness) in teachers. In addition, moderating effects of teachers' professional level were investigated. In line with our expectations, neuroticism was positively related to all three burnout dimensions, with medium-sized effects found for emotional exhaustion and depersonalization and a small effect size found for reduced personal accomplishment. The other significant associations between personality traits and burnout dimensions were negative. Apart from a nonsignificant association between emotional exhaustion and openness, all associations were rated as small to medium. The moderator analyses did not show any support for moderating effects of teachers' professional level concerning the associations between burnout dimensions and personality traits.

Sagastui, J., Herrán, E., & Anguera, M. T. (2022). **Adult intervention levels in young children's free play: an observational study on how Pikler educators combine the instrumental and relational dimensions of their educational activity**. *European Journal of Psychology of Education*, *37*(3), 707-728. https://doi.org/10.1007/s10212-021-00560-2
Studies about child development emphasize the importance of play in children's early years. However, there is an existing controversy about the role educators should have in young children's free play. This research work studies the approach to early playful activity from Pikler-Lóczy education. A systematic observation was conducted to deepen in the educational activity of free play accompanying. We studied how an experienced educator combines the instrumental and relational dimensions of her educational activity while children are playing, and the intervention levels they accordingly shape: no intervention, indirect intervention, and direct intervention. Two complementary techniques were used in order to discover the relational behaviors that modulate each instrumental action: lag sequential analysis and polar coordinate analysis. Results show that the educator's focus of attention is adaptive to the instrumental action she is performing; that the relational dimension of her educational activity modulates the instrumental actions; and that specific kinetic behaviors announce the beginning, mediate the developing and mark the closing of each instrumental action. Therefore, we demonstrated that the educator masterly combines the instrumental and relational dimensions of her educational activity, thus, shaping three different intervention levels towards children's free play. This positioning is beneficial to children's development given its active attempt to promote their intrinsic motivation and will to autonomously discover and learn.

Şahin, F., Doğan, E., Okur, M. R., & Şahin, Y. L. (2022). **Emotional outcomes of e-learning adoption during compulsory online education**. *Education and Information Technologies*, *27*(6), 7827-7849. https://doi.org/10.1007/s10639-022-10930-y
Information on the emotional outcomes of e-learning system use and emotional aspects of user experience in higher education is quite limited. Accordingly, the aim of the study is to identify the factors that influence university students' intention to continue using e-learning systems and to examine the emotional outcomes of the continuance intention. The core constructs of the Technology Acceptance Model formed the basis of the proposed model, and the model was extended with a framework of emotions (challenge, achievement, deterrence, loss) and external variables. Data were collected online from 19,530 university students of a state university. For the analysis, Partial Least Squares-Structural Equation Modeling was employed. The proposed model explained 73.5% of continuance intention, 50.3% of achievement, and 52.2% of challenge emotions. In addition, 23 of the 25 tested hypotheses were supported. The findings indicate that perceived usefulness is a decisive factor in creating user experiences that generate emotions such as enjoyment, playfulness and satisfaction. In addition, the results showed that personal innovativeness strongly influenced the core constructs of technology acceptance model and the positive aspects of emotions (achievement and challenge). Accordingly, it can be stated that these findings lead us to the fact that students' value perceptions regarding e-learning systems have a critical role in terms of emotional outcomes. In addition, the findings suggest that both intrinsic-extrinsic motivators, innovativeness characteristics and emotional outcomes should be taken into account in design and development process in order to improve the quality of the user experience. In this direction, implications for research and practice are discussed.

Salamon, J., Blume, B. D., Tóth-Király, I., Nagy, T., & Orosz, G. (2022). **The positive gain spiral of job resources, work engagement, opportunity and motivation on training transfer**. *International Journal of Training and Development*, *26*(3), 556-580. https://doi.org/10.1111/ijtd.12277
According to previous studies, general environmental characteristics and job-related factors influence employees' transfer of learned skills to the job. However, among job-related variables, the role of work engagement in connection with transfer motivation, opportunity and training transfer has not received much research attention. Building upon the theoretical background of the Job Demands-Resources Model, the present study investigated the relationship between job resources/demands and training transfer through work engagement, transfer motivation and opportunity to transfer. Based on data from 311 working adults who participated in soft skill training programmes, job resources were associated with higher levels of training transfer through increased work engagement, motivation and opportunity to transfer. In contrast, job demands had negative relationships with transfer via work engagement and opportunity to transfer. The findings supported the assumption of the positive gain spiral in the transfer context. We conclude that companies should prioritize the development of job resources to provide a better environment for training transfer.

Sana, F., Yan, V. X., & Carvalho, P. F. (2022). **On Rest-from-Deliberate-Learning as a Mechanism for the Spacing Effect: Commentary on Chen et al. (2021)**. *Educational Psychology Review*, *34*(3), 1843-1850. https://doi.org/10.1007/s10648-022-09663-8
In their recent paper, Chen et al. (Educational Psychology Review, 2021) propose that rest periods between deliberate learning characterize the spacing effect and the alternation between skills without rest characterizes the interleaving effect. In this commentary, we show that this theory is inadequate in two aspects. First, the operationalization of their constructs are problematic—their mechanism of rest-from-deliberate-learning mismatches their operationalization (e.g., they code deliberate learning activities that should not allow for working memory recovery as rest-from-deliberate-learning), and their definition of whether stimuli require discriminative contrast appears to depend on the study outcome. Second, their systematic review neglects a large body of literature that is incompatible with their theory. For example, they neglect classic spacing studies on vocabulary learning, and their theory of spacing effects as being a result of working memory recovery cannot account for lag effects or interactions found in the literature. We conclude that there are almost certainly mechanistic differences between spacing and interleaving effects, but the mechanisms are likely not mutually exclusive, as defined by Chen and colleagues.

Schiefer, J., Edelsbrunner, P. A., Bernholt, A., Kampa, N., & Nehring, A. (2022). **Epistemic Beliefs in Science—A Systematic Integration of Evidence From Multiple Studies**. *Educational Psychology Review*, *34*(3), 1541-1575. https://doi.org/10.1007/s10648-022-09661-w
Recent research has integrated developmental and dimensional perspectives on epistemic beliefs by implementing an approach in which profiles of learners' epistemic beliefs are modeled across multiple dimensions. Variability in study characteristics has impeded the comparison of profiles of epistemic beliefs and their relations with external variables across studies. We examined this comparability by integrating data on epistemic beliefs about the source, certainty, development, and justification of

knowledge in science from six studies comprising N = 10,932 German students from elementary to upper secondary school. Applying latent profile analyses to these data, we found that profiles of epistemic beliefs that were previously conceptualized were robust across multiple samples. We found indications that profiles of epistemic beliefs homogenize over the course of students' education, are related to school tracking, and demonstrate robust relations with students' personal characteristics and socioeconomic background. We discuss implications for the theory, assessment, and education of epistemic beliefs.

Shakeel, M. D., & Peterson, P. E. (2022). **A Half Century of Progress in US Student Achievement: Agency and Flynn Effects, Ethnic and SES Differences**. *Educational Psychology Review*, *34*(3), 1255-1342. https://doi.org/10.1007/s10648-021-09657-y
Policymakers, conceptualized here as principals, disagree as to whether US student performance has changed over the past half century. To inform conversations, agents administered seven million psychometrically linked tests in math (m) and reading (rd) in 160 survey waves to national probability samples of cohorts born between 1954 and 2007. Estimated change in standard deviations (sd) per decade varies by agent (m: –0.10sd to 0.27sd, rd: –0.02sd to 0.12sd). Consistent with Flynn effects, median trends show larger gains in m (0.19sd) than in rd (0.04sd), though rates of progress for cohorts born since 1990 have increased in rd but slowed in m. Greater progress is shown by students tested at younger ages (m: 0.31sd, rd: 0.08sd) than when tested in middle years of schooling (m: 0.17sd, rd: 0.03sd) or toward the end of schooling (m: 0.06sd, rd: 0.02sd). Young white students progress more slowly (m: 0.28sd, rd: 0.09sd) than Asian (m: 46sd, rd: 0.28sd), black (m: 0.36sd, rd: 0.19sd), and Hispanic (m: 0.29sd, rd: 0.13sd) students. These ethnic differences generally attenuate as students age. Young students in the bottom quartile of the SES distribution show greater progress than those in the top quartile (difference in m: 0.08sd, in rd: 0.15sd), but the reverse is true for older students. Moderators likely include not only changes in families and schools but also improvements in nutrition, health care, and protection from contagious diseases and environmental risks. International data suggest that subject and age differentials may be due to moderators more general than just the United States.

Shmulsky, Gobbo, & Vitt. (2022). **Culturally Relevant Pedagogy for Neurodiversity**. *Community College Journal of Research and Practice*, *46*(9), 681-685. https://doi.org/10.1080/10668926.2021.1972362
This article applies the insight of culturally relevant pedagogy to neurodiversity. The neurodiversity paradigm reframes autism, ADHD, dyslexia, and other neurodevelopmental conditions as natural human diversity rather than disorders to be cured. Culturally relevant pedagogy (CRP) is an equitable approach to teaching that proactively includes students from diverse ethnic and racial backgrounds. This article discusses the implications of CRP for neurodiversity education and offers practical suggestions for college instructors.

Steinmayr, R., Paschke, P., & Wirthwein, L. (2022). **Elementary School Students' Subjective Well-Being Before and During the COVID-19 Pandemic: A Longitudinal Study**. *Journal of Happiness Studies*, *23*(6), 2985-3005. https://doi.org/10.1007/s10902-022-00537-y
First empirical results indicate that the COVID-19 pandemic has a negative impact on adolescents' and adults' subjective well-being. In the present study we focus on the subjective well-being of elementary school children before and after the first pandemic-

related school lockdown and examine if possible declines in subjective well-being are especially pronounced for some groups, considering socio-economic status, migration background, and gender as moderators. We tested N = 425 elementary school students (mean age: M = 8.19; SD = 1.04) longitudinally with four measurement points (three before the school lockdown and one after) regarding their general life satisfaction, mood, and domain satisfaction regarding peers, family, and school. Piecewise growth curve models revealed a significant decline in positive mood and in satisfaction with the family. Decline in life satisfaction and satisfaction with peers nearly missed significance. The investigated moderators had no impact on the changes in subjective well-being. We conclude that the pandemic had detrimental effects on young children's subjective well-being.

Sun, Y., Shi, A., Zhao, W., Yang, Y., Li, B., Hu, X., … Luo, L. (2022). **Long-Lasting Effects of an Instructional Intervention on Interleaving Preference in Inductive Learning and Transfer**. *Educational Psychology Review*, *34*(3), 1679-1707. https://doi.org/10.1007/s10648-022-09666-5
Observing category exemplars in an interleaved manner is more beneficial for inductive learning than blocked (massed) presentation, a phenomenon termed the interleaving effect on inductive learning. However, people tend to erroneously believe that massed is more beneficial than interleaved learning, and learners prefer the former during self-regulated learning. We report four experiments designed to investigate whether explicit instructions, which include individual performance feedback and the interleaving effect results from previous research, can (1) correct metacognitive illusions regarding the interleaving effect, (2) promote self-employment of interleaving, and (3) facilitate category learning. In addition, the current study explored (4) whether the intervention effect is long-lasting and (5) transferable to learning of categories in other domains. Experiments 1–4 established the effectiveness of the instruction intervention to enhance metacognitive appreciation of the interleaving effect, to promote self-employment of interleaving, and to facilitate learning of new categories. The intervention effect was long-lasting (at least 24 h; Experiment 2), and transferable to learning of categories in different domains (Experiments 3 and 4). These findings support the practical use of the instruction intervention.

Taumoepeau, M., Kata, 'Ungatea Fonua, Veikune, 'Ana Heti, Lotulelei, S., Vea, P. T., & Fonua, 'Ilaisaane. (2022). **Could, would, should: Theory of mind and deontic reasoning in Tongan children**. *Child Development*, *93*(5), 1511-1526. https://doi.org/10.1111/cdev.13797
This study examined the developmental profiles of children's social reasoning about individual agentive and deontic concerns. Tongan children (N = 140, 47.9% male), aged 4–8 years, were given a set of mentalistic (standard theory-of-mind) and deontic reasoning tasks. On average, children found diverse desires, knowledge access, hidden emotion, and belief emotion easier than the false-belief and diverse belief tasks. Tongan children were sensitive to social norms governing behavior, and this information was recruited for predicting behavior in a false-belief task when embedded in a socially normative context. We discuss the potential for cultural mandates to shape children's social understanding and the impact of culture on our theoretical framing of children's development.

Testa, I., De Luca Picione, R., & Scotti di Uccio, U. (2022). **Patterns of Italian high school and university students' attitudes towards physics: an analysis based on semiotic-cultural**

perspective. *European Journal of Psychology of Education*, *37*(3), 785-806. https://doi.org/10.1007/s10212-021-00563-z
The purpose of this study was to analyse Italian high school and university students' attitudes towards physics using the Semiotic Cultural Psychological Theory (SCPT). In the SCPT framework, attitudes represent how individuals interpret their experience through the mediation of generalized meaning with which they are identified. A view-of-physics questionnaire was used as an instrument to collect data with 1603 high school and university students. Data were analysed through multiple correspondence analysis and cluster analysis. We identified four generalized meanings of physics: (a) interesting and important for society; (b) a quite interesting, but badly taught subject at school and not completely useful for society; (c) difficult to study and irrelevant for society; and (d) a fascinating and protective niche from society. The identified generalized meanings are significantly correlated to the choice to study physics at undergraduate level and to the choice of attending physics-related activities in high school. Implications for research are discussed.

Valdebenito, S., Speyer, L., Murray, A. L., Ribeaud, D., & Eisner, M. (2022). **Associations between Student-Teacher Bonds and Oppositional Behavior Against Teachers in Adolescence: A Longitudinal Analysis from Ages 11 to 15**. *Journal of Youth and Adolescence*, *51*(10), 1997-2007. https://doi.org/10.1007/s10964-022-01645-x
Prior research has found evidence for a positive effect of student-teacher bonds on children's behavior. However, little research has investigated these relations following a transactional model of child development. This study investigated the bidirectional associations between student-teacher relationships and oppositional behaviors towards teachers using the 'Zurich Project on the Social Development from Childhood to Adulthood' (n = 1527; median ages 11, 13 and 15; 49% female). Results of a random-intercept cross-lagged panel model suggested that, among boys, positive student-teacher bonds at age 13 were associated with fewer teacher-reported oppositional behaviors two years later. The results indicated that negative interactions with teachers may be part of vicious cycles of poor relationships and increased levels of oppositional behavior, particularly for boys in late adolescence.

Van Vo, D., & Csapó, B. (2022a). **Correction to: Exploring students' science motivation across grade levels and the role of inductive reasoning in science motivation**. *European Journal of Psychology of Education*, *37*(3), 831-831. https://doi.org/10.1007/s10212-021-00579-5
Van Vo, D., & Csapó, B. (2022b). **Exploring students' science motivation across grade levels and the role of inductive reasoning in science motivation**. *European Journal of Psychology of Education*, *37*(3), 807-829. https://doi.org/10.1007/s10212-021-00568-8
The purpose of this study is to explore students' motivation towards science learning at different grade levels and to investigate whether inductive reasoning can contribute to an explanation of science motivation. The study conducted a cross-sectional assessment in six public schools in Vietnam with a total population of 813 students from the 5th, 7th, 9th, 10th and 11th grades. Students completed instruments in either paper-and-pencil or online administration modes. An adapted science motivation questionnaire comprised five subscales for self-efficacy, active learning strategies, science learning value, achievement goals and learning environment stimulation. An inductive reasoning test consisted of four subtests: figure series completion, figure analogies, number analogies and number series completion. The results of confirmatory factor analyses and Rasch

model measurement showed that the instruments were adequate fit models, both the science motivation questionnaire (RMSEA=.054, CFI=.919, SRMR=.055) and inductive reasoning test (RMSEA=.038, CFI=.902, SRMR=.044). We found that students' scores gradually fell grade by grade in science motivation throughout the grade cohorts. Particularly, students' motivation dropped noticeably on the self-efficacy and active learning strategies subscales. No gender difference was found between males and females in science motivation. Although a positive correlation was observed between inductive reasoning and motivation across grade levels, multi-model Bayesian inference suggested that other factors, such as age, science performance and parental involvement, were better predictors of students' science motivation. Furthermore, a path analysis showed that inductive reasoning has an indirect effect on science motivation through a science performance variable. The implications for enhancing science motivation are also discussed.

van Zyl, L. E., Klibert, J., Shankland, R., See-To, E. W. K., & Rothmann, S. (2022). **The General Academic Self-Efficacy Scale: Psychometric Properties, Longitudinal Invariance, and Criterion Validity**. *Journal of Psychoeducational Assessment*, *40*(6), 777-789. https://doi.org/10.1177/07342829221097174
Academic self-efficacy (ASE) refers to a student's global belief in his/her ability to master the various academic challenges at university and is an essential antecedent of wellbeing and performance. The five-item General Academic Self-Efficacy Scale (GASE) showed promise as a short and concise measure for overall ASE. However, of its validity and reliability outside of Scandinavia is limited. Therefore, this paper aimed to investigate the psychometric properties, longitudinal invariance, and criterion validity of the GASE within a sample of university students (Time 1: n = 1056 & Time 2: n = 592) in the USA and Western Europe. The results showed that a unidimensional factorial model of overall ASE fitted the data well was reliable and invariant across time. Further, criterion validity was established by finding a positive relationship with task performance at different time stamps. Therefore, the GASE can be used as a valid and reliable measure for general ASE.

Vella-Brodrick, D. A., & Gilowska, K. (2022). **Effects of Nature (Greenspace) on Cognitive Functioning in School Children and Adolescents: a Systematic Review**. *Educational Psychology Review*, *34*(3), 1217-1254. https://doi.org/10.1007/s10648-022-09658-5
There is growing interest in understanding the extent to which natural environments can influence learning particularly in school contexts. Nature has the potential to relieve cognitive overload, reduce stress and increase wellbeing—all factors that are conducive to learning. This paper provides a PRISMA-guided systematic review of the literature examining the effects of nature interventions on the cognitive functioning of young people aged 5 to 18 years. Examples of nature interventions include outdoor learning, green playgrounds, walks in nature, plants in classrooms and nature views from classroom windows. These can vary in duration and level of interaction (passive or active). Experimental and quasi-experimental studies with comparison groups that employed standardized cognitive measures were selected, yielding 12 studies from 11 papers. Included studies were rated as being of high (n = 10) or moderate quality (n = 2) and most involved short-term nature interventions. Results provide substantial support for cognitive benefits of nature interventions regarding selective attention, sustained attention and working memory. Underlying mechanisms for the benefits were also explored, including enhanced wellbeing, cognitive restoration and stress reduction—all likely to be

contributors to the nature-cognition relationship. The cognitive effects of nature interventions were also examined according to age and school level with some differences evident. Findings from this systematic review show promise that providing young people with opportunities to connect with nature, particularly in educational settings, can be conducive to enhanced cognitive functioning. Schools are well placed to provide much needed 'green' educational settings and experiences to assist with relieving cognitive overload and stress and to optimize wellbeing and learning.

Wang, L. (2022). **The Effects of Cyberbullying Victimization and Personality Characteristics on Adolescent Mental Health: An Application of the Stress Process Model**. *Youth & Society*, *54*(6), 935-956. https://doi.org/10.1177/0044118X211008927
Although a considerable body of research has documented the association between victimization experience and adolescent mental health, previous studies have not investigated the mediating effects of personality characteristics such as social competence and self-mastery on the associations between cyberbullying victimization and mental health. This study aims to fill in this research gap. Random group sampling based on grade was employed, and a total of 607 adolescents (51.07% females, Mage = 15.04) were recruited to participate in the study. The findings of the present study partially supported the hypotheses. Specifically, the results showed that cyberbullying victimization was positively associated with social anxiety and depression. Self-mastery was found to mediate the relationship between cyberbullying victimization and symptoms of depression and social anxiety. Social competence was found to be negatively related to social anxiety, but no mediating effect was found between cyberbullying victimization and symptoms of mental health. Theoretical and practical implications were discussed.

Xu, K., Torgrimson, S. J., Torres, R., Lenartowicz, A., & Grammer, J. K. (2022). **EEG Data Quality in Real-World Settings: Examining Neural Correlates of Attention in School-Aged Children**. *Mind, Brain, and Education*, *16*(3), 221-227. https://doi.org/10.1111/mbe.12314
Advances in mobile electroencephalography (EEG) technology have made it possible to examine covert cognitive processes in real-world settings such as student attention in the classroom. Here, we outline research using wired and wireless EEG technology to examine attention in elementary school children across increasingly naturalistic paradigms in schools, ranging from a lab-based paradigm where children met one-on-one with an experimenter in a field laboratory to mobile EEG testing conducted in the same school during semi-naturalistic classroom lessons. Despite an increase of data loss with the classroom-based paradigm, we demonstrate that it is feasible to collect quality data in classroom settings with young children. We also provide a test case for how robust EEG signals, such as alpha oscillations, can be used to identify measurable differences in covert processes like attention in classrooms. We end with pragmatic suggestions for researchers interested in employing naturalistic EEG methods in real-world, multisensory contexts.

Young, E. S., Frankenhuis, W. E., DelPriore, D. J., & Ellis, B. J. (2022). **Hidden talents in context: Cognitive performance with abstract versus ecological stimuli among adversity-exposed youth**. *Child Development*, *93*(5), 1493-1510. https://doi.org/10.1111/cdev.13766
Adversity-exposed youth tend to score lower on cognitive tests. However, the hidden talents approach proposes some abilities are enhanced by adversity, especially under

ecologically relevant conditions. Two versions of an attention-shifting and working memory updating task—one abstract, one ecological—were administered to 618 youth (Mage = 13.62, SDage = 0.81; 48.22% female; 64.56% White). Measures of environmental unpredictability, violence, and poverty were collected to test adversity × task version interactions. There were no interactions for attention shifting. For working memory updating, youth exposed to violence and poverty scored lower than their peers with abstract stimuli but almost just as well with ecological stimuli. These results are striking compared to contemporary developmental science, which often reports lowered performance among adversity-exposed youth.

Zacharia, M. G., & Yablon, Y. B. (2022). **School bullying and students' sense of safety in school: the moderating role of school climate**. *European Journal of Psychology of Education*, *37*(3), 903-919. https://doi.org/10.1007/s10212-021-00567-9
One of the negative consequences of bullying in schools is its adverse effect on students' sense of safety. Previous studies yielded mixed results and a nonlinear relationship between bullying and students' sense of safety and pointed to the need for revealing possible mediating and moderating factors in order to better understand this victimization-fear paradox. The main aim of the current study was to examine the moderating effect of school climate, suggesting that bullying may have a smaller effect on the sense of safety in a positive school climate than in a negative one. The association between different forms (direct, observed) of school bullying and the sense of safety was also investigated with reference to three indicators of safety (risk assessment, fear, avoidance). The sample included 1213 students in sixth (35.5%), eighth (38.3%), and tenth (26.2%) grades. The findings show that school climate moderates the association between victimization and the sense of safety and that a negative relationship exists between bullying and students' sense of safety in schools characterized by a negative school climate, but not in schools characterized by a positive school climate. The findings point to the importance of the school context in understanding the effect of bullying and specifically the association between bullying and the sense of safety.

Aspects sociaux de l'éducation

Álvarez-Rivadulla, M. J., Jaramillo, A. M., Fajardo, F., Cely, L., Molano, A., & Montes, F. (2022). **College integration and social class**. *Higher Education*, *84*(3), 647-669. https://doi.org/10.1007/s10734-021-00793-6
What is the impact of social class on college integration? Higher education institutions are becoming more diverse, yet the integration of underprivileged students remains a challenge. Using a social network approach, we analyze the general integration of low socioeconomic status (SES) students, as well as how segregated by class these friends are. The object of analysis is the extreme case of an elite university that, based on a government loan program (Ser Pilo Paga), opened its doors to many low-SES students in a very unequal country, Colombia. Using a mixed methods perspective, including a survey, 61 in depth interviews, and ethnographic observation, we analyze friendship networks and their meanings, barriers, and facilitators. Contrary to the literature, we find that low-SES students had, on average, the same number of connections and were no more isolated than students from upper social classes. Also, low-SES students' networks were not more segregated, even if relations with the upper classes were less likely and required more relational work than with middle or lower class friends. This high level of

social integration stemmed from the intense relational work that low-SES students engage in, so as to fit in. Middle class friends act as a catalyst that can enable cross-class friendships.

Bachbauer, N., Wolf, C., & Fuß, D. (2022). **Education and Employment Trajectories in NEPS-ADIAB: The Survey Data of the National Educational Panel Study Linked to Administrative Data of the Institute for Employment Research**. *European Sociological Review*, *38*(4), 663-676. https://doi.org/10.1093/esr/jcab057
NEPS-ADIAB is a large-scale data product from Germany that provides a unique source for the empirical analysis of life course research questions. It is jointly administered by the Institute for Employment Research (IAB) and the Leibniz Institute for Educational Trajectories. NEPS-ADIAB includes survey data from the National Educational Panel Study (NEPS) and administrative data from the IAB, combined at the individual level using a record linkage procedure. While the NEPS data cover issues such as educational trajectories and decisions, competencies and skills, learning environments, attitudes, etc., the administrative data consist of detailed employment histories dating back to 1975, plus extensive information on establishments. The linkage of both data collections results in a considerable research potential. NEPS-ADIAB is particularly suitable for analyses of the nexus between educational and employment careers, short- and long-term returns to education, transitions from school to vocational training and working life, adult education and lifelong learning, as well as discontinuities in professional careers due to parenthood or unemployment. Contextual characteristics about establishments as well as geographic indicators can additionally be taken into account. The regularly updated and expanded NEPS-ADIAB data are accessible to the entire scientific community free of charge via on-site and remote access.

Brighouse, H. (2022). **The tyranny of meritocracy and elite higher education**. *Theory and Research in Education*, *20*(2), 145-158. https://doi.org/10.1177/14778785221113990
In The Tyranny of Merit, Michael Sandel argues that the American society is not meritocratic, that belief that it is causes various social harms, and that some of those harms –in particular, the costs to social solidarity – would be caused even if society actually were meritocratic. He also explores the way that the structure of higher education is implicated in the 'ethos' of meritocracy. This article explores just how the ethos of meritocracy might undermine solidarity, argues that the structural changes needed to achieve actual meritocracy would be benign, even though meritocracy itself is not very valuable, and identifies ways in which changes to the structure of public funding for higher education may inadvertently have undermined solidarity.

Brooks, J. N., & Martin, J. L. (2022). **Combating Anti-Blackness in Education**. *Journal of Cases in Educational Leadership*, *25*(3), 267-283. https://doi.org/10.1177/15554589221105055
Anti-Blackness is a critical issue. Recognizing instances of this concept will assist with creating an inclusive and safe school culture for all students. This article discusses racism, instances of microaggressions and racial spotlighting that some Students of Color of experience in their K-12 careers.

Caemmerer, J. M., & Hajovsky, D. B. (2022). **Reciprocal Relations Between Children's Social and Academic Skills Throughout Elementary School**. *Journal of Psychoeducational Assessment*, *40*(6), 761-776. https://doi.org/10.1177/07342829221097186

The purpose of this study was to estimate the longitudinal and reciprocal predictive relations between children's social skills, measured by an adaptation of the frequently used Social Skills Rating Scale, and their standardized academic achievement. A large nationally representative sample of elementary school students were assessed at least annually from kindergarten through fifth grade in the Early Childhood Longitudinal Study, Kindergarten Class of 2010–2011 (n = 7963). Structural equation modeling was used to test a panel model of teacher-rated interpersonal and self-control skills and children's scores on standardized reading, math, and science achievement tests. Reciprocal relations between children's social skills and achievement were supported throughout elementary school, with achievement showing a stronger and consistent pattern of influence on children's subsequent social skills.

Carrasco, A., Mendoza, M., & Flores, C. (2022). **Self-segregation strategies through school choice in Chile: A middle-class domain?** *Journal of Sociology*, *58*(3), 359-378. https://doi.org/10.1177/14407833211036505
Sociological research has shown that marketized educational systems favour middle-class families' self-segregation strategies through school choice and, consequently, the reproduction of their social advantage over poorer families. Drawing on Pierre Bourdieu's concepts of capitals, habitus and strategy, we analyse quantitative and ethnographic data on parents' school choice from Chile to introduce nuances to this argument, evincing more extended and complex mechanisms of self-segregation in the Chilean marketized educational system. We found that not only middle-class parents but also parents from different socioeconomic groups displayed self-segregating school choice strategies. We also found that these strategies were performed both vertically (in relation to other social classes) and horizontally (in relation to other groups within the same social class). These findings unwrap a possible stronger effect of the Chilean school choice system over segregation.

Catalán, X., Santelices, M. V., & Horn, C. (2022). **The role of an equity policy in the reproduction of social inequalities: High School Ranking and university admissions in Chile**. *Journal of Sociology*, *58*(3), 413-432. https://doi.org/10.1177/14407833211072592
The High School (HS) Ranking is an equity policy aimed at increasing the enrolment of students from underprivileged contexts in selective higher education institutions in Chile. However, HS Ranking is considered as an admission criterion for all applicants, regardless of their contextual characteristics. In this study, we delve into how students from different high school settings interpret and deploy actions to increase their HS Ranking score. Through a Structural Equation Model with validated survey data (9 schools, N = 1.831), our results show that the role of the schools' context in the deployment of academic strategies to increase HS Ranking score is significant, even after controlling for academic individual motivation. In a scenario of a highly segregated secondary system these results are relevant for the discussion of the role of HS Ranking – an equity-oriented admission policy – in maintaining the higher education inequalities.

Chen, J. (2022). **Clothing and identity: Chinese rural students' embodied transformations in the urban university**. *Journal of Sociology*, *58*(3), 379-394. https://doi.org/10.1177/14407833211038613
In the context of enduring urban–rural inequality in China, attention has been drawn to rural students' encounters in the urban university. In this research, I elicit rural students' narratives about their (classed) perceptions of clothing and style, as well as the bodily

practices embedded in their subjective social mobility experiences in the unique social milieu of China's context. I argue that participants' transforming practices entail a nexus of challenge to and also compliance with the urban field. Through the theoretical lens of habitus, I illustrate how rural students strategically transform their 'style', as dispositions of habitus, in the urban field to obtain valued forms of embodied capital. At the same time, I emphasise the importance of viewing rural students' embodied transformations critically, as it entails both their effective generation of valued capital to actively adapt to the urban field and their (involuntary) compliance to the oppressive social relations.

Chen, V., & Bland, T. B. (2022). **Power, populism, and a policy of grace: Moral perspectives in The Tyranny of Merit and Cut Loose**. *Theory and Research in Education*, *20*(2), 159-172. https://doi.org/10.1177/14778785221109067
We argue that the compelling critical perspective put forward by Michael Sandel in The Tyranny of Merit could benefit from the account of power that Cut Loose advanced in its earlier typology. First, the ways that principles of meritocracy serve the interests of particular social groups become clearer when we consider more fully the tensions that inherently exist between merit and other conceptions of the good. Second, the allure of these competing moral perspectives – above all, fraternal morality – helps us make sense of the turn toward nativist populism that we have seen in the United States and elsewhere. Amid the steady unraveling of religious and republican ties, a White working class has responded to its relative economic decline, in part, by seeking solace in ethnocentrism. Third, we argue that the morality of grace can offer an alternative source of existential meaning, which meritocracy – with its focus on contentless excellence – lacks, and which egalitarianism – with its materialist and secular viewpoint – often struggles to cultivate. Here, we turn to Sandel's earlier book, What Money Can't Buy, for inspiration, seeing grace as not just the absence of a meritocratic ethic of merciless competition, but a source of value, fulfillment, and connection in itself. We end our essay with a description of what such an economy and politics of grace might look like.

Cooke, J. E., Deneault, A.-A., Devereux, C., Eirich, R., Fearon, R. M. P., & Madigan, S. (2022). **Parental sensitivity and child behavioral problems: A meta-analytic review**. *Child Development*, *93*(5), 1231-1248. https://doi.org/10.1111/cdev.13764
Meta-analytic associations between observed parental sensitivity and child behavioral problems were examined (children aged 0–17 years). Studies (k = 108, N = 28,114) contained sociodemographically diverse samples, primarily from North America and Europe, reporting on parent-child dyads (95% mothers; 54% boys). Sensitivity significantly related to internalizing (k = 69 studies; N = 14,729; r = −.08, 95% CI [−.12, −.05]) and externalizing (k = 94; N = 25,418; r = −.14, 95% CI [−.17, −.11]) problems, with stronger associations found for externalizing. For internalizing problems, associations were significantly stronger among samples with low socioeconomic status (SES) versus mid-high SES, in peer-reviewed versus unpublished dissertations, and in studies using composite versus single scale sensitivity measures. No other moderators emerged as significant.

Cortés Saavedra, A. (2022). **Migrant children in a Chilean school: Habitus, discourses and otherness**. *Journal of Sociology*, *58*(3), 342-358. https://doi.org/10.1177/14407833211071144
Drawing on data from ethnographic fieldwork in a diverse school located in the north of Chile, this article explores the ways of narrating and producing otherness, through the analysis of school staff discourses. The article identifies and describes how the discourses

on migrant children are produced in a school context, and the sources and references used by teachers. Utilising a focused ethnographic method and based on a critical realist and Bourdieusian approach, this article argues that there are surrounding discourses and pre-existing sets of social relations (state–school relations, socio-spatial relations, intergenerational relations), which are reflexively integrated into the habitus of teachers and the institutional habitus of the school, in order to understand the conviviality with migrant children and to produce social differences.

Cowley, M. P. S. (2022). **Critical Race Theory and Black Marxism: Implications for Higher Education**. *Educational Theory*, *72*(2), 195-216. https://doi.org/10.1111/edth.12527
AbstractIn this paper, Matthew Cowley advances a theoretical approach toward higher education drawn from critical race theory (CRT) and Black Marxism. After an overview of CRT and Black Marxism, Cowley builds a working understanding of two recent (re)conceptualizations of race and class analysis that draw from both: (1) economies of racism and (2) critical raceclass theory of education. Subsequently, he connects two assumptions of CRT and Black Marxism — whiteness as property and racial capitalism — to expound on an original hypothesis, relate it to relevant issues in higher education, and evaluate it by deploying the economies of racism theoretical approach.

Croguennec, Y., & Dieusaert, P. (2022). **Les mobilités résidentielles des élèves du premier degré, en collège et en seconde à la rentrée 2021**. *Note d'Information*, (22.25). Consulté à l'adresse https://www.education.gouv.fr/media/116299/download
Les débuts de cycle sont plus propices aux mobilités, notamment l'entrée au collège. La mobilité est plus fréquente chez les élèves issus de milieux défavorisés, mais la progression par rapport à l'année précédente est plus importante parmi les plus favorisés. Tout comme les années précédentes, les mobilités résidentielles s'opèrent le plus souvent entre zones urbaines. Pour autant, les mobilités de l'urbain vers le rural sont plus fréquentes à l'école et en début de collège, et les mobilités du rural vers l'urbain sont plus fréquentes lorsque l'élève rentre au lycée.

Dunlea, J. P., Goel, D., & Heiphetz, L. (2022). **Children's socio-moral judgments and behaviors toward peers with and without incarcerated parents**. *Child Development*, *93*(5), e515-e530. https://doi.org/10.1111/cdev.13790
Adults often respond negatively toward children with incarcerated parents. Yet, the developmental foundations for such negativity remain unclear. Two studies (N = 331 U.S. residents; plurality White; plurality male; data collected between Winter 2019 and Spring 2021) addressed this topic. Study 1 probed 5- to 6-year-olds' and 7- to 8-year-olds' inferences about peers with and without incarcerated parents. Children reported less certainty that peers with, versus without, incarcerated parents possess moral beliefs. Study 2 showed that among older children, inferences about parental absence did not fully account for this pattern of results. Across studies, children behaved less generously toward peers with, versus without, incarcerated parents. These studies illuminate how early socio-moral judgment may contribute to negativity toward children with incarcerated parents.

Dupray, A. (2022). **Sortir sans diplôme de l'enseignement supérieur : un effet possible du département d'origine ?** *Formation emploi*, *158*(2), 71-99. https://doi.org/10.4000/formationemploi.10634

Cet article interroge l'empreinte possible du territoire d'origine sur les chances de poursuivre dans l'enseignement supérieur et le risque d'en sortir avant l'obtention du diplôme. À partir du couplage de deux cohortes de l'enquête Génération du Céreq, il ressort que les disparités de poursuite d'études entre départements sont en partie liées aux différences de richesse des familles. Les variations de sorties sans diplôme entre départements s'atténuent dès lors que sont prises en compte les caractéristiques individuelles ; restent des disparités qui s'expliquent par des dimensions contextuelles : taux de chômage, taux de poursuite d'études et poids de l'enseignement secondaire privé.

Elenbaas, L., Luken Raz, K., Ackerman, A., & Kneeskern, E. (2022). **"This kid looks like he has everything": 3- to 11-year-old children's concerns for fairness and social preferences when peers differ in social class and race**. *Child Development*, *93*(5), 1527-1539. https://doi.org/10.1111/cdev.13778
This study investigated 3- to 11-year-old US children's (N = 348) perceptions of access to resources, social group preferences, and resource distribution decisions and reasoning when hypothetical peers differed in social class (poor or rich) and race (Black or White). Data were collected in 2019. The sample reflected the region where data were collected in terms of gender (44% girls, 30% boys, 1% another identity) and race and ethnicity (46% White, 10% multiracial or multiethnic, 9% Black, 5% Latinx, 2% Asian, 3% another identity), and parents reported a higher average level of education than the regional average. Results revealed both marked age differences in children's perceptions, preferences, decisions, and reasoning and specific combinations of peer group memberships that were especially likely to receive preferential treatment. With age, children perceived that rich peers had greater access to resources than poor peers, but when both peers were poor, White peers were perceived to have more resources than Black peers. Social group preferences changed with age, from mixed social class and racial group preferences, to preferences for rich peers, to dislike for rich peers. Resource allocation decisions and reasoning reflected both social group and fairness concerns: young children distributed more to White peers especially if they were also rich, participants in middle childhood explicitly favored rich peers regardless of their race, and older children distributed more to poor peers and reasoned about either moral concerns for equity or social class stereotypes. Thus, overall, younger children's responses often reflected broader economic and racial inequalities while older children often sought to create more equity, though not always for moral reasons.

Erhard, L., Heiberger, R. H., & Windzio, M. (2022). **Diverse Effects of Mass Media on Concerns about Immigration: New Evidence from Germany, 2001–2016**. *European Sociological Review*, *38*(4), 629-647. https://doi.org/10.1093/esr/jcab063
Media discourse is often seen as an important condition of people's attitudes and perceptions. Despite a rich literature, however, it is not well understood how media exposure influences attitudes towards immigrants. In contrast to previous studies, we argue that people rely on 'availability heuristics' shaped by mass media. From that point of view, it is the specific content of media discourse on immigration that affects people's concerns. We use structural topic models to classify media content of more than 24,000 articles of leading German newspapers from 2001 to 2016. Utilizing linear fixed-effects models allows us to relate a person's concern towards immigration, as reported in the German Socioeconomic Panel, to prevalent topics discussed in print media while controlling for several confounding factors (e.g., party preferences, interest in politics,

etc.). We find a robust relationship between topic salience and attitudes towards integration. Our results reveal that specific topics with negative contents (e.g., domestic violence) increase concerns, while others (e.g., scientific studies, soccer) decrease concerns substantially, underlining the importance of available information provided by media. In addition, people with higher education are generally less affected by media salience of topics.

Glinel, C., & van Zanten, A. (2022). **Renouveler les élites. Ouverture sociale et dispositifs de jugement dans l'enseignement supérieur sélectif**. *Formation emploi*, *158*(2), 141-165. https://doi.org/10.4000/formationemploi.10709
Cet article porte sur les commissions d'admission d'un dispositif d'ouverture sociale créé par un établissement d'enseignement supérieur français sélectif. Il s'agit d'analyser ses effets sur le renouvellement des modes d'accès aux élites via l'école. Nous mettons en évidence le caractère hybride de ce mode de sélection en distinguant deux cadres et formes d'entendement, professoral et managérial. Nous montrons également que l'opposition apparente des critères de valuation mobilisés par les membres de ces commissions n'empêche pas l'émergence d'un consensus autour d'un nouveau modèle d'ascension sociale construit sur des représentations partagées de la méritocratie et des classes populaires.

Gorodzeisky, A. (2022). **The Influx of Refugees and Temporal Change in Attitudes towards Asylum Seekers: A Cross-National Perspective**. *European Sociological Review*, *38*(4), 648-662. https://doi.org/10.1093/esr/jcab066
The article studies over-time changes in public attitudes towards asylum seekers, from a cross-national comparative perspective. The article applies the 'hierarchical age-period-cohort' model to data from the European Social Survey collected in 17 European countries. The findings demonstrate that cross-cohort variations play a negligible role in the over-time changes in attitudes towards asylum seekers in Europe; and that most of these over-time changes can be attributed to period-related effect. The main findings reveal that not only exposure to an actual high inflow of asylum seekers (i.e. living in a country with an especially high inflow of asylum seekers) is associated with exclusionary attitudes towards asylum seekers, but also exposure to the potential of such an inflow (i.e. living in a country bordering countries with a high inflow of asylum seekers).

Goubin, S., & Kumlin, S. (2022). **Political Trust and Policy Demand in Changing Welfare States: Building Normative Support and Easing Reform Acceptance?** *European Sociological Review*, *38*(4), 590-604. https://doi.org/10.1093/esr/jcab061
How does generalized political trust affect policy demand in changing welfare states? We simultaneously consider two possible effects. First, trust may buttress normative support, as measured by well-known items on general support for redistribution and 'government responsibility' in specific areas. Secondly, political trust may ease concrete reform acceptance in the context of fiscal pressure. This proposition becomes increasingly relevant as welfare states change in ways not directly addressed by traditional survey measures. We develop hypotheses about how different dimensions of normative support and reform acceptance may be unequally affected by political trust. We analyse primary three-wave panel data in a field dominated by cross-sectional analysis. The data offer standard measures of trust and support, and a new multidimensional question battery tapping reform acceptance. We find cross-sectional and longitudinal support for hypotheses predicting that political trust buttresses

normative support for horizontally redistributive policies (but as hypothesized not for 'life-course' policies). In contrast, there is quite some cross-sectional but little longitudinal support for effects on reform acceptance. Possible exceptions involve some of the more contentious reform types and, in particular, reforms that raise user fees and taxation.

Grätz, M. (2022). **Does Increasing the Minimum School-Leaving Age Affect the Intergenerational Transmission of Education? Evidence from Four European Countries**. *European Sociological Review*, *38*(4), 543-559. https://doi.org/10.1093/esr/jcab065
Reforms in the minimum school-leaving age are candidates for policies that affect the intergenerational transmission of education. I propose that the societal contexts in which these reforms occur may moderate their effects on educational mobility. To test this hypothesis, I estimate the cross-country variation in the effects of increases in the minimum school-leaving age on educational mobility in four European countries. I employ a regression discontinuity design and data from the European Social Survey and the Survey of Health, Ageing and Retirement in Europe on Austria, Denmark, France, and the Netherlands. The findings provide no evidence to the hypothesis that the reforms in the minimum school-leaving age changed the association between the education of parents and the education of their children in any of the four countries. These findings are robust to measuring educational attainment in a multitude of ways, and they do not vary between men and women. The results are at odds with rational choice theories that expect reforms in the minimum school-leaving age to increase educational mobility.

Grimault-Leprince, A., Merle, P., & Voirnesson, B. (2022). **Sanctions scolaires et sentiments d'injustice des élèves. Le poids du contexte et l'effet paradoxal de l'origine populaire**. *Déviance et Société*, *46*(2), 221-257. https://doi.org/10.3917/ds.462.0099
L'objet de cet article est d'étudier les liens entre les sanctions scolaires et les sentiments d'injustice des élèves. Ces liens ont été examinés à partir d'une enquête par questionnaire menée auprès de 1 651 collégiens scolarisés dans des classes de cinquième et troisième de neuf établissements au profil social diversifié. Les analyses statistiques réalisées montrent que des variables contextuelles (fréquence et gravité des sanctions scolaires, contestations parentales et composition sociale des établissements) expliquent de façon centrale les sentiments d'injustice des élèves, alors que les caractéristiques individuelles de ces derniers sont en revanche peu explicatives ou ont des effets inattendus compte tenu des recherches sur l'expérience scolaire. Ce constat autorise in fine des considérations de type réglementaire et pédagogique relatives à la construction de l'ordre scolaire.

Grütter, J., Dhakal, S., & Killen, M. (2022). **Socioeconomic status biases among children and adolescents: The role of school diversity and teacher beliefs in Nepal**. *Child Development*, *93*(5), 1475-1492. https://doi.org/10.1111/cdev.13796
Investigating socioeconomic status (SES) biases, Nepalese children and adolescents (N = 605, 52% girls, Mage = 13.21, SDage = 1.74) attending schools that varied by SES composition were asked to anticipate whether a peer would include a high or low SES character as a math partner. Novel findings were that students attending mixed SES schools were more likely to expect inclusion of a low SES character than were students attending high SES schools. With age, high SES participants attending mixed SES schools increasingly expected the inclusion of the low SES character. Moreover, teachers' democratic beliefs in high SES schools predicted inclusive expectations. Teacher beliefs

and school diversity play a significant role for fostering students' inclusivity in educational contexts.

Guillerm, M., & Monso, O. (2022). **Évolution de la mixité sociale des collèges**. *Note d'information*, (22.26). https://doi.org/10.48464/ni-22-26
Les collèges ont des compositions sociales très différentes, ce qui est régulièrement décrit comme un facteur renforçant les inégalités scolaires. Le niveau et les composantes de la ségrégation varient d'un département à l'autre, compte tenu notamment du degré de ségrégation entre communes et quartiers, du poids du secteur privé et des inégalités économiques. Au niveau national, la ségrégation entre collèges est peu variable au cours du temps. La ségrégation parmi les collèges publics suit une tendance à la baisse et les écarts de composition sociale entre secteurs public et privé sont croissants, le secteur privé scolarisant de plus en plus d'élèves de milieu favorisé. Depuis 2014, la ségrégation a sensiblement diminué dans une vingtaine de départements situés majoritairement dans le Nord et l'Ouest. La ségrégation entre collèges publics y a baissé, et les écarts entre secteurs public et privé n'y ont pas augmenté. Inversement, dans une vingtaine de départements situés plutôt dans la moitié sud, la ségrégation a augmenté, avec une hausse marquée des écarts entre secteurs public et privé.

Hällsten, M., & Yaish, M. (2022). **Intergenerational Educational Mobility and Life Course Economic Trajectories in a Social Democratic Welfare State**. *European Sociological Review*, *38*(4), 507-526. https://doi.org/10.1093/esr/jcab054
We test a prediction of cumulative advantage theory about enduring life cycle effects of educational mobility on earnings. We identify four mobility groups by cross-classifying parental education (degree/no degree) by their offspring (degree/no degree) and study the long-term economic consequences of intergenerational educational mobility. Data for this study come from Swedish population registers covering birth cohorts between 1953 and 1955. We analyse earnings trajectories of Swedish men and women, in each educational mobility category, over most of their working-age life course. We find that the earnings trajectories cluster in two groups that reflect each's educational destination, not their educational origin. These results suggest that mobility trajectories in the Swedish labour market do not follow any strong advantage pattern but instead are explained by the attainment of human capital. By contrast, complementary analyses of mid-life wealth, not necessarily derived in the labour market, suggest more support for cumulative advantage since those with high-educated parents have much higher levels of wealth. We argue that these contrasting results, between earnings and wealth, highlight the Swedish welfare regime's effectiveness, particularly in regulating and suppressing inequality in the labour market.

He, B., & Thompson, C. (2022). **Family involvement and English learners' outcomes: A synthetic analysis**. *International Review of Education*, *68*(3), 409-440. https://doi.org/10.1007/s11159-022-09958-6
This article examines family involvement and English learners' academic, behavioural and socioemotional outcomes through a synthetic analysis of 28 empirical studies (conducted between 1991 and 2019, mostly in the United States) with participants from kindergarten, elementary (primary), middle and high schools. These studies considered family involvement under spontaneous (non-interventional) and interventional conditions. Two types of studies (observational and experimental) were analysed to understand the relationships between one or more kinds of parental involvement and

children's outcomes. For the observational studies (21), the authors conducted a meta-analysis of effect sizes by measuring Pearson's r correlation coefficient. Since most studies reported multiple effect sizes, the authors used a robust variance estimation (RVE) approach with correlational weights to handle the statistical dependency in their overall and moderator analyses. Due to the small number of experimental studies (7), a quantitative measurement of effect size was not feasible for these; therefore, the authors used a systematic review to report their findings on this part of their sample. For the observational studies, the random-effects model reported a positive, yet small effect size of $$overline{r }$$ = 0.15. The strongest associations between family involvement and children's outcomes were found when parents/caregivers had high educational expectations ($$overline{r }$$ = 0.22, p < .01) and encouraged aspiration in their children ($$overline{r }$$ = 0.22, p < .01). The experimental studies reported 26 positive effects against three negative effects. Overall, the authors' findings suggest that family involvement is associated with improved outcomes for English learners in academic, socioemotional and behavioural domains.

Herbaut, E. (2022). **Alternative pathways and social disparities in access to elite higher education institutions**. *Higher Education*, *84*(3), 671-689. https://doi.org/10.1007/s10734-021-00794-5
Inequalities in access to elite higher education institutions are central in the horizontal dimension of social stratification in higher education. Previous studies have consistently shown large social inequalities in access from French "grandes écoles" (GE), but there is limited empirical evidence on the effect of alternative admission policies which have been largely implemented by these institutions. This article focuses on the effect of alternative pathways to GE which allow to transfer after a short vocational degree in higher education or a bachelor's degree. It relies on longitudinal data on high school graduates and their trajectories in higher education to estimate whether students entering elite institutions through alternative pathways differ in terms of social and academic characteristics from those entering through the traditional pathway. This analysis is complemented by estimating the propensity to transfer to a GE among eligible students. Results show that, among eligible students, those with tertiary-educated parents are more likely to transfer. However, alternative pathways appear to diversify the social and academic profile of students in elite institutions because socially advantaged students remain a minority among those eligible to transfer.

Jabbari, J., & Johnson, O. (2022). **The Process of "Pushing Out": Accumulated Disadvantage across School Punishment and Math Achievement Trajectories**. *Youth & Society*, *54*(6), 911-934. https://doi.org/10.1177/0044118X211007175
Students drop out of school for a variety of reasons, yet are "pushed out" when they exhibit traits that are deemed undesirable to school officials, such as misbehavior and academic failure. While much of the previous research on pushouts views the phenomenon as a discrete occurrence often attributed to either misbehavior or academic failure, we recognize the underlying relationships between punishment and achievement, and therefore conceptualize pushing out as a process of both disciplinary involvement and academic exclusion over time. Using structural equation modeling (SEM) with a nationally representative longitudinal study of high school students (HSLS-09), we find that significant relationships among punishment and math achievement (including math attitudes, ability, and course-taking) have the effect of pushing students

out of high school over time. We note the importance of race and ethnicity within these relationships and close with a discussion of policy implications.

Jury, M. (2022). ***Mieux comprendre les inégalités dans le système éducatif français : un programme de recherche centré sur le rôle que peut jouer la fonction de sélection*** (Thesis, Université Clermont Auvergne (UCA)). Consulté à l'adresse https://hal.uca.fr/tel-03722402

Kaufman, T. M. L., Laninga-Wijnen, L., & Lodder, G. M. A. (2022). **Are victims of bullying primarily social outcasts? Person-group dissimilarities in relational, socio-behavioral, and physical characteristics as predictors of victimization**. *Child Development*, *93*(5), 1458-1474. https://doi.org/10.1111/cdev.13772
Existing literature has mostly explained the occurrence of bullying victimization by individual socioemotional maladjustment. Instead, this study tested the person-group dissimilarity model (Wright et al., Journal of Personality and Social Psychology, 50: 523–536, 1986) by examining whether individuals' deviation from developmentally important (relational, socio-behavioral, and physical) descriptive classroom norms predicted victimization. Adolescents (N = 1267, k = 56 classrooms; Mage = 13.2; 48.7% boys; 83.4% Dutch) provided self-reported and peer-nomination data throughout one school year (three timepoints). Results from group actor–partner interdependence models indicated that more person-group dissimilarity in relational characteristics (fewer friendships; incidence rate ratios [IRR]T2 = 0.28, IRRT3 = 0.16, fewer social media connections; IRRT3 = 0.13) and, particularly, lower disruptive behaviors (IRRT2 = 0.35, IRRT3 = 0.26) predicted victimization throughout the school year.

Le Forner, H. (2022). **Les effets de l'âge à la séparation parentale sur la réussite scolaire et la position sociale**. *Éducation & formations*, (104), 199-220. Consulté à l'adresse https://www.education.gouv.fr/media/116485/download

Lee, V. R., Pimentel, D. R., Bhargava, R., & D'Ignazio, C. (2022). **Taking data feminism to school: A synthesis and review of pre-collegiate data science education projects**. *British Journal of Educational Technology*, *53*(5), 1096-1113. https://doi.org/10.1111/bjet.13251
As the field of K-12 data science education continues to take form, humanistic approaches to teaching and learning about data are needed. Data feminism is an approach that draws on feminist scholarship and action to humanize data and contend with the relationships between data and power. In this review paper, we draw on principles from data feminism to review 42 different educational research and design approaches that engage youth with data, many of which are educational technology intensive and bear on future data-intensive educational technology research and design projects. We describe how the projects engage students with examining power, challenging power, elevating emotion and lived experience, rethinking binaries and hierarchies, embracing pluralism, considering context, and making labour visible. In doing so, we articulate ways that current data education initiatives involve youth in thinking about issues of justice and inclusion. These projects may offer examples of varying complexity for future work to contend with and, ideally, extend in order to further realize data feminism in K-12 data science education. Practitioner notes What is already known about this topic Data feminism is an emergent framework for changing data practices and discourse in service of equity and justice. Data science education is rapidly growing as a topic of interest in the educational technology research and design

communities. Many educational technology and design projects have been launched and shared in publications that preceded the widespread distribution of the data feminism framework. What this paper adds Data feminism is partially re-articulated in terms familiar to educational technology research communities. Prior and recent projects are organized with respect to how they illustrate potential connections to core data feminism principles. This paper identifies specific strategies that recent projects have used that have potential for realizing data feminism principles. Implications for practice and/or policy Educational technologists can use the re-articulated principles of data feminism for education to inform their future design work. Tractable steps to achieve data justice that are attainable within existing educational systems can be pursued. Communities can and should bring together multiple ways of knowing to support new educational practices and futures with data.

Mello, U. (2022). **Centralized Admissions, Affirmative Action, and Access of Low-Income Students to Higher Education**. *American Economic Journal: Economic Policy*, *14*(3), 166-197. https://doi.org/10.1257/pol.20190639
Centralized Admissions, Affirmative Action, and Access of Low-Income Students to Higher Education by Ursula Mello. Published in volume 14, issue 3, pages 166-97 of American Economic Journal: Economic Policy, August 2022, Abstract: I analyze how two reforms, introduced to expand college access in Bra...

Mette, I. M. (2022). **(De)Centering Whiteness at Summit High: Reflections of a Racialized Rural United States**. *Journal of Cases in Educational Leadership*, *25*(3), 248-266. https://doi.org/10.1177/15554589221101350
This case was specifically written for practicing school leaders, as well as educational leadership preparation programs, to help create a nuanced conversation about how to decenter whiteness in the practices and policies of rural schools in the United States. The work is challenging, particularly given how race is baked into social institutions throughout the United States, including but not limited to financial, health care, and education systems. Educators reading this case should examine the historic factors that contribute to a racialized rural United States, as well as what can be done within rural education systems to help decenter whiteness.

Mijs, J. J. B. (2022). **Merit and ressentiment: How to tackle the tyranny of merit**. *Theory and Research in Education*, *20*(2), 173-181. https://doi.org/10.1177/14778785221106837
My contribution to this special issue engages with Michael Sandel's The Tyranny of Meritocracy and its significance to the academic conversation about meritocracy and its discontents. Specifically, I highlight Sandel's diagnosis of the rise of populism and his proposed remedy for the 'tyranny of merit'. First, building on Menno ter Braak's writings on the rise of fascism, I explore the sources of ressentiment in contemporary societies as stemming not from disillusionment with meritocracy but from the broken promise of liberalism and democracy more generally. Second, I consider Sandel's proposals to reform elite university admissions and to 'recognize work', explore their wider applicability, and reflect on their limitations to meaningfully change how success and failure is socially experienced and morally understood.

Milon, A. (2022). **La sélection invisible des étudiants handicapés dans l'enseignement supérieur : projets, transition et parcours**. *Formation emploi*, *158*(2), 51-70. https://doi.org/10.4000/formationemploi.10622

À partir de données issues d'une enquête qualitative longitudinale menée de 2015 à 2019, cet article interroge la sélection invisible des étudiants handicapés à l'université. Souvent marqués par des ruptures, des bifurcations et des réorientations, les parcours singuliers de ces étudiants mettent en effet en évidence une sélection invisible, tacite et informelle, qui passe par l'expérience de limitations et de barrières dans l'accès au savoir et aux activités académiques. Réduisant le champ des possibles universitaires et professionnels, ces obstacles produisent des processus d'autosélection ou d'autocensure au cours de la transition et des études dans le supérieur.

Morgenroth, N., Schels, B., & Teichler, N. (2022). **Are Men or Women More Unsettled by Fixed-Term Contracts? Gender Differences in Affective Job Insecurity and the Role of Household Context and Labour Market Positions**. *European Sociological Review*, *38*(4), 560-574. https://doi.org/10.1093/esr/jcab060
This study investigates differences in the causal effect of fixed-term contracts on affective job insecurity by gender and household context in Germany. Research shows that workers in fixed-term employment are more unsettled about their job security than are permanent employees. We contribute to the literature on subjective job insecurity by explicitly modelling the causal effect of fixed-term employment and by examining how women and men differ in this effect. We argue that gender differences in the labour market positions and a gendered division of labour in the household account for gender differences in the subjective vulnerability to fixed-term employment. We apply linear fixed effect probability models based on the German Socio-Economic Panel (SOEP) with a sample of employees aged between 20 and 45 years. Results show that a fixed-term contract doubles the probability of big job worries compared to a permanent contract. Women are substantially more unsettled by fixed-term contracts than men across all household types. These gender differences cannot be explained by unfavourable labour market positions of women. Fixed-term employment thus seems to add to existing gender inequalities on the labour market.

Oberti, M., Tenret, É., Rossignol-Brunet, M., Barraud de Lagerie, P., & Savina, Y. (2022). **L'accès aux filières sélectives de l'enseignement supérieur au prisme des lycées d'origine. D'où viennent les étudiants de Sciences Po Paris et de l'Université Paris Dauphine ?** *Éducation & formations*, (104), 5-31. Consulté à l'adresse https://www.education.gouv.fr/media/116458/download

Olympio, N., Pavie, A., Richard-Bossez, A., Cornand, R., Hache, C., & Richit, N. (2022). **Une sélection au « mérite » ? Le choix des bénéficiaires du programme Parcours d'excellence en éducation prioritaire**. *Formation emploi*, *158*(2), 121-139. https://doi.org/10.4000/formationemploi.10645
Cet article analyse les dynamiques sélectives et les conceptions du mérite qui découlent du programme national Parcours d'excellence (PAREX) (2016-2020), dans le contexte de l'éducation prioritaire. Il se structure en trois parties. La première revient sur le cadrage institutionnel de la sélection dans les programmes d'excellence et détaille la spécificité des PAREX. Basée sur des données quantitatives et qualitatives, la deuxième partie s'intéresse aux effets établissement qui structurent la sélection des élèves dans les PAREX. Enfin, la dernière interroge les effets des modalités et critères de sélection sur le profil des élèves bénéficiaires, et souligne la prégnance de la dimension scolaire.

Oyarzún, J. de D., Gerrard, J., & Savage, G. C. (2022). **Ethics in neoliberalism? Parental responsibility and education policy in Chile and Australia**. *Journal of Sociology*, *58*(3), 285-303. https://doi.org/10.1177/14407833211029694
This article questions the diverse and, in some cases, contradictory ethical forms present in contemporary neoliberal policy frames. In particular, we analyse the demands of responsibility – as a form of ethical commitment – requested of parents by education policies in the contexts of Chile and Australia. Assuming neoliberalism as a contextualised and multivocal form of governing, we applied a policy sociology approach to study the ethical implications for parents of two recent educational reforms developed in the national contexts of this research. Our analyses show that the emerging demands on parents for responsibility in the educational field exceed univocal forms of individual responsibilisation, encompassing expressions of responsibility that respond to collective and public goals.

Pañeda-Fernández, I. (2022). **Natural Disasters and Preferences for Redistribution: The Impact of Collective and Abrupt Disruptions**. *European Sociological Review*, *38*(4), 575-589. https://doi.org/10.1093/esr/jcab059
This study investigates the impact on redistributive preferences of one pervasive yet underexplored type of shock: natural disasters. Previous research has focused on smaller, endogenous shocks that do not share two key features of disasters: they are abrupt and collective experiences. The literature on economic shocks suggests they lead to increased demand for redistribution. Nevertheless, disasters are such abrupt ruptures that they could inhibit an increase in demand for redistribution because they may trigger psychological needs to justify the status quo. Further, their collective nature may push people to substitute government-based help for community or religious-based social insurance. In light of these conflicting accounts, I argue that how surprising a disaster is determines whether it is a deterrent or a catalyst of support for redistribution. To test my argument, I link World Values Survey data to information on subnational risk to natural disasters and find that risk of surprising disasters such as earthquakes and tsunamis increases demand for redistribution but risk of predictable disasters does not. The relationship is robust to controlling for a series of individual and sub-national district characteristics. An event study of earthquake incidence shows a similar pattern: more surprising earthquakes—those impacting rarely hit districts—drive increases in demand for redistribution.

Patzina, A. (2022). **The increasing educational divide in the life course development of subjective wellbeing across cohorts**. *Acta Sociologica*, *65*(3), 293-312. https://doi.org/10.1177/00016993211055678
Labour market, health, and wellbeing research provide evidence of increasing educational inequality as individuals age, representing a pattern consistent with the mechanism of cumulative (dis)advantage. However, individual life courses are embedded in cohort contexts that might alter life course differentiation processes. Thus, this study analyses cohort variations in education-specific life course patterns of subjective wellbeing (i.e. life, health and income satisfaction). Drawing upon prior work and theoretical considerations from life course theories, this study expects to find increasing educational life course inequality in younger cohorts. The empirical analysis relies on German Socio-Economic Panel data (1984–2016, v33). The results obtained from cohort-averaged random effects growth curve models confirm the cumulative (dis)advantage mechanism for educational life course inequality in subjective wellbeing.

Furthermore, the results reveal substantial cohort variation in life course inequality patterns: regarding life and income satisfaction, the results indicate that the cumulative (dis)advantage mechanism does not apply to the youngest cohorts (individuals born between 1970 and 1985) under study. In contrast, the health satisfaction results suggest that educational life course inequality follows the predictions of the cumulative (dis)advantage mechanism only for individuals born after 1959. While the life course trajectories of highly educated individuals change only slightly across cohorts, the subjective wellbeing trajectories of low-educated individuals start to decline at earlier life course stages in younger cohorts, leading to increasing life course inequality over time. Thus, the overall findings of this study contribute to our understanding of whether predictions derived from sociological middle range theories are universal across societal contexts.

Peruzzo, F. (2022). **A call to rethink the Global North university: Mobilising disabled students' experiences through the encounter of Critical Disability Studies and Epistemologies of the South**. *Journal of Sociology*, *58*(3), 395-412. https://doi.org/10.1177/14407833211029381
In the 1970s, disabled people and other marginalised social groups battled an exclusionary Global North university. Disability Studies emerged from those struggles as epistemologies shaped around a Westernised understanding of disability and inequalities, based on dialectic visions of progress and subjective liberation. Today, the advance of neoliberalism in universities, and its connection with colonial legacies, are embedded in different historical contingencies, and disabled students face new forms of discrimination. By merging analytical approaches from post-structural Critical Disability Studies and Epistemologies of the South, this article draws upon interviews with disabled students conducted in an Italian university to explore how neoliberal and capitalistic practices exclude certain knowledges and modalities of being university students. Through disabled students' experiences, the article advances epistemologies that encompass processes of decolonisation and de-ableism of the university and argues for the Global North university to be an institution that can democratically reconcile polyhedral subjective possibilities of being.

Qi, H., Mikami, A. Y., & Owens, J. S. (2022). **Associations between cross-racial friendships and children's social and academic adjustment in racially diverse classrooms**. *Child Development*, *93*(5), 1427-1443. https://doi.org/10.1111/cdev.13773
This study examined bidirectional associations between cross-racial friendships and children's social and academic adjustment. Participants were 583 elementary school-age children in western Canada, or the midwestern United States (4–10 years; 279 girls; 143 Asian, 88 Black, 65 Hispanic or Latinx, 171 White, 116 mixed). Children's adjustment (social preference, academic enablers, academic performance) and friendship nominations (reciprocated, received, given) were measured in fall and spring over one school year from 2017 to 2018, or from 2018 to 2019. Regarding reciprocated nominations, fall adjustment positively predicted spring reciprocated cross-racial friendships, but not vice-versa. For received nominations, academic enablers and received cross-racial friendship nominations were positively and bidirectionally related to one another. Fall same-racial friendship nominations positively predicted spring academic performance and social preference. Effect sizes were small.

Remes, H., Sirniö, O., & Martikainen, P. (2022). **Early home-leaving (HL) and educational attainment: The moderating role of HL in the intergenerational transmission of education**. *Acta Sociologica*, *65*(3), 313-331. https://doi.org/10.1177/00016993211028905
Leaving the parental home is a key step in successful transitions to adulthood. Early home-leaving (HL) is associated with lower educational attainment, but the role of early versus later home-leaving in the intergenerational transmission of education has not been assessed in previous research. We used a longitudinal register-based total sample of families in Finland to examine whether the association between parental and offspring education differs between early (below age 19) and later home-leavers, including a comparison between early and later leaving siblings. We found the lower probability of completing any secondary degree among early leavers to be larger among those with lower-educated than higher-educated parents. In contrast, in continuing to tertiary-level education, the educational disadvantage among early leavers was much larger among offspring of the higher-educated parents. Differences by HL across levels of parental education persisted adjustment for other parental and childhood resources, although only modest evidence of moderation was found when comparing early and later leaving siblings. Our findings on weaker intergenerational transmission of education among early leavers with an advantaged background, and accumulation of disadvantage among early leavers with less advantaged background suggest that timing of HL has an independent role in educational inequalities.

Salas-Rodríguez, J., Gómez-Jacinto, L., Hombrados-Mendieta, I., & del Pino-Brunet, N. (2022). **Too Many Males or Too Many Females? Classroom Sex Ratio, Life History Strategies and Risk-Taking Behaviors**. *Journal of Youth and Adolescence*, *51*(10), 2033-2045. https://doi.org/10.1007/s10964-022-01635-z
Prior research finds that sex ratio, defined as the proportion of males and females in a given context, is related to engagement in risk-taking behaviors. However, most research operationalizes sex ratio at a local context (e.g., regional or county), which fails to reflect with precision the sex ratios contexts of individuals at a closer level. Furthermore, the relationship between sex ratio and risk-taking behaviors may be affected by individuals' life history strategy, with previous studies showing fast life history strategies linked to risk-taking behaviors, compared to slow life history strategies. The present study analyzes the relationship between classroom sex ratio and risk-taking behaviors and the interaction between classroom sex ratio and life history strategy in adolescents. The sample comprised 1214 participants nested in 57 classrooms, 49.75% females, 91.5% Spanish and a mean age of 16.15 years (SD = 1.23, range 14–21). Results from multilevel modeling showed a negative relation between classroom sex ratio and risk-taking behaviors in female adolescents with faster life history strategy. By contrast, classroom sex ratio in male adolescents related positively to risk-taking behaviors but did not interact with life history strategy. These findings underscore the importance of studying proximate sex ratio on risk-taking behaviors in adolescents and underline its potential influence in the development and expression of life history strategies.

Sandel, M. J. (2022). **Meritocracy, education, and the civic project: A reply to commentaries on The Tyranny of Merit**. *Theory and Research in Education*, *20*(2), 193-199. https://doi.org/10.1177/14778785221113622
Michael Sandel replies to commentaries on his book The Tyranny of Merit, focusing on meritocracy and education, the role of merit and grace in economic discourse, and the resentment that fueled the populist backlash against elites.

Sardoč, M. (2022). **The trouble with merit**. *Theory and Research in Education*, *20*(2), 135-144. https://doi.org/10.1177/14778785221108844
The last few years have witnessed a resurgence of interest among both scholars and public intellectuals over issues associated with distributive justice and its gravitational orbit of concepts, including the idea of merit and the adjacent vision of a meritocratic society. Nevertheless, despite its centrality for conceptions of equality of opportunity, a merit-based allocation of advantaged social positions has been confronted by a range of objections. Michael Sandel's book The Tyranny of Merit: What's Become of the Common Good? provides a nuanced examination of 'the age of meritocracy' and meritocratic rationality as its key characteristic. It dovetails an elaborated analysis of the troubled legacy of meritocracy with an in-depth elucidation of the various flaws and shortcomings it came to be associated with. This article aims to examine some of the distinguishing features of merit-based allocation of advantaged social positions and the main shortcomings this distributive mechanism has been associated with. The introductory section identifies the most distinctive characteristics of the merit-based allocation of advantaged social positions. The central section reconstructs some of the arguments advanced by Michael Sandel in his book The Tyranny of Merit (2020). The concluding section presents the motivational impulse for the book symposium on The Tyranny of Merit and the main issues arising out of the discussion between the commentators and Prof. Sandel.

Sepúlveda, D., Mendoza Horvitz, M., Joiko, S., & Ortiz Ruiz, F. (2022). **Education and the production of inequalities across the Global South and North**. *Journal of Sociology*, *58*(3), 273-284. https://doi.org/10.1177/14407833211060059
Education is an essential aspect of any society in the world. As such, it has been a topic studied by many sociologists since the origins of the discipline. Today it is one of the most common subjects in sociology, in part because it has been recognised as a crucial environment for the (re)production of inequalities. This article explores the role of education in the (re)production of social inequalities and its potential to challenge such inequalities. In addition, the article presents some of the distinctions between research in the Global South and North, both in geographical and metaphorical terms. Since this article is the introduction to the special issue Education and the Production of Inequalities: Dialogues from the Global South and North, a synopsis of the published articles is presented at the end.

Shahbazian, R., & Bihagen, E. (2022). **Does Your Class Give More than a Hint of Your Lifetime Earnings?: Assessing Indicators for Lifetime Earnings Over the Life Course for Sweden**. *European Sociological Review*, *38*(4), 527-542. https://doi.org/10.1093/esr/jcab064
From a sociological stratification perspective, we would expect occupationally based measures to be valid proxies for lifetime earnings, but recent research suggests that annual earnings outperform occupational measures. In this article, we examine how class, occupation, education, and annual earnings are associated with lifetime earnings across almost complete working lives, at ages of around 20–65 years for Swedish cohorts born in the 1940s. Our results indicate that while annual earnings are considerably more accurate proxies for the lion's share of working life, occupational measures are as expected more stable and somewhat better at the start and end of working lives. Our results also support the idea that micro-classes are better proxies of lifetime earnings than

big classes. Contrary to some previous research, occupational measures perform better for women than for men in this respect, and occupational measures are better than education. Our main conclusions are that proxies for lifetime earnings have life-cycle biases that should be considered in, for instance, analyses of intergenerational mobility, and that occupationally based measures are more stable than annual earnings but, overall, are not very valid as indicators of lifetime earnings compared to annual earnings.

Shahnaz, A. (2022). **Marketisation of higher education: A genre analysis of university prospectuses in Pakistan**. *Higher Education Quarterly*, *76*(3), 653-670. https://doi.org/10.1111/hequ.12334
The marketisation of higher education is a global phenomenon in the new millennium as the universities are facing intense competition to manage their financial resources and maintain their academic growth and reputation. Pakistan is also influenced by the globalisation of higher education. In this context, this study is a genre analysis of the introductory pages of prospectuses o Pakistani universities. Through Bhatia's model of Applied Genre Analysis, a six-move generic structure has been identified in the introductory pages of prospectuses to establish it as a complex hybrid promotional genre. The most significant communicative purposes are welcoming, informing, and persuading. The universities appear to borrow discourse from genres like accounts, advertisements, management, and the tourist industry. The analysis reveals that marketisation is deeply rooted in today's higher education in Pakistan.

Sladek, M. R., Umaña-Taylor, A. J., Hardesty, J. L., Aguilar, G., Bates, D., Bayless, S. D., … Vázquez, M. A. (2022). **"So, like, it's all a mix of one": Intersecting contexts of adolescents' ethnic-racial socialization**. *Child Development*, *93*(5), 1284-1303. https://doi.org/10.1111/cdev.13756
Cultural-ecological theories posit that ethnic-racial identity (ERI) development is shaped by transactions between contexts of ethnic-racial socialization, yet research considering intersections among multiple contexts is limited. In this study, Black, Latino, White, and Asian American adolescents (N = 98; Mage = 16.26, SD = 1.09; 55.1% female identifying) participated in surveys and focus group discussions (2013–2014) to share insights into ERI development in context. Using consensual qualitative research, results indicated: (a) family ethnic-racial socialization intersects with community-based, peer, media, and school socialization; (b) ethnic-racial socialization occurs outside family through intersections between peer, school, community-based, and media settings; and (c) ethnic-racial socialization is embedded within systems of racial oppression across contexts. Discussion includes implications for future research and interventions supporting youth ERI.

Tašner, V., & Gaber, S. (2022). **Is it time for a new meritocracy?** *Theory and Research in Education*, *20*(2), 182-192. https://doi.org/10.1177/14778785221113619
Meritocracy is a rationality that has significantly shaped the lives of people in modern societies, and today we all more or less believe that those who are smart, capable and hardworking will succeed in life. This seems to be a rule that applies in more or less all areas of public life. In the Western world, evaluating and judging ourselves and others based on meritocracy has become an imperative that we rarely question and despite the problems associated with meritocracy, politicians, parents and teachers continue to promote it. In The Tyranny of Merit: What's Become of the Common Good?, Prof. Sandel lays out the genealogy of the aforementioned prevailing rationality and, in particular,

highlights the limits and problems of meritocracy that are often overlooked. However, he does not leave it at a mere critique, but also offers a reflection on ways out of the problems of meritocracy. We continue along the path taken by the professor. The first part of our article highlights the critique as reconsiderations of the concept, then continues with reflections on the future of education, merit and wage labour, and concludes with thoughts on the possibility of creating a new meritocracy.

Valarcher, M. (2022). **« Ça veut dire quoi "non-sélectif" ? Ils prennent tout le monde ? ! » : socialisation à la sélection des lycéen·nes d'Île-de-France**. *Formation emploi*, *158*(2), 23-49. https://doi.org/10.4000/formationemploi.10615
Depuis à la mise en place de Parcoursup, les lycéens et lycéennes d'Île-de-France rencontré·es sont particulièrement conscient·es de l'existence d'une sélection généralisée à l'entrée de l'enseignement supérieur. Ainsi, la distinction entre formations dites sélectives et formations non-sélectives ne fait plus sens pour elles et eux : elle n'est mobilisée ni dans leurs discours, ni dans leurs pratiques d'orientation. Cependant, les élèves continuent de considérer certaines formations comme plus sélectives que d'autres. Les critères utilisés pour déterminer le degré de sélectivité des formations dépendent des socialisations, scolaire et de classe.

Velásquez, P., & Eger, M. A. (2022). **Does Higher Education Have Liberalizing or Inoculating Effects? A Panel Study of Anti-Immigrant Sentiment before, during, and after the European Migration Crisis**. *European Sociological Review*, *38*(4), 605-628. https://doi.org/10.1093/esr/jcab062
Previous research has consistently shown a negative correlation between education and anti-immigrant sentiment. This association is most pronounced when distinguishing between adults with higher education and those without a tertiary degree. Yet it remains unclear whether educational attainment actually matters for attitudes, mainly due to a lack of longitudinal studies. This article investigates the so-called liberalizing effect of education on adults' attitudes towards immigrants by taking into account individual, regional, and period effects. Using 12 waves of the Norwegian Citizen Panel (2013–2020) combined with contextual data from Statistics Norway, we assess the effects of: (i) educational attainment at the individual level; (ii) the expansion of higher education at the regional level; and (iii) higher education during a time of social upheaval. Results from multilevel cross-classified, repeated measurement models show that within-individual and within-county changes in educational attainment have a small but liberalizing effect on attitudes. Furthermore, individuals with at least 3–4 years of university education do not react as strongly to the highly salient European migration crisis than those with lower levels of education. This finding suggests that higher education inhibits perceptions of threat that may manifest during 'big events' such as a dramatic increase in asylum seeking. We interpret these novel results as evidence of an inoculating effect, in that higher education protects individuals against whatever instinct exists to react strongly during such crises.

Verhoeven, M., Draelants, H., & Ilabaca Turri, T. (2022). **The role of elite education in social reproduction in France, Belgium and Chile: Towards an analytical model**. *Journal of Sociology*, *58*(3), 304-323. https://doi.org/10.1177/14407833211051759
Using a societal analysis perspective that articulates structural, institutional and cognitive dimensions, this article outlines a model examining the contribution made by the schooling system to the social construction of elites. The model is put to the test by a

comparative study of elitist educational pathways and their contrasting organisational modes in France, Belgium and Chile. The article shows that both the education of elites, and the role played by school in providing access to privileged social positions, continue to be marked by the distinctive historical construction of each society and education system, despite cross-cutting trends that are linked to globalisation.

Vincent, C. (2022). **Belonging in England today: Schools, race, class and policy**. *Journal of Sociology*, *58*(3), 324-341. https://doi.org/10.1177/14407833211050695
Drawing on theorized notions of belonging and understandings of citizenship which stress the everyday and affective, I consider aspects of the relationship between educational institutions and belonging through a discussion of two recent research projects. One explores the educational strategies of Black middle-class parents, and the second teachers' responses to the recent requirement that they promote government-identified national values (the 'fundamental British values') in the classroom. I argue that both projects shed light on the differentiated experience of belonging and non-belonging in England today. I conclude by arguing for an understanding of the school as a shared public institution. This understanding highlights the potential of developing in all members of a school community, including parents, a sense of both belonging to the institution and being perceived by others as belonging, as well as a recognition of the legitimacy of claims to belong from 'other' students and families. Fostering such mutual recognition can be seen as a 'quiet', but potentially powerful, politics.

Wheeler-Bell, Q. (2022). **Black Support of Neoliberal School Choice and the Politics of Black Democratic Empowerment**. *Educational Theory*, *72*(2), 217-242. https://doi.org/10.1111/edth.12528
In Market Movements, Tom Pedroni argues that educational progressives often analyze neoliberal school choice policies by highlighting the negative impact such policies have upon Blacks. Implicit in this approach is the assumption that all Blacks should oppose neoliberalism. This assumption prevents scholars from investigating why African Americans increasingly do support neoliberal choice policies. Deep disagreements exist within the African American community over why Blacks are oppressed and how to understand their oppression, the nature of their disadvantages, and the remedies to such problems. And these disagreements affect why Blacks might support neoliberal school choice policies. In this paper, Quentin Wheeler-Bell goes beyond explaining why deep disagreements exist within the Black public sphere and develops a critical theory of Black democratic empowerment. First, he provides a brief sociohistorical analysis of racial oppression, highlighting how domination has distorted and repressed debates within the Black public sphere, thus lending support to neoliberal choice policies. Second, he recovers and reconstructs four Black philosophical perspectives — (1) disillusioned Black liberals, (2) modern Black nationalists, (3) Black Marxists, and (4) Black egalitarians — and explains if and how they might be pulled into an alliance with neoliberal policies. Finally, he develops a critical theory of Black democratic empowerment that captures the reasonable insights from the abovementioned perspectives while avoiding the perils of neoliberal school choice.

Wong, P. Y. (2022). **Who takes the hit? Gender differences in employment outcomes after disasters**. *Pacific Economic Review*, *27*(3), 295-313. https://doi.org/10.1111/1468-0106.12376

We estimate the individual labor market outcomes in Indonesia using historical data to isolate the plausibly exogenous variation in local labor market conditions due to unexpected natural hazards. We find that men substitute labor away when there are more unanticipated disasters while women work more. These gender differences in employment elasticities are heterogeneous by land ownership and education. Results imply that policies targeting women, including more flexible workplace arrangements and incentives to finishing secondary school, may be necessary to allow women to substitute away from work when the gains from participation are low.

Wu, J., Barger, M. M., Oh, D. (Diana), & Pomerantz, E. M. (2022). **Parents' daily involvement in children's math homework and activities during early elementary school**. *Child Development*, *93*(5), 1347-1364. https://doi.org/10.1111/cdev.13774
This research examined parents' involvement in children's math homework and activities. During 2017 to 2019, American parents (N = 483; 80% mothers; 67% white) of young elementary school children (Mage = 7.47 years; 50% girls) reported on their math helping self-efficacy; they also reported on their involvement in children's math homework and activities daily for 12 days. At this time and a year later, children's math motivation and achievement were assessed. Parents' involvement in homework (vs. activities) was more affectively negative (d = .34), particularly among parents low in self-efficacy (d = .23). The more affectively negative parents' involvement, particularly in homework, the poorer children's later math motivation and achievement (βs = −.09 to .20).

Zhang, X., Gatzke-Kopp, L. M., Cole, P. M., & Ram, N. (2022). **A dynamic systems account of parental self-regulation processes in the context of challenging child behavior**. *Child Development*, *93*(5), e501-e514. https://doi.org/10.1111/cdev.13808
To advance the understanding of how parental self-regulation contributes to their role in supporting children's development, this study proposes a model of the dynamic processes involved in parental self-regulation. Based on time-series data from 157 mothers and their 30- to 60-month-old children (49.7% female; 96% White; data collected June 2017–December 2019 in central Pennsylvania, U.S.) during a challenging wait task, the model was tested by examining the temporal relations among challenging child behavior, maternal physiology, and maternal responsiveness. Results were consistent with the hypothesized dynamic negative feedback processes and revealed their associations with the overall quality of parenting behaviors and experiences. Findings elucidate how parents adapt to competing external (attending to child) and internal (restoring parents' equilibrium) demands during parenting challenges.

Zhao, S., Setoh, P., Storage, D., & Cimpian, A. (2022). **The acquisition of the gender-brilliance stereotype: Age trajectory, relation to parents' stereotypes, and intersections with race/ethnicity**. *Child Development*, *93*(5), e581-e597. https://doi.org/10.1111/cdev.13809
Past research has explored children's gender stereotypes about specific intellectual domains, such as mathematics and science, but less is known about the acquisition of domain-general stereotypes about the intellectual abilities of women and men. During 2017 and 2018, the authors administered Implicit Association Tests to Chinese Singaporean adults and 8- to 12-year-olds (N = 731; 58% female) to examine the gender stereotype that portrays exceptional intellectual ability (e.g., genius, brilliance) as a male attribute. This gender-brilliance stereotype was present among adults and children and for both Chinese and White stereotype targets. It also was stronger among older children

and among children whose parents also showed it. This early-emerging stereotype may be an obstacle to gender equity in many prestigious employment sectors.

Climat de l'école

Bayram Özdemir, S., Yanagida, T., & Özdemir, M. (2022). **Bystanders of ethnic victimization: Do classroom context and teachers' approach matter for how adolescents intend to act?** *Child Development*, *93*(5), 1540-1558. https://doi.org/10.1111/cdev.13822
The study examined how adolescents' individual characteristics and class context are related to bystander behaviors in cases of ethnic victimization. The sample included 1065 adolescents in Sweden (Mage = 13.12, SD = 0.42; 55%males). Female adolescents, adolescents of immigrant background, and adolescents with positive attitudes toward immigrants had greater intentions to defend and comfort victimized peers. Positive inter-ethnic contact norms in class were positively associated with intention to comfort the victim. Teachers' non-tolerance of ethnic victimization was positively related to adolescents' intentions to ask the perpetrator to stop and talk to teacher. The effects were the same across adolescents with different attitudes toward immigrants. Findings highlight the importance of class context and teachers in fostering adolescents' prosocial and assertive interventions in bias-based hostile behaviors.

Chambers, D. (2022). **How School Security Measures Harm Schools and Their Students**. *Educational Theory*, *72*(2), 123-153. https://doi.org/10.1111/edth.12523
In this essay, Drew Chambers argues that the implementation of modern security technology in American schools (also known as target hardening) may do more harm than good, especially when such technologies represent the primary mode of risk responsiveness. In using technological measures to reduce risk, schools may inadvertently undermine both other responses to school violence as well as key aims of schooling itself. Here, Chambers provides a survey of the dominant trends in school security measures and the empirical scholarship related to those measures' effectiveness and outcomes. He then provides four independent arguments for why reliance on security technology might be more harmful than not. First, reliance on technology as a response to school violence can ultimately limit more effective approaches to school safety that are not technological. Second, the more securitized schools become, the more such securitization detracts from teaching and learning as the main enterprise of schools. Third, surveillance measures unintentionally propagate fear in students and may inhibit healthy adolescent development. Fourth, security technology has a unique capacity to harmfully alter student–teacher relationships. These arguments, taken together, should suggest an abundance of caution is in order when it comes to securitizing schools.

Kaufman, T. M. L., Laninga-Wijnen, L., & Lodder, G. M. A. (2022). **Are victims of bullying primarily social outcasts? Person-group dissimilarities in relational, socio-behavioral, and physical characteristics as predictors of victimization**. *Child Development*, *93*(5), 1458-1474. https://doi.org/10.1111/cdev.13772
Existing literature has mostly explained the occurrence of bullying victimization by individual socioemotional maladjustment. Instead, this study tested the person-group dissimilarity model (Wright et al., Journal of Personality and Social Psychology, 50: 523–536, 1986) by examining whether individuals' deviation from developmentally important (relational, socio-behavioral, and physical) descriptive classroom norms predicted victimization. Adolescents (N = 1267, k = 56 classrooms; Mage = 13.2; 48.7% boys; 83.4%

Dutch) provided self-reported and peer-nomination data throughout one school year (three timepoints). Results from group actor–partner interdependence models indicated that more person-group dissimilarity in relational characteristics (fewer friendships; incidence rate ratios [IRR]T2 = 0.28, IRRT3 = 0.16, fewer social media connections; IRRT3 = 0.13) and, particularly, lower disruptive behaviors (IRRT2 = 0.35, IRRT3 = 0.26) predicted victimization throughout the school year.

Patzina, A. (2022). **The increasing educational divide in the life course development of subjective wellbeing across cohorts**. *Acta Sociologica*, *65*(3), 293-312. https://doi.org/10.1177/00016993211055678
Labour market, health, and wellbeing research provide evidence of increasing educational inequality as individuals age, representing a pattern consistent with the mechanism of cumulative (dis)advantage. However, individual life courses are embedded in cohort contexts that might alter life course differentiation processes. Thus, this study analyses cohort variations in education-specific life course patterns of subjective wellbeing (i.e. life, health and income satisfaction). Drawing upon prior work and theoretical considerations from life course theories, this study expects to find increasing educational life course inequality in younger cohorts. The empirical analysis relies on German Socio-Economic Panel data (1984–2016, v33). The results obtained from cohort-averaged random effects growth curve models confirm the cumulative (dis)advantage mechanism for educational life course inequality in subjective wellbeing. Furthermore, the results reveal substantial cohort variation in life course inequality patterns: regarding life and income satisfaction, the results indicate that the cumulative (dis)advantage mechanism does not apply to the youngest cohorts (individuals born between 1970 and 1985) under study. In contrast, the health satisfaction results suggest that educational life course inequality follows the predictions of the cumulative (dis)advantage mechanism only for individuals born after 1959. While the life course trajectories of highly educated individuals change only slightly across cohorts, the subjective wellbeing trajectories of low-educated individuals start to decline at earlier life course stages in younger cohorts, leading to increasing life course inequality over time. Thus, the overall findings of this study contribute to our understanding of whether predictions derived from sociological middle range theories are universal across societal contexts.

Sinha, A., & Bondestam, F. (2022). **Moving beyond bureaucratic grey zones. Managing sexual harassment in Indian higher education**. *Higher Education*, *84*(3), 469-485. https://doi.org/10.1007/s10734-021-00779-4
In the aftermath of the global #Metoo-movement, sexual harassment (SH) and other forms of gender-based violence (GBV) have emerged at the forefront of public debate and research. Higher education instituions (HEI) worldwide have responded with different preventive measures, targeting context-specific challenges and solutions. In India, post the enactment of the law on prevention and repatriation of SH of women at work in 2013, governing bodies in HE have issued several policies and guidelines. However, almost no empirical studies have explored the implementation and consequences of these initiatives. This pioneering study explores the Indian experiences of procedural change in this sense, through the challenges faced by internal complaints committee members. A specific focus in the analysis is on the members discourses on executing the quasi-legal and behavioural mandates of the law. In conclusion, ambiguities within the law as such, misrecognized cognitive biases in committee members narratives, and a lack of

adequate conversation on GBV and SH sums up to identified bureaucratic grey zones. Several recommendations on context specific preventive measures are suggested as well as core recommendations on future research targeting prevention of GBV and SH in HEI more generally.

Smilie, K. D. (2022). **Liminal Lunch: Disclosure and Discursion in the School Cafeteria**. *Educational Theory*, *72*(2), 155-174. https://doi.org/10.1111/edth.12524
Liminal spaces operate as thresholds, as spaces "lodged between all … spaces defined and governed in any specific biocultural ecosystem." While these spaces offer interesting prospects for study, liminal spaces in schools have received very little scholarly attention. In labeling and considering the school cafeteria in U.S. schools as a liminal space, a new way of exploring a liminal "consciousness and imagination" is open to scholars and practitioners. This in-between space allows students opportunities for discursion and disclosure not generally accessible in classrooms. As anthropologists have maintained, liminal spaces afford individuals freer experiences and opportunities not encountered in more frequented, orderly spaces. Examining these possibilities increases our awareness of the liminality of the school cafeteria, and such an awareness can help students in shaping different conceptions of human flourishing.

Wang, L. (2022). **The Effects of Cyberbullying Victimization and Personality Characteristics on Adolescent Mental Health: An Application of the Stress Process Model**. *Youth & Society*, *54*(6), 935-956. https://doi.org/10.1177/0044118X211008927
Although a considerable body of research has documented the association between victimization experience and adolescent mental health, previous studies have not investigated the mediating effects of personality characteristics such as social competence and self-mastery on the associations between cyberbullying victimization and mental health. This study aims to fill in this research gap. Random group sampling based on grade was employed, and a total of 607 adolescents (51.07% females, Mage = 15.04) were recruited to participate in the study. The findings of the present study partially supported the hypotheses. Specifically, the results showed that cyberbullying victimization was positively associated with social anxiety and depression. Self-mastery was found to mediate the relationship between cyberbullying victimization and symptoms of depression and social anxiety. Social competence was found to be negatively related to social anxiety, but no mediating effect was found between cyberbullying victimization and symptoms of mental health. Theoretical and practical implications were discussed.

Évaluation des dispositifs d'éducation-formation

Lima, L., & Tual, M. (2022). **De l'étude randomisée à la classe : est-il suffisant d'avoir des données probantes sur l'efficacité d'un dispositif éducatif pour qu'il produise des effets positifs en classe ?** *Éducation et didactique*, *16*(1), 153. https://doi.org/10.4000/educationdidactique.9899

Formation continue

Margaryan, A., Albert, J., & Charlton-Czaplicki, T. (2022). **Workplace learning in Crowdwork Questionnaire (WLCQ): Measuring self-regulated learning and skill**

development in online platform work. *International Journal of Training and Development*, 26(3), 495-515. https://doi.org/10.1111/ijtd.12268
This paper addresses learning and development processes in online platform work. Specifically, it proposes a new instrument to survey and analyze self-regulated workplace learning in crowdwork, a type of online platform labor in which a global pool of workers are matched with clients through digital platforms to carry out remunerated tasks. Although workplace learning practices of workers in traditional, organisationally embedded jobs have been studied extensively, the findings cannot be transferred to describe and explain learning behaviors within crowdwork, which is fundamentally different from traditional work in that it is autonomous, radically distributed, and no organisationally provided training opportunities exist in crowdwork. To advance the understanding of workplace learning in crowdwork we reviewed the literature on workplace learning, platform work, and self-regulated learning to develop the Workplace Learning in Crowdwork Questionnaire, which we subsequently validated with 992 crowdworkers from six European countries on three crowdwork platforms. The instrument can be used by researchers to study the nature of (self-directed) workplace learning in online labor platforms. It can also be used by crowdworkers to self-reflect on their learning and development.

Marché du travail

Cariou, A. (2022, août 10). **Pourquoi les politiques de l'emploi dans les quartiers populaires sont-elles inefficaces ?** Consulté 31 août 2022, à l'adresse Alternatives Economiques website: https://www.alternatives-economiques.fr/politiques-de-lemploi-quartiers-populaires-i/00104141
Les difficultés spécifiques des quartiers populaires et de leurs habitants sont insuffisamment prises en compte dans les politiques de l'emploi.

George, E. E., Milli, J., & Tripp, S. (2022). **Worse than a double whammy: The intersectional causes of wage inequality between women of colour and White men over time**. *LABOUR*, 36(3), 302-341. https://doi.org/10.1111/labr.12226
We evaluate the causes of the wage gap at the intersection of race, ethnicity and gender over time in the United States. We analyse the wage gaps for women of colour along three dimensions: relative to White women, relative to men of their respective race/ethnicity, and relative to White men. Using the American Community Survey, we replicate earlier findings based on the Current Population Survey data which show that, on average, Black women face an unexplained wage gap relative to White men that goes beyond the simple addition of the separate unexplained gender and racial wage gaps. This can be seen persistently between 1980 and 2019, and we find it is true across the entire wage distribution but especially notable at higher centiles. From 1990 through 2019, Black and Hispanic women saw stalled progress, while White women continued to make steady progress closing the wage gap relative to White men.

González, X., Loveira, R., & Pazó, C. (2022). **Performance pay, firm size and export market participation: Evidence from matched employer–employee data**. *LABOUR*, *36*(3), 342-366. https://doi.org/10.1111/labr.12227
The objective of this paper is to provide new evidence on the link between firm level characteristics (size and export) and the adoption of performance pay as part of worker remuneration. Our study exploits an employer–employee database with information on

more than 200,000 workers at 26,055 Spanish firms. We find that the incidence of performance pay usually increases with firm size (at decreasing rates) and export status. However, we detect a wide variation among occupations, both in the prevalence of the two types of performance pay analysed and their relationship with size and export.

Grimault, V. (2022, août 9). **Le mal de l'emploi des moins de 25 ans**. Consulté 31 août 2022, à l'adresse Alternatives Economiques website: https://www.alternatives-economiques.fr/mal-de-lemploi-de-25-ans/00102609
[Génération no future ?] Les jeunes sont les principales victimes de la précarité du marché du travail.

Hirsch, B., & Lentge, P. (2022). **Non-base compensation and the gender pay gap**. *LABOUR*, *36*(3), 277-301. https://doi.org/10.1111/labr.12229
This paper investigates whether non-base compensation contributes to the gender pay gap (GPG). Using administrative data from Germany, we find in wage decompositions that lower bonus payments to women explain about 10 per cent of the gap at the mean and at different quantiles of the unconditional wage distribution whereas the lower prevalence of shift premia and overtime pay among women is unimportant. Among managers, the contribution of bonuses to the mean gap more than doubles and is steadily rising as one moves up the wage distribution. Our findings suggest that gender differences in bonuses are an important contributor to the GPG, particularly in top jobs.

Hnatkova, E., Degtyarova, I., Kersschot, M., & Boman, J. (2022). **Labour market perspectives for PhD graduates in Europe**. *European Journal of Education*, *57*(3), 395-409. https://doi.org/10.1111/ejed.12514
An increase in the number of PhD candidates in the last decades has changed the landscape of employment and the nature of what it means to be a PhD holder. Embarking on a career in academia is a challenging endeavour for early-career researchers while they are confronted with a limited number of job opportunities in academia. Taking into account that knowledge based societies need highly skilled professionals beyond the academic environment, it is important to understand what is the role and value of a PhD for the labour market; and what the current labour market perspectives are for PhD holders. To answer these questions, the authors analysed the available data on PhD holders' employment and conducted semi-structured interviews with European experts on doctoral education and career development. The data and expert interviews point to different contexts across European countries. The numbers of researchers and PhDs employed in sectors outside higher education varies to a great extent—in business enterprises, government, and private non-profit sectors. The article maps out different factors which need to be considered when assessing the labour market perspectives of PhD holders, such as the geographic area or country and its economic development, the sector of employment, type of work and the field of research.

Hu, X. (2022). **The role of manager's gender in mentoring: Evidence in the United Kingdom**. *LABOUR*, *36*(3), 389-407. https://doi.org/10.1111/labr.12228
This article studies the role of managers' gender as a determinant of mentoring relationships between managers and employees in British firms by using data collected from the 2004 and 2011 Workplace Employment Relations Survey. Past literature suggests a rather mixed figure with datasets collected from either one point in time or in a single

firm. Using longitudinal data collected from hundreds of British firms, this study shows that the results are inconsistent between classical pooled ordinary least squares (POLS) and fixed effects (FEs) regression models. The significant associations found in POLS regressions disappeared when firm FEs are included. This finding should encourage researchers to go beyond gender differences in mentoring relationships which often are the results of conventional stereotyping.

Jeanneau, L. (2022, juillet 30). **Il n'y a pas de raison de s'alarmer du chômage des jeunes**. Consulté 31 août 2022, à l'adresse Alternatives Economiques website: https://www.alternatives-economiques.fr/ny-a-de-raison-de-salarmer-chomage-jeunes/00102595
[Génération no future ?] Les chiffres du chômage des jeunes sont moins préoccupants qu'il n'y paraît.

Jeanneau, L. (2022, août 17). **Les nouvelles générations, moins bien payées que leurs aînés**. Consulté 2 septembre 2022, à l'adresse Alternatives Economiques website: https://www.alternatives-economiques.fr/nouvelles-generations-bien-payees-leurs-aines/00102608
[Génération no future ?] Les perspectives d'évolution salariale des jeunes générations se sont nettement dégradées

Petrunyk, I., & Pfeifer, C. (2022). **Diverse effects of shorter potential unemployment benefit duration on labor market outcomes in Germany**. *LABOUR*, *36*(3), 367-388. https://doi.org/10.1111/labr.12221
This paper explores diverse effects of an unemployment benefit (UB) reform in Germany on labor market outcomes of individuals with health impairment. The reform induced substantial reductions in potential duration of regular UB for older workers, which is exploited in a difference-in-differences setting. The results provide evidence for a decrease in days in UB, an increase in days in employment, and an increase in days in unemployment assistance. The effects on UB and employment are smaller and the effects on unemployment assistance are larger for unemployed and non-employed individuals than for individuals who were employed before medical rehabilitations.

Poulet-Coulibando, P. (2022). **L'emploi des anciens apprentis au-delà de l'insertion. Apports des enquêtes Emploi**. *Éducation & formations*, (104), 157-182. Consulté à l'adresse https://www.education.gouv.fr/media/116476/download
Reist, C. (s. d.). ***Quels liens les jeunes décrocheurs entretiennent-ils avec le Service public de l'emploi ?*** (N° 41). Consulté à l'adresse DARES website: https://dares.travail-emploi.gouv.fr/publication/quels-liens-les-jeunes-decrocheurs-entretiennent-ils-avec-le-service-public-de-lemploi
En 2014, 5 % des jeunes ayant réalisé leur Journée défense et citoyenneté (JDC) sont identifiés comme décrocheurs, c'est-à-dire qu'ils ne sont ni scolarisés ni en emploi, et ont au plus le brevet des collèges.

Tixier, J., Richomme-Huet, K., Dunes, M., Boufaden, N., Lameta, N., Duperray, P., … Lebègue, T. (2022, août 10). **Why are there fewer young women in entrepreneurship than young men?** Consulté 31 août 2022, à l'adresse The Conversation website: http://theconversation.com/why-are-there-fewer-young-women-in-entrepreneurship-than-young-men-188546

A new French research collective, Orelig, set out to answer the question.

Métiers de l'éducation

Altae, M. (2022). **Teacher leadership and teacher identity in turbulent times in Iraq**. *Management in Education*, *36*(4), 178-185. https://doi.org/10.1177/08920206211069733
This article addresses the professional challenges faced by teacher leaders in Iraq. The country is beginning to emerge from a period of political unrest and violent threats to personal safety. This has seriously affected the educational provision; nowhere more so than in Mosul, Iraq's third-largest city. The article examines three issues: how teacher-leaders describe and understand their empowerment to build inclusive education systems in the post-conflict city; how professional learning communities can support inclusive practices to optimise students' learning and build community cohesion; and what role digital skills can play in the modernisation of an inclusive Iraqi curriculum. The naturalistic enquiry approach draws on interview data from two teachers, two headteachers and two inspectors; the latter work directly with the Iraqi Ministry of Education and local communities. The findings show that, as teacher leaders reframe their understanding of the role of educational leaders in the changing context of Iraq, they become better empowered to build sustainable learning communities. Digital skills are crucial in supporting learning within and beyond the school curriculum.

Andreu, L., Drouard, J., & Karoubi, B. (2022). **Étude sur la réussite au concours d'agrégation externe et le recrutement des enseignants-chercheurs dans les matières juridiques**. *Revue d'économie politique*, *132*(4), 551-582. https://doi.org/10.3917/redp.324.0551
La présente étude analyse les déterminants de l'accès au corps des professeurs des universités dans les matières juridiques, en s'appuyant sur une base de données originale. On montre que les hommes et les personnes ayant soutenu leur thèse dans l'une des principales universités parisiennes ont une plus grande vocation à accéder au corps des professeurs. Ces résultats s'expliquent par une meilleure réussite au concours d'agrégation externe de ces personnes, mais également par le fait qu'ils retentent plus souvent en cas d'échec. On montre également que le fait d'avoir son directeur de thèse dans le jury du concours d'agrégation externe fait plus que doubler la probabilité de réussir ce concours. Enfin, on montre, par comparaison avec le recrutement via le concours national d'agrégation, que les recrutements locaux sont marqués par un fort localisme.

Ben-Uri, I., Melfi, G., Arcidiacono, F., & Bova, A. (2022). **Work-family conflict and facilitation among teachers in Israel and Switzerland**. *European Journal of Psychology of Education*, *37*(3), 729-744. https://doi.org/10.1007/s10212-021-00562-0
In this paper, we examine the attitudes toward integrating work and family in a sample of 247 teachers in Switzerland and Israel. More particularly, we focus on the national context's role in mediating the relations between professional and private spheres. The data were collected by a questionnaire implemented and administered in the two countries. The analysis reveals differences between Israeli and Swiss teachers regarding the importance of attribution to life roles and their attitudes toward conflict and facilitation. Findings suggest new insights into the consideration of cultural elements in shaping the teachers' attitudes toward the integration of family and work.

Besse-Patin, B. (2022). **Le travail d'intéressement des animatrices socioculturelles**. *Les Dossiers des sciences de l'éducation*. Consulté à l'adresse https://hal.archives-ouvertes.fr/hal-03716766

Bradtke, N., & Ferri, R. B. (2022). **The mathematical competence of vocational teachers with a focus on economics - an empirical comparison between prospective teachers with and without mathematics as a subject**. *Twelfth Congress of the European Society for Research in Mathematics Education (CERME12)*, *65*. https://doi.org/10.3102/00346543065004421

Bruns, J., Hagena, M., & Gasteiger, H. (2022). **Effects of Facilitator Professional Development on Teachers' Learning -An Intervention Study in the Context of Early Mathematics Education**. *Twelfth Congress of the European Society for Research in Mathematics Education (CERME12)*. Présenté à Bolzano (en ligne), Italy. Consulté à l'adresse https://hal.archives-ouvertes.fr/hal-03746235
A fundamental question in the context of professional development is whether teacher professional development (TPD) can be scaled up successfully using facilitator professional development (FPD) programs. Studies that link effects of FPD programs to teacher learning are, however, rare. The presented study addresses this research gap by examining effects of an extensive FPD program in the context of early mathematics education (EmMa M). To examine effects of EmMa M , a quasiexperimental intervention study with two intervention groups was conducted: While in group A the TPD course was enacted by the program developers, in group B the TPD was enacted by facilitators. Results show that teachers in group B achieved comparable learning gains to teachers in group A. This result supports the idea of scaling up professional development using FPDif facilitators are qualified accordingly.

Butzbach, M. (2022, août 31). **Quelle autorité pour les directeurs et directrices d'école ?** Consulté 5 septembre 2022, à l'adresse Alternatives Economiques website: https://www.alternatives-economiques.fr/autorite-directeurs-directrices-decole/00104334

Cheng, M. W. T., & Leung, M.-L. (2022). **"I'm not the only victim…" student perceptions of exploitative supervision relation in doctoral degree**. *Higher Education*, *84*(3), 523-540. https://doi.org/10.1007/s10734-021-00786-5
Drawing on a five-ethical principles framework, this study examines how the thirteen recruited doctoral students across disciplines in Hong Kong interpret the idea of and experience "exploitative supervision". Findings reveal that doctoral students' lived experiences of exploitation are expressed in five different themes: autonomy exploitation, justice exploitation, fidelity exploitation, beneficent exploitation, and non-maleficence exploitation. The phenomenon was scaffolded through a Foucauldian perspective on power relations. Varied understandings of academic exploitation among doctoral students point to an urgent need to take reference from the employment and labor law to outline the fundamental rights of doctoral students, set up a probation period for the matching of supervisor-supervisee, and establish a higher-level independent inquiry to handle academic exploitation.

Cojean, S., & Martin, N. (2022). **Acceptability of technology involving artificial intelligence among future teachers**. *Cogsci 2022 - Cognitive Science Society*, *44*. Consulté à l'adresse https://hal.archives-ouvertes.fr/hal-03712893
Technology has been used in the service of learning for a long time. Nowadays, the use of Artificial Intelligence (AI) is developing but its acceptability among future teachers still needs to be investigated. Moreover, differences between elementary and middle-school teachers could arise, due to the comparison between their role and those of technology involving AI. The current study aims at evaluating the acceptability of technology involving AI among future teachers, using a well-known model and more specifically regarding several tasks. Results show that elementary school teachers expect more performance from technology involving AI, but mainly for a use of content generation (e.g., course content, exercises). Middle-school teachers are more willing to accept technology involving AI for more high added value tasks such as help in writing learning or in diagnosing learning difficulties. Future studies should focus on identifying action levers to favor higher acceptability and actual use.

Delgado, L., Tenuta, G., & Davenport, L. (2022). **The Perfect Fit**. *Journal of Cases in Educational Leadership*, *25*(3), 236-247. https://doi.org/10.1177/15554589221093385
Decisions about hiring are never easy, especially in education. Sharpwood Elementary School has an open teaching position and the principal is charged with hiring the best candidate. The principal knows that a diverse teaching staff benefits all stakeholders in a school, especially students, and he wants to honor that expectation. The staff really like their current student teacher and would love to offer her the position, but she identifies as White. This case study examines the complexity of hiring a candidate that meets the needs of the school community, including staff, students, and families. The principal and staff are faced with a decision that will likely impact the school for years to come. Which candidate should they hire?

Ferone, G., & Crinon, J. (2022). **Twictée : développement professionnel et effets identitaires dans un réseau connecté d'enseignants**. *SHS Web of Conferences*, *143*, 03004. https://doi.org/10.1051/shsconf/202214303004
Les études antérieures indiquent que l'appartenance à une communauté en ligne d'enseignants favorise le développement professionnel et que les effets dépendent de l'intensité et de la nature de l'engagement des participants. Nous interrogeons seize membres très actifs de l'association Twictée et nous montrons que la participation à ce collectif a des effets revendiqués par les enseignants sur l'identité professionnelle et sur les pratiques mais que le modèle de co-formation par les pairs, revendiqué par l'association, n'est pas encore pleinement opératoire.

Fındıklı, B. (2022). **A republic of scholars or scholars of the republic? Reflections on the predicaments of academic freedom and university autonomy in Turkey**. *Higher Education Quarterly*, *76*(3), 537-547. https://doi.org/10.1111/hequ.12287
It is widely recognised that academic freedom and university autonomy in Turkey are currently under pressure. Many scholars have produced articles discussing the Turkish predicament, linking it to the recent authoritarian and populist turn of the country. This paper offers a different interpretation, arguing how academic freedom and institutional autonomy have been approached and practised in Turkey from the past to the present, by focusing mainly on the evolution of the relations between higher education institutions and political power. Understanding how this relationship has been constructed and

maintained may help us to grasp the context-specific university practices restricting academic freedom and university autonomy.

Garone, A., Bruggeman, B., Philipsen, B., Pynoo, B., Tondeur, J., & Struyven, K. (2022). **Evaluating professional development for blended learning in higher education: a synthesis of qualitative evidence**. *Education and Information Technologies*, *27*(6), 7599-7628. https://doi.org/10.1007/s10639-022-10928-6
Successful implementation of blended learning initiatives requires careful planning and consideration of multidimensional factors. Focusing on evaluation and accountability for the design of professional development initiatives (PDIs) is the next step towards creating efficient and effective PDIs. This is especially needed since the Covid-19 pandemic has seen a dramatic shift towards using, and training for integration of digital teaching tools in higher education. The purpose of this qualitative research is to synthesize how professional development initiatives for blended learning in higher education institutions can be evaluated. Following a systematic review of the literature, fourteen empirical research articles were withheld and analyzed qualitatively using an inductive coding framework inspired by the 5 levels of evaluation by (Guskey, T. R. (2000). Evaluating professional development. Corwin Press.). The results show that evaluation can be organized into five categories which correspond to the five evaluative levels for professional development by Guskey. The study concludes with recommendations and approaches for each evaluation category with a particular focus on higher education contextual challenges.

Gildehaus, L., & Liebendörfer, M. (2022). **How to educate preservice mathematics teachers? -Identity perspectives in a mixed concurrent setting**. *Twelfth Congress of the European Society for Research in Mathematics Education (CERME12)*. Présenté à Bolzano (en ligne), Italy. Consulté à l'adresse https://hal.archives-ouvertes.fr/hal-03747808
Different systems (e.g. concurrent and consecutive), knowledge (e.g. CK, PCK, SRCK, PK) and interventions (e.g. bridging courses) in teacher education are widely discussed. Facing a loss of interest in mathematics and often claimed irrelevance of subject specific content, we investigate preservice teachers' participation in university mathematics from an identity perspective, taking their social context into account. Three group interviews of 14 preservice teachers in a mixed concurrent setting (one course specific to preservice teachers, one general mathematics course for major students as well) were analyzed, showing that they experienced a position of being less valued in the mixed course. We identify different ways of students' self-authoring, which partly explain their disaffection and consequent learning behavior. Consequences for institutional settings are discussed.

Guibert, P., Le Coz, A., & Troger, V. (2022). **Lutte pour la reconnaissance et relations d'interdépendance chez les enseignants du second degré**. *Éducation et sociétés*, *48*(2), 61-79. https://doi.org/10.3917/es.048.0061
Confortant les constats antérieurs d'un sentiment massif de déficit de reconnaissance chez les enseignants du second degré français (Talis 2013, 2017), cette contribution s'attache à définir et comprendre ce qui construit ce sentiment, là où les déterminants qui éclairent traditionnellement l'expérience des enseignants se révèlent insuffisants (type d'établissement, ancienneté professionnelle…). L'analyse croisée de données qualitatives et quantitatives montre que la dégradation ressentie pousse les enseignants à chercher des sources de reconnaissance dans le cadre de configurations (Elias 1991) davantage contextualisées à l'échelle locale. Plus ou moins fructueuse, cette lutte pour

la reconnaissance (Honneth 2013) nécessite de la part des enseignants la mobilisation de ressources professionnelles et personnelles, qui les expose davantage et peut conduire à une souffrance professionnelle.

Guibert, P., Malet, R., & Périer, P. (2022). **Les enseignants et la reconnaissance professionnelle : enjeux, construction, expériences**. *Éducation et sociétés*, *48*(2), 5-14. https://doi.org/10.3917/es.048.0005
Si la question de la reconnaissance nourrit des luttes et revendications pour le respect et une égale visibilité, contre le mépris et l'injustice, il s'agit ici de construire le sentiment de reconnaissance comme catégorie d'analyse pertinente pour rendre compte de l'expérience enseignante alors qu'il est parfois réduit à une catégorie spontanée d'expression sociale, approchée par la revendication, le malaise ou la souffrance. Ce dossier, sous divers angles théoriques, à différentes échelles (de l'expérience subjective des acteurs aux politiques publiques en passant par les établissements scolaires), étayé d'enquêtes, offre un regard analytique sur la reconnaissance dans l'expérience vécue des enseignants. Il cherche à ne pas opposer sentiment de reconnaissance et reconnaissance du travail et du métier en étudiant la manière dont ils s'articulent et veut être attentif aux attentes de reconnaissance des enseignants qui s'expriment moins à l'échelle de la société, de l'institution ou du groupe professionnel et de plus en plus localement et individuellement. Attaché à l'expressivité des enseignants en matière de reconnaissance et aux formes d'appropriation d'une condition vécue, le dossier ambitionne de saisir leur expérience à partir des façons dont ils donnent sens à leur travail et à leur engagement, contribuant ainsi à la production de normes et de visées professionnelles, ce qui distingue l'exercice du métier d'une fonction d'exécution.

Jopling, M., & Harness, O. (2022). **Does COVID-19 offer English school leaders the opportunity to rethink schools?** *Management in Education*, *36*(4), 174-177. https://doi.org/10.1177/0892020621994307
COVID-19 has closed schools, forced examinations to be abandoned and led to concerns about the negative educational and social effects on children and young people. This short article uses responses to two short surveys of school leaders in the West Midlands and North East of England to explore their views on whether and how schools can be rethought following the disruption of COVID-19.

Jungert, T., Gradito Dubord, M.-A., Högberg, M., & Forest, J. (2022). **Can managers be trained to further support their employees' basic needs and work engagement: A manager training program study**. *International Journal of Training and Development*, *26*(3), 472-494. https://doi.org/10.1111/ijtd.12267
The present paper describes a quasi-experimental research presenting a workplace training program aimed at helping managers to be more supportive of their employees' autonomy. Drawing on self-determination theory, we built a pre/post questionnaire design measuring perceived autonomy support, need satisfaction, need frustration, autonomous motivation, controlled motivation, work engagement and job burnout. Seven managers were trained according to the autonomy support training program. We assessed 39 of their employees before and after the intervention. Moreover, 133 employees whose managers were not included in the training program constituted the control group. Regarding the experimental group, the results showed significant statistical differences regarding perceived autonomy support from managers, autonomous motivation, need satisfaction, work engagement and job burnout. No significant effects

regarding perceived autonomy support from coworkers controlled motivation, or need frustration were observed. This study provides added value to the theory of need satisfaction and demonstrates that training managers to be need-supportive may be effective in improving positive work-related outcomes and reducing negative outcomes.

Karran, T., Beiter, K. D., & Mallinson, L. (2022). **Academic freedom in contemporary Britain: A cause for concern?** *Higher Education Quarterly*, *76*(3), 563-579. https://doi.org/10.1111/hequ.12346
Using comparable legal information, and empirical data from over 2000 members of the UK's University and College Union and 2000 staff in universities of the European states, gathered by means of similar surveys, this paper is a comparative assessment of the de jure protection for, and the de facto levels of, academic freedom enjoyed by academic staff in the UK, when compared to their EU counterparts. The paper examines the legal and constitutional protection for academic freedom and the current levels of, and changes to, the two substantive elements (freedom to teach and freedom to research) and three supportive components (autonomy, governance and tenure) of academic freedom. The study reveals that UK academic staff believe that there is a low level of protection for academic freedom and that it has declined, both in general, and with respect to the two substantive elements and three supportive components of academic freedom. Similar trends are evident in the EU states, but statistical tests reveal that for every measure utilised, the decline in academic freedom is significantly greater in the UK than in the EU states.

Kobakhidze, M. N., & Samniashvili, L. (2022). **"Less USSR, more democracy please!": Hope and discontent in Georgia's quest for academic freedom**. *Higher Education Quarterly*, *76*(3), 595-611. https://doi.org/10.1111/hequ.12382
In Georgia, the question of academic freedom emerged only after the country gained independence from the Soviet Union in 1991 and its universities could begin reckoning with a heavy past of ideological pressure, censorship, governmental control and top-down management. Despite official declarations of the right to academic freedom and its recognition within Georgia's legal framework, actual practice in the country's higher education system tells a different story. The paper draws on qualitative data obtained from sixteen academics representing diverse institutions and disciplines, as well as the secondary data including educational legislation, government regulations, ministers' decrees, various reports from non-governmental organisations, think tanks and media archives. The findings of this paper reflect how academic freedom is understood in Georgia and two major threats to its exercise in universities, namely, interference from external politics and internal managerialism. We argue that academic freedom as a concept does not yet have its own place in Georgia's higher education system, protected de jure but with different de facto realities. The paper sheds light on how Soviet legacies of self-censorship, hidden mechanisms of control and a culture of conformity continue to create tensions inside universities and an environment in which academic freedom cannot flourish.

Kunce, A. (2022). **Why should we cultivate "the difference" in everyday practices of the university?** *Higher Education Quarterly*, *76*(3), 671-682. https://doi.org/10.1111/hequ.12339
The paper explores the phenomenon of the local-worldly university. Why should we cultivate "the Difference" in everyday practices of the university? The author refers to the

Derridean "différance," to the idea of wonder (το θαυμα) and the Herderean concept of Heimat. By putting these terms in the university's specific context, the author asks questions about an autonomous space for thinking and experiencing. The university cannot be homeless, unanchored or uncommitted. The more intensively the universalising procedures of the control of universities are implemented, the more we are convinced that the world does not need any global institutions of higher education and research. This is because a human being is more localised than we would be willing to admit. What is important is difference, the untranslatability of knowledge and languages, the contextual grounding of thinking and action, as well as the experience of the fragility of what is "locally human," which makes us observe closely a local human being, attached to a place, wandering about with the notion of home, and thus dispelling his or her doubts here and now, even when they tend to recur eternally.

Langbour, N. (2022). ***Modèles et contre-modèles de l'enseignant dans la littérature de jeunesse: La littérature comme outil réflexif pour construire les gestes professionnels***. Consulté à l'adresse https://www.editions-harmattan.fr/livre-9782140261572?utm_source=phplist&utm_campaign=message_34207&utm_medium=email&utm_content=lienTitre

Lecherbonnier, S. «Le discours sur la pénurie d'enseignants permet d'engendrer une flexibilité accrue du système». (2022, août 29). *Le Monde.fr*. Consulté à l'adresse https://www.lemonde.fr/societe/article/2022/08/29/le-discours-sur-la-penurie-d-enseignants-permet-d-engendrer-une-flexibilite-accrue-du-systeme_6139383_3224.html
Xavier Pons, professeur en sciences de l'éducation, décrypte les raisons et les conséquences de la baisse d'attractivité des carrières dans l'enseignement.

Le Nevé, S. (2022, août 18). **Dans les universités, les départs à la retraite d'enseignants-chercheurs vont fortement augmenter**. *Le Monde.fr*. Consulté à l'adresse https://www.lemonde.fr/societe/article/2022/08/18/dans-les-universites-les-departs-en-retraite-vont-fortement-s-accroitre_6138350_3224.html
Entre 2021 et 2029, les départs bondiront de 53 % en moyenne, selon une note du ministère de l'enseignement supérieur. Le nombre d'étudiants, lui, continue de croître.

Lindley, L. (2022). **Exploring how educational leaders in England experience and promote their own well-being**. *Management in Education*, *36*(4), 167-173. https://doi.org/10.1177/08920206211003887
This study aimed to explore how educational leaders in England experience and promote their own well-being. To address this, five semi-structured interviews were carried out with educational leaders who expressed that they had personally experienced high levels of well-being. Using Interpretative Phenomenological Analysis (IPA), four themes were identified, which highlighted that well-being is a subjective experience ('there's no blueprint'); that high levels of well-being are commonly described as feeling balanced ('maintain a balance'); that well-being is perceived as a personal responsibility ('you've got to find ways to manage that'); and that participants were leading by example in relation to well-being ('be a well-being supermodel'). Overall, this study emphasised that there is no one-size-fits-all approach to well-being, so educational leaders (and their colleagues) should be given space and personal autonomy to work out what works for them.

Malet, R. (2022). **La reconnaissance des enseignants. Cadres d'intelligibilité, débats et controverses dans la recherche anglo-américaine**. *Éducation et sociétés*, *48*(2), 15-40. https://doi.org/10.3917/es.048.0015
En écho aux études internationales (OECD), la littérature anglo-américaine souligne combien la promotion et la reconnaissance de la profession enseignante sont indispensables à l'amélioration des systèmes éducatifs. Cette conscience de l'importance décisive de la reconnaissance des enseignants a cependant des résultats très contrastés, voire délétères, sur les solidarités professionnelles selon les modalités managériales mises en œuvre. La présente analyse vise, à partir d'une sélection raisonnée de la foisonnante littérature de recherche anglo-américaine, à explorer des variations d'usage de la notion de reconnaissance, ses composantes et ses ressorts, pour en souligner les effets sur les politiques de promotion de l'expertise enseignante, le sentiment de reconnaissance, le bien-être éprouvé, la relation de confiance entre la société et la profession, l'ambivalence de la rhétorique de leur développement professionnel, ses impacts sur eux et leurs collectifs professionnels. Elle cherche à mieux saisir dans quelle mesure les politiques contemporaines vers les enseignants peuvent être corrélées, dans d'autres environnements et situations sociopolitiques, à un sentiment de reconnaissance, d'épanouissement et d'efficacité professionnels chez les enseignants eux-mêmes et avec quels effets sur la profession. L'étude croisée des formes de saisie de ces politiques par la recherche permet ainsi d'actualiser les connaissances, de nourrir et faire entendre l'ambition critique du travail de recherche.

Marini, G., & Oleksiyenko, A. (2022). **Academic freedom in the re-imagined post-Humboldtian Europe**. *Higher Education Quarterly*, *76*(3), 513-520. https://doi.org/10.1111/hequ.12405
This editorial presents the special issue on challenges of academic freedom in Europe, predominantly in Central and Eastern Europe (CEE). The volume provides a novel empirical stream of research, urging scholars to face the emerging discourse and problems of academic freedom in the contemporary higher education systems that were largely overlooked in the analyses dominated by the West-oriented global neoliberalism following the collapse of the USSR. Acknowledging collision and collusion between global competition for excellence and predomination of national interests, we propose to re-conceptualize the premises and prospects of academic freedom in the discourse of global higher education. We advance the idea of a post-Humboldtian university, assuming that modern universities are increasingly influenced by the geopolitical imperatives that depreciate academic freedom. The special issue exemplifies these concerns by detailed analyses in such contexts as Turkey, Hungary, Poland, Ukraine, Georgia, and a comparative analysis across Great Britain and continental Europe.

Maroy, C., Voisin, A., Castonguay-Payant, J., & Diatta, M. S. (2022). **Les enseignants face à la gestion axée sur les résultats au Québec : ambivalences morales et dénis de reconnaissance**. *Éducation et sociétés*, *48*(2), 81-96. https://doi.org/10.3917/es.048.0081
Cet article s'intéresse aux effets d'une politique de responsabilisation –appelée au Québec Gestion Axée sur les Résultats (GAR)– sur le travail et la reconnaissance du travail des enseignants. S'appuyant sur les travaux néo-institutionnalistes sur la légitimité des politiques publiques et les théories de la reconnaissance, l'article, fondé sur l'analyse d'entretiens menés auprès d'une trentaine d'enseignants et d'agents de direction de six établissements scolaires québécois, analyse la manière dont les enseignants donnent

sens à la GAR. Il questionne dans quelle mesure cette dernière affecte les conditions de reconnaissance professionnelle des enseignants et leur vécu à cet égard. L'hypothèse soutenue est que le sentiment de non-reconnaissance des enseignants prend des formes renouvelées sous l'influence du discours de la nouvelle gestion publique.

Mikaïloff, N., & Espinassy, L. (2022). **L'activité du Conseiller Principal d'Éducation en contextes : éléments d'une didactique de l'éducation**. *Contextes et didactiques. Revue semestrielle en sciences de l'éducation*, (19). https://doi.org/10.4000/ced.3424
L'analyse de l'activité du Conseiller Principal d'Éducation en France permet d'en cerner la complexité et la singularité dans un contexte persistant de division du travail éducatif. L'évolution des prescriptions de ce métier étend la pluralité croissante des fonctions qu'il assure, de l'accompagnement individuel de l'élève à l'organisation de la vie collective au sein de l'établissement. Prenant appui sur deux recherches distinctes et partant d'un double ancrage théorico-méthodologique, à l'interface entre approches didactiques et ergonomiques, l'investigation permet d'interroger les gestes spécifiques du métier, d'une part, dans ses dimensions didactiques visant la co-construction de la norme comme savoir, et d'autre part, dans ses dimensions collectives à l'échelle d'un Réseau d'Éducation Prioritaire. L'étude de ces différentes strates du métier révèle les processus d'adaptation aux situations de travail par lesquels le Conseiller Principal d'Éducation accorde ses valeurs éducatives avec le cadre institutionnel. La conception dynamique de relation de service est mobilisée pour envisager l'étude de ce métier de l'éducation en actualisant les notions de jeu didactique et d'aménagement du milieu d'apprentissage, offrant de nouvelles perspectives de recherche sur l'analyse des situations de travail.

Morel, É. (2022, août 25). **Changer de boulot pour devenir prof : une première année « ultra-violente »**. Consulté 2 septembre 2022, à l'adresse Alternatives Economiques website: https://www.alternatives-economiques.fr/changer-de-boulot-devenir-prof-une-premiere-annee-ultra-violente/00103897?utm_source=emailing&utm_medium=email&utm_campaign=NL_Quotidienne&utm_content=25082022

Nguyen, G. N. H., Bower, M., & Stevenson, M. (2022). **The discourse of design: Patterns of TPACK Contribution during pre-service teacher learning design conversations**. *Education and Information Technologies*, *27*(6), 8235-8264. https://doi.org/10.1007/s10639-022-10932-w
Analysing pre-service teachers' learning design conversations in relation to Technological Pedagogical and Content Knowledge (TPACK) framework to understand their learning design practices has remained unexplored. This paper presents findings from a study of pre-service teachers' design discourses that identified how TPACK elements were used during their collaborative design of technology-enhanced lessons. Through thematic analysis of 81 design conversations in two cycles, it was found that pre-service teachers discussed design related issues, TPACK elements, and context in their design conversations with dominant references to design-related issues, substantial occurrences of single TPACK elements, and lower frequencies of integrated TPACK elements and context. Practical recommendations and a Design-TPACK or 'D-TPACK' framework were proposed to support pre-service teachers' learning design practices.

Ni, S., Podgursky, M., & Wang, F. (2022). **How Much Are Public School Teachers Willing to Pay for Their Retirement Benefits? Comment**. *American Economic Journal: Economic Policy*, *14*(3), 478-493. https://doi.org/10.1257/pol.20200763
How Much Are Public School Teachers Willing to Pay for Their Retirement Benefits? Comment by Shawn Ni, Michael Podgursky and Fangda Wang. Published in volume 14, issue 3, pages 478-93 of American Economic Journal: Economic Policy, August 2022, Abstract: In a widely cited study, Fitzpatrick (2015) fo...

Oates, C. (2022). **An era of hope, ambition and collaborative partnerships**. *Management in Education*, *36*(4), 189-192. https://doi.org/10.1177/08920206221119119

Oleksiyenko, A. V. (2022). **Academic freedom and intellectual dissent in post-soviet Ukraine**. *Higher Education Quarterly*, *76*(3), 580-594. https://doi.org/10.1111/hequ.12362
This paper conceptualizes intellectual dissent as a galvanizer of academic freedom in a post-totalitarian academia that is moving toward democratization. Drawing on the case of Ukraine, the analytical narrative describes difficulties in overcoming legacies in universities emerging from repressive rule that discouraged creativity, initiative, and critical inquiry, and having to envisage a transition to democratic governance in the context of neoliberal geopolitics. The case analysis suggests that intellectual dissent is essential but limited in its ability to establish the praxis of academic freedom under increasing control by oligarchic governments and a self-serving bureaucracy. By exploring interdependencies between intellectual dissent and academic freedom, this paper lays ground for an analytical framework that can be helpful in rethinking the prospects of universities at the crossroads of authoritarianism and democracy.

Périer, P. (2022a). **La question de la Reconnaissance comme support de revendications syndicales**. *Éducation et sociétés*, *48*(2), 97-113. https://doi.org/10.3917/es.048.0097

Périer, P. (2022b). **Sentiment de reconnaissance et rapport au métier des enseignants du secondaire : approche typologique**. *Éducation et sociétés*, *48*(2), 41-59. https://doi.org/10.3917/es.048.0041
La question de la reconnaissance a pris une place majeure dans le registre des discours et attentes des enseignants. L'enquête réalisée par questionnaire (n = 2203) et entretiens (n = 80) auprès de professeurs du secondaire le confirme. La recherche qui donne matière à cet article s'intéresse précisément à identifier les sources et dimensions structurantes du sentiment de reconnaissance et la manière dont elles se combinent dans l'expérience subjective des enseignants. Une première étape de la démarche a permis de distinguer la reconnaissance pour autrui (médias, politiques, parents…) et la reconnaissance pour soi. Celle-ci articule, d'un côté, l'enjeu des pratiques et relations pédagogiques dans la classe à partir desquelles s'éprouve le sentiment d'accomplissement professionnel et, de l'autre, le poids de la considération accordée ou pas par l'institution. Une typologie du sentiment de reconnaissance pour soi a été élaborée puis enrichie par l'analyse du rapport au métier, permettant ainsi de différencier plusieurs mondes enseignants.

Saito, E. (2022). **Educational issues in Myanmar after the coup in February 2021**. *Management in Education*, *36*(4), 186-188. https://doi.org/10.1177/08920206211055326

Silva-Peña, I., Precht, A., O'Brien, T. V., & Jara, C. (2022). **Far away, but yet so close. Urban teacher education and rural schools: directors' point of view**. *International Journal of Inclusive Education*, *26*(10), 1053-1067. https://doi.org/10.1080/13603116.2020.1772892
Policymakers and teacher educators have long discussed whether specialised preparation of teachers who work in rural areas is necessary. The objective of this research is to learn more about teacher educators' perspectives on the efficacy of urban-based teacher education in preparing elementary school teachers for rural contexts. The research was undertaken in a city in the Araucanía region of Chile. We conducted semi-structured interviews with the directors of three teacher education programmes. Those interviewed reported concerns about multi-grade classrooms often found in rural schools, which were understood to be an anomaly of proper elementary education. They also reported that the teacher education programmes they directed, though not aligned with teaching in rural schools, were sufficient in preparing new teachers. Preparation in teaching children in rural settings was not offered, or, in some cases, offered on the periphery as a programme option. This research reveals a disconnect between urban-based, urban-oriented teacher education programmes and the rural communities they aim to serve. It also adds to the broader discussion surrounding the preparation of teachers for diverse contexts.

Szadkowski, K., & Krzeski, J. (2022). **The common good and academic freedom in Poland**. *Higher Education Quarterly*, *76*(3), 548-562. https://doi.org/10.1111/hequ.12349
This article addresses the inadequacy of the universal approach to academic freedom, which fails to account for the extent to which academic freedom can be exercised. Instead of considering the fixed meaning of academic freedom, the article proposes a relational approach. One that focuses on the relation between academic freedom and the common good, as particular articulations of academic freedom are legitimized through reference to the quasi-universal concept of the common good. To ground this argument, the article examines different historical meanings of the idea of the common good in the relations between the state and the university sector in Poland, and the effect they had on the content and extent of academic freedom. In doing so, it contributes to the discussion on the cultural and national specificities of both academic freedom and the common good.

Szwabowski, O., Baron-Polańczyk, E., Cywiński, A., Gliniecka, M., Lib, W., Łuszczek, K., … Warzocha, T. (2022). **A Story by Academic Teachers About Distance Education in the Time of Lockdown**. *Cultural Studies ↔ Critical Methodologies*, *22*(4), 396-406. https://doi.org/10.1177/15327086221094283
This article was written as part of an academic project about the autoethnographs of the times of crisis that academic teachers from several universities in Poland took part in. From the collected stories about experiencing the pandemic, we singled out the thread of distance learning. We created a multivoiced narrative and then submitted it to a collective reflection. Collective autoethnography made it possible not only to recognize changes in the thinking about the self, academic culture, and teaching itself but also to pose questions about the possibility of transformation.

Taherdoost, H. (2022). **A Guide to Evaluate Academic Sources to Develop Research Paper: Source Selection in Academic Writing**. *Asian Review of Social Sciences*, *11*, 54-58. https://doi.org/10.51983/arss-2022.11.1.3085

It is significant to identify and evaluate sources in a research study to ensure their credibility to be used in an academic research paper. Each source should be evaluated in terms of being related to the research question and covering research objectives. However, despite the importance of source selection as one of the initial steps in conducting a research study, it may seem challenging for researchers to find relevant sources based on the topic of their study and evaluate them appropriately. The main aim of this chapter is to clarify the process of choosing sources for a research project. For this purpose, the process of source selection is divided into several steps including recognizing the types of available sources, their ranks, requirements of the study project, searching and searching tools, and finally the process of evaluating sources.

Vassallo, B. (2022). **Leading the multicultural school: Some insights from dedicated school leaders**. *Management in Education*, *36*(4), 159-166. https://doi.org/10.1177/0892020620973041
Perturbed by a racially motivated homicide in his homeland and a more recent murder (under investigation at the time of writing) in the United States, the author makes a strong case in favour of Social Justice Educational Leadership. The exploratory investigation examined the following questions: (1) What leadership processes are school leaders adopting to ensure equity and social justice in multicultural schools? (2) What strategies are school leaders providing their staff to continue supporting quality education for all students, irrespective of cultural background? The research sought to extend the debate between educational leadership processes and the ongoing quest towards social justice as embodied in schools in Malta. A qualitative approach emanating from literature review on critical multicultural education was used in the study. Three school leaders known for their stance on issues of race, prejudice, discrimination, oppression, and marginalisation offer their valuable insights on leadership practices inundated with successful processes leading towards more socially just schools. Findings advocate for a wider discussion on the possibilities for effectively addressing the challenges of leading and managing the multicultural school, based on justice and equity principles.

Vosbergen, J. (2022). **How the structural crisis in the labour market impacts the quality and identity of mathematics teacher students**. *Twelfth Congress of the European Society for Research in Mathematics Education (CERME12)*. Présenté à Bolzano (en ligne), Italy. Consulté à l'adresse https://hal.archives-ouvertes.fr/hal-03747840
This paper analyses the impact of two structural context factors on mathematics teacher students. First, the Netherlands is coping with a massive mathematics teacher shortage. Second, the Dutch knowledge-economy feeds the private tutoring sector. The impact on young teacher-students is tremendous; they start working as a teacher too early. Besides successful studying, broader professionalization and quality of mathematics education are in jeopardy. A quick-fix for mathematics education might do more damage than foreseen.

Numérique et éducation

Akın, A. (2022). **The effectiveness of web-based Mathematics instruction (WBMI) on K-16 students' mathematics learning: a meta-analytic research**. *Education and Information Technologies*, *27*(6), 8015-8040. https://doi.org/10.1007/s10639-022-10931-x
Given the increasing prevalence of web technology, web-based mathematics environments have been increasingly widely used in mathematics education for the past

two decades. The COVID-19 pandemic has led to an urgent transition from traditional mathematics instruction (TMI) to web-based mathematics instruction (WBMI) at all levels of mathematics education. At this point, it is crucial to scrutinize the effects of WBMI on K-16 students' mathematics learning comprehensively. This meta-analysis research contained a total of 63 studies with 115 effect sizes, which aimed to investigate the effectiveness of WBMI on K-16 students' mathematics learning by incorporating potential moderators, namely mathematics topics, mathematical content standards, feedback status, type of instructional features, age (i.e., grade level), and assessment methods. Based on findings, WBMI has a significantly strong effect on K-16 students' mathematics learning (g = 1.10, p = 0.01, 95% CI [0.95, 1.27]). Moderator analyses reveal that the effect sizes of WBMI on K-16 students' mathematics learning varied significantly depending on all these potential moderators. Additionally, higher-level mathematical concepts, statistics and probability, WBMI with providing feedback, tutorial systems, undergraduate students, and traditional paper-pencil assessment are the strongest moderators in their context. The most notable results of this research are that WBMI is significantly more effective on students' mathematics learning than TMI, while even in the context of WBMI, traditional paper-pencil assessment is significantly more effective than online assessment. This meta-analytic research provides a comprehensive and up-to-date perspective on the effectiveness of WBMI on K-16 students' mathematics learning.

Al Shamsi, J. H., Al-Emran, M., & Shaalan, K. (2022). **Understanding key drivers affecting students' use of artificial intelligence-based voice assistants**. *Education and Information Technologies*, *27*(6), 8071-8091. https://doi.org/10.1007/s10639-022-10947-3
Artificial intelligence (AI)-based voice assistants have become an essential part of our daily lives. Yet, little is known concerning what motivates students to use them in educational activities. Therefore, this research develops a theoretical model by extending the technology acceptance model (TAM) with subjective norm, enjoyment, facilitating conditions, trust, and security to examine students' use of AI-based voice assistants for instructional purposes. The developed model was then validated based on data collected from 300 university students using the PLS-SEM technique. The results supported the role of enjoyment, trust, and perceived ease of use (PEOU) in affecting the perceived usefulness (PU) of voice assistants. The empirical results also showed that facilitating conditions and trust in technology strongly influence the PEOU. Contrary to the extant literature, the results indicated that subjective norm, facilitating conditions, and security did not impact PU. Similarly, subjective norm and enjoyment did not affect PEOU. This research is believed to add a holistic understanding of the key drivers affecting students' use of voice assistants for educational purposes. It offers several theoretical contributions and practical implications on how to successfully employ these assistants.

Alghamdi, J., Mostafa, F., & Abubshait, A. (2022). **Exploring technology readiness and practices of kindergarten student-teachers in Saudi Arabia: A mixed-methods study**. *Education and Information Technologies*, *27*(6), 7851-7868. https://doi.org/10.1007/s10639-022-10920-0
This study aims to explore kindergarten student teachers' readiness to integrate technology into their future classrooms and factors affect their integration. A mixed-methods, sequential explanatory design was utilized to achieve the research purposes. There were two phases. The first phase conducted a survey to assess technical and pedagogical readiness levels as well as participants' pedagogical attitude and opinion toward technology integration. The second phase conducted follow-up interviews to

understand how participants intended to transfer their intentions into practice and factors affect their technology integration. The first-phase results showed that participants were ready to implement technologies while having positive attitudes toward technology integration. The second-phase results confirmed all participants were able to transfer their technical skills into professional practice. However, few were ready to practically apply their pedagogies. The results indicate three main factors, including technological resources, the school infrastructure, and the number of students in their classrooms. It is recommended to improve teacher preparation program to develop teacher technology readiness.

Ali, N., Ullah, S., & Khan, D. (2022). **Minimization of students' cognitive load in a virtual chemistry laboratory via contents optimization and arrow-textual aids**. *Education and Information Technologies*, *27*(6), 7629-7652. https://doi.org/10.1007/s10639-022-10936-6
Virtual Chemistry Laboratories (VCLs) are used as an alternative to the physical laboratories, where users can enhance their performance for hands-on chemistry experiments. However, cognitive load and other issues make the VCLs impractical. The issue of cognitive load arises due to the complexity of the environment by displaying a number of chemicals, glass wares, and other lab equipments in the VCL. In this paper, we first investigate the field experts about the practical use of the VCLs and then propose a Purpose-built Virtual Chemistry Laboratory (PbVCL) with arrow textual aids to minimize the cognitive load and improve the learning efficiency. PbVCL displays only specific chemicals and glass wares, used in the current experiment while hiding other equipments. Students simulate their chemistry experiments with the help of arrow-textual aids (i.e., textual and an arrow guidance). Users complete the experimental tasks in the PbVCL following the arrow-textual aids. During evaluations, seventy-six (76) students perform the experiments in four different groups using four different experimental conditions. Evaluations revealed that the proposed PbVCL with arrow-textual aids improve students' performance on the basis of various aspects such as time and errors while conducting experiment.

Almasri, F. (2022). **The impact of e-learning, gender-groupings and learning pedagogies in biology undergraduate female and male students' attitudes and achievement**. *Education and Information Technologies*, *27*(6), 8329-8380. https://doi.org/10.1007/s10639-022-10967-z
This study aimed to compare female and male students' attitudes and achievements within different learning settings determined by e-learning and in-classroom learning modalities, collaborative (CL), and traditional (TL) learning pedagogies and investigated the effect of single-gender (SG) and mixed-gender (MG) grouping in an undergraduate biology course. 1375 biology students enrolled in a public university were randomly divided into 12 learning settings. Keller's ARCS model and Vygotsky's Socio-cultural Theory were the theoretical frameworks that guided this study. Results indicated that females attained higher achievement and more positive attitude towards biology in TL and CL sections in single-gender compared to mix-gender classes; overall, academic achievements between females and males demonstrated a significant difference at $P < .05$. Females students performed relatively low achievement and had a negative attitude toward biology in mix-gender CL groups (2 Females + 2 Males) compared to single-gender CL groups (4 Females) in in-classroom modality. E-learning attenuated the negative impact of mixed-gender grouping on female students within e-learning CL settings. The effect size value indicated that males benefited more than females from

mixed-gender CL (2F + 2 M) pedagogy in e-learning and in-classroom modalities. Thus, e-learning may encourage female students to overcome the socio-cultural barrier that leads them to feel reticence in mixed-gender groups. The study helps to understand the most suitable learning settings for female and male students to decrease gender disparities, reduce the negative influences of stereotypical threats in different socio-cultural environments, and develop learning strategies to further equalize opportunities for females and male students, promoting students' attitudes and achievement in undergraduate biology education.

Al-Rahmi, A. M., Al-Rahmi, W. M., Alturki, U., Aldraiweesh, A., Almutairy, S., & Al-Adwan, A. S. (2022). **Acceptance of mobile technologies and M-learning by university students: An empirical investigation in higher education**. *Education and Information Technologies*, *27*(6), 7805-7826. https://doi.org/10.1007/s10639-022-10934-8
Mobile-learning (M-learning) apps have grown in popularity and demand in recent years and have become a typical occurrence in modern educational systems, particularly with the deployment of M-learning initiatives. The key objective of this study was to reveal the key factors that impact university students' behavioural intention and actual use of mobile learning in their education. The technology acceptance model (TAM) is used in this study to investigate the impacts of several factors found in the literature on students' adoption of M-learning systems in higher education. The data was gathered from 176 university students who completed a paper questionnaire. The data was analyzed using the SEM technique. The findings revealed that perceived mobile value (PMV), academic relevance (AR), and self-management of M-learning (SML) are the primary drivers of students' acceptance of M-learning and, as a result, the success of M-learning projects' implementation. The findings of this study give crucial information on how higher education institutions may improve students' acceptance of M-learning in order to promote students' attitudes toward M-learning (ATT) it and their behavioural intentions (BIM) to use it in the teaching and learning process. These findings have significant implications for the acceptance and use of M-learning.

Alsudais, A. S., Alghamdi, A. S., Alharbi, A. A., Alshehri, A. A., Alzhrani, M. A., Keskin, S., … Althubaiti, A. M. (2022). **Social anxiety in E-Learning: Scale validation and socio-demographic correlation study**. *Education and Information Technologies*, *27*(6), 8189-8201. https://doi.org/10.1007/s10639-022-10919-7
During the ongoing coronavirus disease 2019 pandemic, over 1.5 billion students worldwide have been deprived of access to traditional learning. This situation has necessitated the use of social distancing-based educational methods; consequently, a tremendous shift towards e-learning has been observed. This study assesses medical students' social anxiety levels in e-learning environments. The study was conducted in two phases. In the first phase, the original Turkish Social Anxiety Scale for E-Learning Environments (SASE) was adapted in English and tested for validity and reliability. This instrument has two subscales: social anxiety in learner-learner interaction and in learner-instructor interaction. In the second stage, we explored the associations of gender, age, and perceived academic performance with medical students' social anxiety levels in e-learning environments. A total of 325 responses were analysed. Consistent with the original version, the adapted scale is a reliable and valid measure of social anxiety in e-learning. Social anxiety in e-learning was related to gender ($p = 0.008$) and age ($p = 0.013$). Social anxiety levels were higher in students with lower perceived performance during e-learning compared to students with enhanced performance, but

the difference was not significant. The SASE is a useful instrument for evaluating social anxiety in e-learning environments across English educational frameworks. Considering the shift in social interaction environments, efforts are required to reduce medical students' social anxiety levels and enhance learning.

Amane, M., Aissaoui, K., & Berrada, M. (2022). **ERSDO: E-learning Recommender System based on Dynamic Ontology**. *Education and Information Technologies*, *27*(6), 7549-7561. https://doi.org/10.1007/s10639-022-10914-y
In distance learning, recommendation system (RS) aims to generate personalized recommendations to learners, which allows them an easy access to various contents at any time. This paper discusses the main RSs employed in E-learning and identifies new research directions to overcome their weaknesses. Existing RSs such as content-based, collaborative filtering-based and knowledge-based recommendations reveal significant softness due to their incapacity to collect accurate information about learners, especially new ones which is identified as cold start problem. In this paper, we are working on both, the new user cold start problem, which is considered as a big issue in E-learning system, and the recommendation based on updating information. This complication can be reduced by including other learners' information in the process of recommendation. The objective of this study is to propose an E-learning Recommender System based on Dynamic Ontology. Our recommended approach describes semantically course and learner, which will be integrated into Collaborative and content-based filtering techniques to generate the top N recommendations using clustering methods. The experiments measures are done using the famous "COURSERA" dataset mixed to our university USMBA dataset. The results obtained demonstrate the effectiveness of our proposed method in the process of recommendation compared to content-based method.

Asratie, M. G., Aylet, Y. T., & Alebachew, M. G. (2022). **Attitudes and practices to improve english language skills through mobile applications: in the case of secondary schools english language teachers awi zone, Amhara Region, Ethiopia**. *Education and Information Technologies*, *27*(6), 8489-8518. https://doi.org/10.1007/s10639-022-10905-z
The main intent of this research is identifying attitudes and practices improving English language skills through mobile applications in secondary schools teachers in Awi zone. This day has becoming digital throughout life. Being assisted by the technology, it is good to build a valuable attitude and engage in tasks to progress English language skills using MAs is why the researchers conducted this research. To achieve the objectives, descriptive survey research design and mixed research approach were held. Observation, interview, and questionnaire were data collection tools. Furthermore, mixed data analysis method was applied. SPSS version 23 was used for the quantitative data and analyzed using descriptive statistics like mean, percentage, and portrayed in tables; qualitative data on the other hand, were mixed with quantitative data. The outcomes showed that ELTs have positive attitudes, but they sometimes practice to develop their ELS through MAs. Finally, it is recommended the government of Ethiopia should fulfill the access of connection throughout rural towns which have high schools; the ministry of education should provide educational materials apart from the textbooks and commercial references, and language skills and information communication technology instructors should provide need based training for the English language teachers at high schools.

Audrin, C., & Audrin, B. (2022). **Key factors in digital literacy in learning and education: a systematic literature review using text mining**. *Education and Information Technologies*, *27*(6), 7395-7419. https://doi.org/10.1007/s10639-021-10832-5
This research aims at providing an overview of the research field of digital literacy into learning and education. Using text mining, it reviews 1037 research articles published on the topic between 2000 and 2020. This review reveals that there is a plurality of terms associated with digital literacy. Moreover, our research identifies six key factors that define the literature, which are information literacy, developing digital literacy, digital learning, ICT, social media, and twenty-first century digital skills. These factors can be grouped into three main streams, which are 1) digital literacy, 2) digital learning and 3) twenty-first century digital skills. These three streams are supported by informational and technological foundations. These results provide research avenues and offer a framework for digital literacy in education.

Bailey, D. R., Almusharraf, N., & Almusharraf, A. (2022). **Video conferencing in the e-learning context: explaining learning outcome with the technology acceptance model**. *Education and Information Technologies*, *27*(6), 7679-7698. https://doi.org/10.1007/s10639-022-10949-1
This study uses the technology acceptance model (TAM) to help explain how the use of technology influences learning outcomes emanating from engagement with the Zoom video conference platform. To this end, structural equation modeling was used to analyze the relationships among the TAM variables in reference to Zoom taught during the Covid-19 pandemic. Following a cross-sectional research design, data were collected using Davis's TAM (1989) scales including perceived ease of use (PEoU), perceived usefulness (PU), behavioral intentions, and attitude from 321 South Korean university students attending their 10th week of English as a foreign language (EFL) conversational English classes. Results revealed that seven of the ten proposed hypotheses were confirmed, with path coefficients having small to large effect sizes. Most notably, PEoU with Zoom strongly affected PU and actual use. In addition, PU with Zoom predicted intentions to use Zoom in the future; however, it failed to influence perceived learning outcomes. While PU predicted future use, it did not influence actual use regarding how well students reported their current performance in their video conference course. PEoU with video conference tools was an influential antecedent to usefulness, attitude, and perceived learning outcome. Lastly, two notable instances of mediation through PU occurred. In consideration of findings, students and instructors should be well trained on the use and functionality of video conference software before its implementation in video conference classrooms.

Baroudi, S., & Shaya, N. (2022). **Exploring predictors of teachers' self-efficacy for online teaching in the Arab world amid COVID-19**. *Education and Information Technologies*, *27*(6), 8093-8110. https://doi.org/10.1007/s10639-022-10946-4
The rapid development of information and communication technologies (ICT), and the unexpected transition to online teaching due to COVID-19 necessitates that teachers should have the knowledge, competent skills and strategies to integrate digital tools and platforms effectively. Literature suggests however that many teachers do not feel confident enough or lack perceived capability in teaching using advanced technologies in classrooms, and do not have positive self-efficacy beliefs towards their online teaching. Hence, the purpose of this mixed-method study is to investigate teachers' self-efficacy (TSE) in online learning environments amid COVID-19. A total of

150 K-12 teachers from six Arab countries were invited to participate in the study. Quantitative and qualitative data revealed that perceived self-efficacy of online teaching was high. Two main factors, receiving support to design online instruction and receiving professional development in online teaching, significantly predict participants' sense of self-efficacy. Teachers who have previous experience in online teaching scored higher on their self-efficacy than teachers with limited or no experience. Student engagement had the weakest correlation between the four scales with the overall self-efficacy. Parental involvement was discovered through the qualitative analysis to be an emerging factor that could enhance teachers' self-efficacy. Recommendations and limitations are further discussed.

BAŞARAN, B., & YALMAN, M. (2022). **Determining the perceptions of pre-service teachers on technology-based learning during the Covid-19 process: a latent class analysis approach**. *Education and Information Technologies*, *27*(6), 7471-7490. https://doi.org/10.1007/s10639-022-10910-2
In the study, latent class analysis (LCA) was used to determine the unobserved structures and the subpopulations of pre-service teachers' technology-based learning behaviours. According to LCA results, three latent classes were obtained. These classes are labelled as Class-1: "High-Level Technology Perception", Class-2: "Low-Level Technology Perception", Class-3: "Intermediate-Level Technology Perception". When Class-1(Reference Group) and Class-2 were compared, it was observed that the covariates of "gender" and "the Covid-19 pandemic affecting learning motivation" did not have a significant effect on Class-2. It has been determined that pre-service teachers who are older, studying in the 4th grade, using the Internet for more than 8 h a day, have advanced computer skills and have advanced technology-based learning experience are less likely to be in Class-2. In addition, in the study, while self-directed learning with technology was associated with pre-service teachers' attitudes towards online teaching in the Covid-19 period and class membership, the fear of Covid-19 was not associated with latent class membership.

Boom, K.-D., Bower, M., Siemon, J., & Arguel, A. (2022). **Relationships between computational thinking and the quality of computer programs**. *Education and Information Technologies*, *27*(6), 8289-8310. https://doi.org/10.1007/s10639-022-10921-z
Computational thinking – the ability to reformulate and solve problems in ways that can be undertaken by computers – has been heralded as a foundational capability for the 21st Century. However, there are potentially different ways to conceptualise and measure computational thinking, for instance, as generalized problem solving capabilities or as applied practice during computer programming tasks, and there is little evidence to substantiate whether higher computational thinking capabilities using either of these measures result in better quality computer programs. This study examines the relationship between different forms of computational thinking and two different measures of programming quality for a group of 37 pairs of pre-service teachers. General computational thinking capabilities were measured using Bebras tests, while applied computational thinking processes were measured using a Computational Thinking Behavioural Scheme. The quality of computer programs was measured using a qualitative rubric, and programs were also assessed using the Dr Scratch auto-grading platform. The Test of Nonverbal Intelligence (3rd edition, TONI-3) was used to test for confounding effects. While significant correlations between both measures of computational thinking and program quality were detected, regression analysis

revealed that only applied computational thinking processes significantly predicted program quality (general computational thinking capability and non-verbal intelligence were not significant predictors). The results highlight the importance of students developing applied computational thinking procedural capabilities more than generalized computational thinking capabilities in order to improve the quality of their computer programs.

ÇAKIROĞLU, Ü., & KAHYAR, S. (2022). **Modelling online community constructs through interaction data: A learning analytics based Approach**. *Education and Information Technologies*, *27*(6), 8311-8328. https://doi.org/10.1007/s10639-022-10950-8
This study aims to use LMS log data to suggest a way to understand CoI constructs. Students' interactions in Moodle components were weighted for indicators of cognitive, teaching and social presences. Traces reflecting students' online interactions were obtained from the Moodle LMS and analyzed through learning analytics techniques. The data is examined with the Euclidean Distance Model, and Correspondence Analysis methods to evaluate the levels of interactions and presences. The results indicated that, cognitive presence is at the center of the CoI constructs, and student-content interaction, is found is more prominent than other interactions in terms of its relation to cognitive presence. Social presence scores were mostly related with student-student and student-teacher interaction scores. In addition, teaching presence scores were found in parallel with student-system interaction scores.

Campbell, L. O., Howard, C., Lambie, G. W., & Gao, X. (2022). **The efficacy of a computer-adaptive reading program on grade 5 students' reading achievement scores**. *Education and Information Technologies*, *27*(6), 8147-8163. https://doi.org/10.1007/s10639-022-10953-5
Reading in upper-elementary grades includes comprehending complex texts and learning disciplinary-specific vocabulary. This study aims to determine the effects of a computer-adaptive supplementary reading program on fifth-grade students' reading achievement. Using propensity score matching to create equivalent groups of 450 students for both control and intervention groups (N = 900), a quasi-experimental design was employed to examine changes in fifth-grade students' overall, comprehension, vocabulary, reading achievement scores who used this program as compared to those who did not. Students from eight school districts and 108 schools in a Southeastern state were matched based on demographics and initial reading ability, and the Title I status of their schools. Students in the intervention group received at least 30 min per week of supplemental computer-adaptive reading instruction between the months of September and May. Mean differences between pre- and post-test scores identified that students in the intervention group utilizing a computer adaptive reading curriculum had statistically significant higher gains than students in the control group on their overall reading, vocabulary, and reading comprehension scores with small effect sizes. The findings support the use of a supplemental computer adaptive reading program for improving overall reading and reading comprehension outcomes among these fifth-grade students.

Chalmers, C., Keane, T., Boden, M., & Williams, M. (2022). **Humanoid robots go to school**. *Education and Information Technologies*, *27*(6), 7563-7581. https://doi.org/10.1007/s10639-022-10913-z

Humanoid robots are being used in some schools, however, research on the use of these robots is relatively new. In this three-year study, humanoid robots were deployed in 10 schools, involving 29 teachers across early childhood to Year 10. This study aimed to ascertain teachers' perceptions of the benefits and challenges, the pedagogical practices that helped with student engagement, and where the robots fitted in the curriculum. Through multiple case studies, teachers' views were explored and results from the study supports the deployment of humanoid robots. The study advocates a constructivist inquiry approach to using humanoid robots across the curriculum.

Chin, H., & Chew, C. M. (2022). **Online Cognitive Diagnostic Assessment with Ordered Multiple-Choice Items for Word Problems involving 'Time'**. *Education and Information Technologies*, *27*(6), 7721-7748. https://doi.org/10.1007/s10639-022-10956-2
Solving word problems involving « Time » is an important skill but poor mastery of the skill among elementary students has often been reported in the literature. In addition, the available diagnostic tools in the literature might be less efficient for identifying the various errors made by many students in solving word problems. Thus, an online problem solving Cognitive Diagnostic Assessment (CDA) with Ordered Multiple-Choice (OMC) items was developed as a web application with automated scoring features to increase the efficiency in assessing Grade Five students' mastery level of word problem-solving attributes involving the topic of Time. The online problem-solving CDA with OMC items was developed based on the principled assessment design which comprised four building blocks: (i) construct map, (ii) item design, (iii) outcome space, and (iv) measurement model. Newman's Error Analysis was adapted to specify the construct map required for the development of OMC items. In this article, we documented the empirical evidence regarding item quality, the validity of the cognitive models, the reliability of the instrument, and the diagnostic analysis of students' responses. This study involved 128 Grade Five students in three elementary schools. The results indicated that the instrument showed appropriate difficulty level and discrimination power, satisfactory model-data fit, and high reliability, but most of the students were not at the highest mastery level of the word problem-solving attributes. The findings of the study suggested that the web application could be a valid and reliable diagnostic tool for pinpointing students' errors made in solving word problems. Besides, the findings also highlight the need for intervention to enhance the students' mastery of word problem-solving attributes.

Chu, Y. B. (2022). **A mobile augmented reality system to conduct electrical machines laboratory for undergraduate engineering students during the COVID pandemic**. *Education and Information Technologies*, *27*(6), 8519-8532. https://doi.org/10.1007/s10639-022-10987-9
This paper reported an AR based teaching method adopted during the movement control period for undergraduate engineering students to perform electrical machine laboratory. In this work, Unity 3D development platform and Vuforia Engine software development kit are applied to create the AR system. The content of the practical component is projected onto the mobile display mimicking the actual machine setup from the physical laboratory in real life. Investigation of the effectiveness of the AR tools on delivering the coursework component has been conducted and evaluated accordingly. The suitability of the proposed AR system is gauged based on the motivation and learning experience of the students using the technology to complete their laboratory. Based on the results, the AR tools are able to stimulate the motivation of

students and the laboratory work can be performed smoothly without any issue. In cases where machines are malfunction or students are prohibited to travel from home, the proposed AR system could serve as an alternative tool to ensure the syllabus is delivered on-time. Overall, majority of the participants are able to comprehend and relate the experiment conducted in the AR system to the actual equipment located in the physical laboratory. The students are comfortable to the use of AR and able to complete the laboratory using the proposed system. Based on the outcome, it can be concluded that the mobile AR system is suitable as an alternative tool to conduct the electrical machine laboratory at home.

Connolly, C., Byrne, J. R., & Oldham, E. (2022). **The trajectory of computer science education policy in Ireland: A document analysis narrative**. *European Journal of Education*, *57*(3), 512-529. https://doi.org/10.1111/ejed.12507
The launch of a Computer Science curriculum specification in upper secondary schools in Ireland in 2018 was a landmark and a historic development in Irish education. Addressing the historical policy decisions adopted towards establishing the specification, this paper presents an analysis of developments from the 1970s as revealed in key policies and other documents. Positioning the policy change within the context of influences, context of policy text production and within the context of practices, the paper presents an overview of the Irish Computer Science specification. Alongside the background to the evolution in computer science education over the period, the article takes into account the national and cultural contexts and narrates the journey travelled to arrive at this pivotal position. Developments in a global context are presented in comparison with curricula in other countries and some similarities and differences identified. The article uncovers consequences of the specification for the national curriculum, key skills integration and computer science teacher preparation. The article provides an important analysis of the policy trajectory of computer science in Ireland based on a visibly relevant corpus of documents tracing the different stages of this policy and comparing it to similar experiences implemented in other European countries.

Data science education across the disciplines: Underexamined opportunities for K-12 innovation. (s. d.). *British Journal of Educational Technology*, 1073-1079. https://doi.org/10.1111/bjet.13258
Drljević, N., Botički, I., & Wong, L.-H. (2022). **Investigating the different facets of student engagement during augmented reality use in primary school**. *British Journal of Educational Technology*, *53*(5), 1361-1388. https://doi.org/10.1111/bjet.13197
This paper presents the results of a study into the different facets of student engagement during interactive augmented reality experiences presented on individual tablet computers to students in early primary school. The study was conducted as part of a pilot research project "SCOLLAm," researching various approaches to learning with tablets in primary school in Croatia. To explore engagement in such an environment, an experimental approach based on an innovative digital lesson platform is taken, comparing augmented reality-based digital lessons and multimedia-based ones. In both approaches the contents are being shared, but presented differently, thus isolating augmented reality effects versus general technological intervention effects, an approach so far not explored in the early primary school context, but important, per existing literature. The data is analysed via video coding based on accepted engagement observational techniques and qualitative analysis. The results show that the AR-based interactive learning experiences are in general more cognitively and overall

engaging in the early primary school context, while having less non-engagement or disengagement of the students than interactive learning experiences in multimedia digital lessons. Those findings are triangulated via teacher interviews and student focus groups, identifying likely reasons for such a difference, and examining how to best apply the results in everyday educational practice. Practitioner notes What is already known about this topic The effects of Augmented Reality Learning Experiences (ARLEs) on students' knowledge and achievement are a common field of research interest by educational AR researchers. Student engagement is often used as proxy for student achievement as it has shown correlations with it, both generally and in ARLEs, and is thus also commonly of interest. It is difficult to isolate the effects of AR versus the effects of the fact that a technological intervention occurred in general; often requested in recent literature, it has so far been only done in two studies, in early childhood learning and university-level education contexts. What this paper adds The paper presents an experimental study on engagement of students during ARLEs in early primary school (ages 7–8), one of the contexts most interesting to researchers, comparing lessons using the same contents in ARLEs and multimedia digital lessons, thus isolating AR effects from general technological intervention effects. The study shows ARLEs in this context providing more cognitive and overall student engagement, while having less non-engagement or disengagement. Student focus groups, composed of students exposed to both AR and non-AR lessons on tablets, explain this engagement by their perception of ARLEs as educational play. Implications for practice and/or policy With the building up of the corpus confirming engagement benefits, researchers and teachers can more confidently assume their presence when preparing ARLEs in primary school contexts, making for a stronger case for the use of ARLEs in this context. The findings, triangulated with teachers' and students' focus group feedback, support deploying ARLEs for review and reinforcement of learned contents. Not originally targeted, the findings give underlying empirical support for further research into AR Game-based Learning, a developing field.

Drot-Delange, B., & Tort, F. (2022). **Éducation aux données ou enseignement des données : quelles humanités numériques au lycée ?** *Humanités numériques*, (5). https://doi.org/10.4000/revuehn.2908
Les données sont au cœur de notre société numérique. Leur importance accrue amène à penser qu'une éducation aux données est indispensable. Celle-ci peut être considérée comme un des piliers d'une éducation aux humanités numériques. Les programmes d'enseignement des sciences numériques et technologie (SNT) en classe de seconde générale et technologique en France prescrivent un enseignement des données. Nous cherchons à savoir de quelle manière il contribue à cette éducation aux données. Nous menons une analyse du programme et des manuels scolaires de SNT à l'aune d'une modélisation des attendus de l'éducation aux données proposée par des didacticiens de l'informatique. Nos résultats montrent que l'entrée disciplinaire de l'enseignement de SNT a un apport limité à l'éducation aux données, notamment dans ses dimensions analytiques et critiques.

Dulkadir Yaman, N., & Kabakçı Yurdakul, I. (2022). **Exploring Parental Mediation of Internet Use Through Young Children's Perspective**. *Education and Information Technologies*, *27*(6), 7451-7469. https://doi.org/10.1007/s10639-022-10939-3
The purpose of this study was to investigate the parental mediation of children's internet use from middle school students' point of view. In doing so, we first developed a Parental

Mediation Scale. Exploratory factor analysis suggested a four-factor structure (monitoring, safety, active, technical mediation), which was then verified through confirmatory factor analysis. After conducting validity and reliability studies of the scale, we applied it to 416 Turkish middle school students in the 2018-2019 school year. To examine the parental mediation of internet use in terms of demographic characteristics, we employed group comparison tests (i.e., independent samples t-Test and one-way ANOVA). The results indicated that middle school students perceived the mediation of their parents at a medium level. Moreover, parental mediation of internet use did not differ based on the age of children, child's level of education, the gender of children, number of children in the family, parents' level of education, and family's income level.

Dvir, M., & Ben-Zvi, D. (2022). **Students' actual purposes when engaging with a computerized simulation in the context of citizen science**. *British Journal of Educational Technology*, *53*(5), 1202-1220. https://doi.org/10.1111/bjet.13238
In today's information age, developing data science competencies has become vital to fostering responsible citizenry. However, the actual techniques learners need to become proficient in are still somewhat "in-construction", as the relatively new field of data science is constantly expanding to meet new data-related demands. Data science education needs to develop innovative means to keep up with this expansion that focus less on proficiency in specific techniques, but rather introduce novices to authentic data practices, and the authentic purposes directing the authentic practices. This paper focuses on a specific practice, the use of simulations to generate and examine data, in the context of authentic scientific Citizen Science research. We provide a case study of one pair of middle school students' engagement in an extended learning sequence including simulation activities inspired by authentic data practices, adapted to also be authentic for young students. While the simulation activity was inspired by the scientists' purposes, our findings illustrate four different actual purposes the students attributed to it. We also show that as the students deepened their engagement with the simulation, they gradually appropriated its intended purpose, alongside articulating more mature views of data-related concepts. The conclusions summarize the four different purposes the students expressed and identify aspects of design that contributed to the gradual re-shaping process of their actual purposes. Practitioner notes What is already known about this topic Introducing students to data science and statistics has become essential nowadays. Students need to be introduced to authentic data practices, but also to the authentic purposes motivating these practices. Utilizing computerized simulations is a common authentic practice in science and statistics. The pedagogical, intended, use of computerized simulations can be inspired by the authentic purposes but should also be adapted to be authentic for the students. Students may have actual purposes that differ from the authentic and intended purposes. What this paper adds A case study of a pair of middle school students' engagement with a computerized simulation tool, as part of their participation in a Citizen Science project. The students expressed four actual purposes for the simulation. The students' initial purposes differed from the intended purposes, limiting their participation. Key aspects of the overall activity design ultimately supported the students to appropriate the intended purpose of the simulation and more deeply engage with the intended statistical notions. Implications for practice and/or policy It is important to consider that students may attribute purposes that differ from those of the teacher or the activity designer, to any learning activity they engage in. Making the intended purposes more explicit may be helpful, but potentially not enough for students to appropriate them. Researchers' prompts, students' freedom to reshape

their use of the simulation tool and productive discussion norms can be beneficial aspects.

Fenoglio, P., Crinon, J., & Ferone, G. (2022). **Numérique et apprentissages : des décalages de perceptions entre élèves et enseignants**. *SHS Web of Conferences*, *143*, 03003. https://doi.org/10.1051/shsconf/202214303003
« Twictée » vise à développer les compétences orthographiques des élèves de l'école et du collège, grâce à l'échange, entre classes distantes, de phrases dictées et de corrections justifiées, au moyen du réseau Twitter. Cet article interroge les convergences et divergences de perceptions du numérique qu'ont des enseignants et des élèves participant à ce dispositif. Par l'analyse de contenu thématique de trois séries d'entretiens de 19 enseignants de cycle 3 et de deux séries d'entretiens de 45 de leurs élèves (dans cinq classes), nous constatons des écarts de représentations à propos du numérique et des difficultés, pour la plupart des élèves, mais surtout pour les plus faibles, à concevoir ce qui leur est demandé.

Ferone, G., & Crinon, J. (2022). **Twictée : développement professionnel et effets identitaires dans un réseau connecté d'enseignants**. *SHS Web of Conferences*, *143*, 03004. https://doi.org/10.1051/shsconf/202214303004
Les études antérieures indiquent que l'appartenance à une communauté en ligne d'enseignants favorise le développement professionnel et que les effets dépendent de l'intensité et de la nature de l'engagement des participants. Nous interrogeons seize membres très actifs de l'association Twictée et nous montrons que la participation à ce collectif a des effets revendiqués par les enseignants sur l'identité professionnelle et sur les pratiques mais que le modèle de co-formation par les pairs, revendiqué par l'association, n'est pas encore pleinement opératoire.

Fong, B. Y. F., Yee, H. H. L., NG, T. K. C., & Law, V. T. S. (2022). **The use of technology for online learning among older adults in Hong Kong**. *International Review of Education*, *68*(3), 389-407. https://doi.org/10.1007/s11159-022-09957-7
The use of technology to facilitate better living and learning is gaining popularity worldwide. More and more older adults are technology users and participating in online learning. While there is ample research examining the factors affecting older adults' behavioural intention to use technology more generally, less is known about their views of using technology in online learning environments. Applying the model for the adoption of technology by older adults (MATOA) developed by Kenneth Hsiche Wang et al., the authors of the study presented here investigated the attitudes of older adults towards technology adoption for online learning. They interviewed 20 adults aged 52–73 who had enrolled in a diploma course in a higher educational institution in Hong Kong. The results show that participants held favourable attitudes towards online learning after several practice sessions. While they had confidence in their future use of technology, they stated that the availability of technical and social support affected their intention of continuous learning using technology in online settings.

Garone, A., Bruggeman, B., Philipsen, B., Pynoo, B., Tondeur, J., & Struyven, K. (2022). **Evaluating professional development for blended learning in higher education: a synthesis of qualitative evidence**. *Education and Information Technologies*, *27*(6), 7599-7628. https://doi.org/10.1007/s10639-022-10928-6

Successful implementation of blended learning initiatives requires careful planning and consideration of multidimensional factors. Focusing on evaluation and accountability for the design of professional development initiatives (PDIs) is the next step towards creating efficient and effective PDIs. This is especially needed since the Covid-19 pandemic has seen a dramatic shift towards using, and training for integration of digital teaching tools in higher education. The purpose of this qualitative research is to synthesize how professional development initiatives for blended learning in higher education institutions can be evaluated. Following a systematic review of the literature, fourteen empirical research articles were withheld and analyzed qualitatively using an inductive coding framework inspired by the 5 levels of evaluation by (Guskey, T. R. (2000). Evaluating professional development. Corwin Press.). The results show that evaluation can be organized into five categories which correspond to the five evaluative levels for professional development by Guskey. The study concludes with recommendations and approaches for each evaluation category with a particular focus on higher education contextual challenges.

Gebre, E. (2022). **Conceptions and perspectives of data literacy in secondary education**. *British Journal of Educational Technology*, *53*(5), 1080-1095. https://doi.org/10.1111/bjet.13246
Data literacy has been suggested as an important competence that individuals need to succeed in a data-intensive society. However, there is no common understanding as to what data literacy entails and how it could be developed. Instructional emphasis on developing competence of individuals fails to capture learners' relationship to data in everyday life and limits what they can possibly achieve in data-rich environments. This paper critically reviews conceptualizations of data literacy in the literature with a focus in K-12 education. The analysis determined four orientations of data literacy: development of competence, inquiry with data, awareness of personal data and civic engagement. I proposed a broader conceptualization of data literacy that integrates conceptions, competencies and contexts. The study offers holistic and context-oriented framing of data literacy for researchers and educators. Practitioner notes What is known about the topic Data literacy is a potential buzzword in the recent literature. There are increasing calls for developing data literacy skills of students and the general public. Data literacy is framed and implemented as a technical competence. Accordingly, curricular interventions and pedagogical practices focus on making use of data and benefiting from available datasets. What this paper adds The above framing of data literacy is too narrow to be useful in everyday life and rarely considers individuals interaction with data outside of schools. This study develops four focus areas in the conceptualization of data literacy and suggests broader framing of the concept as it relates to everyday life. It also suggests context-oriented approaches to data literacy education that can go beyond classrooms and academic activities. Implications for practice and policy This paper has implication for educators, researchers and policy makers. It allows boarder conceptualizations of data literacy that can be used in curricular interventions. It also provides ways of designing learning environments for the data literacy education and research.

Giannakas, F., Troussas, C., Krouska, A., Sgouropoulou, C., & Voyiatzis, I. (2022). **Multi-technique comparative analysis of machine learning algorithms for improving the prediction of teams' performance**. *Education and Information Technologies*, *27*(6), 8461-8487. https://doi.org/10.1007/s10639-022-10900-4

Working in groups is an important collaboration activity in the educational context, where a variety of factors can influence the prediction of the teams' performance. In the pertinent bibliography, several machine learning models are available for delivering predictions. In this sense, the main goal of the current research is to assess 28 different machine learning models, including a Deep Neural Network (DNN) which is structured by 4 hidden layers, for predicting teams' performance. Additionally, both data analysis and optimization of input data are also explored for their effectiveness in the improvement of the models' performance. One key finding of the present study is that the XGBoost model succeeded better prediction results, and its precision and robustness were found to be higher, compared to the other models. Additionally, data optimization was shown to be an essential procedure, since the prediction accuracy of all the models, and specifically, that of the XGBoost, improved and found to be 96% during the first phase that of the process, and 94% during the second phase that of the product. Similarly, after applying the hyperparameter tuning and data optimization, the prediction accuracy of the DNN was also improved and found to be 89.94% and 86.16%, during the same two phases. Finally, for interpreting the output of the ML models, in terms of features' importance, the Shapley Additive Explanations framework (SHAP) was used.

Gumbheer, C. P., Khedo, K. K., & Bungaleea, A. (2022). **Personalized and Adaptive Context-Aware Mobile Learning: Review, challenges and future directions**. *Education and Information Technologies*, *27*(6), 7491-7517. https://doi.org/10.1007/s10639-022-10942-8

Due to the outbreak of COVID 19, digital learning has become the most efficient learning and teaching technique adopted across the world. The pervasiveness of Personalized and Adaptive Context-Aware Mobile Learning (PACAML) technologies is improving the academic performances of learners by providing an efficient learning platform that supports social interactivity, context sensitivity, connectivity, and individuality in a ubiquitous manner. Several studies have demonstrated the efficacy of PACAML in a modern and innovative educational environment. Based on the recent studies and development of mobile learning technologies, there is clearly a gap in the research that provides a comprehensive body of knowledge on PACAML. In this paper, a review has been conducted on the existing PACAML, analyzing the recent research and development progress using Kitchenham et al. (2009) for systematic reviews. The review was conducted on 25 papers which were selected using the PRISMA technique to put forward the quality criteria that are based on the research aims, objectives and knowledge relevant to the study of PACAML. The results identified the contextual information used in the PACAML studies, the infrastructural requirements of PACAML, the application of PACAML in functional educational settings and the major methodological approaches applied in the studies of PACAML. Finally, the paper presents challenges and future directions that will be of interest to researchers in the educational technologies in the context of PACAML.

Guppy, N., Boud, D., Heap, T., Verpoorten, D., Matzat, U., Tai, J., … Bartolic, S. (2022). **Teaching and learning under COVID-19 public health edicts: the role of household lockdowns and prior technology usage**. *Higher Education*, *84*(3), 487-504. https://doi.org/10.1007/s10734-021-00781-w

Public health edicts necessitated by COVID-19 prompted a rapid pivot to remote online teaching and learning. Two major consequences followed: households became students' main learning space, and technology became the sole medium of instructional

delivery. We use the ideas of "digital disconnect" and "digital divide" to examine, for students and faculty, their prior experience with, and proficiency in using, learning technology. We also explore, for students, how household lockdowns and digital capacity impacted learning. Our findings are drawn from 3806 students and 283 faculty instructors from nine higher education institutions across Asia, Australia, Europe, and North America. For instructors, we find little evidence of a digital divide but some evidence of a digital disconnect. However, neither made a difference to self-reported success in transitioning courses. Faculty instructors were impacted in a myriad of diverse ways. For students, we show that closure and confinement measures which created difficult living situations were associated with lower levels of confidence in learning. The digital divide that did exist among students was less influential than were household lockdown measures in undermining student learning.

Hu, Y., Su, C.-Y., & Fu, A. (2022). **Factors influencing younger adolescents' intention to use game-based programming learning: A multigroup analysis**. *Education and Information Technologies*, *27*(6), 8203-8233. https://doi.org/10.1007/s10639-022-10973-1
In recent years, increased attention has been given to programming instruction for primary and secondary students. Several game-based programming learning platforms, such as Code.org, Lightbot, and Run Marco, have been created to offer enticing, enjoyable, and visualizable programming learning conditions that facilitate student interest and engagement in learning programming. However, few studies have explored the perceptions of younger adolescents regarding the use of game-based programming learning. The study aims to adopt a technology acceptance model rooted in perceived enjoyment, computer self-efficacy, perceived visual attractiveness, system response, and challenge to investigate the intentions of younger adolescents regarding the use of game-based programming learning supported by Code.org and to analyze the moderating influence of gender and grade level. Data obtained from 1,539 primary (grades 3–6) and secondary (grades 7–8) students in eastern China through questionnaire surveys were analyzed using structural equation modeling. The results showed that perceived usefulness, perceived enjoyment, and computer self-efficacy all had a direct impact on students' intentions to use game-based programming learning, while perceived visual attractiveness, system response, challenge, and perceived ease of use all had an indirect effect. Moreover, we also found that gender and grade level had moderating effects on student game-based programming learning. Overall, this study offered insight into younger adolescents' intentions toward game-based programming learning.

Huang, Q. (2022). **Does learning happen? A mixed study of online chat data as an indicator of student participation in an online English course**. *Education and Information Technologies*, *27*(6), 7973-7992. https://doi.org/10.1007/s10639-022-10963-3
Student participation, as a significant indicator of class learning, has been investigated from various perspectives. The present research seeks to explore student participation by drawing on text data from the chat box of an online learning platform. The two main research questions concern the main types of student participation indicated by the online chat data as well as how extensively and frequently students had participated online in class. The written text messages of 84 university students in the chat box were recorded in an online English course for three months in consecutives. The findings revealed that students' online chat data generally fell into five major types: students' responses of factual information (62.77%) social interaction (15.74%), phatic

communication (9.95%), tech-related messages (7.5%) and class schedule (4.5%). With 89% of participation concerning meaningful interactions and 11% of participation dealing with simple clarification of tech problems and class schedules, the findings suggest a highly active and meaningful online in-class participation. In addition, further descriptive statistics depicted the level of participation in terms of its frequency and breadth. Results showed that the active and meaningful online participation had been persistent over three months with an average of 74.52% regular participating students and average 410 chat messages sent one day. Implications were discussed in relation to the features of student participation.

Hwang, G.-J., Chang, C.-C., & Chien, S.-Y. (2022). **A motivational model-based virtual reality approach to prompting learners' sense of presence, learning achievements, and higher-order thinking in professional safety training**. *British Journal of Educational Technology*, *53*(5), 1343-1360. https://doi.org/10.1111/bjet.13196
Increasing learners' sense of presence is important in professional training, in particular, when aiming to foster their competences of making judgements and solving problems when facing real cases. However, in conventional training programmes, sometimes it is difficult to situate learners in real cases owing to several considerations, such as cost and potential danger. Scholars have indicated that the lack of opportunities to experience real contexts could seriously affect the training outcomes. To cope with this problem, the present study proposes a spherical video-based virtual reality (SVVR)-based professional training (SVVR-PT) approach based on the attention, relevance, confidence and satisfaction (ARCS) model to situate learners in an authentic training environment to experience the process of solving practical cases before facing real cases. To evaluate the effectiveness of the approach, a true experiment was conducted in a hospital by randomly assigning 70 nurses to an experimental group learning with the SVVR-PT approach and a control group learning with the conventional training approach. The experimental results show that the proposed approach outperformed the conventional approach in terms of promoting the learners' sense of presence and learning achievement as well as their problem-solving tendency and critical-thinking awareness. Moreover, the SVVR-PT learners also showed higher technology acceptance than the conventional training group. Practitioner notes What is already known about this topic? Spherical video-based virtual reality (SVVR) immerses learners in an authentic environment that enables them to have more opportunities to experiment and practice. Attention, relevance, confidence and satisfaction model has great potential in promoting learners' motivation and engagement. What this paper adds? A motivational model-based virtual reality approach is proposed to facilitate learners' professional training performance. In addition to promoting learners' training performance, the results claimed that the proposed approach could promote students' sense of presence, problem-solving tendency and critical-thinking awareness. Implications for practice and/or policy It is potentially worth using the motivational model-based virtual reality approach in professional training to facilitate learners' performances and perceptions. The proposed approach can further analyze and compare the effects of the cooperative learning strategy on learners' performance and recorded learning process.

Jiang, S., Nocera, A., Tatar, C., Yoder, M. M., Chao, J., Wiedemann, K., … Rosé, C. P. (2022). **An empirical analysis of high school students' practices of modelling with unstructured data**. *British Journal of Educational Technology*, *53*(5), 1114-1133. https://doi.org/10.1111/bjet.13253

To date, many AI initiatives (eg, AI4K12, CS for All) developed standards and frameworks as guidance for educators to create accessible and engaging Artificial Intelligence (AI) learning experiences for K-12 students. These efforts revealed a significant need to prepare youth to gain a fundamental understanding of how intelligence is created, applied, and its potential to perpetuate bias and unfairness. This study contributes to the growing interest in K-12 AI education by examining student learning of modelling real-world text data. Four students from an Advanced Placement computer science classroom at a public high school participated in this study. Our qualitative analysis reveals that the students developed nuanced and in-depth understandings of how text classification models—a type of AI application—are trained. Specifically, we found that in modelling texts, students: (1) drew on their social experiences and cultural knowledge to create predictive features, (2) engineered predictive features to address model errors, (3) described model learning patterns from training data and (4) reasoned about noisy features when comparing models. This study contributes to an initial understanding of student learning of modelling unstructured data and offers implications for scaffolding in-depth reasoning about model decision making. Practitioner notes What is already known about this topic Scholarly attention has turned to examining Artificial Intelligence (AI) literacy in K-12 to help students understand the working mechanism of AI technologies and critically evaluate automated decisions made by computer models. While efforts have been made to engage students in understanding AI through building machine learning models with data, few of them go in-depth into teaching and learning of feature engineering, a critical concept in modelling data. There is a need for research to examine students' data modelling processes, particularly in the little-researched realm of unstructured data. What this paper adds Results show that students developed nuanced understandings of models learning patterns in data for automated decision making. Results demonstrate that students drew on prior experience and knowledge in creating features from unstructured data in the learning task of building text classification models. Students needed support in performing feature engineering practices, reasoning about noisy features and exploring features in rich social contexts that the data set is situated in. Implications for practice and/or policy It is important for schools to provide hands-on model building experiences for students to understand and evaluate automated decisions from AI technologies. Students should be empowered to draw on their cultural and social backgrounds as they create models and evaluate data sources. To extend this work, educators should consider opportunities to integrate AI learning in other disciplinary subjects (ie, outside of computer science classes).

Katchapakirin, K., Anutariya, C., & Supnithi, T. (2022). **ScratchThAI: A conversation-based learning support framework for computational thinking development**. *Education and Information Technologies*, *27*(6), 8533-8560. https://doi.org/10.1007/s10639-021-10870-z
Computational Thinking (CT) has been formally incorporated into the National Curriculum of Thailand since 2017, where Scratch, a block-based visual programming language, has been widely adopted as CT learning environment for primary-level students. However, conducting hands-on coding activities in a classroom has caused substantial challenges including mixed-ability students in the same class, high student-teacher ratio and learning-hour limitation. This research proposes and develops ScratchThAI as a conversation-based learning support framework for computational thinking development to support both students and teachers. More specifically, it provides learning experiences tailored to individual needs. Students can learn CT concepts and practice online coding anywhere, anytime. Moreover, through its

ScratChatbot, students can ask for CT concept explanations, coding syntax or practice exercises. Additional exercises may be assigned to students based on the diagnosed individual learning difficulties in a particular topic to provide possible and timely intervention. Teachers can track learning progress and performance of the whole class as well as of individuals through the dashboard and can take suitable intervention within limited school hours. Deploying ScratchThAI to several Thai schools has enabled this research to investigate its effectiveness in a school setting. The obtained results indicated positive teacher satisfaction, better learning performance and higher student engagement. Thus, ScratchThAI contributes as a possible and practical solution to CT skill development and CT education improvement under the aforementioned challenges in Thailand.

Keane, T., & Keane, W. F. (2022). **The missing link: The parental voice in Bring Your Own Device (BYOD) programs**. *Education and Information Technologies*, *27*(6), 7699-7719. https://doi.org/10.1007/s10639-022-10902-2
This paper reports on the parental perspective on one school's implementation of a Bring Your Own Device (BYOD) Program to ensure students had access to a personalized computer. Often studies of one computer to one student (1:1) Programs focus on students and or teachers while parent compliance in the Program is assumed. Consequently, there is limited literature that explores parental perceptions and concerns, and subsequent decision-making process, in the implementation of a BYOD Program. The aim of this study was to document the parental voice in the implementation of one such BYOD program. This case study focused on one large co-educational school with 130 parents completing a questionnaire that provided both quantitative and qualitative responses. This enabled an exploration of the effect of the BYOD Program as reported by parents themselves, as well as the examination of a range of related issues, such as textbook use, the financial burden and choice of device. The findings provided insight, through the lens of the parents, into how the BYOD Program was deployed. Three trends emerged from the study: parents clearly expected some kind of trade-off in terms of expenditure, they clearly wanted reassurances that their investment was worthwhile and that the devices would be used for improving learning. Further research needs to be undertaken about parental perspectives, expectations, and concerns of BYOD Programs.

Kiili, C., Bråten, I., Strømsø, H. I., Hagerman, M. S., Räikkönen, E., & Jyrkiäinen, A. (2022). **Adolescents' credibility justifications when evaluating online texts**. *Education and Information Technologies*, *27*(6), 7421-7450. https://doi.org/10.1007/s10639-022-10907-x
Research has shown that students differ in their abilities to evaluate the credibility of online texts, and, in general, many perform poorly on online evaluation tasks. This study extended current knowledge by examining students' abilities to justify the credibility of online texts from different perspectives, thus providing a more nuanced understanding of students' credibility evaluation ability. We examined how upper secondary school students (N = 73; aged 16 to 17) evaluated author expertise, author intention, the publication venue, and the quality of evidence when reading four texts about the effects of sugar consumption in a web-based environment. Additionally, we examined how students' prior topic knowledge, Internet-specific justification beliefs, and time on task were associated with their credibility justifications. Students evaluated author expertise, author intention, the venue, and the quality of evidence for each text on a six-point scale and provided written justifications for their evaluations. While students' credibility

evaluations were quite accurate, their credibility justifications lacked sophistication. Inter-individual differences were considerable, however. Regression analysis revealed that time on task was a statistically significant unique predictor of students' credibility justifications. Instructional implications are discussed.

Kossybayeva, U., Shaldykova, B., Akhmanova, D., & Kulanina, S. (2022). **Improving teaching in different disciplines of natural science and mathematics with innovative technologies**. *Education and Information Technologies*, *27*(6), 7869-7891. https://doi.org/10.1007/s10639-022-10955-3
The study describes an innovative methodology for teaching natural and mathematical sciences in the context of distance learning using modern technological solutions and based on the concepts of active social learning that involves constructivist, problem-oriented, project and research approaches. The proposed methodology was tested on 80 students enrolled in two training courses in [BLINDED] University and [BLINDED] University, respectively: Mathematics Teaching in the Content and Language Integrated Learning (CLIL) context and Molecular Biology. The psychological safety of the proposed pedagogical methodology was investigated by assessing the level of psychological well-being of the participants in the educational process using the Scale of psychological well-being questionnaire developed by C. D. Ryff that was adapted to the educational context. The results of the study showed that the proposed pedagogical methodology was safe in relation to the life of students. It generally improved their perception of learning and themselves in the role of its participants, promoted positive self-esteem in group learning contacts, and, by developing learning involvement and interest through the Clil technology, qualitatively contributed to the achievement of educational progress by each student. The developed innovative methodology for teaching natural and mathematical sciences can be used as a pedagogical model for developing effective training courses. The demonstrated assessment of the level of psychological well-being adapted to the educational context can serve as a basis for the development of motivational learning strategies that support students in crisis learning conditions during the pandemic.

Lai, C., Wang, Q., & Huang, X. (2022). **The differential interplay of TPACK, teacher beliefs, school culture and professional development with the nature of in-service EFL teachers' technology adoption**. *British Journal of Educational Technology*, *53*(5), 1389-1411. https://doi.org/10.1111/bjet.13200
Previous research has identified various internal and external factors that predict teachers' technology adoption. Limited studies have explored how these internal and external factors interplay to determine different types of technology use. This study used the survey responses of 280 English as foreign language (EFL) teachers to examine how two key external factors (ie, school culture and professional development) interact with the two constitutive internal components (ie, knowledge/skill and belief) to determine three types of technology use in teaching and learning (ie, technology for content delivery, technology for learning enrichment and technology for transformed education towards self-directed learning). It identified the salience of school culture, professional development and TPACK over teaching and learning beliefs in determining technology use. It further revealed that these factors influenced the three types of technology use differently. The findings suggest a differentiated approach towards researching and supporting teacher technology adoption. Practitioner notes What is already known about the topic Belief factors (Beliefs about teaching), knowledge factors (TPACK) and

contextual factors (school culture and professional development) are significant predictors of teacher technology adoption. What this paper adds When examined together, school culture, professional development and TPACK were the more significant predictors of in-service EFL teachers' technology integration, and the contributions of the belief systems were minimal. The interactions of these factors vary for different types of teacher technology use. Implications for practice and/or policy Need differentiated considerations in supporting different types of teacher technology use. A favourable school culture is instrumental to teachers' technology use for content delivery and for supporting students' self-directed learning. TPACK is most critical to the use of technology for learning enrichment.

Lai, Y., Saab, N., & Admiraal, W. (2022). **Learning Strategies in Self-directed Language Learning Using Mobile Technology in Higher Education: A Systematic Scoping Review**. *Education and Information Technologies*, *27*(6), 7749-7780. https://doi.org/10.1007/s10639-022-10945-5
Language learners in higher education increasingly use out-of-class self-directed learning facilitated by mobile technology. In order to make informed educational decisions, this study sets out to provide an overview of empirical research into learning strategies that self-directed learners use with the support of mobile technology in language learning. Twenty studies were selected and systematically analysed, revealing the cognitive, metacognitive, social and affective strategies that self-directed learners used in their language learning processes. Low-cognitive strategies appeared to be more commonly reported than high-cognitive strategies. The use of metacognitive strategies was more closely associated with the forethought phase and performance phase than with the self-reflection phase, yet only a few articles reported all three metacognitive phases. Three kinds of social strategies were examined, and only one affective strategy was reported. Finally, implications of these findings and directions for future research are provided for self-directed learners, practitioners and researchers to facilitate self-directed learning and future work.

Laurens-Arredondo, L. (2022). **Mobile augmented reality adapted to the ARCS model of motivation: a case study during the COVID-19 pandemic**. *Education and Information Technologies*, *27*(6), 7927-7946. https://doi.org/10.1007/s10639-022-10933-9
The rushed introduction of online education for universities because of the current covid-19 health crisis, has started to affect the quality of education for millions of students around the world. This pandemic has emphasized the need to improve the teaching process through the use of innovating educational tools, such as mobile augmented reality (mAR). This pilot study intends to evaluate the relationship between motivation and meaningful learning for university students through mAR, as well as the effects and implications of its use how supporting teaching activities in an Industrial Design and Technical Drawing course. A quantitative method research approach was applied to collect, process, and analyze the research data of the students' perception under the health restrictions caused by the current pandemic, using the Instructional Materials Motivation Survey (IMMS). The total number of questionnaires collected was 96, applied to students of the Industrial Engineering major at Universidad Católica del Maule in Chile. The instrument's reliability was measured using Cronbach's alpha, giving an overall value of 0.89. The implementation of an instructional model called ARCS (Attention-Relevance-Confidence-Satisfaction) was achieved. The implementation of mRA was positively valued by most of the students surveyed. An increase the percentage of students who

achieved the expected learning objectives was found, in compared to previous versions of the course (without mAR). Finally, the results demonstrate a positive relation between mAR and the learning level achieved by students. There was no evidence of negative effects under the particular imposed conditions, because of sanitary restrictions when implementing the mAR.

Lee, V. R., Pimentel, D. R., Bhargava, R., & D'Ignazio, C. (2022). **Taking data feminism to school: A synthesis and review of pre-collegiate data science education projects**. *British Journal of Educational Technology*, *53*(5), 1096-1113. https://doi.org/10.1111/bjet.13251
As the field of K-12 data science education continues to take form, humanistic approaches to teaching and learning about data are needed. Data feminism is an approach that draws on feminist scholarship and action to humanize data and contend with the relationships between data and power. In this review paper, we draw on principles from data feminism to review 42 different educational research and design approaches that engage youth with data, many of which are educational technology intensive and bear on future data-intensive educational technology research and design projects. We describe how the projects engage students with examining power, challenging power, elevating emotion and lived experience, rethinking binaries and hierarchies, embracing pluralism, considering context, and making labour visible. In doing so, we articulate ways that current data education initiatives involve youth in thinking about issues of justice and inclusion. These projects may offer examples of varying complexity for future work to contend with and, ideally, extend in order to further realize data feminism in K-12 data science education. Practitioner notes What is already known about this topic Data feminism is an emergent framework for changing data practices and discourse in service of equity and justice. Data science education is rapidly growing as a topic of interest in the educational technology research and design communities. Many educational technology and design projects have been launched and shared in publications that preceded the widespread distribution of the data feminism framework. What this paper adds Data feminism is partially re-articulated in terms familiar to educational technology research communities. Prior and recent projects are organized with respect to how they illustrate potential connections to core data feminism principles. This paper identifies specific strategies that recent projects have used that have potential for realizing data feminism principles. Implications for practice and/or policy Educational technologists can use the re-articulated principles of data feminism for education to inform their future design work. Tractable steps to achieve data justice that are attainable within existing educational systems can be pursued. Communities can and should bring together multiple ways of knowing to support new educational practices and futures with data.

Li, F., Wang, X., He, X., Cheng, L., & Wang, Y. (2022). **The effectiveness of unplugged activities and programming exercises in computational thinking education: A Meta-analysis**. *Education and Information Technologies*, *27*(6), 7993-8013. https://doi.org/10.1007/s10639-022-10915-x
This study adopted a meta-analysis to explore the effectiveness of unplugged activities (UA) and programming exercises (PE) teaching approaches on computational thinking (CT) education. Through a two-stage literature collection and selection process, 29 articles were included in the meta-analysis, 31 independent effect sizes (16 of UA and 15 of PE) from these articles were used, and a total of 2,764 participants were involved in these studies. CMA software version 3.3 was used to analyze the collected data. The

result of the meta-analysis showed that both the UA and PE teaching approaches are useful in cultivating students' CT. Besides, the effect of the PE teaching approach is better than the UA teaching approach in CT education. Moreover, we analyzed the effect of moderator variables (grade level, interdisciplinary course, and experiments duration) on the relationship between UA or PE and CT education. The results showed that the effects of UA teaching approach in CT education was stronger (a) for primary school students than for secondary school students, (b) in interdisciplinary courses than in computer science courses, (c) with long duration teaching experiments than with medium and short duration teaching experiments. However, these effects are not significant. The effects of the PE teaching approach in CT education were stronger (a) for secondary school students than for primary school students, (b) in interdisciplinary courses than in computer science courses, (c) with short duration teaching experiments than with long and medium duration teaching experiments. These effects are not significant either. Therefore, we suggest that (1) the UA teaching approach should be used more for primary school students, while the PE teaching approach should be used more for secondary students; (2) CT education should be integrated into other subjects through UA and PE teaching approaches, and (3) the UA teaching approach requires more teaching time than the PE teaching approach does in CT education.

Liu, B., Xing, W., Zeng, Y., & Wu, Y. (2022). **Linking cognitive processes and learning outcomes: The influence of cognitive presence on learning performance in MOOCs**. *British Journal of Educational Technology*, *53*(5), 1459-1477. https://doi.org/10.1111/bjet.13193

Massively open online courses (MOOCs) offer learners opportunities for self-improvement and knowledge development. Linking cognitive processes and learning outcomes is helpful in supporting students learning with the help of MOOCs. Based on the cognitive presence of the Community of Inquiry framework, this study quantified the effect of cognitive presence on students' learning performance by analysing more than 400,000 posts of 13 MOOCs. First, the study built a highly predictive classification model using a machine learning algorithm to automatically identify the phases of cognitive presence in MOOC forum posts. Subsequently, multilevel modelling was used to analyse the influence of learners' cognitive presence on their learning performance. The results showed that different phases of cognitive presence influenced students' learning differently. The findings help us understand the phases and depth of students' cognitive presence and can be used as the basis for MOOCs to automatically provide appropriate cognitive feedback and support to students. Practitioner notes What is already known about this topic Massively open online courses (MOOCs) offer learners opportunities for self-improvement and knowledge development. Linking cognitive processes and learning outcomes is helpful in supporting student learning in MOOCs. Little is known so far about the role of cognitive presence in influencing students' learning performance. What this paper adds This study built a highly predictive classification model using a machine learning algorithm to automatically identify the phases of cognitive presence in MOOC forum posts. Multilevel modelling was used to quantify the influence of learners' cognitive presence on their learning performance. The results showed that different phases of cognitive presence influenced students' learning differently. Implications for practice and/or policy This study built an effective, high-performance machine learning model with easy feature extraction, which could be used to automatically identify students' cognitive processes in MOOC forums and beyond. The combination of cognitive presence and learning performance helps us understand the phases and

depth of students' cognitive presence. The findings can be used as the basis for MOOCs to automatically provide appropriate cognitive feedback and support to students.

Liu, Z., Kong, X., Liu, S., Yang, Z., & Zhang, C. (2022). **Looking at MOOC discussion data to uncover the relationship between discussion pacings, learners' cognitive presence and learning achievements**. *Education and Information Technologies*, *27*(6), 8265-8288. https://doi.org/10.1007/s10639-022-10943-7
The MOOCs (Massive Open Online Courses) forum carries rich discussion data that contains multi-level cognition-related behavior patterns, which brings the potential for an in-depth investigation into the development trend of the group and individual cognitive presence in discourse interaction. This paper describes a study conducted in the context of an introductory astronomy course on the Chinese MOOCs platform, examining the relationship between discussion pacings (i.e., instructor-paced or learner-paced discussion), cognitive presence, and learning achievements. Using content analysis, lag sequential analysis, logistic regression, and grouped regression approaches, the study analysed the online discussion data collected from the Astronomy Talk course involving 2603 participants who contributed 24,018 posts. The findings of the study demonstrated the significant cognitive sequential patterns, and revealed the significant differences in the distribution of cognitive presence with different discussion pacings and learning achievement groups, respectively. Moreover, we found that the high-achieving learners were mostly in the exploration, integration, and resolution phase, and learner-paced discussion had a greater moderating effect on the relationship between cognitive presence and learning achievements. Based on the findings and discussion, suggestions for improving the learners' cognitive presence and learning achievements in the MOOC environment are discussed.

Matuk, C., DesPortes, K., Amato, A., Vacca, R., Silander, M., Woods, P. J., & Tes, M. (2022). **Tensions and synergies in arts-integrated data literacy instruction: Reflections on four classroom implementations**. *British Journal of Educational Technology*, *53*(5), 1159-1178. https://doi.org/10.1111/bjet.13257
Data-art inquiry is an arts-integrated approach to data literacy learning that reflects the multidisciplinary nature of data literacy not often taught in school contexts. By layering critical reflection over conventional data inquiry processes, and by supporting creative expression about data, data-art inquiry can support students' informal inference-making by revealing the role of context in shaping the meaning of data, and encouraging consideration of the personal and social relevance of data. Data-art inquiry additionally creates alternative entry points into data literacy by building on learners' non-STEM interests. Supported by technology, it can provide accessible tools for students to reflect on and communicate about data in ways that can impact broader audiences. However, data-art inquiry instruction faces many barriers to classroom implementation, particularly given the tendency for schools to structure learning with disciplinary silos, and to unequally prioritize mathematics and the arts. To explore the potential of data-art inquiry in classroom contexts, we partnered with arts and mathematics teachers to co-design and implement data-art inquiry units. We implemented the units in four school contexts that differed in terms of the student population served, their curriculum priorities, and their technology infrastructure. We reflect on participant interviews, written reflections, and classroom data, to identify synergies and tensions between data literacy, technology, and the arts. Our findings highlight how contexts of implementation shape the possibilities and limitations for data-art inquiry learning. To take full advantage of the

potential for data-art inquiry, curriculum design should account for and build on the opportunities and constraints of classroom contexts. Practitioner notes What is already known about this topic Arts-integrated instruction has underexplored potential for promoting students' data literacy, including their appreciation for the role of context and real-world implications of data and for the personal and social relevance of data. Arts-integrated instruction is difficult to implement in school contexts that are constrained by disciplinary silos. What this paper adds Descriptions of four data-art inquiry units, which take an arts-integrated approach to data literacy. Examples of the synergies and tensions observed between data literacy, technology, and the arts during classroom implementation in four different schools. Reflections on the role of school contexts in shaping disciplinary synergies and tensions. Implications for practice and/or policy Arts-integration offers opportunities for data literacy learning. Consideration of the unique resources and constraints of classroom contexts is critical for fulfilling the promises of data-art inquiry learning. There is a need to develop school support specific to arts-integrated data literacy instruction.

May, R. J., Tyndall, I., McTiernan, A., Roderique-Davies, G., & McLoughlin, S. (2022). **The impact of the SMART program on cognitive and academic skills: A systematic review and meta-analysis**. *British Journal of Educational Technology*, *53*(5), 1244-1261. https://doi.org/10.1111/bjet.13192

Online interventions promoted to enhance cognitive ability hold great appeal for their potential positive impact in social, employment, and educational domains. Cognitive training programs have, thus far, not been shown to influence performance on tests of general cognitive aptitude. Strengthening Mental Abilities with Relational Training (SMART) is an online program that claims to raise intelligence quotient (IQ). This systematic review and meta-analysis evaluates the effect of SMART on indices of cognitive aptitude and academic performance. The review protocol was registered at PROSPERO (CRD42019132404). A systematic literature search of bibliographic databases (ERIC, PsycINFO, PubMed, Applied Social Sciences Index and Abstracts, Scopus, Proquest Psychology) identified five studies (N = 195) that met the criterion for inclusion. The risk of bias was assessed using the Cochrane Collaboration Risk of Bias 'RoB 2' tool. Overall, there was a moderate impact of SMART on measures of nonverbal IQ (g = 0.57, 95% CI [0.24, 0.89]). There was insufficient evidence to determine the impact of SMART on any other domain. All studies included in the review were judged to be at a high risk of bias for their primary outcome. Despite the methodological limitations of published studies to date, these initial findings suggest that a large-scale study of SMART is warranted. Practitioner notes What is already known about this topic SMART is a popular, commercially available online program that claims to improve cognitive skills in children. A number of controlled trials have investigated the efficacy of SMART and reported positive findings. There are no existing systematic reviews or meta-analyses of the literature for this intervention. What this paper adds The present study represents the first systematic review and meta-analysis of the effect of SMART on cognitive and educational outcomes. We identified five trials that met the criteria for inclusion in the review. All five studies were rated as having a high risk of bias using the Cochrane Collaboration Risk of Bias tool. We calculated a moderate overall impact of SMART on measures of nonverbal IQ. There was insufficient evidence to determine the impact of SMART in any other cognitive or educational domain. Implications for practice and/or policy Practitioners and/or teachers can use the review to inform their decisions about adopting SMART as an online educational tool. While the current findings are

encouraging, the number of controlled trials conducted on SMART is small and the studies have a number of significant methodological limitations. We recommend that SMART be evaluated with larger and more robustly designed trials.

Mayordomo, R. M., Espasa, A., Guasch, T., & Martínez-Melo, M. (2022). **Perception of online feedback and its impact on cognitive and emotional engagement with feedback**. *Education and Information Technologies*, *27*(6), 7947-7971. https://doi.org/10.1007/s10639-022-10948-2
Online feedback plays a key role in learning, but this requires that students engage with feedback. Some authors identify students' perception of feedback as relevant to understanding engagement. To measure the effect that perceived feedback (specifically its valence) has upon engagement with feedback, a quasi-experimental study has been carried out between two groups of master's students (191 students, 91.6% women, with a mean age of 30.6 years): a group in which students had the possibility to resubmit an assignment after feedback and another group in which students only received feedback at the end of the assignment. Results show there are no significant differences between both groups regarding the perception of the feedback. However, the results point to the importance of feedback valence perception in resubmission situation. In this situation, a significant relationship between emotional engagement and cognitive engagement with feedback was identified depending on how the feedback was perceived. The main conclusions are the need of incorporating opportunities for resubmission to promote engagement with feedback, the relevance of the perception of feedback, and the role of emotional engagement plays in relation to cognitive engagement with feedback.

Meda, L., & Waghid, Z. (2022). **Exploring special need students' perceptions of remote learning using the multimodal model of online education**. *Education and Information Technologies*, *27*(6), 8111-8128. https://doi.org/10.1007/s10639-022-10962-4
The global pandemic of COVID-19 forced institutions of higher learning to implement emergency remote learning and to change pedagogical approaches to enhance access and success for all students. Students have mixed views about remote learning. The purpose of this study is to examine special educational needs and disabled students' perspectives of remote learning in the United Arab Emirates. The study was conducted using a qualitative case study within an interpretivist paradigm. Thirty-three special educational needs and disabled students were selected to complete an open-ended questionnaire and participate in semi-structured interviews. It was found that students applauded extraordinary convenience and reasonable accommodation they were getting as a result of remote learning. However, post COVID-19, the majority opted for face-to-face instruction as they described it as 'irreplaceable'. The study concludes that students' nature of special needs and disabilities are influential towards their choice of a mode of instruction.

Meihami, H., & Husseini, F. (2022). **A self-determination theory into the psychological needs of CALL: Probing EFL teachers' autobiographical narratives**. *Education and Information Technologies*, *27*(6), 7781-7803. https://doi.org/10.1007/s10639-022-10964-2
Addressing psychological needs in computer-assisted language learning (CALL) has a critical role in developing learners' motivation to use CALL-related materials. Taking a self-determination theory into the psychological needs of CALL, the primary purpose of this study was to explore to what extent English as a foreign language (EFL) teachers

address the psychological needs when they attempt to introduce CALL materials to their learners. Second, the study sought to understand the EFL teachers' preferences of CALL materials considering their psychological needs coverage. The autobiographical narratives of eight EFL teachers were collected through a descriptive narrative design. The narratives were analyzed by using a deductive-inductive thematic analysis. The findings indicated that EFL teachers addressed the three psychological needs of CALL and believed that they are critical in helping EFL learners use CALL materials. The findings of the Code Map showed that the EFL teachers had three major preferences to introduce CALL materials covering psychological needs: first, materials comprising competence, autonomy, learners' proficiency level, competence-relatedness, cognitive involvement, and accessibility; second, materials including autonomy, learners' personality traits, and relatedness; and third, materials addressing learners' needs, autonomy-relatedness, and autonomy-competence. Therefore, it can be concluded that EFL teachers believed in the importance of psychological needs in suggesting CALL-related materials to develop their learners' motivation.

Ng, P. M. L., Chan, J. K. Y., & Lit, K. K. (2022). **Student learning performance in online collaborative learning**. *Education and Information Technologies*, *27*(6), 8129-8145. https://doi.org/10.1007/s10639-022-10923-x
Online collaborative learning (OCL) has received significant attention, but the ultimate goal of adopting OCL is neglected, especially in higher education context. To bridge the research gap, the present study applied OCL theory integrating with cognitive development to evaluate the effectiveness of student learning performance through OCL. To our knowledge, this is the first study to operationalize the constructs of idea generating, idea organizing and intellectual convergence of the OCL process developed by Harasim (2012)'s framework adapted from knowledge management perspectives. A sample of 373 respondents was collected from Sojump (http://www.sojump.com) using judgmental sampling method. Structural Equation Modelling (SEM) is employed to analyze the research model. All the hypotheses are supported in the model and the findings of this study provide a comprehensively understanding about student learning performance in the OCL process. The study illustrates that there are significant relationships among online collaborative tools, collaboration with peers, student engagement, OCL activities, and student learning performance. The study concludes that OCL promotes student engagement and teacher involvement to facilitate group discussion, ultimately strengthen student learning performance.

Nguyen, G. N. H., Bower, M., & Stevenson, M. (2022). **The discourse of design: Patterns of TPACK Contribution during pre-service teacher learning design conversations**. *Education and Information Technologies*, *27*(6), 8235-8264. https://doi.org/10.1007/s10639-022-10932-w
Analysing pre-service teachers' learning design conversations in relation to Technological Pedagogical and Content Knowledge (TPACK) framework to understand their learning design practices has remained unexplored. This paper presents findings from a study of pre-service teachers' design discourses that identified how TPACK elements were used during their collaborative design of technology-enhanced lessons. Through thematic analysis of 81 design conversations in two cycles, it was found that pre-service teachers discussed design related issues, TPACK elements, and context in their design conversations with dominant references to design-related issues, substantial

occurrences of single TPACK elements, and lower frequencies of integrated TPACK elements and context. Practical recommendations and a Design-TPACK or 'D-TPACK' framework were proposed to support pre-service teachers' learning design practices.

Nicklin, L. L., Wilsdon, L., Chadwick, D., Rhoden, L., Ormerod, D., Allen, D., … Lloyd, J. (2022). **Accelerated HE digitalisation: Exploring staff and student experiences of the COVID-19 rapid online-learning transfer**. *Education and Information Technologies*, *27*(6), 7653-7678. https://doi.org/10.1007/s10639-022-10899-8
In the UK, the first 'lockdown' of the COVID-19 pandemic necessitated a rapid shift to online learning and digital technologies in Higher Education (HE). While the situation was unprecedented, extant literature on online learning suggested there would be challenges, opportunities, and benefits to this transition, and we sought to understand these via a case study of one UK HEI department at this time. To draw out in-depth and nuanced accounts of this (at time of investigation–unstudied) scenario, qualitative data were collected via semi-structured online interview or written reflection. To explore, identify and understand the experiences from both sides, and with a diverse sample, we purposively recruited both staff (n = 10) and students (n = 12), from various roles and backgrounds, including those with additional learning and/or mental health needs. The 'bricolage' data were analysed inductively, utilising a latent reflexive approach, and organised into a framework around five core themes: 'methods and means of engagement'; 'learning maintenance, destruction and construction'; 'remote education and resource accessibility and literacy'; 'support and communication'; and 'life and learning: responses, adaptations and impacts'. Within these, a range of challenges, successes and, most importantly, future learning and innovation outcomes were identified by staff and students, particularly relevant to working with and supporting students with additional needs in the online learning forum. These discoveries informed a set of practical recommendations, provided here in Box 1, for (rapid implementation of) online learning (in times of stress).

Noorbehbahani, F., Mohammadi, A., & Aminazadeh, M. (2022). **A systematic review of research on cheating in online exams from 2010 to 2021**. *Education and Information Technologies*, *27*(6), 8413-8460. https://doi.org/10.1007/s10639-022-10927-7
In recent years, online learning has received more attention than ever before. One of the most challenging aspects of online education is the students' assessment since academic integrity could be violated due to various cheating behaviors in online examinations. Although a considerable number of literature reviews exist about online learning, there is no such review study to provide comprehensive insight into cheating motivations, cheating types, cheating detection, and cheating prevention in the online setting. The current study is a review of 58 publications about online cheating, published from January 2010 to February 2021. We present the categorization of the research and show topic trends in the field of online exam cheating. The study can be a valuable reference for educators and researchers working in the field of online learning to obtain a comprehensive view of cheating mitigation, detection, and prevention.

Oikarinen, R. M., Oikarinen, J. K., Havu-Nuutinen, S., & Pöntinen, S. (2022). **Students' collaboration in technology-enhanced reciprocal peer tutoring as an approach towards learning mathematics**. *Education and Information Technologies*, *27*(6), 7519-7548. https://doi.org/10.1007/s10639-021-10799-3

Technology-enhanced Reciprocal Peer Tutoring (RPT) was carried out with Finnish, nine to ten year-old primary school students (N=40). The RPT as a method of paired mathematics placed specific emphasis on electrical mathematical writing and drawing. Little is known about the important area of implementing digital mathematical skills at the primary level. The contribution of this study is to address the research gap in implementing Technological Pedagogical Content Knowledge (TPACK) into primary school students' digital mathematics learning. Data was collected from one primary school mathematics lessons by videotaping student's peer collaboration. In this empirical educational study, the data was analysed qualitatively with content analysis and quantified based on the Contact Summary Sheet (CSS)-instrument and TPACK - framework. This work sheds a light on how students' collaboration such as instruction, thinking aloud, feedback, support and new ideas during their peer tutoring arouse students' mathematical attainment and technological discourse. The results indicate that all dimensions of TPACK emerged during primary school students Technology-enhanced RPT. Data reveals that there was a high degree of PK in all videotaped episodes. More research on RPT with an empirical electrical mathematical focus is needed.

Oksanen, A., Celuch, M., Latikka, R., Oksa, R., & Savela, N. (2022). **Hate and harassment in academia: the rising concern of the online environment**. *Higher Education*, *84*(3), 541-567. https://doi.org/10.1007/s10734-021-00787-4
Hostile online communication is a global concern. Academic research and teaching staff are among those professionals who routinely give public comments and are thus vulnerable to online attacks. This social psychological and criminological study investigated online harassment victimization among university researchers and teachers. Survey participants (N = 2,492) were university research and teaching staff members from five major universities in Finland. Victimization was assessed with a 20-item inventory. The study included a wide range of both background and general measures on well-being at work. Participants also took part in an online experiment involving a death threat targeting a colleague. Results showed that 30% of the participants reported being victims of online harassment during the prior 6 months. Victims were more often senior staff members, minority group members, and from the social sciences and humanities. Those active in traditional or social media were much more likely to be targeted. Victims reported higher psychological distress, lower generalized trust, and lower perceived social support at work than non-victims. Individuals who were targeted by a colleague from their work community reported higher post-traumatic stress disorder scores and a higher impact of perceived online harassment on their work compared to other victims. In the experimental part of the study, participants reported more anxiety when a close colleague received a death threat. Participants also recommended more countermeasures to a close colleague than to an unknown person from the same research field. Results indicate that online harassment compromises well-being at work in academia. There is an urgent need to find ways of preventing online harassment, both in workplaces and in society at large.

Ouyang, F., Zheng, L., & Jiao, P. (2022). **Artificial intelligence in online higher education: A systematic review of empirical research from 2011 to 2020**. *Education and Information Technologies*, *27*(6), 7893-7925. https://doi.org/10.1007/s10639-022-10925-9
As online learning has been widely adopted in higher education in recent years, artificial intelligence (AI) has brought new ways for improving instruction and learning in online

higher education. However, there is a lack of literature reviews that focuses on the functions, effects, and implications of applying AI in the online higher education context. In addition, what AI algorithms are commonly used and how they influence online higher education remain unclear. To fill these gaps, this systematic review provides an overview of empirical research on the applications of AI in online higher education. Specifically, this literature review examines the functions of AI in empirical researches, the algorithms used in empirical researches and the effects and implications generated by empirical research. According to the screening criteria, out of the 434 initially identified articles for the period between 2011 and 2020, 32 articles are included for the final synthesis. Results find that: (1) the functions of AI applications in online higher education include prediction of learning status, performance or satisfaction, resource recommendation, automatic assessment, and improvement of learning experience; (2) traditional AI technologies are commonly adopted while more advanced techniques (e.g., genetic algorithm, deep learning) are rarely used yet; and (3) effects generated by AI applications include a high quality of AI-enabled prediction with multiple input variables, a high quality of AI-enabled recommendations based on student characteristics, an improvement of students' academic performance, and an improvement of online engagement and participation. This systematic review proposes the following theoretical, technological, and practical implications: (1) the integration of educational and learning theories into AI-enabled online learning; (2) the adoption of advanced AI technologies to collect and analyze real-time process data; and (3) the implementation of more empirical research to test actual effects of AI applications in online higher education.

Radinsky, J., & Tabak, I. (2022). **Data practices during COVID: Everyday sensemaking in a high-stakes information ecology**. *British Journal of Educational Technology*, *53*(5), 1221-1243. https://doi.org/10.1111/bjet.13252
How do people reason with data to make sense of the world? What implications might everyday practices hold for data literacy education? We leverage the unique context of the COVID-19 pandemic to shed light on these questions. COVID-19 has engendered a complex, multimodal ecology of information resources, with which people engage in high-stakes sensemaking and decision-making. We take a relational approach to data literacy, examining how people navigate and interpret data through interactions with tools and other people. Using think-aloud protocols, a diverse group of people described their COVID-19 information-seeking practices while working with COVID-19 information resources they use routinely. Although participants differed in their disciplinary background and proficiency with data, they each consulted data frequently and used it to make sense of life in the pandemic. Three modes of interacting with data were examined: scanning, looking closer and puzzling through. In each of these modes, we examined the balance of agency between people and their tools; how participants experienced and managed emotions as part of exploring data; and how issues of trust mediated their sensemaking. Our findings provide implications for cultivating more agentic publics, using a relational lens to inform data literacy education. Practitioner notes What is already known about this topic Many people, even those with higher education, struggle with interpreting quantitative data representations. Social and emotional factors influence cognition and learning. People are often overwhelmed by the abundance of available information online. There is a need for data literacy approaches that are humanistic and relational. What this paper adds Everyday data practices can be variable and adaptable, and include engaging with data at different levels: scanning, looking closer, and puzzling through. Each of these modes involves

different data practices. People, independently of their quantitative interpretation skills and disciplinary backgrounds, may engage differently with data (eg, avoiding versus delving deeper) based on their emotional responses, level of trust or interpersonal relationships that are evoked by the data. These everyday data practices have implications for people's sense of their own agency with data and involve emotional and trust-based relationships that shape their interpretations of data. These relational aspects of data literacy suggest productive directions for data literacy education. Implications for practice and/or policy Data literacy can be taught as a process that is inherently relational, for example, by discussing the ways in which learners are personally connected to different data, what emotions these connections evoke, and how that affects the ways in which they attend to, trust and interpret the data. Data literacy education can cultivate a wider range of data practices at a variety of depths of interaction, rather than prioritizing only in-depth inquiry. It may be helpful to include complex experiences with data sources that require learners to go beyond a binary "trustworthy/untrustworthy" distinction, so that learners can become more strategic, nuanced and intentional in forming a variety of trust relationships with different sources. Discussing how learners' everyday data practices interact with different data representations and tools can help them become more critically aware of the possible purposes, values, and risks associated with their everyday data practices.

Rosenberg, J. M., Schultheis, E. H., Kjelvik, M. K., Reedy, A., & Sultana, O. (2022). **Big data, big changes? The technologies and sources of data used in science classrooms**. *British Journal of Educational Technology*, *53*(5), 1179-1201. https://doi.org/10.1111/bjet.13245
With improving technology and monitoring efforts, the availability of scientific data is rapidly expanding. The tools that scientists and engineers use to analyse data are changing in response. At the same time, science education standards have shifted to emphasize the importance of students making sense of data in science classrooms. However, it is not yet known whether these exciting new datasets and tools are used science classrooms, and what it would take to facilitate their use. To identify opportunities, research is needed to capture the data practices currently performed in classrooms, and the roles of technology for student learning. Here, we report findings from a survey conducted in the United States of 330 science teachers on the data sources, practices and technologies common to their classroom. We found that teachers predominantly involve their students in analysing relatively small data sets that they collect. In support of this work, teachers tend to use the technologies that are available to them—namely, calculators and spreadsheets. In addition, we found that a subset of teachers used a wide variety of data sources of varying complexity. We discuss what these findings suggest for practice, research and policy, with an emphasis on supporting teachers based on their needs. Practitioner notes What is already known about this topic Collecting and analysing data are central to the practice of science, and these skills are taught in many science classrooms at the pre-collegiate (grades K-12) level. Data are increasingly important in society and STEM, and types and sources of data are rapidly expanding. These changes have implications for science teachers and students. What this paper adds We found that the predominant data source science teachers use is student-collected, small data sets. Teachers use digital tools familiar and available to them: spreadsheets and calculators. Teachers perceive the cost and time it would take to learn to use digital tools to analyse data with their students as key barriers to adopting new tools. Despite the predominance of small, student-collected data analysed using spreadsheets or calculators, we also found notable variability in the data sources and

digital tools some teachers used with their students. Implications for practice and/or policy Many of the changes called for in science education standards and reform documents, regarding how students should collect and analyse data, have not yet been fully realized in pre-collegiate classrooms. Science teacher educators and science education researchers should build curricula and develop digital tools based on which kinds of data sources and digital tools teachers presently use, while encouraging more complex data useage in the future.

Rüth, M., Birke, A., & Kaspar, K. (2022). **Teaching with digital games: How intentions to adopt digital game-based learning are related to personal characteristics of pre-service teachers**. *British Journal of Educational Technology*, *53*(5), 1412-1429. https://doi.org/10.1111/bjet.13201
Despite many known educational benefits of digital game-based learning, teaching with digital games is not yet a common practice in formal education. The role that digital game-based learning might play in future school teaching can be explored by examining the behavioral intentions of pre-service teachers as the ultimate gatekeepers. In this survey study, 402 pre-service teachers from German-speaking universities had participated. Multiple regression analyses were applied to examine the role of pre-service teachers' personal characteristics in their intention to integrate digital games into two educational contexts. For both educational contexts, we identified perceived usefulness and curriculum relatedness of digital games as key factors in pre-service teachers' intention to teach with digital games. We also found differences in explained variance and relevant personal characteristics between educational contexts. Overall, we discuss how teaching with digital games could become a common practice if particular characteristics of pre-service teachers are already addressed in teacher education. Practitioner notes What is already known about this topic Several conceptual and empirical works have synthesized diverse educational benefits of teaching with digital games and digital game-based learning. Teaching with digital games poses several infrastructural and technological challenges for teachers. Whether teaching with digital games becomes a common practice is related to the intention of teachers who act as gatekeepers for effective educational approaches. What this paper adds Insights into relations between intentions to teach with digital games and personal characteristics among pre-service teachers as future gatekeepers. The intentions of pre-service teachers to teach with digital games show particularly strong relations to a small set of personal characteristics. The relations between the intentions of pre-service teachers and their personal characteristics may vary between educational contexts. Implications for practice and policy The usefulness and curriculum relatedness of digital games in different educational contexts should be made clear to pre-service teachers. Teacher education could better prepare pre-service teachers for their future role as gatekeepers by providing key experiences and competences regarding teaching and learning with digital games. Policy makers could support teaching with digital games by advancing digital game-based learning in teacher education and by reducing known barriers related to teaching with digital games.

Şahin, F., Doğan, E., Okur, M. R., & Şahin, Y. L. (2022). **Emotional outcomes of e-learning adoption during compulsory online education**. *Education and Information Technologies*, *27*(6), 7827-7849. https://doi.org/10.1007/s10639-022-10930-y
Information on the emotional outcomes of e-learning system use and emotional aspects of user experience in higher education is quite limited. Accordingly, the aim of the study

is to identify the factors that influence university students' intention to continue using e-learning systems and to examine the emotional outcomes of the continuance intention. The core constructs of the Technology Acceptance Model formed the basis of the proposed model, and the model was extended with a framework of emotions (challenge, achievement, deterrence, loss) and external variables. Data were collected online from 19,530 university students of a state university. For the analysis, Partial Least Squares-Structural Equation Modeling was employed. The proposed model explained 73.5% of continuance intention, 50.3% of achievement, and 52.2% of challenge emotions. In addition, 23 of the 25 tested hypotheses were supported. The findings indicate that perceived usefulness is a decisive factor in creating user experiences that generate emotions such as enjoyment, playfulness and satisfaction. In addition, the results showed that personal innovativeness strongly influenced the core constructs of technology acceptance model and the positive aspects of emotions (achievement and challenge). Accordingly, it can be stated that these findings lead us to the fact that students' value perceptions regarding e-learning systems have a critical role in terms of emotional outcomes. In addition, the findings suggest that both intrinsic-extrinsic motivators, innovativeness characteristics and emotional outcomes should be taken into account in design and development process in order to improve the quality of the user experience. In this direction, implications for research and practice are discussed.

Salam, P. L. (2022). **Vers une flexibilisation progressive des pratiques pédagogiques avec le numérique dans un monde post-crise**. *12ème Colloque International Usages du Numérique à l'université : perceptions et pratiques innovantes*. Présenté à Oujda, Morocco. Consulté à l'adresse https://hal.archives-ouvertes.fr/hal-03728040

Saleh, A., Phillips, T. M., Hmelo-Silver, C. E., Glazewski, K. D., Mott, B. W., & Lester, J. C. (2022). **A learning analytics approach towards understanding collaborative inquiry in a problem-based learning environment**. *British Journal of Educational Technology*, *53*(5), 1321-1342. https://doi.org/10.1111/bjet.13198

This exploratory paper highlights how problem-based learning (PBL) provided the pedagogical framework used to design and interpret learning analytics from Crystal Island: EcoJourneys, a collaborative game-based learning environment centred on supporting science inquiry. In Crystal Island: EcoJourneys, students work in teams of four, investigate the problem individually and then utilize a brainstorming board, an in-game PBL whiteboard that structured the collaborative inquiry process. The paper addresses a central question: how can PBL support the interpretation of the observed patterns in individual actions and collaborative interactions in the collaborative game-based learning environment? Drawing on a mixed method approach, we first analyzed students' pre- and post-test results to determine if there were learning gains. We then used principal component analysis (PCA) to describe the patterns in game interaction data and clustered students based on the PCA. Based on the pre- and post-test results and PCA clusters, we used interaction analysis to understand how collaborative interactions unfolded across selected groups. Results showed that students learned the targeted content after engaging with the game-based learning environment. Clusters based on the PCA revealed four main ways of engaging in the game-based learning environment: students engaged in low to moderate self-directed actions with (1) high and (2) moderate collaborative sense-making actions, (3) low self-directed with low collaborative sense-making actions and (4) high self-directed actions with low collaborative sense-making actions. Qualitative interaction analysis revealed that a key difference among four groups in each cluster was the nature of verbal student discourse:

students in the low to moderate self-directed and high collaborative sense-making cluster actively initiated discussions and integrated information they learned to the problem, whereas students in the other clusters required more support. These findings have implications for designing adaptive support that responds to students' interactions with in-game activities. Practitioner notes What is already known about this topic Learning analytic methods have been effective for understanding student learning interactions for the purposes of assessment, profiling student behaviour and the effectiveness of interventions. However, the interpretation of analytics from these diverse data sets are not always grounded in theory and challenges of interpreting student data are further compounded in collaborative inquiry settings, where students work in groups to solve a problem. What this paper adds Problem-based learning as a pedagogical framework allowed for the design to focus on individual and collaborative actions in a game-based learning environment and, in turn, informed the interpretation of game-based analytics as it relates to student's self-directed learning in their individual investigations and collaborative inquiry discussions. The combination of principal component analysis and qualitative interaction analysis was critical in understanding the nuances of student collaborative inquiry. Implications for practice and/or policy Self-directed actions in individual investigations are critical steps to collaborative inquiry. However, students may need to be encouraged to engage in these actions. Clustering student data can inform which scaffolds can be delivered to support both self-directed learning and collaborative inquiry interactions. All students can engage in knowledge-integration discourse, but some students may need more direct support from teachers to achieve this.

Saqr, M., & Peeters, W. (2022). **Temporal networks in collaborative learning: A case study**. *British Journal of Educational Technology*, *53*(5), 1283-1303. https://doi.org/10.1111/bjet.13187
Social Network Analysis (SNA) has enabled researchers to understand and optimize the key dimensions of collaborative learning. A majority of SNA research has so far used static networks, ie, aggregated networks that compile interactions without considering when certain activities or relationships occurred. Compressing a temporal process by discarding time, however, may result in reductionist oversimplifications. In this study, we demonstrate the potentials of temporal networks in the analysis of online peer collaboration. In particular, we study: (1) social interactions by analysing learners' collaborative behaviour, part of a case study in which they worked on academic writing tasks, and (2) cognitive interactions through the analysis of students' self-regulated learning tactics. The study included 123 students and 2550 interactions. By using temporal networks, we show how to analyse the longitudinal evolution of a collaborative network visually and quantitatively. Correlation coefficients with grades, when calculated with time-respecting temporal measures of centrality, were more correlated with learning outcomes than traditional centrality measures. Using temporal networks to analyse the co-temporal and longitudinal development, reach, and diffusion patterns of students' learning tactics has provided novel insights into the complex dynamics of learning, not commonly offered through static networks.

Scott, M. J., Summerley, R., Besombes, N., Connolly, C., Gawrysiak, J., Halevi, T., … Williams, J. P. (2021a). **Foundations for Esports Curricula in Higher Education**. *Proceedings of the 2021 Working Group Reports on Innovation and Technology in Computer Science Education*, 27-55. https://doi.org/10.1145/3502870.3506566

Scott, M. J., Summerley, R., Besombes, N., Connolly, C., Gawrysiak, J., Halevi, T., … Williams, J. P. (2021b). **Towards a Framework to Support the Design of Esports Curricula in Higher Education**. *ITiCSE 2021: 26th ACM Conference on Innovation and Technology in Computer Science Education*, 599-600. https://doi.org/10.1145/3456565.3461440

Shirish, A., Verstraete, N., & Chourabi, O. (2022). **The impact of ICT characteristics on students' learning outcomes during COVID-19 lockdown period: the crucial role of techno eustress perception**. *Human Systems Management*, 1-14. https://doi.org/10.3233/HSM-220059

BACKGROUND: The COVID-19 crisis led to an unprecedented acceleration of digital learning. It pushed many institutions to abruptly switch to fully online learning modes from face-to-face learning. Prior studies show that higher IT demands can cause challenge or hindrance stressors, depending on how the digital technology characteristics are perceived by the end-user. However, there is a gap in our knowledge regarding how ICT characteristics can lead to positive stress appraisals in a remote learning environment. OBJECTIVE: This paper leverages the person-environment fit and technostress literature to examine how usefulness and reliability as demand-ability stressors of ICT tools can positively impact learning outcomes among remote learning students. Techno eustress perceptions are evaluated as a crucial mechanism for theorizing the positive impact. METHODS: We used the survey method, sampling students (N=82) during the lockdown period to test this model. RESULTS: Our findings highlight the ICT characteristic of usefulness as salient in contributing to student learning outcomes as it promotes techno eustress. CONCLUSIONS: This is the first study to demonstrate a positive impact of ICT characteristics on student learning outcomes via techno eustress perceptions.

Shreiner, T. L., & Guzdial, M. (2022). **The information won't just sink in: Helping teachers provide technology-assisted data literacy instruction in social studies**. *British Journal of Educational Technology*, *53*(5), 1134-1158. https://doi.org/10.1111/bjet.13255

In this study, support for teaching data literacy in social studies is provided through the design of a pedagogical support system informed by participatory design sessions with both pre-service and in-service social studies teachers. It provides instruction on teaching and learning data literacy in social studies, examples of standards-based lesson plans, made-to-purpose data visualization tools and minimal manuals that put existing online tools in a social studies context. Based on case studies of eleven practicing teachers, this study provides insight into features of technology resources that social studies teachers find usable and useful for using data visualizations as part of standards- and inquiry-based social studies instruction, teaching critical analysis of data visualizations and helping students create data visualizations with online computing tools. The final result, though, is that few of our participating teachers have yet adopted the provided resources into their own classrooms, which highlights weaknesses of the technology acceptance model for describing teacher adoption. Practitioner notes What is already known about this topic Data literacy is an important part of social studies education in the United States. Most teachers do not teach data literacy as a part of social studies. Teachers may adopt technology to help them teach data literacy if they think it is useful and usable. What this paper adds Educational technology can help teachers learn about data literacy in social studies. Social studies teachers want simple tools that fit with their existing curricula, give them new project ideas and help students learn difficult concepts. Making tools useful and usable does not predict adoption; context plays a large role in a social studies teachers' adoption. Implications for practice and/or policy Designing purpose-built tools for social studies teachers will encourage them to teach data literacy in their classes.

Professional learning opportunities for teachers around data literacy should include opportunities for experimentation with tools. Teachers are not likely to use tools if they are not accompanied by lesson and project ideas.

Tan, M. C. C., Chye, S. Y. L., & Teng, K. S. M. (2022). **"In the shoes of another": immersive technology for social and emotional learning**. *Education and Information Technologies*, *27*(6), 8165-8188. https://doi.org/10.1007/s10639-022-10938-4
There has been increasing use of interactive technologies in the classroom today and a rising popularity of employing virtual environments as a means to engage students in sensorially rich contexts for more embodied forms of experiential learning. In particular, virtual reality (VR) or immersive virtual environments (IVEs) facilitated by head-mounted displays (HMDs) have been used in the teaching of subject content such as history, geography and science. This article presents the findings of an exploratory study of immersive technology, specifically immersive virtual environments (IVES), for the purpose of social and emotional learning (SEL), in the context of Character and Citizenship lessons in the Singapore classroom. The social and emotional competencies (SECs) examined in this project were specifically empathy and perspective-taking, and responsible decision-making. The study involved a sample of n = 75 students from a cohort of students in a Singapore school, averaged at 15 years of age. Students were randomly divided into three treatment conditions: IVEs, pen-and-paper mental simulation and video-viewing. Each treatment contained a problem scenario, told from a first-person perspective, involving a social and ethical dilemma young people today face. A quasi-experimental, pre-test post-test, non-equivalent group design was employed, and the study adopted a mixed-method approach to data collection. The findings reveal that IVEs are not necessarily more effective than the "pen-and-paper" and video viewing approaches to teaching SECs but they can better facilitate perspective-taking and empathy for a higher percentage of students.

Taylor, G., Kolak, J., Bent, E. M., & Monaghan, P. (2022). **Selecting educational apps for preschool children: How useful are website app rating systems?** *British Journal of Educational Technology*, *53*(5), 1262-1282. https://doi.org/10.1111/bjet.13199
In the present paper, we assess whether website rating systems are useful for selecting educational apps for preschool age children. We selected the 10 highest scoring and 10 lowest scoring apps for 2–4-year-olds from two widely used websites (Good App Guide; Common Sense Media). Apps rated highly by the two websites had a higher educational potential as assessed by a validated questionnaire for evaluating the educational potential of apps and were more likely to include a learning goal and feedback compared to low scoring apps. However, high scoring apps scored on average just 9/20 for indicators of educational potential, and both high and low scoring apps had poor language quality as determined by psycholinguistic and construction type analyses. We argue that website rating systems should also include quality of feedback, adjustable content, social interactions, storyline and a more fine-grained analysis of language in their assessments. Practitioner notes What is already known about this topic Appropriately designed apps for preschool age children have the potential to teach early school readiness skills. Selecting high quality educational apps for preschool age children is challenging. The children's app marketplace is currently unregulated. What this paper adds We assess whether two leading app rating websites are useful for selecting educational apps for preschool age children. Children's apps rated highly by two app website rating systems had a higher educational potential than low rated apps as

measured by a research informed app evaluation tool. In-depth analysis of the language in apps shows that highly rated children's apps on app rating websites may not enrich a child's early language environment. Implications for practice and/or policy Children's app rating website assessments should include potential for feedback, language, adjustable content, storyline and social interactions. Policy should be implemented for app ratings in the app stores or on website app rating systems.

Temirbekova, Zh. E., & Pyrkova, A. Yu. (2022). **Improving teachers' skills to integrate the microcontroller technology in computer engineering education**. *Education and Information Technologies*, *27*(6), 8381-8412. https://doi.org/10.1007/s10639-021-10875-8
Currently, the study of microcontroller and microcircuits by students is becoming very important and in demand when acquiring competencies in the computer engineering educational program. This knowledge and skills will be necessary for the employment of graduates in industry, science and education. There are more and more large technical systems that require an understanding of the architecture of these systems and the skills to use these systems in a safe and reliable way. This article discusses technologies of fully homomorphic encryption that allow performing operations on encrypted data without disclosing them, so they have a huge potential for use in solving problems of storing and processing personal data. The growing interest in such technologies has led to the emergence of software tools and libraries that support fully homomorphic encryption. However, due to the relatively young age of this field of cryptography, standards and guidelines for the use of fully homomorphic encryption schemes are still in development. Thus, the use of these libraries without paying attention to the issues of cryptographic strength of the schemes used may have significant information security risks. In this work, algorithms, principles and methods for creating libraries on the Arduino platform are investigated and developed, which can be used as guidelines for the development of complexes of this kind. Arduino is increasingly being used for training in technical educational programs. As a result, every year at various conferences on engineering education and in journals, many articles are published on the integration of Arduino in teaching.

Vartiainen, H., Vuojärvi, H., Saramäki, K., Eriksson, M., Ratinen, I., Torssonen, P., … Pöllänen, S. (2022). **Cross-boundary collaboration and knowledge creation in an online higher education course**. *British Journal of Educational Technology*, *53*(5), 1304-1320. https://doi.org/10.1111/bjet.13186
This study investigated an international, inter-university and multidisciplinary online course with the aim of helping higher education students develop competencies for solving complex problems in collaboration with their peers and stakeholders. The course design was informed by the knowledge creation framework and ideas about cross-boundary collaboration. We attempted to enrich perspectives on knowledge creation by investigating how higher education students (N = 42) from different fields of study and from 17 different nationalities perceived, built and regulated cross-boundary collaboration in the pursuit of real-life problems presented by companies or non-governmental organisations. Drawing on data from 11 in-depth group interviews and team reports of students who had completed this course, we showed the kinds of activities the students considered relevant for cross-boundary collaboration and knowledge creation online. Given this extended context for knowledge creation, the study contributes to the pedagogical development of online learning in higher education.

Veldkamp, A., Rebecca Niese, J., Heuvelmans, M., Knippels, M.-C. P. J., & van Joolingen, W. R. (2022). **You escaped! How did you learn during gameplay?** *British Journal of Educational Technology*, *53*(5), 1430-1458. https://doi.org/10.1111/bjet.13194
This study investigates the influence of the educational game design elements immersion, collaboration and debriefing, on fostering learning with educational escape rooms. We based the design of the escape room on an educational game design framework that aligns the learning goal and the game goal, that is, escaping from the room. One-hundred-and-twenty-six students, aged between 16 and 20 played the escape room. Measures for learning were pre-and post-tests. The game experience was measured through questionnaires, classroom observations and interviews with students and teachers. The results show a knowledge gain between pre-and post-test. Correlational analysis showed that all three design elements contributed to students' appreciation of the escape room, whereas only immersion had a direct contribution to knowledge gain. Based on the qualitative data it appeared that the used escape boxes contributed most to perceived immersion. Immersion helps students focus on each other and the tasks. Also, a narrative with distinct roles for each student helped to evoke immersion. Unexpectedly, these roles also scaffolded collaboration except for students in the school that engaged in a collaborative learning pedagogy. The study confirms the usability of the framework for game designs, based on theories for the design of physical and hybrid educational games. Practitioner notes What is already known about this topic The escape room as a learning environment appeals to teachers of different disciplines, ages, gender and teaching experiences. Teachers implement escape rooms to create active (hybrid) learning spaces, where learners need a combination of knowledge and skills to solve the subject-based activities. Students and teachers perceive that while participating in escape rooms, students are more engaged, active and learn more compared to regular classes. The assumption is that escape rooms support collaboration and automatically collaborative learning. Review studies on educational escape rooms show that a systematic evaluation is usually absent, disputable or indicates no knowledge gain. Teachers design their educational escape rooms based on digital escape games and/or their experience as players of escape rooms. For digital educational games, important game design aspects are researched. Three main challenges in designing educational games are (1) the participants' transition from the real world to the game world, (2) the alignment of game design aspects and educational aspects and (3) the transfer from attained experiences and knowledge back into the real world. What this paper adds This paper evaluates an educational game design framework for escape rooms, focussing on the above-mentioned main challenges in designing educational games. It investigates the influence of the educational game design elements immersion, collaboration and debriefing, on fostering learning with a hybrid educational escape room. It informs that all three design elements contributed to students' appreciation of the escape room, whereas only immersion had a direct contribution to knowledge gain. The used hybrid escape boxes contributed most to the immersion; scaffolding students to focus on each other and the tasks. Students' collaboration was successfully fostered. However, it scarcely led to collaborative learning during gameplay, due to lack of discussion and reflection needed for deeper understanding. Implications for practice and/or policy The educational escape game framework would help educators creating immersive games, which not only confront learners with meaningful contexts but also give learning gains. The educational escape game framework would help researchers focussing on important

and difficult aspects of designing and implementing educational escape rooms to develop and research more effective escape rooms. In guidelines on creating immersion in educational escape games, the notion of physical objects is lacking. In this hybrid escape room, the physical objects such as escape boxes were the most powerful in creating immersion. In addition, the use of sound design in escape games in classrooms seems overrated. Debriefing after the gameplay is perceived necessary to discuss common misunderstandings, to make connections between the topics in various puzzles and to add more content to interest high-achieving students.

Viberg, O., Engström, L., Saqr, M., & Hrastinski, S. (2022). **Exploring students' expectations of learning analytics: A person-centered approach**. *Education and Information Technologies*, *27*(6), 8561-8581. https://doi.org/10.1007/s10639-022-10980-2
In order to successfully implement learning analytics (LA), we need a better understanding of student expectations of such services. Yet, there is still a limited body of research about students' expectations across countries. Student expectations of LA have been predominantly examined from a view that perceives students as a group of individuals representing homogenous views. This study examines students' ideal (i.e., representing their wanted outcomes) and predicted expectations (i.e., unveiling what they realistically expect the LA service is most likely to be) of LA by employing a person-centered approach that allows exploring the heterogeneity that may be found in student expectations. We collected data from 132 students in the setting of Swedish higher education by means of an online survey. Descriptive statistics and Latent Class Analysis (LCA) were used for the analysis. Our findings show that students' ideal expectations of LA were considerably higher compared to their predicted expectations. The results of the LCA exhibit that the Swedish students' expectations of LA were heterogeneous, both regarding their privacy concerns and their expectations of LA services. The findings of this study can be seen as a baseline of students' expectations or a cross-sectional average, and be used to inform student-centered implementation of LA in higher education.

Zhang, R., Zou, D., Cheng, G., & Xie, H. (2022). **Implementing technology-enhanced collaborative writing in second and foreign language learning: A review of practices, technology and challenges**. *Education and Information Technologies*, *27*(6), 8041-8069. https://doi.org/10.1007/s10639-022-10941-9
Technology-enhanced collaborative writing (TECW) for second language development is receiving increasing research attention from educators and teachers. However, there have been few review studies investigating how teachers implement this activity, how they use technology for the implementation, and what challenges they have. To better prepare practitioners to use digital tools for collaborative writing among their students, we reviewed 42 relevant studies focusing on their implementation identifying nine main TECW practices. These include: receiving teacher training; grouping students; training students on collaboration; training students on technology; providing students with new knowledge of writing; monitoring processes and giving immediate help; providing sufficient autonomy to students; evaluating outcomes and giving feedback; and encouraging students' reflection. Technology could support TECW implementation by expediting information delivery, developing group workspaces and group chatrooms, recording students' writing and collaboration behaviours and visualising their thoughts, enabling teacher commentary and information post, and presenting organised, analysed records of the TECW process. Challenges to TECW included: students'

reluctance to collaborate and difficulties using new technology. Based on the review, we argue that teachers can influence the implementation of TECW from cognitive, metacognitive, behavioural, and motivational aspects. Teacher training, student autonomy, and the size of writing groups are potential areas for future research in TECW.

Orientation scolaire et professionnelle

Álvarez-Rivadulla, M. J., Jaramillo, A. M., Fajardo, F., Cely, L., Molano, A., & Montes, F. (2022). **College integration and social class**. *Higher Education*, *84*(3), 647-669. https://doi.org/10.1007/s10734-021-00793-6
What is the impact of social class on college integration? Higher education institutions are becoming more diverse, yet the integration of underprivileged students remains a challenge. Using a social network approach, we analyze the general integration of low socioeconomic status (SES) students, as well as how segregated by class these friends are. The object of analysis is the extreme case of an elite university that, based on a government loan program (Ser Pilo Paga), opened its doors to many low-SES students in a very unequal country, Colombia. Using a mixed methods perspective, including a survey, 61 in depth interviews, and ethnographic observation, we analyze friendship networks and their meanings, barriers, and facilitators. Contrary to the literature, we find that low-SES students had, on average, the same number of connections and were no more isolated than students from upper social classes. Also, low-SES students' networks were not more segregated, even if relations with the upper classes were less likely and required more relational work than with middle or lower class friends. This high level of social integration stemmed from the intense relational work that low-SES students engage in, so as to fit in. Middle class friends act as a catalyst that can enable cross-class friendships.

Di Lonardo Burr, S. M., LeFevre, J.-A., Arnold, L. E., Epstein, J. N., Hinshaw, S. P., Molina, B. S. G., … Howard, A. L. (2022). **Paths to postsecondary education enrollment among adolescents with and without childhood attention-deficit/hyperactivity disorder (ADHD): A longitudinal analysis of symptom and academic trajectories**. *Child Development*, 93(5), e563-e580. https://doi.org/10.1111/cdev.13807
We examined developmental trajectories of attention-deficit/hyperactivity disorder (ADHD) symptoms, standardized achievement, and school performance for adolescents with and without ADHD who did and did not enroll in postsecondary education (PSE; N = 749; 79% boys; 63% White, 17% non-Hispanic Black, 10% Hispanic, and 10% other ethnicities). In a multisite study (recruitment based in New York, North Carolina, Pennsylvania, California, and Quebec), participants were originally enrolled between 1994 and 1998 at ages 7 to 9.9 and followed up through 2012 (Mage = 25 at final follow-up). Adolescents who eventually enrolled in PSE had less severe symptoms, but differences were modest and trajectories were similar over time. For all adolescents, standardized achievement trajectories declined up to two thirds of a standard deviation from ages 9 to 17. By the end of high school, the average GPA of adolescents with ADHD was three quarters of a point higher for those who eventually enrolled in PSE compared to those who did not. Overall, school performance mattered more than academic achievement for understanding eventual enrollment of adolescents with ADHD.

Doray, P., Laplante, B., & Prats, N. (2022). **Transitions scolaires et accès à l'université au Québec. L'impact différencié des facteurs sociaux, culturels et éducatifs**. *Formation emploi*, *158*(2), 211-234. https://doi.org/10.4000/formationemploi.10770
La structure de l'enseignement supérieur varie d'une société à l'autre, ce qui affecte les parcours éducatifs. Ainsi, au sein de certaines sociétés comme le Québec, il est nécessaire de réaliser deux transitions, la première entre le secondaire et l'ordre ultérieur, le collège d'enseignement général et professionnel (cégep), et la seconde entre ce dernier et l'université. Cette structure incite à se demander comment les différents facteurs sociaux, culturels et éducatifs interviennent dans l'accès aux différents ordres d'enseignement. Ont-ils un impact similaire sur l'entrée dans les deux ordres ? Nos résultats montrent des différences dans l'influence des divers facteurs selon les types de programmes.

Herbaut, E. (2022). **Alternative pathways and social disparities in access to elite higher education institutions**. *Higher Education*, *84*(3), 671-689. https://doi.org/10.1007/s10734-021-00794-5
Inequalities in access to elite higher education institutions are central in the horizontal dimension of social stratification in higher education. Previous studies have consistently shown large social inequalities in access from French "grandes écoles" (GE), but there is limited empirical evidence on the effect of alternative admission policies which have been largely implemented by these institutions. This article focuses on the effect of alternative pathways to GE which allow to transfer after a short vocational degree in higher education or a bachelor's degree. It relies on longitudinal data on high school graduates and their trajectories in higher education to estimate whether students entering elite institutions through alternative pathways differ in terms of social and academic characteristics from those entering through the traditional pathway. This analysis is complemented by estimating the propensity to transfer to a GE among eligible students. Results show that, among eligible students, those with tertiary-educated parents are more likely to transfer. However, alternative pathways appear to diversify the social and academic profile of students in elite institutions because socially advantaged students remain a minority among those eligible to transfer.

Li. (2022). **A Tale of Community College Transfer Pathway: US-ELs' Trajectories toward Healthcare Programs**. *Community College Journal of Research and Practice*, *46*(9), 654-675. https://doi.org/10.1080/10668926.2021.1901795
U.S.-educated English learners (US-ELs) who aspire to obtain a bachelor's degree are often guided by their high school counselors to attend community colleges first, and are assured that they can always transfer to a university later. However, the literature on US-ELs' community college transfer is virtually nonexistent. This 13-month multiple-case study documented the transfer trajectories of four US-ELs who intended to enroll in healthcare programs at a community college first and then transfer to a university. Findings showed that all four students fell short of their original transfer aspirations. Five major factors were identified to account for the differences between students' original plans and actual trajectories, including 1) inadequate high school preparation in science, 2) late enrollment and poor performance in their first program-related courses, 3) linguistic insecurity, 4) underdeveloped knowledge of their intended programs and transfer process, and 5) underuse of advising services. The findings indicate that the community college transfer pathway does not guarantee transfer for US-ELs.

Sargeac, M. (2022). **Rôle de l'orientation post-bac et effet établissement : le cas des trajectoires étudiantes en droit en Île-de-France**. *Formation emploi*, *158*(2), 167-185. https://doi.org/10.4000/formationemploi.10797
Cet article analyse, au regard de trois processus, la différenciation des trajectoires des étudiants inscrits en droit à l'Université en Île-de-France. Dans un premier temps, nous présentons une analyse quantitative de l'orientation post-bac des étudiants vers les différentes formations afin de déterminer en quoi la répartition des étudiants à l'entrée du supérieur produit une polarisation socioscolaire des publics étudiants. Ensuite, nous croisons ces résultats avec l'observation des journées de rentrée de trois formations franciliennes. Nous démontrons ainsi que cette polarisation des publics est anticipée par les équipes pédagogiques des différentes formations, et qu'il en découle une adaptation des pratiques et des discours de ces enseignants. Enfin, par la mise en parallèle des discours de rentrée avec les trajectoires étudiantes représentées à partir d'une analyse de séquences, nous mettons en évidence un effet établissement qui apparaît dans les variations des trajectoires étudiantes entre trois universités franciliennes retenues.

Smith, Spott, Higgins, & McNaughtan. (2022). **Beyond Articulation Agreements: Fostering Success for Community College Transfer Students in STEM**. *Community College Journal of Research and Practice*, *46*(9), 676-680. https://doi.org/10.1080/10668926.2021.1961923
Using data from a south-west alliance between two-year colleges and four-year universities, this study provides insight into the needed resources at partner institutions to promote the successful transfer and retention for minoritized students in STEM. The study includes responses from over 500 students who were engaged in alliance-related activities over the course of several years and insight from over 200 STEM faculty and staff. Findings indicated that transfer students seek support beyond institutional articulation agreements and that faculty strive to provide additional support. Specifically, we find that student needs include knowledgeable advising and mentoring, lab equipment and study space, and opportunities to connect with STEM professionals in industry and academia. Faculty shared that institutional support should be provided to develop a writing center, increase faculty diversity, and establish diversity training for faculty.

Trajectoires et carrières contemporaines : nouvelles perspectives méthodologiques - XXVIIèmes journées du longitudinal Grenoble, 23-24 juin 2022. (2022). In B. Isabelle & B. Nathalie (Éd.), *XXVIIèmes journées du longitudinal*. Consulté à l'adresse https://hal.archives-ouvertes.fr/hal-03711771
Les XXVIIèmes journées du longitudinal (JDL) proposent d'éclairer les carrières scolaires et professionnelles contemporaines. Elles visent à questionner l'articulation entre choix individuels et structures sociales, actualiser les connaissances sur ce champ de recherche et discuter des nouvelles perspectives ouvertes par les avancées méthodologiques que ce champ a connu depuis les années 2000. Les contributions présentées dans cet ouvrage permettent ainsi de mieux comprendre les ruptures et les continuités des trajectoires, au regard notamment de l'impact des crises, d'analyser les différentes étapes de la carrière du point de vue des individus et des contraintes du marché du travail, à travers une diversité d'approches : articulation de méthodes quantitatives habituellement cloisonnées, de méthodes quantitatives et qualitatives ou encore l'utilisation de nouvelles sources de données (big data).

Politique de l'éducation et système éducatif

Albert, É. (2022, août 4). **A Londres, l'université Dauphine joue l'élitisme à la française**. *Le Monde.fr*. Consulté à l'adresse https://www.lemonde.fr/series-d-ete/article/2022/08/04/a-londres-l-universite-dauphine-s-ouvre-a-l-international_6137109_3451060.html
« Alliances françaises » (4/6). Ouvert en 2014 dans la capitale britannique, le campus de l'université parisienne cherche à devenir un lieu d'excellence et à accueillir davantage d'étudiants étrangers.

Alizadeh, I., & Pourghane, P. (2022). **Iranian faculty members' metaphors of the internationalization of medical sciences education**. *Higher Education*, *84*(3), 629-646. https://doi.org/10.1007/s10734-021-00792-7
Faculty members' beliefs can affect the trajectories of internationalization activities at a university. This study aimed to use metaphor analysis to discover Iranian faculty members' beliefs about the internationalization of education at a medical sciences university. To collect data, a qualitative research design was adopted and interviews were conducted with the faculty members. The analysis of the interviews resulted in the discovery of 19 metaphors which were condensed into five themes of clinical culture, a road map for change, challenges, promotion, and links and relations. The faulty members particularly called for considerations for context-specific clinical setting conduct, urged a reform in the education system so as to include international and intercultural components in the medical education curricula, preferred the scientific and cultural reasons to the political and economic rationales for internationalization, described learning the local language and dialect as necessary for international medical students as they need to communicate with local patients and hospital staff, and viewed internationalization as an opportunity for the university to expand its health tourism industry. The findings have practical implications for medical sciences universities that aim to become an international educational institution.

Alsaleh, A. A. (2022). **The influence of heads of departments' instructional leadership, cooperation, and administrative support on school-based professional learning in Kuwait**. *Educational Management Administration & Leadership*, *50*(5), 832-850. https://doi.org/10.1177/1741143220953597
This article investigates the influence of head of department instructional leadership, collegial cooperation, and school administration support on the perspectives of 649 teachers in Kuwait toward school-based professional learning. The study used a quantitative questionnaire, and teachers expressed positive school-based learning experiences. The multiple regression analysis revealed that this learning was significantly related to collegial cooperation, head of department instructional leadership, and school administrative support. The results of the study contribute to understanding the way that instructional leadership, cooperation, and school administration support interact and contribute to teachers' school-based professional learning.

Amadon, S., Gormley, W. T., Claessens, A., Magnuson, K., Hummel-Price, D., & Romm, K. (2022). **Does early childhood education help to improve high school outcomes? Results from Tulsa**. *Child Development*, *93*(4), e379-e395. https://doi.org/10.1111/cdev.13752
Early childhood education contributes to improved school readiness but impacts on high school remain unclear. This study estimates the effects of Tulsa, Oklahoma's universal pre-

K and Head Start programs through the junior year of high school (in 2018/2019; N = 2902; Mage = 16.52, SD = .39; 48% female; 28% white, 34% Black, 27% Hispanic, 8% Native American). Propensity score weighted regressions suggest students who attended pre-K, but not Head Start, missed less school, were less likely to fail courses and be retained in grade, were more likely to take an Advanced Placement/International Baccalaureate course, but did not have higher test scores or grades. Subgroup analyses by race/ethnicity demonstrated some differences in the pattern of associations favoring students of color.

Aminu, N., Pon, K., Ritchie, C., & Ivanov, S. (2022). **Student motivation and satisfaction: Why choose an international academic franchise programme rather than a home one?** *International Journal of Training and Development*, *26*(3), 407-426. https://doi.org/10.1111/ijtd.12263
As globalisation increases, Higher Education Institutions are challenged to produce more young graduates to meet the corporate world's demand for highly qualified, mobile international managers. Business and management programmes are required to have international components to attract the best students. To date, the majority of research has focused on the management and quality of such programmes with few studies undertaken from the students' perspective. This article examines students' motivations to study on an internationally franchised academic programme, prior expectations and whether these were met. Students of international franchised management programmes at both undergraduate and postgraduate level studying in five different countries were asked what motivated them to choose this form of study over other possibilities open to them, their prior expectations and how satisfied they were with their actual experiences. The results confirmed some previous findings, i.e. the significance of enhanced employability potential. However, they also identified new themes, showing how the students' funders influenced the choice of study and how that influence was affected by gender. The results also queried students' true motivation for these programmes and the international academic franchisees' potential to meet those expectations fully.

Atcha. (2022). **Predicting Enrollment with Stacked Models: Bringing Together Theory and Empirics**. *Community College Journal of Research and Practice*, *46*(9), 686-691. https://doi.org/10.1080/10668926.2021.1989343
Proper institutional planning requires accurate enrollment forecasts. This is especially true in the community college context given open enrollment policies and reliance on public funds. Despite the importance of this task, enrollment forecasts are relatively disconnected from theoretical advances in the study of retention and enrollment. In this paper we argue that, in the interest of predictive accuracy, our statistical models ought to be theoretically informed. We show how incorporating theoretical knowledge by building 'stacked' models, which model theoretically distinct sub-populations separately, is a fruitful avenue for improving forecast accuracy. We demonstrate this by comparing the predictive accuracy of stacked models to approaches commonly found in the literature on simulated datasets.

Bellibaş, M. Ş., Polatcan, M., & Kılınç, A. Ç. (2022). **Linking instructional leadership to teacher practices: The mediating effect of shared practice and agency in learning effectiveness**. *Educational Management Administration & Leadership*, *50*(5), 812-831. https://doi.org/10.1177/1741143220945706

This paper examines the effects of instructional leadership on the change in teachers' classroom practices, with the mediating role of shared practice and learning effectiveness. The study employed a cross-sectional survey design, using quantitative methods. Confirmatory factor analysis and structural equation modeling were used to analyze the data collected from 350 teachers in primary and secondary schools in various provinces of Turkey. The results provided evidence consistent with the previous research from western English-speaking societies, suggesting an indirect relationship between leadership and teachers' instructional practices with the full mediation roles of shared practices among teachers and their sense of agency in learning effectiveness. This work concludes that teacher learning and collaborative practices among teachers, influenced by principals' instructional practices, can facilitate a significant change in several diverse components of classroom instruction, such as the quality of grouping, questions, homework, instructional strategies and differentiated practices.

Belzer, A., & Grotlüschen, A. (2022). **The imagined learner in adult literacy education policy research: An international comparison**. *International Review of Education*, *68*(3), 369-388. https://doi.org/10.1007/s11159-022-09956-8
This article provides a comparative analysis of the ways in which learners are portrayed in researchers' descriptions of adult literacy education policy. Although adult learners are rarely referred to directly in policy or in policy research, a range of assumptions about them may be inferred through close analysis of related research literature. This analysis draws on an earlier meta-synthesis (prepared by the first author and Amy Pickard) of adult learner portrayals in qualitative research which identified a typology of "learner characters" that were predictably employed in descriptions across a large variety of texts. They argued that these learner types were likely to "drive the action" in terms of further research, policy and practice just like characters drive the plot in literary narratives. Asking "Who are the (imagined) learners in research that describes policy documents pertaining to adult literacy?", this article takes this line of thought further by demonstrating that identifying learner types in policy analysis research can inform thinking about who the policy is really for, what is valued, and who benefits. This, in turn, can provide researchers with a distinctive lens for policy analysis and critique. The authors of this article identify five types of imagined learners: the Problem, the Pawn, the Afterthought, the Competitor, and the Competent Citizen.

Brantlinger, A., Grant, A. A., Miller, J., Viviani, W., Cooley, L., & Griffin, M. (2022). **Maintaining Gaps in Teacher Diversity, Preparedness, Effectiveness, and Retention? A Program Theory Evaluation of Mathematics Teacher Training in the New York City Teaching Fellows**. *Educational Policy*, *36*(6), 1227-1260. https://doi.org/10.1177/0895904820951117
This study examines the extent to which the New York City Teaching Fellows (NYCTF) has delivered on its promise of improving mathematics teacher diversity, preparedness, effectiveness, and retention in hard-to-staff city schools. As a program theory evaluation study, it articulates the theory of action for selective alternative route programs and uses this to evaluate NYCTF's program for secondary mathematics. The analysis draws on longitudinal data from 620 secondary mathematics teachers who began NYCTF in the prior decade. While the results point to potential improvements, it provides evidence that selective programs like NYCTF serve to maintain important gaps in teacher quality that they were designed to address.

Brooks, J. N., & Martin, J. L. (2022). **Combating Anti-Blackness in Education**. *Journal of Cases in Educational Leadership*, *25*(3), 267-283. https://doi.org/10.1177/15554589221105055
Anti-Blackness is a critical issue. Recognizing instances of this concept will assist with creating an inclusive and safe school culture for all students. This article discusses racism, instances of microaggressions and racial spotlighting that some Students of Color of experience in their K-12 careers.

Brooks, R. (2022). **Students as consumers? The perspectives of students' union leaders across Europe**. *Higher Education Quarterly*, *76*(3), 626-637. https://doi.org/10.1111/hequ.12332
Various scholars have argued that higher education is becoming increasingly similar across Europe as a result of processes of marketisation and neo-liberalisation, as well as the creation of a European Higher Education Area. While much of this body of work has focussed on governance, institutional structures and reforms related to teaching and learning, some have suggested that the subjectivities and perspectives of students have also altered—becoming more consumer-like in their orientation. Nevertheless, there has been relatively little work across the continent that has explored, in a comparative manner, students' own perspectives or those of students who represent other students. This article starts to redress this omission by drawing on interviews conducted with students' union leaders across six European nations to examine the extent to which they shared the same understanding of students, focussing specifically on the concept of student-as-consumer.

Burnett, C. A. (2022). **Accreditation Sanctions as Quality Signals in a Competitive Market for Students**. *Educational Policy*, *36*(6), 1507-1528. https://doi.org/10.1177/0895904820983034
Tuition-dependent colleges and universities face increasing competition for students. This study examined whether accreditation sanctions might serve as signals of quality and relate to enrollment. Results of a panel analysis showed enrollment declined for institutions after being placed on sanction with their regional accreditor. Specifically, 4-year private not-for-profit institutions had a 7.7% decline in FTE enrollment 2 years after warning ($p < .05$) and public 4- and 2-year institutions had a 5.5% and an 9.4% relative decline in FTE 2 years after probation, respectively ($p < .05$). Additional results demonstrated that a relationship remained up to 4 years post-sanction.

Bush, T. (2022). **Middle leadership in higher education: Challenges and opportunities**. *Educational Management Administration & Leadership*, *50*(5), 737-738. https://doi.org/10.1177/17411432221112489

Changamire, N., Mwangi, C. A. G., & Mosselson, J. (2022). **International students and the neoliberal marketplace of higher education: the lived experiences of graduate students from sub-Saharan countries in Africa of a U.S. university's internationalization policy**. *Higher Education*, *84*(3), 505-521. https://doi.org/10.1007/s10734-021-00782-9
Prior to the pandemic, approxiately 42,000 students from countries in sub-Saharan countries in Africa enrolled in U.S. universities (IIE 2021). Despite this strong and growing presence, little research exists focusing on their experiences of education in the U.S. Through a small-scale study of the experiences of graduate students from sub-Saharan African countries, we see evidence of material and discursive representations of race

that produce material inequalities that are then used to legitimize racial formations. We couple these experiences to the background of campus internationalization policies and the university's responses to argue that the policies reproduce and reinforce cultural and social racism that positions white Americans as the norm and unproblematically contributes to Western supremacist positionality in the academy and beyond for economic benefit. In this paper, we demonstrate ways in which the implementation of campus internationalization programs is part of the larger discourse of racism on both the national and international arenas, perpetuating white superiority and implementing policies that reproduce the inequities that reify and legitimize neoracism.

Cheffy, I. P. (2022). **Literacies, power and identities in figured worlds in Malawi**. *International Review of Education*, *68*(3), 493-496. https://doi.org/10.1007/s11159-022-09961-x

Chen, Y. (2022). **Experimenting with a global panacea: UNESCO's Fundamental Education programme in China, 1945–1950**. *International Review of Education*, *68*(3), 345-368. https://doi.org/10.1007/s11159-022-09959-5
The United Nations Educational Scientific and Cultural Organization (UNESCO) was set up in the aftermath of World War II with the mandate of safeguarding global peace by promoting international intellectual cooperation across national boundaries. UNESCO's first flagship educational initiative, launched in 1946, was the Fundamental Education programme, which ran until 1958. This article traces the role of China in the history of this UNESCO project, both in terms of inspiring the initial concept and in terms of piloting it. The author maps out a transnational network of concepts, ideas, people, institutions, funds, etc. that shaped the programme. Informed by scientific experimental methodology, the design of UNESCO's ambitious Fundamental Education initiative was to implement long-term, systematic and comprehensive schemes addressing illiteracy, public health, civil education and livelihood, etc. While the actors collaborating in this project shared some beliefs, their group as a whole reflected a divergent ideational spectrum, represented multiple interest groups, and was intertwined with both local and international politics. In the case of the interventions designed for piloting in China, these circumstances, as well as the multiple challenges of post-World War II reconstruction, the Chinese civil war and the Cold War had the effect of reducing the original concept to a small snapshot pilot project, limited to a specific subject ("the healthy village"). The article concludes with a consideration of the historical legacy of the cooperation between UNESCO and China in later decades.

Cohen, J., Hutt, E., Berlin, R., & Wiseman, E. (2022). **The Change We Cannot See: Instructional Quality and Classroom Observation in the Era of Common Core**. *Educational Policy*, *36*(6), 1261-1287. https://doi.org/10.1177/0895904820951114
The adoption of "College and Career Ready" standards—including Common Core State Standards—aims to raise academic expectations for students nationwide. Meeting these outcomes requires shifts in teaching, which, in turn, requires developing measures for the observation, assessment, and support of new kinds of instruction. This essay focuses on our efforts to develop such measures in a research project conducted in the District of Columbia Public Schools, which raised fundamental questions about whether existing measures can meet this challenge. By emphasizing observable elements of individual lessons, current measures produce a restricted view of instructional quality, omitting crucial elements of instruction called forth by new standards. Having identified this

disconnect, we offer suggestions for developing multi-measure systems to capture a fuller picture of standards aligned teaching.

Cohen-Vogel, L., Sadler, J., Little, M. H., Merrill, B., & Curran, F. C. (2022). **The Adoption of Public Pre-Kindergarten among the American States: An Event History Analysis**. *Educational Policy*, *36*(6), 1407-1439. https://doi.org/10.1177/0895904820961002
Over the past few decades, we have witnessed a surge in publicly funded pre-K programs in the United States. Today, policy makers in 45 states and the District of Columbia have adopted them. Combining information from twelve datasets, we use event history analysis (EHA) to examine the influence of a set of predictors on states' decisions to adopt public pre-K. Findings indicate that party dominance in the legislature, legislative professionalism, and unemployment rates are associated with pre-K adoption; regional proximity to previously adopting states is also significant. The authors discuss implications for policy makers and advocates considering future legislative action in the early childhood education sector, including the expansion of pre-K eligibility requirements.

Connolly, C., Byrne, J. R., & Oldham, E. (2022). **The trajectory of computer science education policy in Ireland: A document analysis narrative**. *European Journal of Education*, *57*(3), 512-529. https://doi.org/10.1111/ejed.12507
The launch of a Computer Science curriculum specification in upper secondary schools in Ireland in 2018 was a landmark and a historic development in Irish education. Addressing the historical policy decisions adopted towards establishing the specification, this paper presents an analysis of developments from the 1970s as revealed in key policies and other documents. Positioning the policy change within the context of influences, context of policy text production and within the context of practices, the paper presents an overview of the Irish Computer Science specification. Alongside the background to the evolution in computer science education over the period, the article takes into account the national and cultural contexts and narrates the journey travelled to arrive at this pivotal position. Developments in a global context are presented in comparison with curricula in other countries and some similarities and differences identified. The article uncovers consequences of the specification for the national curriculum, key skills integration and computer science teacher preparation. The article provides an important analysis of the policy trajectory of computer science in Ireland based on a visibly relevant corpus of documents tracing the different stages of this policy and comparing it to similar experiences implemented in other European countries.

Crisol-Moya, E., Romero-López, M. A., Burgos-García, A., & Sánchez-Hernández, Y. (2022). **Inclusive Leadership From the Family Perspective in Compulsory Education**. *Journal of New Approaches in Educational Research*, *11*(2), 226. https://doi.org/10.7821/naer.2022.7.937

Dandalt, E., & Brutus, S. (2022). **Faculty promotion evaluation and gender equity in business schools**. *Educational Management Administration & Leadership*, *50*(5), 776-791. https://doi.org/10.1177/1741143220953590
This article aims to address the fairness of promotion evaluation (appointments to the rank of full professor) process in Canadian business schools as perceived by tenured business female faculty. Our analysis is underscored by two studies with two different data collection methods (survey data analysis, policy content analysis) and driven by

procedural justice as the main theoretical lens. The first study addresses the perspective of our survey participants (N=198) by revealing that they believe the process of promotion evaluations is fair. Intrigued by this result, we undertook a second study to review the language of faculty collective agreements in these schools to explain partially why our participants believe in the fairness of promotion evaluations. The language of these faculty collective agreements suggests that the above result makes sense considering that they regulate promotion evaluations and decisions. However, this does not mean that the process of faculty promotions is free of gender discrimination as these faculty collective agreements have not addressed all the antecedents and predictors of gender inequity per se., The findings of this article are relevant because the issue of the underrepresentation of female faculty as related to promotion in senior academic ranks in Canadian business schools is under-researched. The existing studies on faculty promotion evaluations are too general and have not specifically addressed the fairness of business schools' faculty promotion evaluation systems from the perspective of tenured business female faculty. Plus, the relevance of the findings of this article lies in the fact that contrary to most general studies on female faculty experience with promotion evaluations at Canadian universities and internationally, these findings suggest that such experience in Canadian business schools is not always associated with gender discrimination and negative perspectives among female faculty.

DEPP. (2022). ***Repères et références statistiques 2022***. Consulté à l'adresse https://www.education.gouv.fr/reperes-et-references-statistiques-2022-326939
Repères et références statistiques (RERS) est une publication annuelle éditée depuis 1984 par la DEPP et le SIES, les services statistiques ministériels chargés de l'Éducation nationale et de l'Enseignement supérieur et de la Recherche.

Devos, L. (2022). **Le partenariat entre écoles et acteurs externes : un épisode éducatif interrompt le temps scolaire**. *Éducation et sociétés*, *48*(2), 149-164. Consulté à l'adresse https://www.cairn.info/revue-education-et-societes-2022-2-page-149.htm
Face aux mutations rapides de la société dès la fin du XXe siècle, les écoles semblent compter de plus en plus sur les organisations de leur environnement pour remplir leurs missions qui se diversifient. Ainsi le partenariat scolaire a-t-il pris de l'ampleur au cours des dernières décennies, au point de devenir une norme pour les enseignants et les organisations non scolaires. Cet article resitue la croissance de ces collaborations dans le cadre des évolutions sociétales et du processus global d'expansion de l'éducation. Il analyse également, à partir d'une enquête qualitative menée auprès des acteurs scolaires et non scolaires actifs dans le champ des « éducations à », comment ces phénomènes sociétaux se concrétisent sur le terrain scolaire. À travers l'analyse des processus d'intégration des acteurs externes, nous proposons d'interpréter les partenariats comme un type particulier d'événements, appelés "épisodes", venant interrompre le déroulement habituel des activités scolaires.

Dipitso, P. O. (2022). **Higher education post-apartheid: insights from South Africa**. *Higher Education*, *84*(3), 691-693. https://doi.org/10.1007/s10734-021-00780-x

Ébersold, S. (2022). **École inclusive, redéfinition du fait collectif et fonctions de l'accessibilité**. *Éducation et sociétés*, *48*(2), 165-184. Consulté à l'adresse https://www.cairn.info/revue-education-et-societes-2022-2-page-165.htm

L'ambition inclusive interroge la forme scolaire en supposant un changement de la culture scolaire : modification des formes de codification de l'espace et aménagement physique de la classe, organisation du temps, des rythmes et des codes de la pédagogie frontale selon les profils des élèves. Ces interrogations sont consubstantielles d'une redéfinition du fait collectif qui a singularisé les rapports sociaux et battu en brèche leur configuration historique. Cette redéfinition repose sur un paradigme productif assujettissant le bien-être économique et social à l'autonomie cognitive des individus. Elle place la production d'usage au cœur du travail scolaire : l'innovation par l'usage est matérialisée par l'aptitude des acteurs de l'école à transformer en ressources les opportunités de leur environnement pour élaborer des réponses propres à des situations particulières et s'adapter à la diversité des profils scolaires. L'enseignant inclusif accompagne les élèves dans la maîtrise de leurs apprentissages grâce à une personnalisation des pratiques, des démarches collaboratives et un souci de développement professionnel. L'apprenant, maître de ses apprentissages, peut s'autoréguler et s'engager dans les processus à l'œuvre.La centralité de cette production d'usage fait de l'accessibilité des environnements scolaires la condition de la concrétisation de l'autonomie cognitive reconnue aux élèves. Cette singularisation cognitive des individus se double d'une singularisation politique où ils voient des opportunités pour être les auteurs de leur devenir. Cette redéfinition du fait collectif s'organise aussi autour d'une singularisation juridique qui consacre un droit d'accès à l'offre de service public, ici de services éducatifs. Cela suppose le développement contextuel de pouvoirs d'agir équivalents entre des sujets porteurs de droits grâce auxquels ils peuvent surmonter leurs différences individuelles de capacité et lutter contre les ruptures de droits parfois engendrées par des conditions d'apprentissage inadéquates.

Fan, Y., Hoey, L., Das, A., Irazábal, C., Stiftel, B., Shatkin, G., … Rumbach, A. (2022). **Improving Global Planning Education by Centering the Experience of International Students in U.S. and Canadian Planning Schools**. *Journal of Planning Education and Research*, *42*(3), 260-267. https://doi.org/10.1177/0739456X221093645
This report examines ways to better support international students in U.S. and Canadian planning schools based on a survey and focus groups conducted by the Association of Collegiate Schools of Planning Global Planning Education Committee (GPEC). Findings show that international students often face alienation and structural barriers to navigating universities and living in an unfamiliar culture, along with identity ambiguity, inadequate career services, and narrowly focused urban planning curricula. This suggests the need for greater mentorship; explicit recognition in diversity, equity, and inclusion (DEI) efforts; tailored professional development; and more holistic support systems.

Fitzgerald, J., & Radford, J. (2022). **Leadership for inclusive special education: a qualitative exploration of SENCOs' and principals' Experiences in secondary schools in Ireland**. *International Journal of Inclusive Education*, 26(10), 992-1007. https://doi.org/10.1080/13603116.2020.1760365
This paper explores factors influencing leadership for inclusive and special education in secondary schools (for students aged between 12–18 years) in Ireland. Specifically, it spotlights the role of the Special Educational Needs Coordinator (SENCO), the teacher often tasked with leading provision. A qualitative study involving interviews with principals and SENCOs in six schools was undertaken. The complexity of the SENCO role is revealed

in findings which capture inherent tensions associated with attempts to formalise it in a system promoting a universal response to inclusive education, while also providing special education. Hornby's model of Inclusive Special Education (2015) is used to interrogate findings and provide a framework for further conceptualisation of the role in a system where inclusive and special education co-exist. Notwithstanding tensions, this study argues strongly for formal recognition of the SENCO role and advocates the development of SENCOs' leadership capacity within an integrated system promoting a collective approach to inclusive special education. It presents a conceptual model of the SENCO role which serves as a framework for further debate, refinement and discussion about the SENCO role.

Fındıklı, B. (2022). **A republic of scholars or scholars of the republic? Reflections on the predicaments of academic freedom and university autonomy in Turkey**. *Higher Education Quarterly*, *76*(3), 537-547. https://doi.org/10.1111/hequ.12287
It is widely recognised that academic freedom and university autonomy in Turkey are currently under pressure. Many scholars have produced articles discussing the Turkish predicament, linking it to the recent authoritarian and populist turn of the country. This paper offers a different interpretation, arguing how academic freedom and institutional autonomy have been approached and practised in Turkey from the past to the present, by focusing mainly on the evolution of the relations between higher education institutions and political power. Understanding how this relationship has been constructed and maintained may help us to grasp the context-specific university practices restricting academic freedom and university autonomy.

Fontanini, C., Paivandi, S., & Resve, C. (2022). **Les CPGE technologiques : se métamorphoser pour persévérer et réussir**. *Éducation & formations*, (104), 33-50. Consulté à l'adresse https://www.education.gouv.fr/media/116461/download

Frid, C., & Lawlor Alexander, S. (2022). **Accommodating Religious Practice at an Elementary School: A Case Study**. *Journal of Cases in Educational Leadership*, *25*(3), 284-291. https://doi.org/10.1177/15554589221099455
Twelve Muslim intermediate student leaders at have shared their request for afternoon prayer space with Ms. Lidd, their white principal. Aware of the school board mandate to nurture the identity of students and build social capital through bridging opportunities, Ms. Lidd reviewed the policy for religious accommodations in schools. Principal Lidd takes the request to the School Improvement Committee. The accommodation is supported, plans to make space for afternoon prayer begins, and staff are informed of the accommodation for a prayer space. In this efficient response as a culturally responsive school leader (CRSL), Principal Lidd suddenly finds herself in conflict with staff. How will the principal navigate this resistance while ensuring the religious accommodation is met? How will she lead the staff toward developing culturally responsive practice?

Ghazali, S. S., Kadir, S. A., Krauss, S. E., & Asimiran, S. (2022). **The entrepreneurial leadership practices of Malaysian secondary school principals in fundraising**. *Educational Management Administration & Leadership*, *50*(5), 851-870. https://doi.org/10.1177/1741143220949542
The reduction of funding allocation for school operations occurs in the education administration yearly. It is a notable fact that schools around the world are facing challenges in school funding as it affects the school's operation. As a result, the

performance of school for the long term would not be a primary concern in the future. Schools in Malaysia are not exempted from this issue as it is one of the main concerns in the centralized schools of this country. Generally, as the number of schools is increasing and a corresponding decrease takes place in centralized funding, it is vital for school principals to find alternatives for fundraising. Following a growing pattern of decentralization of school policies, entrepreneurial leadership currently begins to make an appearance in the education system through the transformation it creates in schools. However, there is insufficient discussion regarding the practices of entrepreneurial leadership and the abilities of entrepreneurial leaders in centralized schools. This study aims to identify the practices performed by centralized school principals to implement entrepreneurial activities in two schools selected for this study, which consisted of two different demographic backgrounds, districts, and locations. It investigates the entrepreneurial leadership practices performed by the Malaysian school principals in fundraising activities. The roles of the school principals as entrepreneurial leaders were identified based on their peers and other school staff who gained the experience of working under those principals. The various fundraising practices of the entrepreneurial leaders of both of these schools are examined within this crucial and challenging environment, followed by a discussion of how the school administrations deal with the external parties to obtain school funding. This study contributes to the field of educational administration by analysing the current fundraising practices of entrepreneurial principals of centralized schools in Malaysia.

Ghouati, A. (2022). ***REFORMER L'ENSEIGNEMENT SUPERIEUR PAR LA PROFESSIONNALISATION DES FORMATIONS ? Comparaison de trois expériences en Algérie***. Consulté à l'adresse https://hal.archives-ouvertes.fr/hal-03736519

Ginner Hau, H., Selenius, H., & Björck Åkesson, E. (2022). **A preschool for all children? – Swedish preschool teachers' perspective on inclusion**. *International Journal of Inclusive Education*, *26*(10), 973-991. https://doi.org/10.1080/13603116.2020.1758805
Building on the Salamanca Statement from 1994, the United Nations Sustainability Development Goals 2030 embraces inclusion for children in early childhood education. The European Agency for Special Needs and Inclusive Education in 2015–2017 completed a project on inclusive early childhood education, focusing on structures, processes, and outcomes that ensure a systemic approach to high-quality Inclusive Early Childhood Education (IECE). An ecosystem model of IECE was developed with a self-reflection tool for improving inclusion. This study's aim was to investigate practitioners' perspective on the inclusive processes and supportive structures defined in the ecosystem model, to contribute to a deeper understanding of how inclusive practice might be enabled and how barriers for inclusion can be removed. The self-reflection tool was administered in a heterogeneous municipality in Sweden, where inclusive settings are standard. Documentation from approximately 70 teachers on 27 teams was received. The documentation was analysed with qualitative content analysis based on the ecosystem model. The results showed a strong emphasis on group-related processes, whereas data on individual-related processes were scarce. This one-sided focus on the group level might endanger the inclusive processes and outcomes concerning the individual child.

Greenlee, A. J., Jackson, A., Garcia-Zambrana, I., Lee, C. A., & Chrisinger, B. (2022). **Where Are We Going? Where Have We Been?: The Climate for Diversity within Urban**

Planning Educational Programs. *Journal of Planning Education and Research*, *42*(3), 331-349. https://doi.org/10.1177/0739456X18815740
This paper summarizes findings from a nationwide survey of degree-seeking urban planning students regarding the climate for diversity within their degree programs. This study examines interactions within the classroom, with faculty, with peers, and with professional planners. From May to October 2016, we surveyed 451 students and conducted in-depth interviews with 25 students. Our results show that while the majority of students report a positive climate for diversity within their programs, many still report occurrences of bias and discrimination, describe the shortcomings of a lack of planning faculty diversity, and perceive persistent challenges around diversity within planning practice.

Grozev, V. H., & Easterbrook, M. J. (2022). **The relationships of employed students to non-employed students and non-student work colleagues: Identity implications**. *Analyses of Social Issues and Public Policy*, *22*(2), 712-734. https://doi.org/10.1111/asap.12315
We explored how employed university students experience their relationships with their work colleagues and with non-employed students. Two research questions (RQs) were considered: RQ1: What experiences and conditions do employed students identify as contributing to a sense that they are a distinct and separate group from (1) their work colleagues and (2) non-employed students? RQ2: What experiences and conditions do employed students feel facilitate and/or inhibit their social adaptation and integration at work and university? We interviewed 21 part-time employed students in England, and analyzed the transcripts using reflexive thematic analysis. We adopted a deductive approach, using the Social Identity Approach as a theoretical framework. In relation to work colleagues, employed students identified a lack of empathy, being looked down upon, and experiencing hostility at the workplace as making them feel distinct from their work colleagues. In relation to non-employed students, employed students identified differences in experiences and values as increasing intergroup differentiation, which then resulted in feelings of not fitting in at university or social exclusion. Identified conditions, which supported social integration in the workplace, were working with colleagues who held positive attitudes toward students, experiencing similar workplace circumstances and a sense of common fate. Employed students felt socially integrated when non-workers had positive regard for them or by discussing their employment with other employed students.

Gul, S., Jamal, W., & Naeem, M. (2022). **The performance status of higher educational institutions: A transfer of knowledge perspective**. *Education and Information Technologies*, *27*(6), 7583-7596. https://doi.org/10.1007/s10639-022-10935-7
The study is the empirical application of Gul and Jamal's (2021) Transfer of Knowledge Index. The study presents the ranking of 17 public sector HEI by categorizing them into High, Medium, and Low transfer of knowledge activity HEI. In the process of ranking the HEI based on the transfer of knowledge, the study also highlights several issues that hinder the recording of transfer of knowledge activity thus leading to the substandard performance of HEI on the given index. Data on seven dimensions subdivided into 86 items of the ToK index was collected and analyzed as per the 86 respective scoring criteria. The findings of the study show that none of the sampled HEI qualified to be the part of the High Transfer of Knowledge HEI, whereas 08 HEI were ranked medium ToK HEI and the remaining 09 were low ToK HEI. Non-availability of data, absence of a centralized

database, and lack of knowledge about the transfer of knowledge operational activities were among the major challenges for the substandard performance of HEI.

Guo, Y., Guo, S., Yochim, L., & Liu, X. (2022). **Internationalization of Chinese Higher Education: Is It Westernization?** *Journal of Studies in International Education*, *26*(4), 436-453. https://doi.org/10.1177/1028315321990745
Internationalization has become a strategic policy priority for many Chinese higher education in the process of becoming world-class universities. However, there is little research focusing on students' experiences of internationalization at home. This research investigates how Chinese undergraduates interpreted and experienced internationalization at a prestigious university in China. Data for the study were collected through policy document analysis, semi-structured interviews with students, and site visits. The results of the study reveal that students perceive internationalization as Westernization, question the prominence of English in the university's internationalization in both formal and informal curricula, and raise concerns about unequal access to internationalization. The study interrogates the unidirectional orientation of internationalization between China and the developed Western world. It calls for an approach to the de-Westernization of internationalization, reclaiming indigenous Chinese epistemology, language, and culture. The findings have important implications for an alternative social imaginary of internationalization for researchers and policymakers.

Halász, G., & Ruano-Borbalan, J.-C. (2022). **Perspectives on doctoral education**. *European Journal of Education*, *57*(3), 361-366. https://doi.org/10.1111/ejed.12521

Hammond, R. G., & Wu, S. (2022). **Reassignment Policies and School Stratification**. *Educational Policy*, *36*(6), 1373-1406. https://doi.org/10.1177/0895904820964745
School choice is expanding, but the majority of students in countries like the United States still attend the school associated with their residential address. We study assignment policies and reassignments of students, where students apply to attend a magnet school or request to transfer to another school within the public school system. Policymakers and researchers have expressed concerns that these type of reassignment programs could increase racial and socioeconomic stratification and cause an imbalance of resources across schools. We provide evidence from the Wake County Public School System in North Carolina. Our focus is on changes in racial and socioeconomic stratification across schools relative to the existing degree of stratification that exists in the district through its assignment via schools' attendance boundaries. The reassignment programs available in this district reduce stratification in terms of race, socioeconomic status, student need, and student ability. To place our results in context, we conduct several simulations to compare the observed changes in stratification to what changes are possible. The effects on stratification are similar to what would be expected if students move between schools without regard to school composition, and the effects are small relative to the largest increases or decreases in stratification that could be expected given the volume of reassignments observed in these data. Thus, the reassignment programs we study do not increase stratification in terms of race, socioeconomic status, or student need/ability, but they also do not reduce stratification to a particularly large degree. Our results speak to school choice programs that can be characterized as controlled choice programs in which the district places constraints on moves between schools.

Haupt, J. P. (2022). **Short-Term Internationally Mobile Academics and Their Research Collaborations Upon Return: Insights From the Fulbright U.S. Scholar Program**. *Journal of Studies in International Education*, *26*(4), 511-530. https://doi.org/10.1177/1028315321990760
The international mobility of academics is one of the key mechanisms through which university internationalization occurs; yet, fewer studies have investigated the impact that it has on academics' teaching, research, and service. This study investigates the relationship between short-term international mobility and changes in academics' research networks. Using bibliometric data, research collaboration patterns of 303 U.S. Fulbright academics were analyzed to determine with which academics abroad they are more likely to collaborate and which factors influence the likelihood of research collaboration. The findings demonstrate a positive relationship between short-term international mobility and subsequent research collaborations between mobile academics and host institution and host country academics, but co-publications were more likely with host institution as opposed to host country academics. The results also indicate that this positive relationship is mediated by academics' pre-existing networks, characteristics of the abroad experience, and academics' sociodemographic characteristics.

Herut, A. H., & Dube, E. E. (2022). **Post-conflict recovery and reconstruction of education in the Gedeo and West Guji zones of southern Ethiopia**. *International Review of Education*, *68*(3), 441-465. https://doi.org/10.1007/s11159-022-09963-9
Due to a combination of historical, socioeconomic, political and environmental factors, Ethiopia is unfortunately prone to internal conflicts, such as the one which re-erupted in April 2018 between the Gedeo and Guji ethnic groups in southern Ethiopia. One of the effects of this conflict was that education was severely disrupted in the Gedeo and West Guji zones. Many schools were damaged or looted, and thus no longer provided safe learning environments, while others were repurposed as temporary shelters for internally displaced people. The conflict died down again in July 2018, and the authors of this article conducted their post-conflict case study research between April and June 2019. They investigated six adversely affected schools and their surrounding communities in the Gedeo and West Guji zones. Based on their research, they explore community perceptions of post-conflict reconstruction of education, focusing on early activities such as prioritising education, restoring safety and security, and supplying resources. They examine the reconstruction of education in the study area using primary data gathered from parents, teachers, administrators and humanitarian agencies through qualitative interviews. This study is influenced by four themes derived from the basic premises of complexity theory: emergence, self-organisation, non-linearity and connectedness. Throughout the authors' analysis, they make use of the data collected by focus group discussions, interviews and field observations, complemented by secondary data. Despite numerous stakeholders' efforts to provide humanitarian aid, this study found that post-conflict reconstruction of education is poor and based on short-term normalisation rather than aiming for long-term sustainable safe learning environments for children and youth in the study areas. At the end of their sobering analysis, the authors stress the importance of providing children and youth with a long-term, sustainable and healthy learning environment using targeted strategies and policy options.

Jiang, X. (2022). **How to lead a successful university transformation: The case of École Polytechnique Fédérale de Lausanne (EPFL)**. *Educational Management Administration & Leadership*, *50*(5), 792-811. https://doi.org/10.1177/1741143220953600
Research universities worldwide have been taking reform actions to enhance their competitiveness in the global higher education market; however, the implementation of new initiatives may lead to challenges for university leadership. Faculty resistance is regarded as one of the most common obstacles faced by university leaders. Taking a qualitative approach based on Kotter's leading change model, this study adopts École Polytechnique Fédérale de Lausanne as a case study to explore change management strategies adopted by university leadership in an attempt to ensure a planned transformational change. By analysing 22 interviews with university administrators and faculty members, this study reveals that the president of École Polytechnique Fédérale de Lausanne managed changes through approaches that included vision creation, coalition formation, communication, faculty empowerment and culture consolidation. Additionally, the study shows that Kotter's change model, which was designed for business organizations, could not be applied to the analysis of the change management process in the context of higher education without modifications due to institutional and cultural differences.

Jooste, N., & Hagenmeier, C. (2022). **Policy Framework for the Internationalisation of Higher Education in South Africa: A Compass for Comprehensive Internationalisation?** *Journal of Studies in International Education*, *26*(4), 415-435. https://doi.org/10.1177/10283153221105318
On 6 November 2020, the Policy Framework for Internationalisation of Higher Education in South Africa was promulgated. It provides high-level principles and guidelines for the internationalisation of higher education in South Africa, lays down specific rules for certain aspects of the process and aims to shape the process of internationalisation at South African higher education institutions, redressing past inequalities whilst addressing policy imperatives of higher education in a democratic South Africa. In this paper, we analyse the context and content of the Policy Framework. We first explore the context by discussing the historical background leading to the development and drafting of the Policy Framework, whereafter we analyse the substantive content of the Policy Framework. We consider its suitability for advancing the South African higher education system's internationalisation objectives, interrogate whether it can provide direction for comprehensive internationalisation of higher education in the country and provide recommendations on the way forward devoting attention to strategies for successful policy implementation.

Jopling, M., & Harness, O. (2022). **Does COVID-19 offer English school leaders the opportunity to rethink schools?** *Management in Education*, *36*(4), 174-177. https://doi.org/10.1177/0892020621994307
COVID-19 has closed schools, forced examinations to be abandoned and led to concerns about the negative educational and social effects on children and young people. This short article uses responses to two short surveys of school leaders in the West Midlands and North East of England to explore their views on whether and how schools can be rethought following the disruption of COVID-19.

Karni-Vizer, N. (2022). **Inclusive education in state religious schools: the perceptions of the teachers on inclusion**. *International Journal of Inclusive Education*, *26*(10), 1038-1052. https://doi.org/10.1080/13603116.2020.1772891
This article examines state religious school teachers' attitudes regarding the inclusion of students with special needs and factors affecting their perceptions. A representative sample of 579 teachers from primary, junior high and high schools filled in a questionnaire regarding attitudes toward inclusion and related factors such as professional support, commitment to inclusion, adaptability of the curriculum, extent of inclusion, existence of technical aids, parental involvement and the influence of the inclusion on students without special needs. The majority of teachers reported a positive (87%) attitude towards inclusion. All the components of the inclusion were positively associated with teachers' perceptions. The findings shed light on the factors influencing teachers' perceptions on inclusion of students with special needs into regular education.

Karran, T., Beiter, K. D., & Mallinson, L. (2022). **Academic freedom in contemporary Britain: A cause for concern?** *Higher Education Quarterly*, *76*(3), 563-579. https://doi.org/10.1111/hequ.12346
Using comparable legal information, and empirical data from over 2000 members of the UK's University and College Union and 2000 staff in universities of the European states, gathered by means of similar surveys, this paper is a comparative assessment of the de jure protection for, and the de facto levels of, academic freedom enjoyed by academic staff in the UK, when compared to their EU counterparts. The paper examines the legal and constitutional protection for academic freedom and the current levels of, and changes to, the two substantive elements (freedom to teach and freedom to research) and three supportive components (autonomy, governance and tenure) of academic freedom. The study reveals that UK academic staff believe that there is a low level of protection for academic freedom and that it has declined, both in general, and with respect to the two substantive elements and three supportive components of academic freedom. Similar trends are evident in the EU states, but statistical tests reveal that for every measure utilised, the decline in academic freedom is significantly greater in the UK than in the EU states.

Kim, J., Florian, L., & Pantić, N. (2022). **The development of inclusive practice under a policy of integration**. *International Journal of Inclusive Education*, *26*(10), 1068-1083. https://doi.org/10.1080/13603116.2020.1773946
In 2015, South Korea hosted the World Education Forum as it considered issues of education for all and improving inclusion worldwide. Yet, as is the case in many countries, pupils with special educational needs in South Korea are often included by way of 'special or additional' support as 'compensation' for disability, raising questions about the extent to which support is a tool for inclusion or a reproduction of exclusion in the classroom. This study examined teachers' views and practice regarding teaching and support, the actual work of the support assistant, and the extent to which practice reflected the model set by official policy and guidelines. The modified Wider Pedagogical Role (WPR) model (Blatchford, P., A. Russell, and R. Webster. 2012. Reassessing the Impact of Teaching Assistants: How Research Challenges Practice and Policy. London: Routledge.) was used as reference for the data collection and analysis. The development of inclusive practices was also examined relative to the inclusive pedagogical approach developed by Florian and Black-Hawkins ([2011]. "Exploring Inclusive Pedagogy." British Educational Research Journal 37 (5): 813–828) to determine

how the three principles of inclusive pedagogy were enacted in South Korea. Findings demonstrate how practice can comply, stretch or, in some cases, disregard the limits of policy. The study provides practical support for the implementation of the United Nations Sustainable Development Goal 4 which calls for inclusive and equitable quality education and lifelong learning opportunities for all.

Knapp, C. E. (2022). **Integrating Critical Autobiography to Foster Anti-Racism Learning in the Urban Studies Classroom: Interpreting the "Race and Place" Stories of Undergraduate Students**. *Journal of Planning Education and Research*, *42*(3), 268-279. https://doi.org/10.1177/0739456X18817822
Planners are bound up in the reproduction of racialized exclusion. This fact inspires demands for equity, cultural competency, and anti-racism within the profession. This study examines the impacts of a "Race and Place" autobiography writing assignment on undergraduate students' racial identities and understanding of racism. It combines: (1) a content and narrative analysis of student essays; (2) a post-course survey; and (3) qualitative interviews with a sample of students. Critical autobiographical writing may help students understand their own identities, build empathy for peers, and identify personally with structures of inclusion/exclusion in ways that inspire longer-term commitments to racial justice.

Kobakhidze, M. N., & Samniashvili, L. (2022). **"Less USSR, more democracy please!": Hope and discontent in Georgia's quest for academic freedom**. *Higher Education Quarterly*, *76*(3), 595-611. https://doi.org/10.1111/hequ.12382
In Georgia, the question of academic freedom emerged only after the country gained independence from the Soviet Union in 1991 and its universities could begin reckoning with a heavy past of ideological pressure, censorship, governmental control and top-down management. Despite official declarations of the right to academic freedom and its recognition within Georgia's legal framework, actual practice in the country's higher education system tells a different story. The paper draws on qualitative data obtained from sixteen academics representing diverse institutions and disciplines, as well as the secondary data including educational legislation, government regulations, ministers' decrees, various reports from non-governmental organisations, think tanks and media archives. The findings of this paper reflect how academic freedom is understood in Georgia and two major threats to its exercise in universities, namely, interference from external politics and internal managerialism. We argue that academic freedom as a concept does not yet have its own place in Georgia's higher education system, protected de jure but with different de facto realities. The paper sheds light on how Soviet legacies of self-censorship, hidden mechanisms of control and a culture of conformity continue to create tensions inside universities and an environment in which academic freedom cannot flourish.

Kovačević, M., Bitušíková, A., & Dagen, T. (2022). **Emergence of current European thinking and policies on doctoral education**. *European Journal of Education*, *57*(3), 381-394. https://doi.org/10.1111/ejed.12515

Kruse, S. D. (2022). **Department chair leadership: Exploring the role's demands and tensions**. *Educational Management Administration & Leadership*, *50*(5), 739-757. https://doi.org/10.1177/1741143220953601

Research exploring the challenges department chairs face has long suggested the role is difficult and lacks tangible reward (Buller, 2012, 2015; Gmelch et al., 2017). Yet, as higher education demographics, settings, and organizational expectations change and chairs function in more uncertain and increasingly complex institutional environments, it is important to understand how chairs describe the challenges they encounter, the ways in which they respond to those challenges, and the knowledge and skills they draw on to do so. Drawing on 45 interviews with chairs across a variety of institution types, this study focuses on chairs' perceptions of their role, contextualization of their learning, and understanding how orientations toward faculty, staff, and students contribute to their work. Findings suggest chairs struggle to balance their approaches to the work, striving to employ common sense while decision making, humanity when working with others, and savvy when approaching an unavoidable and often overwhelming political landscape, all while possessing limited institutional authority. These are expressed as tensions of task, organization, and role, and the people and relationships that chairs must reconcile, rather than resolve, if they are to be successful.

Kunce, A. (2022). **Why should we cultivate "the difference" in everyday practices of the university?** *Higher Education Quarterly*, *76*(3), 671-682. https://doi.org/10.1111/hequ.12339
The paper explores the phenomenon of the local-worldly university. Why should we cultivate "the Difference" in everyday practices of the university? The author refers to the Derridean "différance," to the idea of wonder (το θαυμα) and the Herderean concept of Heimat. By putting these terms in the university's specific context, the author asks questions about an autonomous space for thinking and experiencing. The university cannot be homeless, unanchored or uncommitted. The more intensively the universalising procedures of the control of universities are implemented, the more we are convinced that the world does not need any global institutions of higher education and research. This is because a human being is more localised than we would be willing to admit. What is important is difference, the untranslatability of knowledge and languages, the contextual grounding of thinking and action, as well as the experience of the fragility of what is "locally human," which makes us observe closely a local human being, attached to a place, wandering about with the notion of home, and thus dispelling his or her doubts here and now, even when they tend to recur eternally.

Kuzhabekova, A., Ispambetova, B., Baigazina, A., & Sparks, J. (2022). **A Critical Perspective on Short-Term International Mobility of Faculty: An Experience from Kazakhstan**. *Journal of Studies in International Education*, *26*(4), 454-471. https://doi.org/10.1177/10283153211016270
This article looks at the relatively understudied phenomenon of short-term international mobility of faculty from the critical internationalization perspective. It uses data from interviews with academics from Kazakhstan, who participated in short-term professional development trips abroad to understand who benefits and who loses as a result of short-term faculty mobility and how the short-term international mobility may contribute to the process of reproduction of the existing social structures and inequality. Critical internationalization perspective in general, as well as mobility paradigm more specifically, helps to reveal some important insights about short-term international mobility from a non-Western country to predominantly Western institutions. The main conclusion from the study is that host university's engagement in hosting mobile faculty coming on short visits seems to be driven predominantly by the neoliberal profit-seeking

motives rather than by a more humanistic desire to serve the larger global society by sharing its expertise or to engage in equal and mutually beneficial partnership relationships.

Labanino, R., & Dobbins, M. (2022). **'The goal is not necessarily to sit at the table'—Resisting autocratic legalism in Hungarian academia**. *Higher Education Quarterly*, *76*(3), 521-536. https://doi.org/10.1111/hequ.12290
The article analyses the strategies of Hungarian higher education interest organisations against the encroachments on academic freedom by Viktor Orbán's governments. We contrast the 2012–2013 and 2017–2019 protest waves and find that innovations in strategy came from new organisations in both periods, whereas established ones were rather passive or opted for the status quo. However, in the second period, new actors consciously declined to pursue wider systemic goals and aimed at building up formal organisations instead of loose, movement-like networks. The focus on keeping a unified front and interest representation on the workplace level did not change the overall outcome. Just like during the first period, the government was able to reach its goals without major concessions. Nevertheless, during the second protest wave the government was unable to divide and pacify its opponents, which stripped it of its legalistic strategy and revealed its authoritarianism.

Leeds, D. M., & Mokher, C. G. (2022). **Unintended Short- and Longer-Term Consequences of Assignment to College Readiness Courses: Evidence from Florida**. *Educational Policy*, *36*(6), 1315-1347. https://doi.org/10.1177/0895904820964747
High school course selection can affect student outcomes in high school, college, and beyond. Policymakers therefore must consider whether policies affecting course selection may have unintended consequences for students with different levels of preparation. We use regression discontinuity analysis to examine the impact of Florida's College and Career Readiness Initiative on high school coursetaking and subsequent success in college-level courses. To determine which students were most likely to comply with and benefit from the FCCRI, we run subgroup analyses based on students' course-taking histories, finding that the initiative was beneficial for some students but may have had inadvertently harmed others.

Lenhoff, S. W., Edwards, E. B., Claiborne, J., Singer, J., & French, K. R. (2022). **A Collaborative Problem-Solving Approach to Improving District Attendance Policy**. *Educational Policy*, *36*(6), 1464-1506. https://doi.org/10.1177/0895904820974402
Collaborative problem-solving research approaches have the potential to support improvement in educational policy and practice beyond instruction, by facilitating the development of a shared understanding of complex problems and creating social structures where district, community, and research partners can work together to solve them. This study investigates how findings from a developmental evaluation of a district attendance initiative were incorporated into the initiation process of a networked improvement community to create a shared narrative about how members conceptualized the problem of absenteeism and how they should adapt their levers to better align to that problem. The developmental learning process created an infrastructure within which district leaders and community partners could develop a partnership culture that facilitated change in policy. This study suggests the need to revisit the assumptions that have driven non-instructional improvement efforts and highlights

the potential of collaborative problem-solving to strengthen the implementation of district reforms.

Li, F., Wang, X., He, X., Cheng, L., & Wang, Y. (2022). **The effectiveness of unplugged activities and programming exercises in computational thinking education: A Meta-analysis**. *Education and Information Technologies*, *27*(6), 7993-8013. https://doi.org/10.1007/s10639-022-10915-x
This study adopted a meta-analysis to explore the effectiveness of unplugged activities (UA) and programming exercises (PE) teaching approaches on computational thinking (CT) education. Through a two-stage literature collection and selection process, 29 articles were included in the meta-analysis, 31 independent effect sizes (16 of UA and 15 of PE) from these articles were used, and a total of 2,764 participants were involved in these studies. CMA software version 3.3 was used to analyze the collected data. The result of the meta-analysis showed that both the UA and PE teaching approaches are useful in cultivating students' CT. Besides, the effect of the PE teaching approach is better than the UA teaching approach in CT education. Moreover, we analyzed the effect of moderator variables (grade level, interdisciplinary course, and experiments duration) on the relationship between UA or PE and CT education. The results showed that the effects of UA teaching approach in CT education was stronger (a) for primary school students than for secondary school students, (b) in interdisciplinary courses than in computer science courses, (c) with long duration teaching experiments than with medium and short duration teaching experiments. However, these effects are not significant. The effects of the PE teaching approach in CT education were stronger (a) for secondary school students than for primary school students, (b) in interdisciplinary courses than in computer science courses, (c) with short duration teaching experiments than with long and medium duration teaching experiments. These effects are not significant either. Therefore, we suggest that (1) the UA teaching approach should be used more for primary school students, while the PE teaching approach should be used more for secondary students; (2) CT education should be integrated into other subjects through UA and PE teaching approaches, and (3) the UA teaching approach requires more teaching time than the PE teaching approach does in CT education.

Liu, H. (2022). **How Do Affirmative Action Bans Affect the Racial Composition of Postsecondary Students in Public Institutions?** *Educational Policy*, *36*(6), 1348-1372. https://doi.org/10.1177/0895904820961007
This study investigates the associations between statewide affirmative action bans and the racial composition of undergraduate students at public 4-year colleges and universities in five states, that is, Arizona, Michigan, Nebraska, New Hampshire, and Oklahoma. I use the Integrated Postsecondary Education Data System data from 1999 to 2017, and find that despite having few selective postsecondary institutions, public four-year institutions in these five states experienced an average decline of 0.42 percentage points in the enrollment of underrepresented racial-ethnic minority students following bans on affirmative action. Further, the bans also decreased the enrollment of underrepresented racial-ethnic minority students at four state public flagship universities.

Love, E. D. (2022). **Going Viral: The Role of Social Media in Decision-Making**. *Journal of Cases in Educational Leadership*, *25*(3), 292-302. https://doi.org/10.1177/15554589221105427

School and district leaders are challenged to communicate with transparency and positivity with families and communities; however, over the past decade, social media has become an important avenue for communication. An appropriate use of social media can be a delicate endeavor, as errors in use or negative reactions can become a flashpoint. This is the case at Jester James Middle School (JJMS), where a teacher's seemingly innocuous comment in the hallway suddenly takes on a life of its own, given a negative parent response via social media that "goes viral." In this case, we explore the intersectionality of decision-making, communication, and social media use.

Luthuli, A., & Wood, L. (2022). **Nothing about us without us! A PALAR approach to improving inclusion in a Zimbabwean College of Education**. *International Journal of Inclusive Education*, *26*(10), 1023-1037. https://doi.org/10.1080/13603116.2020.1766124
Higher education institutions should ensure they create conducive spaces for students with disabilities to engage fully in both academic and social spheres. Yet, too often the educational opportunities of these students are limited by social and structural barriers to inclusion. As Principal of a teacher education college in Zimbabwe, I saw it as my responsibility to improve inclusion in my institution. I proceeded from a critical disability theory perspective, engaging ten students with disabilities in a participatory action learning and action research project, on the grounds that people with disability are best placed to know how to improve their own situation. Data were generated through transcriptions of group discussions, photo voice, written narratives, a questionnaire and researcher field notes. Thematic data analysis revealed many barriers to inclusion. The participatory process explained in this article, and the findings that emanated, generated knowledge that would not have been accessible to an able-bodied researcher. Such participatory forms of research give students with disabilities a voice and increase their sense self-worth and agency to bring about change that improves their quality of life.

Maheshwari, G., & Nayak, R. (2022). **Women leadership in Vietnamese higher education institutions: An exploratory study on barriers and enablers for career enhancement**. *Educational Management Administration & Leadership*, *50*(5), 758-775. https://doi.org/10.1177/1741143220945700
Barriers and enablers that the women leaders experience in the higher education (HE) sector have been a widely researched topic in many developed countries. However, the research on this topic is very limited in developing countries such as Vietnam. Despite the Gender Equality Law introduced in 2006 by the Vietnamese government to promote equal opportunities to women and also reducing the Gender Gap Index score of 70% in Vietnam, there are few women in leadership roles in several sectors including HE. This explanatory study has been conducted in nine universities in Vietnam to understand the barriers that prevent women from taking up leadership roles and the factors that motivate them in their career advancement to become a leader. The qualitative study was conducted with 21 participants (19 women and two men) working as senior leaders, middle managers, and lecturers in these universities. The study found that the main barriers in women's career enhancement were work-life imbalance, subordinates' perceptions regarding women leaders, social networking, and personal factors. The factors which motivated women leaders to advance in their career path were continuous family and mentor support, changing mindset of employers, and potential leadership competency of women leaders. The findings of this study would be beneficial for the Vietnamese HE institutions to determine policies and programs, which can support

women's career advancement to leadership roles bringing diversity and inclusion at these institutions. The results might be a steppingstone to achieve the United Nations Sustainable Development Goal 5 on gender equality in Vietnam, which is one of the world's fastest-growing economies.

Marini, G., & Oleksiyenko, A. (2022). **Academic freedom in the re-imagined post-Humboldtian Europe**. *Higher Education Quarterly*, *76*(3), 513-520. https://doi.org/10.1111/hequ.12405
This editorial presents the special issue on challenges of academic freedom in Europe, predominantly in Central and Eastern Europe (CEE). The volume provides a novel empirical stream of research, urging scholars to face the emerging discourse and problems of academic freedom in the contemporary higher education systems that were largely overlooked in the analyses dominated by the West-oriented global neoliberalism following the collapse of the USSR. Acknowledging collision and collusion between global competition for excellence and predomination of national interests, we propose to re-conceptualize the premises and prospects of academic freedom in the discourse of global higher education. We advance the idea of a post-Humboldtian university, assuming that modern universities are increasingly influenced by the geopolitical imperatives that depreciate academic freedom. The special issue exemplifies these concerns by detailed analyses in such contexts as Turkey, Hungary, Poland, Ukraine, Georgia, and a comparative analysis across Great Britain and continental Europe.

Maroy, C., Voisin, A., Castonguay-Payant, J., & Diatta, M. S. (2022). **Les enseignants face à la gestion axée sur les résultats au Québec : ambivalences morales et dénis de reconnaissance**. *Éducation et sociétés*, *48*(2), 81-96. https://doi.org/10.3917/es.048.0081
Cet article s'intéresse aux effets d'une politique de responsabilisation –appelée au Québec Gestion Axée sur les Résultats (GAR)– sur le travail et la reconnaissance du travail des enseignants. S'appuyant sur les travaux néo-institutionnalistes sur la légitimité des politiques publiques et les théories de la reconnaissance, l'article, fondé sur l'analyse d'entretiens menés auprès d'une trentaine d'enseignants et d'agents de direction de six établissements scolaires québécois, analyse la manière dont les enseignants donnent sens à la GAR. Il questionne dans quelle mesure cette dernière affecte les conditions de reconnaissance professionnelle des enseignants et leur vécu à cet égard. L'hypothèse soutenue est que le sentiment de non-reconnaissance des enseignants prend des formes renouvelées sous l'influence du discours de la nouvelle gestion publique.

Merola, R. H., Hofman, W. H. A., Jansen, E. P. W. A., & Coelen, R. J. (2022). **Making the Grade: Do International Branch Campuses and Their Home Campuses Differ in International Student Satisfaction With the Academic Experience?** *Journal of Studies in International Education*, *26*(4), 472-492. https://doi.org/10.1177/1028315321995524
This study investigates differences in academic satisfaction among undergraduate international students studying at international branch campuses (IBCs) and their home campuses, considering student stage of study, gender, and institution. It draws on data from 2,145 undergraduate international students enrolled at four home campuses and their six affiliated IBCs that responded to the 2018 International Student Barometer (ISB). Results indicate that international students studying at IBCs were significantly less satisfied with their academic experience—including constructs of academic and teaching quality, academic environment, and academic engagement—than international

students studying at the associated home campuses. Results have important implications for how institutions carry out internationalization amid uncertain times; in particular, ensuring that the unique experiences of students are understood and considered in the planning and provision of transnational education.

Mette, I. M. (2022). **(De)Centering Whiteness at Summit High: Reflections of a Racialized Rural United States**. *Journal of Cases in Educational Leadership*, *25*(3), 248-266. https://doi.org/10.1177/15554589221101350
This case was specifically written for practicing school leaders, as well as educational leadership preparation programs, to help create a nuanced conversation about how to decenter whiteness in the practices and policies of rural schools in the United States. The work is challenging, particularly given how race is baked into social institutions throughout the United States, including but not limited to financial, health care, and education systems. Educators reading this case should examine the historic factors that contribute to a racialized rural United States, as well as what can be done within rural education systems to help decenter whiteness.

Monaco, C. (2022, août 8). **Enseignement supérieur : les formations privées attirent de plus en plus d'étudiants**. *Le Monde.fr*. Consulté à l'adresse https://www.lemonde.fr/societe/article/2022/08/08/enseignement-superieur-les-formations-privees-attirent-de-plus-en-plus-d-etudiants_6137449_3224.html
A la rentrée de septembre, la barre symbolique des trois millions d'étudiants en France sera franchie.

Nahapétian, N. (2022, août 3). **La France progresse dans la lutte contre le décrochage scolaire**. Consulté 31 août 2022, à l'adresse Alternatives Economiques website: https://www.alternatives-economiques.fr/france-progresse-lutte-contre-decrochage-scolaire/00102604
[Génération no future ?] La part des décrocheurs dans le système scolaire français est en baisse.

Nicklin, L. L., Wilsdon, L., Chadwick, D., Rhoden, L., Ormerod, D., Allen, D., … Lloyd, J. (2022). **Accelerated HE digitalisation: Exploring staff and student experiences of the COVID-19 rapid online-learning transfer**. *Education and Information Technologies*, *27*(6), 7653-7678. https://doi.org/10.1007/s10639-022-10899-8
In the UK, the first 'lockdown' of the COVID-19 pandemic necessitated a rapid shift to online learning and digital technologies in Higher Education (HE). While the situation was unprecedented, extant literature on online learning suggested there would be challenges, opportunities, and benefits to this transition, and we sought to understand these via a case study of one UK HEI department at this time. To draw out in-depth and nuanced accounts of this (at time of investigation–unstudied) scenario, qualitative data were collected via semi-structured online interview or written reflection. To explore, identify and understand the experiences from both sides, and with a diverse sample, we purposively recruited both staff (n = 10) and students (n = 12), from various roles and backgrounds, including those with additional learning and/or mental health needs. The 'bricolage' data were analysed inductively, utilising a latent reflexive approach, and organised into a framework around five core themes: 'methods and means of engagement'; 'learning maintenance, destruction and construction'; 'remote education and resource accessibility and literacy'; 'support and communication'; and

'life and learning: responses, adaptations and impacts'. Within these, a range of challenges, successes and, most importantly, future learning and innovation outcomes were identified by staff and students, particularly relevant to working with and supporting students with additional needs in the online learning forum. These discoveries informed a set of practical recommendations, provided here in Box 1, for (rapid implementation of) online learning (in times of stress).

Okulova, O., & Shakina, E. (2022). **Is there value in international accreditation beyond quality? An empirical analysis of the AACSB accredited schools**. *Higher Education Quarterly*, *76*(3), 612-625. https://doi.org/10.1111/hequ.12331
The paper investigates the value of AACSB accreditation for business schools. The status of an accredited school decreases the asymmetry of information and the study aims to fill the gap if this market signal has a value beyond enhancing the quality itself. It is based on the international panel data of the AACSB Business Schools Questionnaire and shows that, on average, business schools demonstrate a higher economic performance after the accreditation is received. The results contribute to the signalling theory hypothesis that quality enhances the ability to observe the signal by the market. The positive effect of AACSB accreditation is heterogeneous and stronger for MBA programmes. In addition, we discovered that the effect lags in time and the market fully observes it at least one enrolment cycle later. The results provide an international perspective of the effects that AACSB accreditation has on the performance of business schools and is relevant both for academics and education policymakers.

Oleksiyenko, A. V. (2022). **Academic freedom and intellectual dissent in post-soviet Ukraine**. *Higher Education Quarterly*, *76*(3), 580-594. https://doi.org/10.1111/hequ.12362
This paper conceptualizes intellectual dissent as a galvanizer of academic freedom in a post-totalitarian academia that is moving toward democratization. Drawing on the case of Ukraine, the analytical narrative describes difficulties in overcoming legacies in universities emerging from repressive rule that discouraged creativity, initiative, and critical inquiry, and having to envisage a transition to democratic governance in the context of neoliberal geopolitics. The case analysis suggests that intellectual dissent is essential but limited in its ability to establish the praxis of academic freedom under increasing control by oligarchic governments and a self-serving bureaucracy. By exploring interdependencies between intellectual dissent and academic freedom, this paper lays ground for an analytical framework that can be helpful in rethinking the prospects of universities at the crossroads of authoritarianism and democracy.

Parker, T. L., Shakespeare, C. G., & Quiroz-Livanis, E. (2022). **The CUNY Remediation Debate and Coalitions: Information Matters**. *Educational Policy*, *36*(6), 1549-1577. https://doi.org/10.1177/0895904820981932
This single case study uses the Advocacy Coalition Framework and Multiple Streams Framework to understand the ways higher education policy actors at the city-, state-, and system-level used information to build coalitions and change admission standards during the remediation debate at the City University of New York. By examining what information was used, when it was presented, by whom, and for what purposes, this study helps improve our understanding of the policymaking process and the role information can play in high-stakes debates with major consequences, including limiting student access to baccalaureate degrees. Implications for policy and future research are discussed.

Pégourdie, A. (2022). **À l'école des chefs. Formations professionnelles en lycée hôtelier et pénurie de main-d'œuvre dans l'hôtellerie-restauration**. *Actes de la recherche en sciences sociales*, *242*(2), 68-87. https://doi.org/10.3917/arss.242.0068
Cet article interroge les raisons de la pénurie de main-d'œuvre dans le secteur de l'hôtellerie-restauration dans un contexte de revalorisation symbolique de l'activité culinaire. À partir d'une enquête consacrée à la formation des « petites mains » du secteur, l'analyse montre comment le lycée hôtelier détourne une partie des diplômés du monde professionnel et suscite des aspirations professionnelles désajustées favorisant des sorties précoces du métier. Focalisé sur l'apprentissage du service des classes supérieures, mais dans une version dévoyée et désuète, l'enseignement implique d'entreprendre un processus de conversion des dispositions d'élèves issus des petites classes moyennes et des classes populaires stabilisées du pôle économique de l'espace social et éloignées du monde de la restauration. Ce processus passe par l'incorporation d'un sens pratique, le dressage des corps et l'adoption d'un rapport au travail vantant le don de soi. La complexité de ce processus couplée au manque de moyen institutionnel pour l'appliquer expliquent que son acquisition soit limitée à un petit nombre d'élèves aux dispositions spécifiques et qui, en outre, ne possèdent pas les codes actualisés du luxe.

Phillips, M., & Reber, S. (2022). **Does Virtual Advising Increase College Enrollment? Evidence from a Random-Assignment College Access Field Experiment**. *American Economic Journal: Economic Policy*, *14*(3), 198-234. https://doi.org/10.1257/pol.20200515
Does Virtual Advising Increase College Enrollment? Evidence from a Random-Assignment College Access Field Experiment by Meredith Phillips and Sarah Reber.

Prairat, E. (2022, août 23). **Les grands défis de l'école française**. Consulté 2 septembre 2022, à l'adresse The Conversation website: http://theconversation.com/les-grands-defis-de-lecole-francaise-186658
Au-delà des enjeux d'efficacité et de justice inhérents à sa mission, l'école se trouve aujourd'hui confrontée à des défis qui ouvrent une nouvelle page de son histoire.

Qu, X. (2022). **A critical realist model of inclusive education for children with special educational needs and/or disabilities**. *International Journal of Inclusive Education*, *26*(10), 1008-1022. https://doi.org/10.1080/13603116.2020.1760366
Despite the clear global inclusion agenda, gaps remain in the translation of the philosophical acceptance of inclusive education into effective teaching practices. Regarding children with special educational needs and/or disabilities, support for segregated schools hinged on the positivist, medical model of disability still challenges inclusive education that is driven by the interpretivist, social and rights-based models. The debates that are for or against inclusion usually take these two polarised paradigms, which need to be openly addressed if disagreements are to be resolved. This theoretical discussion paper applies the framework of critical realist stratified ontology to offer new insights and clarity to understanding special and inclusive education. The analysis suggests three-dimensional critical realist models of disability and inclusive education. The aim is to seek theoretical groundings to bridge the paradigm division between the medical and the social models. This may help to make sense of the contradictions and inconsistencies in views and practices regarding educational exclusion and inclusion. The conclusion contends that the medical and the social model perspectives can find

philosophical common ground, and that different fields of professionals can and need to work inclusively together towards different depths of children's best interests.

Rossignol-Brunet, M. (2022). **La sélection à l'entrée à l'université, gage de poursuite d'études en Humanités ? Comparaison entre licences sélectives et non sélectives**. *Formation emploi*, *158*(2), 187-209. https://doi.org/10.4000/formationemploi.10729
Les « taux d'échecs » observés en licence font de la sélection à l'entrée à l'université un instrument tentant pour essayer d'y remédier. À travers l'exemple des licences sélectives en humanités (en arts, lettres, langues, sciences humaines), on montre que la sélection engendre une diversification des publics admis du point de vue de l'origine sociale, mais également en termes de profil scolaire. Davantage qu'un effet « sélection », c'est surtout cette différence de recrutement sur le plan scolaire qui explique que les étudiants admis en licences sélectives persévèrent plus dans leur discipline d'admission et atteignent plus fréquemment le niveau L3 que ceux admis dans une licence non sélective.

Ruano-Borbalan, J.-C. (2022). **Doctoral education from its medieval foundations to today's globalisation and standardisation**. *European Journal of Education*, *57*(3), 367-380. https://doi.org/10.1111/ejed.12522
The doctorate, as a ritualised form of evaluation, has existed for more than eight centuries—initially linked to Western medieval forms of knowledge production framed by religion, and to the professional training of lawyers and doctors. It nearly disappeared at the end of the modern era. Recast as a requirement for academic professions, it proceeded to play an important role in the production of new knowledge and became a key to scientific and research development in the 19th and 20th centuries. Since less than half a century ago, doctoral education has gone through tremendous changes due to both the globalisation and standardisation of higher education and public policies designed to encourage knowledge transfers from academia to society at large. Doctoral education has become a crucial part of knowledge production and the transfer of knowledge into the broader economy, but it faces huge obstacles that can only be understood by taking into account the history of its transformations, the anthropological role it played and still plays, and also the controversial effect of efforts to standardise knowledge production, which goes against the non-standard nature of human knowledge creation.

Rubio, J. (2022). **Educational Language Policy in Massachusetts: Discourses of the LOOK Act**. *Educational Policy*, *36*(6), 1440-1463. https://doi.org/10.1177/0895904820974406
Within the United States, equity for English learners, while essential, has remained elusive. As such, language policy in education is a central issue. When An Act Relative to Language Opportunity for Our Kids (LOOK Act) was passed in 2017 in Massachusetts, it was celebrated as a victory for bilingual education after a 15-year period of mandated English-only education. This study thus aims to analyze the language and intertextual discourses of the LOOK Act to inform its interpretation and appropriation by agents at various levels and investigate how language, language use, and language users are positioned in the Act.

Ruecker, T. (2022). **The Impact of Neoliberal Evaluation Systems on Rural Schools, Teachers, and their Bilingual Learners**. *Educational Policy*, *36*(6), 1288-1314. https://doi.org/10.1177/0895904820961009

Over the past several decades, neoliberal reformers have had immense success advancing their reforms. While studies have pointed to the negative impact of these reforms on students and literacy instruction, there has been limited work focused on the well-being of teachers and the impact these reforms have on growing teacher shortages, especially in rural schools serving growing numbers of bilingual learners. Drawing on data collected from five rural schools during the implementation in New Mexico of what was dubbed the "toughest teacher evaluation system" in the U.S., this article explores how the evaluation system threatened teacher professional autonomy and career satisfaction, leading to teacher shortages that mirror a nationwide trend in the U.S. While existing work has largely taken a resigned stance towards the continual march of neoliberal education reform, this article closes by emphasizing the agency of individuals and organizations to enact change.

Saito, N., & Laugier, S. (2021). **Introduction to the Suite: Political Education for Human Transformation**. *Journal of Philosophy of Education*, *55*, 226. https://doi.org/10.1111/1467-9752.12552
This short text introduces a first suite of papers selected from an East-West project funded jointly by the French Centre National de la Recherche Scientifique (CNRS) and the Japan Society for the Promotion of Science (JSPS). In an attempt to address the concrete social and educational issues that are faced in so many parts of the world, the project engages classic American philosophy (including transcendentalism, pragmatism, and the work of Stanley Cavell) in interdisciplinary exchange with Japanese thought (including the philosophy of the Kyoto School), feminist studies, and the ethics of care. In contemporary tragedies of exclusion, no less than in corresponding anxieties of inclusion, it finds a deepening crisis in democracy, and it suggests limitations in dominant conceptions of citizenship education as well as in the turn to therapy. It seeks to define the conditions for the generation of a politically mature citizenship within democracy recreated as an equality of voices. Political education thus comes to be understood as an education of one.s experience. in which the humanities and the arts assume new prominence.

Sakurai, Y. (2022). **Engagement in Continuing Subject Knowledge Development: A Year After Short-Term International Courses**. *Journal of Studies in International Education*, *26*(4), 493-510. https://doi.org/10.1177/10283153211004284
This article examines how students' subject knowledge acquired in short-term international courses (SICs) developed while engaging in university studies in the year following their SICs. It also explores factors associated with their engagement and disengagement. Two interviews with a 1-year interval with 25 students revealed their transformations in their SIC subject matter knowledge. Some students' engagement in continuing studies of the SIC-related subject matter was supported in a multifaceted manner by their personal motivation, teaching-learning environment, educational structure, and wider social relationships. However, the analysis demonstrated that many students discontinued deepening their knowledge of the subject matter. Students' personal factors and certain dimensions of the institutional educational system explained their disengagement in continuing studies. Concerning the continuing SIC impacts on students in interdisciplinary liberal arts programs, the study discusses some suggestions drawing on the concepts of integrative learning and formative assessment.

Salto, D. J. (2022). **Do academic disciplines matter? An analysis of organizational responses to the accreditation of graduate programs by field of study and sector**. *Higher Education*, *84*(3), 569-587. https://doi.org/10.1007/s10734-021-00789-2
Accreditation in higher education has become omnipresent and, on many occasions, has been used as a synonym for quality assurance. The establishment of accreditation agencies as a worldwide phenomenon, however, is relatively recent in the history of higher education. Through a predominantly qualitative approach, this paper aims to analyze how programs from different academic disciplines perform in terms of the accreditation of graduate programs in Argentina and how different programs respond to the same accreditation process. Additionally, it analyzes the performance of private sector programs. As expected, academic disciplines play a vital role in the accreditation process, programmatic performance, and responses to this quality assurance mechanism while sector may not play a vital role. Surprisingly, soft pure programs perform better than both hard and soft applied programs. The results highlight the importance of considering both the paradigm (hard or soft) and level application (pure or applied) when analyzing the role of academic disciplines in higher education studies.

Shahnaz, A. (2022). **Marketisation of higher education: A genre analysis of university prospectuses in Pakistan**. *Higher Education Quarterly*, *76*(3), 653-670. https://doi.org/10.1111/hequ.12334
The marketisation of higher education is a global phenomenon in the new millennium as the universities are facing intense competition to manage their financial resources and maintain their academic growth and reputation. Pakistan is also influenced by the globalisation of higher education. In this context, this study is a genre analysis of the introductory pages of prospectuses o Pakistani universities. Through Bhatia's model of Applied Genre Analysis, a six-move generic structure has been identified in the introductory pages of prospectuses to establish it as a complex hybrid promotional genre. The most significant communicative purposes are welcoming, informing, and persuading. The universities appear to borrow discourse from genres like accounts, advertisements, management, and the tourist industry. The analysis reveals that marketisation is deeply rooted in today's higher education in Pakistan.

Sharifian, F. (2022). **Curriculum theory and expansion of geographical and epistemological spaces of curriculum studies**. *International Review of Education*, *68*(3), 467-488. https://doi.org/10.1007/s11159-022-09964-8
Over the past two decades, efforts have been made to enrich curriculum studies internationally. Among the field's new theories which have emerged in recent years is itinerant curriculum theory (ICT), proposed and developed by João Paraskeva. Its aim is to free curriculum from the dominance of Western discourses and make room for diverse international epistemologies. The purpose of this article is to explain and analyse ICT. After explaining the meaning of this theory and its three basic components – global cognitive justice, the "river" and "the South", and concerns about the type and application of language –, the author goes on to analyse these basic components. In his analysis, he considers (1) ICT's view of the Western and non-Western worlds; (2) ICT's perception of the meaning and territory of what is referred to as "the South"; (3) ICT and advancements of curriculum studies at national and international levels; and (4) ICT, internationalisation and increasing participation of countries in the generation and sharing of curriculum knowledge. The article concludes with a summary of the advantages of ICT, complemented by some suggestions how it could be further strengthened.

Silva-Peña, I., Precht, A., O'Brien, T. V., & Jara, C. (2022). **Far away, but yet so close. Urban teacher education and rural schools: directors' point of view**. *International Journal of Inclusive Education*, *26*(10), 1053-1067. https://doi.org/10.1080/13603116.2020.1772892
Policymakers and teacher educators have long discussed whether specialised preparation of teachers who work in rural areas is necessary. The objective of this research is to learn more about teacher educators' perspectives on the efficacy of urban-based teacher education in preparing elementary school teachers for rural contexts. The research was undertaken in a city in the Araucanía region of Chile. We conducted semi-structured interviews with the directors of three teacher education programmes. Those interviewed reported concerns about multi-grade classrooms often found in rural schools, which were understood to be an anomaly of proper elementary education. They also reported that the teacher education programmes they directed, though not aligned with teaching in rural schools, were sufficient in preparing new teachers. Preparation in teaching children in rural settings was not offered, or, in some cases, offered on the periphery as a programme option. This research reveals a disconnect between urban-based, urban-oriented teacher education programmes and the rural communities they aim to serve. It also adds to the broader discussion surrounding the preparation of teachers for diverse contexts.

Sinha, A., & Bondestam, F. (2022). **Moving beyond bureaucratic grey zones. Managing sexual harassment in Indian higher education**. *Higher Education*, *84*(3), 469-485. https://doi.org/10.1007/s10734-021-00779-4
In the aftermath of the global #Metoo-movement, sexual harassment (SH) and other forms of gender-based violence (GBV) have emerged at the forefront of public debate and research. Higher education instituions (HEI) worldwide have responded with different preventive measures, targeting context-specific challenges and solutions. In India, post the enactment of the law on prevention and repatriation of SH of women at work in 2013, governing bodies in HE have issued several policies and guidelines. However, almost no empirical studies have explored the implementation and consequences of these initiatives. This pioneering study explores the Indian experiences of procedural change in this sense, through the challenges faced by internal complaints committee members. A specific focus in the analysis is on the members discourses on executing the quasi-legal and behavioural mandates of the law. In conclusion, ambiguities within the law as such, misrecognized cognitive biases in committee members narratives, and a lack of adequate conversation on GBV and SH sums up to identified bureaucratic grey zones. Several recommendations on context specific preventive measures are suggested as well as core recommendations on future research targeting prevention of GBV and SH in HEI more generally.

Stanistreet, P. (2022). **Commitments in search of a world in which they can be delivered**. *International Review of Education*, *68*(3), 337-344. https://doi.org/10.1007/s11159-022-09962-w

Stoesz, B. M., & Eaton, S. E. (2022). **Academic Integrity Policies of Publicly Funded Universities in Western Canada**. *Educational Policy*, *36*(6), 1529-1548. https://doi.org/10.1177/0895904820983032
We examined 45 academic integrity policy documents from 24 publicly-funded universities in Canada's four western provinces using a qualitative research design. We

extracted data related to 5 core elements of exemplary academic integrity policy (i.e., access, detail, responsibility, approach, support). Most documents pointed to punitive approaches for academic misconduct and were based on the notion that academic misconduct results from a lack of morals. One university used the term "contract cheating," although nearly all categorized the outsourcing of academic work as plagiarism. Details about educational resources and supports to increase student and staff understanding of academic integrity and prevention of academic misconduct were sparse. This study signals the continuing punitive nature of academic integrity policies in western Canadian universities, the reluctance to address contract cheating directly, and the need to revise policies with deeper consideration of educative approaches to academic integrity that support students and academic staff.

Subervielle, D., Lajus, C., & Wargnier, P. (2022). ***École et politique: jusqu'où ?*** Paris: Vérone éditions.
L'école fait en permanence l'objet de débats, de querelles idéologiques, de réformes trop souvent éphémères et peu productives. Peut-elle encore longtemps se payer le luxe d'un statu quo ? N'est-il donc pas possible dans ce pays d'en sortir ? Riches de leurs expériences professionnelles, les auteurs explorent des éléments clés du fonctionnement du système auxquels il paraît possible d'imputer son manque d'efficience. Qu'il s'agisse des ruptures liées aux changements de ministres, des pratiques d'évaluation, des questions de mixité sociale et scolaire ou encore de la formation des personnels, seule une véritable révolution garantirait des améliorations significatives des performances de cette institution. Les résistances sont nombreuses. Ils ne l'ignorent pas et les évoquent précisément. Mais par-delà ces obstacles, ils s'engagent dans ce livre sur des propositions qui, à l'approche d'un nouveau quinquennat, contribueront au débat sur « le monde d'après ». Les auteurs Instituteurs au début de leur carrière, les auteurs ont exercé des fonctions aussi diverses que directeur d'école, psychologue scolaire ou conseiller pédagogique. Mais c'est en qualité d'inspecteurs qu'au sein de l'Éducation nationale, ils ont tous les trois forgé leurs convictions sur la base de multiples expériences à différents niveaux de responsabilités. Docteurs en sciences de l'Éducation, Daniel SUBERVIELLE et Patrick WARGNIER ont entrepris, avec la collaboration de Christian LAJUS, leurs travaux de recherche universitaire au début des années 2000. Inspecteur général honoraire, Alain BOISSINOT, qui a exercé les fonctions de recteur et de directeur général de l'enseignement scolaire au ministère, souligne dans sa préface tout l'intérêt que présente cet ouvrage pour « réconcilier l'école avec une action politique conçue sur de nouvelles bases »

Tarekegne, C., Wesselink, R., Biemans, H. J. A., & Mulder, M. (2022). **Effectiveness of a competence-based planting support training programme for development agents in Ethiopia**. *International Journal of Training and Development*, *26*(3), 381-406. https://doi.org/10.1111/ijtd.12265
Competence-based education and training (CBE/T) has been implemented in Ethiopia to develop the competences of (future) professionals and to improve their performance. However, empirical evidence that demonstrates the effectiveness of CBE/T is scarce. Positioning the study within the theory of strategic alignment and comprehensive competence-based training, we used the authentic core job task 'On-Site Helping of Farmers during the Planting of Maize', of Development Agents as problem context and conducted an experimental-longitudinal research study including multirater performance assessment. The study compared competence development of the

Development Agents who received training that could be characterized as 'High-CBT' (N = 33) and 'Low-CBT' (N = 32). 'High-CBT' means that in these training programmes, principles of competence-based training were used more completely than in the 'Low-CBT' programmes. Experts rated the competence levels of the Development Agents and Development Agents rated their own competence levels. Both groups did that before and after the training. Individual Development Agent performance was also rated by Trained Assessors. Longitudinally, Development Agent performance data was collected during one production year at three points in time. Development Agent's competence development in the 'High-CBT' training condition was higher than in the 'Low-CBT' condition. Observations made on each Development Agent's performance by Trained Assessors both in the Farmer Training Centres and in the authentic job situations, generally confirmed better performance of the 'High-CBT' group compared with the 'Low-CBT' group. The finding contributes to the state of research on the relationship between competence development and performance improvement, which is theoretically postulated although less empirically tested.

Thouin. (2022). **Understanding the Implications of Partnerships in Vocational Correctional Education Programs: A Case Study of the Relationship Between a Community College and County Sheriff's Department**. *Community College Journal of Research and Practice*, *46*(9), 615-632. https://doi.org/10.1080/10668926.2021.1886197
With the recent approval of the Second Chance Pell Program and a proposal to reauthorize the Higher Education Act, a shift is occurring in favor of expanding educational opportunities to incarcerated adults. As reform to the criminal justice system becomes a focus, there is an immediate need to study the dynamic relationship between community colleges and correctional facilities. In response, this study set out to understand how a partnership between a community college and county sheriff's department can affect the daily decisions and implementation of a vocational program. This study asked: How do a community college and the local sheriff's department partner to make decisions and implement a correctional education program? Additionally: What factors facilitate or impede the success of the partnership? This study used the case study approach to better understand the implications of a longstanding partnership between a community college and county sheriff's department that oversees the jail operations. Four key administrative staff members were interviewed, and numerous administrative documents were analyzed. Results highlight how the collaborative decision making nature of this partnership contributes to decision making. Secondly, interview and document analysis exposed how cultural differences impact decision making. This study adds to the limited research on partnerships between community colleges and correctional facilities; therefore, informing policymakers and administrators on how to best serve incarcerated students. This study also provides implications for future partnerships between community colleges and county sheriff's departments. Suggestions on how to leverage collaborative decision making to battle cultural differences are discussed.

Unda, M. D. C., Shook, L. M., & Lizárraga-Dueñas, L. I. (2022). **Community-Based Organizations and the Sustainability of Indigenous and Latinx Educators During COVID-19: Academia Cuauhtli Case Study**. *Journal of Cases in Educational Leadership*, *25*(3), 215-235. https://doi.org/10.1177/15554589221079250
Schools often experience rapid turnover among teachers of color. Yet research and practice highlight the importance of teachers of color in the K–12 education system. As

such, school and district-level administrators, educational leaders, and students need to conceptualize and develop new approaches aimed at sustaining Indigenous and Latinx public school teachers. This case study describes a community-based organization's efforts to support and sustain new and established Indigenous and Latinx teachers during COVID-19. Recognizing the problem with retention about 7 years ago, two university professors decided to create Academia Cuauhtli, a community-based organization in Austin, Texas. In addition to serving as a cultural and language revitalization Saturday school program for students from third to fifth grade, the space also promotes the curricular recognition of alternative epistemologies and the development of culturally relevant pedagogies that foster students' culture, language, and funds of knowledge via teacher professional development pláticas. Since its inception in 2014, Academia Cuauhtli has been able to successfully train and sustain more than 60 public school teachers. However, COVID-19 has created a new set of challenges for teachers and, in particular, for Indigenous and Latinx teachers.

Van Mieghem, A., Verschueren, K., Donche, V., & Struyf, E. (2022). **Leadership as a lever for inclusive education in Flanders: A multiple case study using qualitative comparative analysis**. *Educational Management Administration & Leadership*, *50*(5), 871-888. https://doi.org/10.1177/1741143220953608
Belgium ratified the United Nations Convention on the Rights of Persons with Disabilities in 2009, which implies that an inclusive education (IE) system at all levels should be realized. Consequently, recent legislation in Flanders (Belgium) aims to reduce the current segregated school system, which has caused some resistance from practitioners. This study examines the way in which leadership that promotes IE can reduce this resistance. Leadership is defined in terms of the dimensions put forward by Robinson and Timperley (2007): (a) providing educational direction; (b) ensuring strategic alignment; (c) creating a community that learns how to improve student success; (d) engaging in constructive problem talk; and (e) selecting and developing smart tools that facilitate IE. Based on case study research in 20 schools (10 primary, 10 secondary), a crisp-set qualitative comparative analysis was conducted to identify (combinations of) leadership dimensions associated with the willingness of school team members to include students with special educational needs (SEN) in mainstream schools. The results reveal that schools in which leaders provide educational direction towards a more inclusive school system, and that engage in constructive problem talk and select and develop smart tools in support of IE, are more willing to include students with SEN.

Véliz, D., & Marshall, P. (2022). **Influence of global rankings on strategic planning from the perspective of decision-makers: A case study of a Chilean research university**. *Higher Education Quarterly*, *76*(3), 638-652. https://doi.org/10.1111/hequ.12333
This paper complements and extends the literature analysing the relationship of global rankings on universities' strategies, missions, structures, and functions. Specifically, it examines the extent to which global rankings have influenced development strategies of one Chilean university through administrator's perception and changes in the strategic planning. Interview and documentary data were collected at two points in time (2014 and 2017), mainly through semi-structured interviews with 18 university administrators and college deans. Findings suggest a relationship between the university's ranking position and its perception of academic excellence. However, rankings have effects that are not only perceptual. High ranking positions increase global visibility, promote international partnerships and collaborations that benefit academic staff. At the same time, the

university finds itself increasingly bound by the current global standards on academic search, appointment, promotion, and evaluation. Findings suggest that universities are rarely passive recipients of the influence of rankings, they seek opportunities to leverage them to their strategic advantage, more when the ranking benefits their visibility.

Wheeler-Bell, Q. (2022). **Black Support of Neoliberal School Choice and the Politics of Black Democratic Empowerment**. *Educational Theory*, *72*(2), 217-242. https://doi.org/10.1111/edth.12528
In Market Movements, Tom Pedroni argues that educational progressives often analyze neoliberal school choice policies by highlighting the negative impact such policies have upon Blacks. Implicit in this approach is the assumption that all Blacks should oppose neoliberalism. This assumption prevents scholars from investigating why African Americans increasingly do support neoliberal choice policies. Deep disagreements exist within the African American community over why Blacks are oppressed and how to understand their oppression, the nature of their disadvantages, and the remedies to such problems. And these disagreements affect why Blacks might support neoliberal school choice policies. In this paper, Quentin Wheeler-Bell goes beyond explaining why deep disagreements exist within the Black public sphere and develops a critical theory of Black democratic empowerment. First, he provides a brief sociohistorical analysis of racial oppression, highlighting how domination has distorted and repressed debates within the Black public sphere, thus lending support to neoliberal choice policies. Second, he recovers and reconstructs four Black philosophical perspectives — (1) disillusioned Black liberals, (2) modern Black nationalists, (3) Black Marxists, and (4) Black egalitarians — and explains if and how they might be pulled into an alliance with neoliberal policies. Finally, he develops a critical theory of Black democratic empowerment that captures the reasonable insights from the abovementioned perspectives while avoiding the perils of neoliberal school choice.

Yelibay, M., Karabassova, L., Mukhatayev, Z., & Yermukhambetova, A. (2022). **The perception and experience of young researchers in doctoral programmes in the context of recent reforms in Kazakhstan**. *European Journal of Education*, *57*(3), 484-496. https://doi.org/10.1111/ejed.12513
Higher and doctoral education in Kazakhstan underwent a systemic reform since independence in 1990. Reforms have been determined by dynamic socio-economic developments in Kazakhstan, the country's entry into the global market, and the need to increase the competitiveness of its human capital. Kazakhstan joined the Bologna Process and switched to a three-cycle education system in 2010. However, the transition process did not happen smoothly. Doctoral education in the country is challenged by a low graduation rate of doctoral students. The purpose of the qualitative study on which this article reports was to explore doctoral students' perceptions of doctoral training and their experiences in Kazakhstani universities in the context of recent reforms.

Zhang, J. (2022). **Rethinking Schooling in Capitalist America from a Marxian Perspective**. *Educational Theory*, *72*(2), 175-193. https://doi.org/10.1111/edth.12526
Samuel Bowles and Herbert Gintis's Schooling in Capitalist America, a classic book in the field of education, has become more influential in the last twenty years than it was during the first several years following its publication. Interestingly, however, there are some widespread misconceptions about the book. In this paper, Jianguo Zhang investigates four of the primary critiques of Schooling in Capitalist America and then offers a critical

defense of the book. He argues further that for Chinese scholars in education, this book is not only a classic, but it is also an outstanding model for how to apply Marxism to the field of education. It is particularly significant in the context of recent calls in China for a return to class analysis in the social sciences. On a worldwide scale, Schooling depicts the strong link between Karl Marx and education, which may benefit critical analysis of Marx's legacy to the field of education. Finally, the book may also serve to draw our imagination of education back to theoretical resources of socialism.

Zheng, J., & Wu, H. (2022). **Translating rhetoric into reality: using the internationalization of humanities and social sciences in Chinese universities as the case**. *Higher Education*, *84*(3), 611-628. https://doi.org/10.1007/s10734-021-00791-8
This paper contends that the inclusion of meso- and micro-level perspectives has been under exploration in the study of the internationalization of humanities and social sciences, in particular, in a state-mandated system where policy interventions in higher education and knowledge production have typically been aligned with state construction and national development. It argues that institutional and individual responses to state policies on the internationalization of humanities and social sciences should be investigated due to their respective roles in policymaking and implementation. It has, therefore, retrieved recent and historical policy documents during the post-WTO period and collected empirical data from two Chinese universities. A constructivist-interpretivist qualitative approach and a qualitative case study strategy were adopted for this investigation. Based on an in-depth analysis of the empirical data, this paper reveals the gap between the macro-level ambition of achieving outward-oriented diffusion of innovations and the local-level realities, as well as institutional dilemmas and conflicts in facilitating the internationalization.

Zhuang, T., Liu, B., & Ding, R. (2022). **University insiders' perceptions of doctoral education development in five East and Southeast Asian countries: An institutional logics perspective**. *European Journal of Education*, *57*(3), 469-483. https://doi.org/10.1111/ejed.12516
Zinner, L., Lindorfer, B., & O'Reilly, A. (2022). **Leadership in changing doctoral education**. *European Journal of Education*, *57*(3), 424-437. https://doi.org/10.1111/ejed.12517
As a consequence of reforms in doctoral education, notably since the 2005 publication of the Salzburg Principles, doctoral schools represent the state of the art in contemporary doctoral education in Europe. They aim at supporting the collective vision and endeavour to ensure the personal and professional growth of doctoral candidates, the socialisation of doctoral candidates in the scientific community and their preparation for future careers in a knowledge society. But how is it possible that this new structure is not only perceived as an additional, perhaps dispensable bureaucratic layer that disrupts the traditionally very private relationship between supervisor and doctoral student, but is recognised by the latter as support and added value. We argue that this is directly related to the way the doctoral schools themselves are set up and governed. In this article, we use the example of the University of Vienna to illustrate how different leadership styles were used by the university management to ensure faculty buy-in. In particular, we point out that the mix of transactional leadership, which incentivises and rewards certain behaviours, and transformational leadership, which also encourages initiative and self-responsibility, has contributed to the fact that the doctoral schools at the University of Vienna, after only a short time in existence, are recognised as adding

value; which has had an immediate positive impact on the situation of the students in particular, but also on the awareness of doctoral education in general.

Pratiques enseignantes

Aarnikoivu, M. (2022). **From being silenced to having a voice: when mentoring makes all the difference**. *Higher Education*, *84*(3), 695-699. https://doi.org/10.1007/s10734-021-00788-3

Almasri, F. (2022). **The impact of e-learning, gender-groupings and learning pedagogies in biology undergraduate female and male students' attitudes and achievement**. *Education and Information Technologies*, *27*(6), 8329-8380. https://doi.org/10.1007/s10639-022-10967-z

This study aimed to compare female and male students' attitudes and achievements within different learning settings determined by e-learning and in-classroom learning modalities, collaborative (CL), and traditional (TL) learning pedagogies and investigated the effect of single-gender (SG) and mixed-gender (MG) grouping in an undergraduate biology course. 1375 biology students enrolled in a public university were randomly divided into 12 learning settings. Keller's ARCS model and Vygotsky's Socio-cultural Theory were the theoretical frameworks that guided this study. Results indicated that females attained higher achievement and more positive attitude towards biology in TL and CL sections in single-gender compared to mix-gender classes; overall, academic achievements between females and males demonstrated a significant difference at $P < .05$. Females students performed relatively low achievement and had a negative attitude toward biology in mix-gender CL groups (2 Females + 2 Males) compared to single-gender CL groups (4 Females) in in-classroom modality. E-learning attenuated the negative impact of mixed-gender grouping on female students within e-learning CL settings. The effect size value indicated that males benefited more than females from mixed-gender CL (2F + 2 M) pedagogy in e-learning and in-classroom modalities. Thus, e-learning may encourage female students to overcome the socio-cultural barrier that leads them to feel reticence in mixed-gender groups. The study helps to understand the most suitable learning settings for female and male students to decrease gender disparities, reduce the negative influences of stereotypical threats in different socio-cultural environments, and develop learning strategies to further equalize opportunities for females and male students, promoting students' attitudes and achievement in undergraduate biology education.

Barnhart, W. R., & Buelow, M. T. (2022). **The Performance of College Students on the Iowa Gambling Task: Differences Between Scoring Approaches**. *Assessment*, *29*(6), 1190-1203. https://doi.org/10.1177/10731911211004741

The Iowa Gambling Task (IGT) is one of the most common behavioral decision-making tasks used in clinical and research settings. Less-than-expected performance among healthy adults generates concerns about the validity of this task, and it is possible the particular scoring approach utilized could impact interpretation. We examined how performance patterns changed across several scoring approaches, utilizing a large, college student sample, both with (n = 406) and without (n = 1,547) a self-reported history of psychiatric or other diagnosis. Higher net scores were seen when participants selected decks with a low loss frequency than decks with high long-term outcomes; however, participants overall underperformed the IGT normative data sample. Receiver operating characteristic curves examining multiple scoring approaches revealed no threshold of

impaired performance that both maximized sensitivity and minimized false positive rate on the IGT. Scoring approach matters in the determination of impaired decision making via the IGT in adults.

Baroudi, S., & Shaya, N. (2022). **Exploring predictors of teachers' self-efficacy for online teaching in the Arab world amid COVID-19**. *Education and Information Technologies*, *27*(6), 8093-8110. https://doi.org/10.1007/s10639-022-10946-4
The rapid development of information and communication technologies (ICT), and the unexpected transition to online teaching due to COVID-19 necessitates that teachers should have the knowledge, competent skills and strategies to integrate digital tools and platforms effectively. Literature suggests however that many teachers do not feel confident enough or lack perceived capability in teaching using advanced technologies in classrooms, and do not have positive self-efficacy beliefs towards their online teaching. Hence, the purpose of this mixed-method study is to investigate teachers' self-efficacy (TSE) in online learning environments amid COVID-19. A total of 150 K-12 teachers from six Arab countries were invited to participate in the study. Quantitative and qualitative data revealed that perceived self-efficacy of online teaching was high. Two main factors, receiving support to design online instruction and receiving professional development in online teaching, significantly predict participants' sense of self-efficacy. Teachers who have previous experience in online teaching scored higher on their self-efficacy than teachers with limited or no experience. Student engagement had the weakest correlation between the four scales with the overall self-efficacy. Parental involvement was discovered through the qualitative analysis to be an emerging factor that could enhance teachers' self-efficacy. Recommendations and limitations are further discussed.

BAŞARAN, B., & YALMAN, M. (2022). **Determining the perceptions of pre-service teachers on technology-based learning during the Covid-19 process: a latent class analysis approach**. *Education and Information Technologies*, *27*(6), 7471-7490. https://doi.org/10.1007/s10639-022-10910-2
In the study, latent class analysis (LCA) was used to determine the unobserved structures and the subpopulations of pre-service teachers' technology-based learning behaviours. According to LCA results, three latent classes were obtained. These classes are labelled as Class-1: "High-Level Technology Perception", Class-2: "Low-Level Technology Perception", Class-3: "Intermediate-Level Technology Perception". When Class-1(Reference Group) and Class-2 were compared, it was observed that the covariates of "gender" and "the Covid-19 pandemic affecting learning motivation" did not have a significant effect on Class-2. It has been determined that pre-service teachers who are older, studying in the 4th grade, using the Internet for more than 8 h a day, have advanced computer skills and have advanced technology-based learning experience are less likely to be in Class-2. In addition, in the study, while self-directed learning with technology was associated with pre-service teachers' attitudes towards online teaching in the Covid-19 period and class membership, the fear of Covid-19 was not associated with latent class membership.

Bayram Özdemir, S., Yanagida, T., & Özdemir, M. (2022). **Bystanders of ethnic victimization: Do classroom context and teachers' approach matter for how adolescents intend to act?** *Child Development*, *93*(5), 1540-1558. https://doi.org/10.1111/cdev.13822

The study examined how adolescents' individual characteristics and class context are related to bystander behaviors in cases of ethnic victimization. The sample included 1065 adolescents in Sweden (Mage = 13.12, SD = 0.42; 55%males). Female adolescents, adolescents of immigrant background, and adolescents with positive attitudes toward immigrants had greater intentions to defend and comfort victimized peers. Positive inter-ethnic contact norms in class were positively associated with intention to comfort the victim. Teachers' non-tolerance of ethnic victimization was positively related to adolescents' intentions to ask the perpetrator to stop and talk to teacher. The effects were the same across adolescents with different attitudes toward immigrants. Findings highlight the importance of class context and teachers in fostering adolescents' prosocial and assertive interventions in bias-based hostile behaviors.

Bishop, M.-F., Boudet, K., Cousson, C., Fournier-Gassie, S., & Royer, C. (2022). **Évaluation de la compréhension en cm2 dans l'académie de Versailles. Une approche innovante pour l'enseignement de la compréhension**. *Éducation & formations*, (104), 129-156. Consulté à l'adresse https://www.education.gouv.fr/media/116473/download

Chrétien, F., & Veillard, L. (2021). **Contribution de la didactique professionnelle au projet Enseigner à Produire Autrement**. *Les Dossiers des sciences de l'éducation*, (46), 55-66. Consulté à l'adresse https://hal.archives-ouvertes.fr/hal-03706555

Dupré, F. (2021, juin 3). ***Études des potentialités de l'usage de la vidéo sur le développement professionnel d'une enseignante spécialisée et d'une enseignante de mathématiques***. Présenté à La formation continue en enseignement des mathématiques dans le contexte sociopolitique actuel : entre contraintes et libertés. Consulté à l'adresse https://halshs.archives-ouvertes.fr/halshs-03752085
Cette communication s'appuie sur une partie du corpus recueilli dans le cadre de notre travail de thèse (Dupré, 2019a) qui visait à étudier des pratiques professionnelles en situations inclusives essentiellement dans le cadre de la théorie anthropologique du didactique (Chevallard, 1991, 1999). Notre objet d'étude concerne l'enseignement des mathématiques au sein des dispositifs ULIS (unités localisées pour l'inclusion scolaire) au collège7. En France, ces dispositifs permettent à des élèves reconnus handicapés d'avoir une scolarité dans une classe ordinaire tout en bénéficiant de temps en plus petits groupes dans le cadre du regroupement spécialisé. Le dispositif de recueil de données mis en œuvre nous a permis de recueillir les films de 22 séances de mathématiques dans quatre collèges différents. À l'issue de ces captations, nous avons mené des entretiens d'analyse simple (Perez et al., 2017; Suau, 2016) avec les enseignants spécialisés et les enseignants de mathématiques afin de les confronter à leur propre pratique. Nous proposons dans cette communication d'étudier les effets potentiels de ces entretiens d'analyse simple pour ce qui est du développement professionnel d'une enseignante spécialisée et d'une enseignante de mathématiques.

Guppy, N., Boud, D., Heap, T., Verpoorten, D., Matzat, U., Tai, J., … Bartolic, S. (2022). **Teaching and learning under COVID-19 public health edicts: the role of household lockdowns and prior technology usage**. *Higher Education*, *84*(3), 487-504. https://doi.org/10.1007/s10734-021-00781-w
Public health edicts necessitated by COVID-19 prompted a rapid pivot to remote online teaching and learning. Two major consequences followed: households became students' main learning space, and technology became the sole medium of instructional

delivery. We use the ideas of "digital disconnect" and "digital divide" to examine, for students and faculty, their prior experience with, and proficiency in using, learning technology. We also explore, for students, how household lockdowns and digital capacity impacted learning. Our findings are drawn from 3806 students and 283 faculty instructors from nine higher education institutions across Asia, Australia, Europe, and North America. For instructors, we find little evidence of a digital divide but some evidence of a digital disconnect. However, neither made a difference to self-reported success in transitioning courses. Faculty instructors were impacted in a myriad of diverse ways. For students, we show that closure and confinement measures which created difficult living situations were associated with lower levels of confidence in learning. The digital divide that did exist among students was less influential than were household lockdown measures in undermining student learning.

Kálmán, O., Horváth, L., Kardos, D., Kozma, B., Feyisa, M. B., & Rónay, Z. (2022). **Review of benefits and challenges of co-supervision in doctoral education**. *European Journal of Education*, *57*(3), 452-468. https://doi.org/10.1111/ejed.12518
Co-supervision is a widespread practice in doctoral education; however, little is known about its effective implementation. Co-supervision is defined here as a form of collaborative supervision where two supervisors guide and support one supervisee's research work in a doctoral study. Four drivers that have contributed to the widespread practice of co-supervision are identified. We refer to these four drivers as the four Is. The four Is represent emerging policy and institutional strategies focusing on (1) interdisciplinarity, (2) intersectoral collaboration, (3) internationalisation as well as (4) efforts to improve the quality of supervision. This review of research evidence focused on understanding the four Is as drivers of co-supervision in doctoral education; specifically, by analysing benefits and challenges of co-supervision. A systematic literature review was conducted using the PRISMA-P protocol for peer-reviewed articles between 2005 and 2020. Findings show that the drivers linked to improving the quality of supervision and interdisciplinarity usually coincide, while internationalisation was the least frequently mentioned driver. Although no clear patterns emerge between the four drivers identified and benefits and challenges, we observe that challenges related to co-supervision are mainly addressed in articles that highlight efforts to improve doctoral education and in articles that addressed interdisciplinary drivers behind co-supervision.

Kossybayeva, U., Shaldykova, B., Akhmanova, D., & Kulanina, S. (2022). **Improving teaching in different disciplines of natural science and mathematics with innovative technologies**. *Education and Information Technologies*, *27*(6), 7869-7891. https://doi.org/10.1007/s10639-022-10955-3
The study describes an innovative methodology for teaching natural and mathematical sciences in the context of distance learning using modern technological solutions and based on the concepts of active social learning that involves constructivist, problem-oriented, project and research approaches. The proposed methodology was tested on 80 students enrolled in two training courses in [BLINDED] University and [BLINDED] University, respectively: Mathematics Teaching in the Content and Language Integrated Learning (CLIL) context and Molecular Biology. The psychological safety of the proposed pedagogical methodology was investigated by assessing the level of psychological well-being of the participants in the educational process using the Scale of psychological well-being questionnaire developed by C. D. Ryff that was adapted to the educational context. The results of the study showed that the proposed pedagogical methodology

was safe in relation to the life of students. It generally improved their perception of learning and themselves in the role of its participants, promoted positive self-esteem in group learning contacts, and, by developing learning involvement and interest through the Clil technology, qualitatively contributed to the achievement of educational progress by each student. The developed innovative methodology for teaching natural and mathematical sciences can be used as a pedagogical model for developing effective training courses. The demonstrated assessment of the level of psychological well-being adapted to the educational context can serve as a basis for the development of motivational learning strategies that support students in crisis learning conditions during the pandemic.

Lai, C., Wang, Q., & Huang, X. (2022). **The differential interplay of TPACK, teacher beliefs, school culture and professional development with the nature of in-service EFL teachers' technology adoption**. *British Journal of Educational Technology*, *53*(5), 1389-1411. https://doi.org/10.1111/bjet.13200
Previous research has identified various internal and external factors that predict teachers' technology adoption. Limited studies have explored how these internal and external factors interplay to determine different types of technology use. This study used the survey responses of 280 English as foreign language (EFL) teachers to examine how two key external factors (ie, school culture and professional development) interact with the two constitutive internal components (ie, knowledge/skill and belief) to determine three types of technology use in teaching and learning (ie, technology for content delivery, technology for learning enrichment and technology for transformed education towards self-directed learning). It identified the salience of school culture, professional development and TPACK over teaching and learning beliefs in determining technology use. It further revealed that these factors influenced the three types of technology use differently. The findings suggest a differentiated approach towards researching and supporting teacher technology adoption. Practitioner notes What is already known about the topic Belief factors (Beliefs about teaching), knowledge factors (TPACK) and contextual factors (school culture and professional development) are significant predictors of teacher technology adoption. What this paper adds When examined together, school culture, professional development and TPACK were the more significant predictors of in-service EFL teachers' technology integration, and the contributions of the belief systems were minimal. The interactions of these factors vary for different types of teacher technology use. Implications for practice and/or policy Need differentiated considerations in supporting different types of teacher technology use. A favourable school culture is instrumental to teachers' technology use for content delivery and for supporting students' self-directed learning. TPACK is most critical to the use of technology for learning enrichment.

Lecomte, C. (2021). ***La dynamique coordination – coopération dans le travail enseignant : Une ethnographie du travail collectif inter-degrés en éducation prioritaire*** (Phdthesis, Université de Lyon). Consulté à l'adresse https://tel.archives-ouvertes.fr/tel-03736220
Cette thèse analyse les effets du travail collectif des enseignants des écoles et du collège sur le développement de leurs pratiques professionnelles communes. Levier d'action historique de la réduction de l'échec scolaire dans les réseaux d'éducation prioritaire, le travail collectif inter-degrés se trouve renforcé en 2014 par la politique de Refondation de l'éducation prioritaire. Celle-ci prescrit aux enseignants du nouveau cycle 3 (CM1 -

CM2 - 6e) des dispositifs variés de travail collectif qui visent au rapprochement et à l'évolution de leurs pratiques pédagogiques, dans l'objectif d'améliorer la réussite des élèves. La thèse questionne le lien entre la réalisation du travail collectif prescrit et le développement de façons de travailler partagées par les enseignants du cycle 3. Elle appréhende ce rapport sous l'angle d'une dynamique entre coordination et coopération, en articulant la sociologie pragmatique de l'action et l'approche du travail par l'analyse de l'activité. Il s'agit non seulement de mettre en évidence les conditions à la production de normes collectives, mais aussi d'identifier les ressources dans l'environnement de travail permettant aux enseignants de réaliser ce travail collectif prescrit. L'enquête ethnographique (observations / entretiens), réalisée dans deux réseaux d'éducation prioritaire, suit le travail d'enseignants des écoles et du collège, de pilotes et de coordonnateurs au sein de dispositifs de travail collectif inter-degrés. La thèse met en évidence le rôle déterminant de l'organisation du travail et des politiques publiques dans le développement des façons de travailler des enseignants ainsi que dans la réussite d'une action collective coordonnée au sein de dispositifs. Elle identifie par ailleurs les conditions à la constitution d'un collectif de travail enseignant.

Núñez-Regueiro, F., & Leroy, N. (2022). **Motivations professionnelles et engagement dans la formation enseignante : la vocation pour le métier nourrit-elle le "décrochage" chez les étudiants ?** In *Trajectoires et carrières contemporaines : nouvelles perspectives méthodologiques*: *Vol. Céreq Echanges* (p. 111-123). Consulté à l'adresse https://hal.archives-ouvertes.fr/hal-03747110
Peu de travaux se sont intéressés au rôle joué par la formation au métier dans l'explication de la désaffection enseignante et, en particulier, dans le désengagement des étudiants au cours de leur formation. Or, la formation enseignante présente de nombreuses difficultés liées à la charge de travail associée (e.g., rédaction de travaux divers, examens évaluatifs, apprentissages de théories abstraites) et à son apparente dissociation avec la pratique professionnelle, du moins aux yeux des étudiants. Cette charge de travail est particulièrement importante en France, dans laquelle doivent répondre à des demandes académiques plurielles (e.g., validation de crédits universitaires, préparation de concours de recrutement, rédaction d'un mémoire de recherche). Ces expériences difficiles sont susceptibles de contredire la vocation professionnelle à devenir enseignant, dont on sait par ailleurs qu'elle est en général élevée chez les étudiants en formation enseignante. Se pourrait-il ainsi qu'un « choc des cultures » ait lieu entre la vocation enseignante et la formation au métier, au point de créer des ruptures dans l'engagement des étudiants aspirant à devenir enseignant (e.g., chute de la motivation, volonté de changer de carrière) ? Afin d'élucider cette question, la présente recherche s'intéresse expériences de stress et de motivation vécues au sein de la formation (Étude 1, N = 106 étudiants M1 MEEF), avant d'évaluer dans quelle mesure les étudiants les plus motivés professionnellement sont aussi les plus susceptibles de maintenir leur engagement dans la formation ou, au contraire, de « décrocher » (Étude 2, N = 972 étudiants M1 MEEF).

Padgett, R. N., Jiang, S., Shero, L., & Kettler, T. (2022). **Development of a Perceptions of Online Learning Scale to Assess Teachers' Beliefs**. *Journal of Psychoeducational Assessment*, *40*(6), 691-706. https://doi.org/10.1177/07342829221088696
During the COVID pandemic, the sudden switch to online learning brought an unintended spotlight to this gradually expanding educational innovation. However, while numerous tools exist to assess student perceptions of or readiness for online learning

quantitatively, a research gap exists regarding teachers' perceptions of online learning. To facilitate future research among teachers, the authors describe the development of a new perceptions of online learning scale (POOLS). The POOLS seeks to measure teachers' perceptions of online learning across four theoretical constructs associated with quality education in online and traditional face-to-face formats. The POOLS was constructed using expert review and a sample (N=654), where an exploratory and confirmatory factor analysis were conducted on split halves of these data. The results of this initial validation study provide the basis for using the POOLS as an approach to measuring four aspects of perceptions of online learning: Effective Learning (ω2 = 0.77), Student-Centered Learning (ω2 = 0.67), Interactive Learning (ω2 = 0.73), and Engaged Learning (ω2 = 0.66). We recommend that the POOLS be used in research settings to describe the relationship among POOLS factors and other characteristics such as self-efficacy, amount or type of experience with online learning, and personality traits.

Pobel-Burtin, C., Boggio, C., Bosse, M.-L., & Bianco, M. (2022). **Enseigner la lecture au cours préparatoire. Pratiques déclarées en 2019 des enseignantes et enseignants liées à l'usage des manuels de lecture et à la gestion de l'hétérogénéité**. *Éducation & formations*, (104), 77-96. Consulté à l'adresse https://www.education.gouv.fr/media/116467/download

Rüth, M., Birke, A., & Kaspar, K. (2022). **Teaching with digital games: How intentions to adopt digital game-based learning are related to personal characteristics of pre-service teachers**. *British Journal of Educational Technology*, *53*(5), 1412-1429. https://doi.org/10.1111/bjet.13201
Despite many known educational benefits of digital game-based learning, teaching with digital games is not yet a common practice in formal education. The role that digital game-based learning might play in future school teaching can be explored by examining the behavioral intentions of pre-service teachers as the ultimate gatekeepers. In this survey study, 402 pre-service teachers from German-speaking universities had participated. Multiple regression analyses were applied to examine the role of pre-service teachers' personal characteristics in their intention to integrate digital games into two educational contexts. For both educational contexts, we identified perceived usefulness and curriculum relatedness of digital games as key factors in pre-service teachers' intention to teach with digital games. We also found differences in explained variance and relevant personal characteristics between educational contexts. Overall, we discuss how teaching with digital games could become a common practice if particular characteristics of pre-service teachers are already addressed in teacher education. Practitioner notes What is already known about this topic Several conceptual and empirical works have synthesized diverse educational benefits of teaching with digital games and digital game-based learning. Teaching with digital games poses several infrastructural and technological challenges for teachers. Whether teaching with digital games becomes a common practice is related to the intention of teachers who act as gatekeepers for effective educational approaches. What this paper adds Insights into relations between intentions to teach with digital games and personal characteristics among pre-service teachers as future gatekeepers. The intentions of pre-service teachers to teach with digital games show particularly strong relations to a small set of personal characteristics. The relations between the intentions of pre-service teachers and their personal characteristics may vary between educational contexts. Implications for practice and policy The usefulness and curriculum relatedness of digital games in

different educational contexts should be made clear to pre-service teachers. Teacher education could better prepare pre-service teachers for their future role as gatekeepers by providing key experiences and competences regarding teaching and learning with digital games. Policy makers could support teaching with digital games by advancing digital game-based learning in teacher education and by reducing known barriers related to teaching with digital games.

Salam, P. L. (2022). **Vers une flexibilisation progressive des pratiques pédagogiques avec le numérique dans un monde post-crise**. *12ème Colloque International Usages du Numérique à l'université : perceptions et pratiques innovantes*. Présenté à Oujda, Morocco. Consulté à l'adresse https://hal.archives-ouvertes.fr/hal-03728040

Shmulsky, Gobbo, & Vitt. (2022). **Culturally Relevant Pedagogy for Neurodiversity**. *Community College Journal of Research and Practice*, *46*(9), 681-685. https://doi.org/10.1080/10668926.2021.1972362
This article applies the insight of culturally relevant pedagogy to neurodiversity. The neurodiversity paradigm reframes autism, ADHD, dyslexia, and other neurodevelopmental conditions as natural human diversity rather than disorders to be cured. Culturally relevant pedagogy (CRP) is an equitable approach to teaching that proactively includes students from diverse ethnic and racial backgrounds. This article discusses the implications of CRP for neurodiversity education and offers practical suggestions for college instructors.

Shreiner, T. L., & Guzdial, M. (2022). **The information won't just sink in: Helping teachers provide technology-assisted data literacy instruction in social studies**. *British Journal of Educational Technology*, *53*(5), 1134-1158. https://doi.org/10.1111/bjet.13255
In this study, support for teaching data literacy in social studies is provided through the design of a pedagogical support system informed by participatory design sessions with both pre-service and in-service social studies teachers. It provides instruction on teaching and learning data literacy in social studies, examples of standards-based lesson plans, made-to-purpose data visualization tools and minimal manuals that put existing online tools in a social studies context. Based on case studies of eleven practicing teachers, this study provides insight into features of technology resources that social studies teachers find usable and useful for using data visualizations as part of standards- and inquiry-based social studies instruction, teaching critical analysis of data visualizations and helping students create data visualizations with online computing tools. The final result, though, is that few of our participating teachers have yet adopted the provided resources into their own classrooms, which highlights weaknesses of the technology acceptance model for describing teacher adoption. Practitioner notes What is already known about this topic Data literacy is an important part of social studies education in the United States. Most teachers do not teach data literacy as a part of social studies. Teachers may adopt technology to help them teach data literacy if they think it is useful and usable. What this paper adds Educational technology can help teachers learn about data literacy in social studies. Social studies teachers want simple tools that fit with their existing curricula, give them new project ideas and help students learn difficult concepts. Making tools useful and usable does not predict adoption; context plays a large role in a social studies teachers' adoption. Implications for practice and/or policy Designing purpose-built tools for social studies teachers will encourage them to teach data literacy in their classes. Professional learning opportunities for teachers around data literacy should include

opportunities for experimentation with tools. Teachers are not likely to use tools if they are not accompanied by lesson and project ideas.

Similowski, K. (2022). **“ Il est nécessaire de te relire ! ” : Que disent les annotations des enseignants sur leur conception de l'écriture et qu'en font les élèves ?** *"Annoter des textes d'élèves : une compétence professionnelle à construire" journée d'étude*. Présenté à PARIS, France. Consulté à l'adresse https://hal.archives-ouvertes.fr/hal-03694156

Smith, K. (2022). **Developing a signature pedagogy for doctoral education**. *European Journal of Education*, *57*(3), 438-451. https://doi.org/10.1111/ejed.12520

The number of doctoral students internationally is on the increase, yet low completion rates seem to be stable. Universities need to learn from each other to strengthen doctoral education. In doctoral education, the person and the doctoral project are intertwined and both must be nurtured and developed. This article presents the signature pedagogy of the Norwegian Research School in Teacher Education (NAFOL). The international and national context of NAFOL is described and the reasons for establishing NAFOL are presented. The pedagogical vision behind the research school is outlined, and examples of how the vision translates into activities are provided. The last part of the article analyses experiences from NAFOL and highlights points that might be useful to other research schools in different contexts. Based on the experience gained at NAFOL, a whole person approach to doctoral students in doctoral education is recommended.

Steflitsch, D. (2022). **Math teachers' visions of an ideal math class: What do they tell about bringing innovations into the classroom?** *Twelfth Congress of the European Society for Research in Mathematics Education (CERME12)*. Présenté à Bolzano (en ligne), Italy. Consulté à l'adresse https://hal.archives-ouvertes.fr/hal-03747834

Various social and political factors within the school environment influence how teachers ultimately design their teaching and also their motivation to bring innovation into the classroom. The paper presents results of math teacher interviews about their vision of ideal mathematics teaching. From these answers, conclusions can be drawn about teachers' potential for bringing innovation into the classroom and the factors that might hinder them. Three different types have been derived, with varying levels of motivation to participate in in-service teacher training and to further develop the teaching. Teachers that like to teach in the way « it has always been done » show the least potential, in contrast to the idealists among teachers, who align their teaching with their high standards to design lessons that they believe best for their students' learning. To narrow the theory-praxis gap, the focus should be on the third type of teacherthe struggling oneswho need support to stay true to their ideals and to avoid adapting to more traditional patterns.

Temirbekova, Zh. E., & Pyrkova, A. Yu. (2022). **Improving teachers' skills to integrate the microcontroller technology in computer engineering education**. *Education and Information Technologies*, *27*(6), 8381-8412. https://doi.org/10.1007/s10639-021-10875-8

Currently, the study of microcontroller and microcircuits by students is becoming very important and in demand when acquiring competencies in the computer engineering educational program. This knowledge and skills will be necessary for the employment of graduates in industry, science and education. There are more and more large technical systems that require an understanding of the architecture of these systems and the skills to use these systems in a safe and reliable way. This article discusses technologies of fully

homomorphic encryption that allow performing operations on encrypted data without disclosing them, so they have a huge potential for use in solving problems of storing and processing personal data. The growing interest in such technologies has led to the emergence of software tools and libraries that support fully homomorphic encryption. However, due to the relatively young age of this field of cryptography, standards and guidelines for the use of fully homomorphic encryption schemes are still in development. Thus, the use of these libraries without paying attention to the issues of cryptographic strength of the schemes used may have significant information security risks. In this work, algorithms, principles and methods for creating libraries on the Arduino platform are investigated and developed, which can be used as guidelines for the development of complexes of this kind. Arduino is increasingly being used for training in technical educational programs. As a result, every year at various conferences on engineering education and in journals, many articles are published on the integration of Arduino in teaching.

Xenofontos, C., & Hizli Alkan, S. (2022). **Scottish teachers' perceptions of marginalisation in school mathematics**. *Twelfth Congress of the European Society for Research in Mathematics Education (CERME12)*. Présenté à Bolzano (en ligne), Italy. Consulté à l'adresse https://hal.archives-ouvertes.fr/hal-03747842
Several studies highlight significant differences between the mathematical performances of white middle-class boys and several other groups of children with other demographic characteristics. Across different countries, discussions about who is marginalised vary. In Scotland, marginalisation is typically associated with social class and children's socioeconomic backgrounds. In this paper we explore Scottish teachers' perceptions of the causes of marginalisation in school mathematics. 29 teachers from different school levels participated in individual semi-structured interviews. All teachers' responses reflected the social-class discourse of policymakers. Few teachers recognised other marginialising variables (i.e. gender, English language competence) as well. We conclude that the intersectional character of marginalisation needs to be promoted more explicitly in both initial teacher education and continuous professional development programmes.

Zhang, R., Zou, D., Cheng, G., & Xie, H. (2022). **Implementing technology-enhanced collaborative writing in second and foreign language learning: A review of practices, technology and challenges**. *Education and Information Technologies*, *27*(6), 8041-8069. https://doi.org/10.1007/s10639-022-10941-9
Technology-enhanced collaborative writing (TECW) for second language development is receiving increasing research attention from educators and teachers. However, there have been few review studies investigating how teachers implement this activity, how they use technology for the implementation, and what challenges they have. To better prepare practitioners to use digital tools for collaborative writing among their students, we reviewed 42 relevant studies focusing on their implementation identifying nine main TECW practices. These include: receiving teacher training; grouping students; training students on collaboration; training students on technology; providing students with new knowledge of writing; monitoring processes and giving immediate help; providing sufficient autonomy to students; evaluating outcomes and giving feedback; and encouraging students' reflection. Technology could support TECW implementation by expediting information delivery, developing group workspaces and group chatrooms, recording students' writing and collaboration behaviours and visualising their thoughts,

enabling teacher commentary and information post, and presenting organised, analysed records of the TECW process. Challenges to TECW included: students' reluctance to collaborate and difficulties using new technology. Based on the review, we argue that teachers can influence the implementation of TECW from cognitive, metacognitive, behavioural, and motivational aspects. Teacher training, student autonomy, and the size of writing groups are potential areas for future research in TECW.

Réussite scolaire

Amadon, S., Gormley, W. T., Claessens, A., Magnuson, K., Hummel-Price, D., & Romm, K. (2022). **Does early childhood education help to improve high school outcomes? Results from Tulsa**. *Child Development*, *93*(4), e379-e395. https://doi.org/10.1111/cdev.13752
Early childhood education contributes to improved school readiness but impacts on high school remain unclear. This study estimates the effects of Tulsa, Oklahoma's universal pre-K and Head Start programs through the junior year of high school (in 2018/2019; N = 2902; Mage = 16.52, SD = .39; 48% female; 28% white, 34% Black, 27% Hispanic, 8% Native American). Propensity score weighted regressions suggest students who attended pre-K, but not Head Start, missed less school, were less likely to fail courses and be retained in grade, were more likely to take an Advanced Placement/International Baccalaureate course, but did not have higher test scores or grades. Subgroup analyses by race/ethnicity demonstrated some differences in the pattern of associations favoring students of color.

An, M., Zhang, X., Wang, Y., Zhao, J., & Kong, L. (2022). **Reciprocal relations between achievement goals and academic performance in a collectivist higher education context: a longitudinal study**. *European Journal of Psychology of Education*, *37*(3), 971-988. https://doi.org/10.1007/s10212-021-00572-y
This study examined the bidirectional longitudinal relations between achievement goals and academic performance among Chinese college students. The Achievement Goal Questionnaire was administered to a sample of Chinese college students (N = 311) in their first and third years of study. Their end-of-term grade point averages were used as measures of their academic performance. Two-wave longitudinal data were collected and analyzed using a longitudinal design within a structural equation modeling framework. The results revealed positive reciprocal relations between performance approach goals and academic performance and negative reciprocal relations between performance avoidance goals and academic performance. In contrast, mastery goals were not significantly associated with academic performance. The implications of these results are discussed.

Bäulke, L., Grunschel, C., & Dresel, M. (2022). **Student dropout at university: a phase-orientated view on quitting studies and changing majors**. *European Journal of Psychology of Education*, *37*(3), 853-876. https://doi.org/10.1007/s10212-021-00557-x
Student dropout can be conceptualized as a decision-making process, consisting of different phases. Based on previous literature on student dropout, decision-making, and action-phases, we proposed that the process of developing dropout intentions includes the following phases: non-fit perception, thoughts of quitting/changing, deliberation, information search, and a final decision. In the present cross-sectional study, we empirically investigated if the assumed phases can be distinguished from each other, if the phases follow the presumed order, and whether each phase is associated with

certain characteristics. Furthermore, we considered a strict separation between quitting studies completely and changing a major. For this purpose, we analyzed data of N = 1005 students (average age of 23.0 years; 53% female; 47% male) from a German University. By using confirmatory factor analyses, we found the supposed factor structure for the different phases concerning both kinds of dropout, quitting studies, and changing majors. In each process, structural equation modelling indicated positive relations between adjoining phases. The factor values correlated to a substantial amount with an assortment of variables associated with student dropout. On a theoretical level, the conception of different phases of student dropout helps to get a better understanding of regulatory processes in the context of student dropout.

Campbell, L. O., Howard, C., Lambie, G. W., & Gao, X. (2022). **The efficacy of a computer-adaptive reading program on grade 5 students' reading achievement scores**. *Education and Information Technologies*, *27*(6), 8147-8163. https://doi.org/10.1007/s10639-022-10953-5
Reading in upper-elementary grades includes comprehending complex texts and learning disciplinary-specific vocabulary. This study aims to determine the effects of a computer-adaptive supplementary reading program on fifth-grade students' reading achievement. Using propensity score matching to create equivalent groups of 450 students for both control and intervention groups (N = 900), a quasi-experimental design was employed to examine changes in fifth-grade students' overall, comprehension, vocabulary, reading achievement scores who used this program as compared to those who did not. Students from eight school districts and 108 schools in a Southeastern state were matched based on demographics and initial reading ability, and the Title I status of their schools. Students in the intervention group received at least 30 min per week of supplemental computer-adaptive reading instruction between the months of September and May. Mean differences between pre- and post-test scores identified that students in the intervention group utilizing a computer adaptive reading curriculum had statistically significant higher gains than students in the control group on their overall reading, vocabulary, and reading comprehension scores with small effect sizes. The findings support the use of a supplemental computer adaptive reading program for improving overall reading and reading comprehension outcomes among these fifth-grade students.

Demeter, E., Dorodchi, M., Al-Hossami, E., Benedict, A., Slattery Walker, L., & Smail, J. (2022). **Predicting first-time-in-college students' degree completion outcomes**. *Higher Education*, *84*(3), 589-609. https://doi.org/10.1007/s10734-021-00790-9
About one-third of college students drop out before finishing their degree. The majority of those remaining will take longer than 4 years to complete their degree at "4-year" institutions. This problem emphasizes the need to identify students who may benefit from support to encourage timely graduation. Here we empirically develop machine learning algorithms, specifically Random Forest, to accurately predict if and when first-time-in-college undergraduates will graduate based on admissions, academic, and financial aid records two to six semesters after matriculation. Credit hours earned, college and high school grade point averages, estimated family (financial) contribution, and enrollment and grades in required gateway courses within a student's major were all important predictors of graduation outcome. We predicted students' graduation outcomes with an overall accuracy of 79%. Applying the machine learning algorithms to currently enrolled students allowed identification of those who could benefit from added

support. Identified students included many who may be missed by established university protocols, such as students with high financial need who are making adequate but not strong degree progress.

Dupray, A. (2022). **Sortir sans diplôme de l'enseignement supérieur : un effet possible du département d'origine ?** *Formation emploi*, *158*(2), 71-99. https://doi.org/10.4000/formationemploi.10634
Cet article interroge l'empreinte possible du territoire d'origine sur les chances de poursuivre dans l'enseignement supérieur et le risque d'en sortir avant l'obtention du diplôme. À partir du couplage de deux cohortes de l'enquête Génération du Céreq, il ressort que les disparités de poursuite d'études entre départements sont en partie liées aux différences de richesse des familles. Les variations de sorties sans diplôme entre départements s'atténuent dès lors que sont prises en compte les caractéristiques individuelles ; restent des disparités qui s'expliquent par des dimensions contextuelles : taux de chômage, taux de poursuite d'études et poids de l'enseignement secondaire privé.

Guimard, P., Florin, A., Bacro, F., Ferrière, S., Gaudonville, T., Nocus, I., … Le Cam, M. (2022). **Relations entre perceptions de soi et performances scolaires à l'école élémentaire. Analyse des données du Panel CP 2011**. *Éducation & formations*, (104), 77-96. Consulté à l'adresse https://www.education.gouv.fr/media/116467/download

Le Forner, H. (2022). **Les effets de l'âge à la séparation parentale sur la réussite scolaire et la position sociale**. *Éducation & formations*, (104), 199-220. Consulté à l'adresse https://www.education.gouv.fr/media/116485/download

Liu, Z., Kong, X., Liu, S., Yang, Z., & Zhang, C. (2022). **Looking at MOOC discussion data to uncover the relationship between discussion pacings, learners' cognitive presence and learning achievements**. *Education and Information Technologies*, *27*(6), 8265-8288. https://doi.org/10.1007/s10639-022-10943-7
The MOOCs (Massive Open Online Courses) forum carries rich discussion data that contains multi-level cognition-related behavior patterns, which brings the potential for an in-depth investigation into the development trend of the group and individual cognitive presence in discourse interaction. This paper describes a study conducted in the context of an introductory astronomy course on the Chinese MOOCs platform, examining the relationship between discussion pacings (i.e., instructor-paced or learner-paced discussion), cognitive presence, and learning achievements. Using content analysis, lag sequential analysis, logistic regression, and grouped regression approaches, the study analysed the online discussion data collected from the Astronomy Talk course involving 2603 participants who contributed 24,018 posts. The findings of the study demonstrated the significant cognitive sequential patterns, and revealed the significant differences in the distribution of cognitive presence with different discussion pacings and learning achievement groups, respectively. Moreover, we found that the high-achieving learners were mostly in the exploration, integration, and resolution phase, and learner-paced discussion had a greater moderating effect on the relationship between cognitive presence and learning achievements. Based on the findings and discussion, suggestions for improving the learners' cognitive presence and learning achievements in the MOOC environment are discussed.

Nahapétian, N. (2022, août 3). **La France progresse dans la lutte contre le décrochage scolaire**. Consulté 31 août 2022, à l'adresse Alternatives Economiques website: https://www.alternatives-economiques.fr/france-progresse-lutte-contre-decrochage-scolaire/00102604
[Génération no future ?] La part des décrocheurs dans le système scolaire français est en baisse.

Reversé, C. (2022). **Du désamour à la rupture : le décrochage discret des jeunes ruraux de Nouvelle-Aquitaine**. *Formation emploi*, *158*(2), 101-119. https://doi.org/10.4000/formationemploi.10644
Cet article explore la dimension spatiale du décrochage scolaire en s'intéressant aux expériences de décrochage de jeunes ruraux néo-aquitains. Il mobilise une enquête qualitative menée auprès de 100 jeunes ruraux sans diplôme et de 24 responsables de l'insertion et du retour en formation de ces jeunes en Nouvelle-Aquitaine, entre 2017 et 2020. Si les spécificités de l'éducation en milieu rural peuvent sembler plus favorables aux jeunes présentant un risque de décrochage, ces derniers sont surtout marqués par un phénomène de désamour de l'école et d'attraction vis-à-vis du marché de l'emploi local à l'entrée au collège, qui amènera à un décrochage aussi abrupt que discret.

Zaffran, J. (2022). **Qui sont les « décrocheurs » scolaires qui raccrochent au microlycée ?** *Éducation & formations*, (104), 183-197. Consulté à l'adresse https://www.education.gouv.fr/media/116482/download

Valeurs

Alscher, P., Ludewig, U., & McElvany, N. (2022). **Civic Education, Teaching Quality and Students' Willingness to Participate in Political and Civic Life: Political Interest and Knowledge as Mediators**. *Journal of Youth and Adolescence*, *51*(10), 1886-1900. https://doi.org/10.1007/s10964-022-01639-9
Civic education is generally assumed to play a key role in youth's political sophistication. It aims to equip young people with the necessary competencies and skills to effectively participate in political and civic life. However, few studies have examined the relative importance of different facets of teaching quality within civic education as well as mediating factors for fostering active citizens. The present study seeks to fill this gap by investigating how different facets of teaching quality are associated with adolescents' willingness to participate in political and civic life and how this relationship is mediated by political knowledge and interest. The study uses original data from N = 250 students (n = 152 7th graders: Mage = 12.54, SD = 0.91, range = 11–14, 45% female; n = 98 10th graders: Mage = 16.12, SD = 0.97, range = 15–18, 35% female). The findings show that not all teaching quality facets are equally important. While perceived cognitive activation and open classroom climate were positively associated with students' willingness to participate, a statistically significant association with discussions of current political events in the classroom was not found. In addition, the relationship between perceived cognitive activation and willingness to participate is fully mediated by students' political knowledge and interest. This study illustrates the relative importance of different teaching quality facets in civic education and calls for continued efforts to better understand teaching quality in civic education.

Ghouati, A. (2022). **Éducation à l'environnement et au développement durable dans le système scolaire : quelle(s) évolution(s) dans les manuels scolaires en Algérie ?** In *Intégration des Objectifs du Développement Durable ''ODD" en milieu scolaire Algérien.* Consulté à l'adresse https://hal.archives-ouvertes.fr/hal-03628282