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


In 2013, an urban college developed a mandatory soft skills course. Unique among postsecondary institutions, the course has been running since fall 2015. Research has now been conducted into the effectiveness of the course. A mixed-methods research study collected primary data and a literature review of the pertinent secondary data. Data sets include a comparison of co-op employer ratings of students in a semester before the course was mandated and a semester after the course was mandated; a survey of co-op employers to rate their co-op student’s soft skills achievement; and a pre-post/post-pre survey of current students asking them to rate the importance of soft skills, their knowledge and demonstration of soft skills, and their intention to use soft skills. All data strongly support the claim that the course has been a positive soft skills intervention. Hypotheses are shown to be valid: current students see the course as an effective way of improving their understanding of soft skills, their ability to deploy soft skills, and their intention to deploy soft skills in future; and, co-op employers see it as a positive intervention by reporting more effective demonstration of soft skills among co-op students who have taken the course than among co-op students from other institutions who have not taken the course. We conclude that offering a course that follows our pedagogy is the most effective way to increase postsecondary student soft skills capabilities and ensure employers continue to be satisfied with graduate soft skills.


This paper evaluates the impact of « Coding Girls », an educational enrichment program designed to address the underrepresentation of women and girls in the fields of science, technology, engineering, and math (STEM) in Italy by stimulating young female students' interest in programming and science and encouraging them to consider careers in STEM-related fields. Implemented in ten secondary schools in Turin (Italy) over the period 2019-2022, the Coding Girls program provided lab-based computer programming instruction as well as introductory talks on specific topics in STEM. The program was evaluated by randomized controlled trial. Our results show that Coding Girls had a significant and positive impact on male and female students' programming skills and on their awareness of gender differences in the workforce. However, it did not seem to affect girls' aspirations to pursue higher education in STEM-related disciplines. The gender stereotypes children are exposed to from a very young age tend to steer girls and young women to the humanities. This bias is deeply entrenched and difficult to modify.


We quantify the causal effect of schooling on cognitive skills across 21 countries and the full distribution of working-age individuals. We exploit exogenous variation in educational
attainment induced by a broad set of institutional reforms affecting different cohorts of individuals in different countries. We find a positive effect of an additional year of schooling on internationally-comparable numeracy and literacy scores. We show that the effect is substantially homogeneous by gender and socio-economic background and that it is larger for individuals completing a formal qualification rather than dropping out. Results suggest that early and late school years are the most decisive for cognitive skill development. Exploiting unique survey data on the use of skills, we find suggestive evidence that our result is mediated by access to high-skill jobs.


Depuis 1967, la Revue française de pédagogie constitue au sein de l'espace francophone un lieu privilégié de publication et de discussion scientifique pour la recherche en éducation. Elle aborde ces questions dans une perspective large, ouverte à des approches diversifiées et à plusieurs disciplines de référence : psychologie, sociologie, philosophie, histoire, sciences de l'éducation, etc. Généralement regroupées en ensembles thématiques, les articles donnent accès aux apports les plus récents de la recherche en éducation. Chaque numéro comporte également une note de synthèse qui présente et problématise les acquis, les évolutions et les questions vives de la recherche dans un domaine donné, ouvrant des horizons sur le plan national et international. Enfin, la rubrique des notes critiques apporte aux lecteurs une information et une réflexion sur les principaux ouvrages récemment parus.


Executive functions are widely considered as an umbrella term for the higher order cognitive processes that contribute to goal-directed behavior. In addition, executive functions are highly correlated with positive academic outcomes. To promote the development of executive functions among youth within educational settings, some theorists and clinicians have proposed methods of explicitly instructing executive functioning skills, such as planning, organization, time management, and self-regulation skills. This critical review serves to evaluate the theoretical rationale and the supporting evidence of the six most cited handbooks for improving executive functions skills among elementary and high school students via class-wide instruction. Research that cited these handbooks and that addressed whole-class instruction of executive skills was evaluated and critiqued according to the four levels of the Every Students Succeeds Act. The overall evidence supporting each handbook was then critiqued as lacking, emerging, or sufficient. Although the handbooks are informed by theory and clinical experience, the supporting research is limited to mostly Level 3 and 4 evidence, as defined by the ESSA framework, including only a handful of case studies and small sampled quasi-experimental studies. Overall, the evidence supporting the explicit instruction of executive functioning skills through a class-wide approach is lacking and more rigorous research is still required. Best practices for instructing executive functioning skills to students and directions for future research are discussed.
Studies have shown that a lack of adult supervision of school-aged children is associated with antisocial behavior and poor school performance. To mitigate this, one policy response is to provide structured, adult-supervised programs offered after school throughout the academic year. After-school programs in Norway are an integrated part of school, used to extend the school day to a full working day by providing care before and after school. Participation is voluntary and is subject to fees paid by parents. In the past decade, the quality and content of these programs and the role they can play in integrating children have been under scrutiny. In 2016/17, the city of Oslo gradually introduced and expanded an offer of free part-time participation in its after-school program, starting with city districts with a high share of children with an immigrant background. We utilize the staggered roll out of this free after-school program to investigate enrollment, learning outcomes and student wellbeing. The take-up was substantial, raising enrollment rates from about 70 to 95% in the first wave of affected schools. However, our difference-in-differences estimates show little overall effect of the program on academic performance, neither on average nor across subgroups. There is also little evidence that the program enhanced student well-being or decreased bullying and we find no evidence of increased maternal labor supply.

Do agents believe to be agreeing more with others in the long-run? This paper designs an experiment to study how cognitive abilities affect actual and perceived disagreement in a standard sequential belief updating task with public signals. We document a persistent gap in the perception of disagreement as a function of cognitive ability. Higher cognitive ability is associated with less perceived disagreement, although the average subject underestimates the extent of actual disagreement regardless of cognitive ability. Learning about the state of the world has little effect on the evolution of perceived disagreement when controlling for cognitive ability. Providing subjects with information about their partner’s cognitive ability affects perceived disagreement only when the partner is less cognitively able.

Educational multimedia has proven to be an effective and efficient way of learning. Designers strive to produce multimedia that convey concepts most efficiently. That is to design multimedia that imposes the least possible cognitive load on the learner. Mayer's multimedia design principles are well-known, and multiple pieces of research have proven them to be effective. Reviewing the literature makes it obvious that there is a lack of a neurologically supported measure to express the effectiveness of these principles in the enhancement of the learning process. Mayer has reported the importance of these principles through effect sizes of scores obtained from transfer tests taken from the subjects. In this research, we utilized five of the twelve design principles introduced by
Mayer to create With-Principles multimedia. These five principles were signaling, coherence, spatial contiguity, temporal contiguity and redundancy. We selected one chapter from Oxford’s open forum 3 and designed two versions of multimedia (With-Principles and Without-Principles) for the chapter. In one version, we designed the multimedia according to the design principles, and in the other version, no specific design principles were applied. A total number of 28 non-native English speaker students were divided into two groups. One group watched the With-Principles version of the multimedia, and the other group watched the Without-Principles version. NASA-TLX and a final comprehension test accompanied the procedure. Meanwhile, the subjects’ brain signals were being recorded. The results from both the post-task tests and the EEG analysis show that the With-Principles multimedia has imposed a significantly lower cognitive load on the learners. Furthermore, we propose the effectiveness of each principle by measuring the amount to which each principle has contributed to reducing the cognitive load of the subjects during the multimedia. Subjects’ brain signals analysis reveals that the signaling and the spatial contiguity principles have the most effect on learning enhancement.


Teachers’ digital competence is very significant in terms of integrating digital technologies into the education process. This study aims to develop an up-to-date scale that can determine the digital competencies required for teachers to acquire new skills that arise with the change and development of technology and use them in educational environments. A total of 695 teachers participated in the study. Exploratory and confirmatory factor analyses were used to examine the construct validity of the scale. To assess the discrimination index of the items, the lower 27% and upper 27% groups were determined, and the differences between the groups were examined. Internal consistency coefficients were calculated for the reliability analysis. According to the results of the analysis, the developed scale consists of six factors and 46 items, and the Cronbach Alpha coefficient of the entire scale is 0.975. The factors were identified as “Safety,” “Data Literacy,” “Problem Solving,” “Digital Content Creation,” “Communication and Collaboration,” and “Ethics,” respectively, according to the content of the items. When compared with the DigComp 2.1 framework developed by the European Union, it was determined that the ethical factor emerged differently in this study. As a result, it can be said that the Digital Competency Scale for Teachers is a valid and reliable scale that can be used to measure teachers’ digital competencies.


Dans cette chronique, Bruno Devauchelle revient sur la place de l’École dans la construction de l’esprit critique des élèves. Comment en ces temps de flux continus d’informations sous des formes multiples, l’École peut-elle les accompagner dans le tri de celles-ci ? Depuis de nombreuses années, l’institution Éducation nationale s’est attelée à la tâche avec l’EMI (éducation...

L’objet de la recherche concerne la caractérisation d’opportunités d’apprentissages que des étudiants de Section de Technicien Supérieur Bâtiment, en formation initiale, peuvent ou non saisir, lors d’un stage de deux mois, sur des chantiers de construction, en position d’aide conducteur de travaux. C’est à partir des interactions avec leur environnement, vécues par douze stagiaires et caractérisées à partir des discours et des traces d’activité, que nous inférons ces opportunités et que nous analysons les facteurs qui favorisent ou limitent leur saisie possible par les stagiaires. Le cadre d’analyse, constitué pour permettre les inférences d’opportunités d’apprentissages, mobilise d’une part, la théorie de l’activité (Galperine, Leontiev et Rubinstein) et des concepts de l’expérience, notamment celui proposé par Dewey. D’autre part, il est complété par un modèle caractérisant le métier de la conduite de travaux, destiné à intégrer les spécificités du domaine professionnel dans lequel les étudiants-stagiaires interagissent. Nous avons créé ce modèle à partir d’une enquête réalisée auprès de conducteurs de travaux, issus des grandes entreprises du secteur du bâtiment. Les stagiaires qui découvrent un métier de l’encadrement, effectuent des tâches multiples, voire dispersées, dans les configurations variées que nous avons identifiées. Les opportunités d’apprentissages dépendent des modes de participation privilégiés par les tuteurs, telles que l’aide en appui ou la délégation encadrée, et du degré d’accomplissement des actions réalisées par les stagiaires, au cours du stage, favorisant ou non une compréhension des buts correspondants. En induisant des continuités ou des ruptures dans l’enchaînement des actions, ces modalités influencent également les opportunités d’établir des liens avec le système des tâches que la conduite de travaux implique. Les résultats obtenus conduisent à des pistes d’amélioration pour la conception d’instruments permettant notamment, l’identification des chaînes d’actions et leurs liens avec l’exercice du métier, dans la perspective de la mise en place et du suivi des stages.


We develop novel measures of early-career skills that are more detailed, comprehensive, and labor-market-relevant than existing skill proxies. We exploit that skill requirements of apprenticeships in Germany are codified in state-approved, nationally standardized apprenticeship plans. These plans provide more than 13,000 different skills and the exact duration of learning each skill. Following workers over their careers in administrative data, we find that cognitive, social, and digital skills acquired during apprenticeship are highly – yet differently – rewarded. We also document rising returns to digital and social skills since the 1990s, with a more moderate increase in returns to cognitive skills.


The advancement of technology in recent years seems to be prompting a re-ontologising of the world. Digital technology is transforming the educational spaces we inhabit, as well as our way of processing information. Although there are already numerous studies that have addressed this technological reality, only a handful have done so from a theoretical perspective. That is why we present research that seeks to
reinforce the latest theoretical contributions for understanding how modern technology may be affecting the way in which knowledge is built. Based on the latest research in social constructivism, this is a qualitative study designed to contribute to the creation of a specific theoretical framework for an onlife world. An ill-structured task and a semi-structured interview were used to observe the use of the thinking skills that enable us to build knowledge and the relationship between them. The results show that the ways of building knowledge are changing, as digital technology fosters the use of higher-order thinking skills that, furthermore, operate in a chaotic, complex, and unpredictable manner. In conclusion, this study upholds the notion that the ways of building knowledge are changing, but we still need more empirical contributions to create a generally accepted theoretical construct for explaining how we build knowledge through digital technology.


Digital competence has become an important issue in academia owing to the advent of various communication tools. This study used a standardized questionnaire based on the Digital Competence of Educators (DigCompEdu) framework, which is a validated comprehensive framework, and its associated assessment tool. This tool was designed to assess professional skills of faculties in higher education institutes in United Arab Emirates (UAE) in terms of their abilities to use information and communication technology (ICT) and current digital competences in their teaching and educational practices. We conducted an online survey to help participants reflect on their strengths and weaknesses while using digital technologies in education to find correlation between them, thus helping teachers determine their relative strengths and identify areas that need more attention.

Nejma, A. B. (2022). **Le rapport des adultes aux opérations de calculs et à l’anticipation dans la résolution de leurs problèmes dans la vie quotidienne : Les effets de la Catégorisation Scientifique Scolaire (Phdthesis, Université de Lille).** Consulté à l’adresse [https://theses.hal.science/tel-04011320](https://theses.hal.science/tel-04011320)

Cette enquête empirique traite du rapport des adultes aux opérations de calculs et à l’anticipation dans la résolution de leurs problèmes dans la vie quotidienne. Elle explore les effets de la Catégorisation Scientifique Scolaire (CSS, Las Vergnas, 2011) et cherche à déterminer dans quelle mesure celle-ci laisse des empreintes durables sur leurs comportements, représentations, voire prises de décisions. Cette recherche s’est appuyée sur des séries d’entretiens exploratoires et semi-dirigés. Elle s’est inspirée de la théorie ancrée (Glaser & Strauss, 1967) pour d’écrire et analyser les représentations des opérations de calculs de trois groupes (des jeunes adultes en insertion, des adultes non-scientifiques au sens scolaire de la CSS et des adultes scientifiques au même sens) et les comparer entre-elles. Cette comparaison montre que l’apprentissage des mathématiques a pu être vécu par beaucoup d’entre eux (y compris des scientifiques) comme une peine ou une souffrance dont les conséquences peuvent renforcer inconsciemment leurs aptitudes à résister, transgresser ou accepter d’apprendre de manière mécanique. Néanmoins, de leur passage à l’école, il reste pour les non scientifiques des traces et pour les scientifiques des savoirs institués dont ils se servent pour résoudre leurs problèmes. Dans la vie quotidienne, les « scientifiques » (au sens scolaire)
reprennent ce qu’ils ont appris - à l’exception de l’algèbre - et les « non-scientifiques » essaient de construire de manière spécifique des savoirs ou connaissances opératoires. Ce vécu a formé dans leur manière de penser un noyau « dur » qui devient visible dans l’analyse de leurs propos parce que se répètent souvent les mêmes façons de résoudre leurs problèmes au sein du groupe auquel ils appartiennent. En effet, aussi bien les scientifiques que les non-scientifiques se confortent entre eux dans des interactions qui se soldent par des représentations qu’ils ne peuvent alors remettre en cause par un travail réflexif. Ce conditionnement semble avoir été renforcé par la CSS et chacun des trois groupes peut se modéliser par un type de profil qui le caractérise. Les latents (jeunes adultes en insertion) sont ceux qui résistent à l’apprentissage scolaire, les empiristes (adultes non-scientifiques) ne croient qu’à l’expérience pour apprendre et les formalistes (adultes scientifiques) reprennent ce qu’ils ont appris de l’école. Les empreintes scolaires influencent fortement pour chacun de ces profils leurs relations aux opérations de calculs et déterminent leurs manières d’anticiper dans la vie quotidienne, c’est-à-dire de « calculer » (au sens commun du terme) ce qui va advenir. Ces effets les conduisent à construire des méthodes et des stratégies de résolutions de problèmes de la vie quotidienne qui ne prennent pas en compte les savoirs algébriques que l’école a pourtant cherché à leur enseigner. Tous, même les scientifiques à quelques exceptions près (quelques-uns, en utilisant le raisonnement algébrique, se distinguent pour analyser les situations et résoudre leurs problèmes), semblent avoir été durant leur passage au sein de l’institution scolaire, contraints de fournir des efforts mais qui n’ont pas suffi à leur faire franchir le « mur » de l’algèbre. De fait, globalement, les comportements des groupes semblent confirmer que la C.S.S renforce la distinction (Bourdieu, 1979) entre ceux qui ont compris le sens des apprentissages scolaires et les autres, et donc leurs habitus (Bourdieu, 1980).


Previous studies have demonstrated the effectiveness of intelligent tutoring systems (ITS) in facilitating English learning. However, no empirical research has been conducted on secondary students’ intention to use ITSs in the language domain. This study proposes an extended technology acceptance model (TAM) to predict secondary students’ continuance intention to use and actual use of ITSs for English learning. The model included fifteen hypotheses that were tested with 528 senior secondary students in China. The results of structural equation modeling showed that (1) perceived usefulness and price value had direct positive impacts on continuance intention; (2) perceived ease of use was not directly associated with students’ intention but indirectly influenced intention via perceived usefulness; (3) through the mediation of perceptions, learning goal orientation and facilitating conditions were positively associated with continuance intention; (4) perceived enjoyment positively predicted and anxiety negatively predicted students’ intention to use ITSs; and (5) students’ continuance intention to use ITSs was significantly positively associated with their actual use of ITSs for English learning. The model showed strong explanatory power and might be implemented in future research. This study contributes to the theory and practice of ITSs in K-12 education.

L’Approche Par Compétences est désormais le cadre de référence pour la rédaction des référentiels de formation au Ministère des Enseignements Secondaires du Cameroun. En s’arrimant à cette approche, les curricula subissent de profondes modifications. La simulation a été introduite dans le curriculum des techniciens en maintenance électronique et mécanique en tant que nouvelle stratégie d’apprentissage favorisant l’acquisition de compétences professionnelles. Or, acquérir le savoir pratique revient à apprendre par des manipulations physiques réelles. Suivant ce raisonnement, on pourrait s’attendre à ce qu’il y ait davantage d’effets positifs en termes d’acquisition de compétence lorsqu’on est en séquence d’apprentissage réel et moins d’effets en situation d’apprentissage à base de simulation. Partant du point de vue que les compétences sont des ressources que le sujet mobilise pour traiter l’activité réalisée dans des situations particulières, notre objectif est de questionner lesdites ressources et méthodes mobilisées lors de la mise en œuvre de la compétence « améliorer ou modifier un bien par automatisation de son fonctionnement » en situation de simulation et transférables à la pratique professionnelle. Les résultats issus de l’observation en situation réelle d’apprentissage et des auto-confrontations de 36 lycéens (appariés pour avoir 18 équipes de 02 binômes) montrent d’une part, que les ressources mobilisées par les acteurs pour réaliser le cycle automatique de la machine à l’aide du GRAFCET comprennent les concepts pragmatiques « enchaînement des tâches » et « technologie des composants », deux (02) schémes (séquencement des actions et matérialisation technologique) qui ont été appréhendés dans leurs relations aux concepts pragmatiques. Et que les systèmes d’instruments mis en œuvre par les apprenants pour automatiser le fonctionnement du bien sont constitués du bouton poussoir « test » du logiciel de simulation, des règles associées au GRAFCET, des normes de symbolisation et de codification des systèmes automatisés de production. D’autre part, que l’utilisation de la simulation au début de la formation a un effet important comparativement à l’apport de la formation traditionnelle en phase initiale.


The current research strives for examining the power of utilizing computer-based simulations on students' academic performance and their perceptions of organic chemistry after using computer-based simulations during their learning of organic chemistry. The study adopted mixed-method research. A total of 72 students whose ages range from 16 to 18 years old were included in this study and they were chosen from two secondary schools that have a combination where chemistry is taught in Gicumbi District in Rwanda. Two classes at every school were selected. One class functioned as the control group, and the other functioned as the experimental group. Their regular chemistry instructors that functioned as a facilitator in the research taught the units of organic Chemistry. Each experimental group and control group comprised 36 students, making a total of 72 students in both groups. Pre- and post-tests were given to all 72 students in both groups. The dependability coefficient for the quantitative data, which was 0.791, was determined using an organic chemistry test. However, qualitative data were collected from only 20 students from the experimental group of 36 students after using computer-based simulation. The analysis of quantitative data was done by using the Statistical Package for the Social Sciences (SPSS software) where the mean of marks,
standard deviation and the t-test were computed to report the research questions and to test the hypothesis. The findings revealed that the mean marks of students taught the units of organic chemistry by using computer-based simulations were extensively greater than those taught without using computer-based simulations. The findings also indicated that the students had a positive reflection, and motivation, and their understanding was increased after using computer-based simulations. Therefore, it was recommended that computer-based simulations should be used to improve students' learning of organic chemistry.


The 2023 Gender, Education and Skills Report on the persistence of gender gaps in education and skills presents fresh insights on progress towards gender equality in education, from proficiency in reading, mathematics and science through to career...


Verdir les cours de récréation n’est pas qu’une question d’esthétique, cela revient aussi à offrir aux enfants une palette d’interactions plus riche avec leur environnement.


Nowadays, online learning is already ubiquitous in the education of most countries and is one of the fastest-growing trends in the use of educational technology. However, despite literature on the effectiveness of online learning, little is known about the influence of student media literacy on effective learning outcomes in online learning. The present study tried to fill this research gap by exploring the effect of the four-factor construct of media literacy on effective learning outcomes that were measured by focusing on how students perceived their overall learning outcomes in online learning.
Data were collected in a sample of 421 undergraduate students from 32 universities in Vietnam. The results of the structural equation modeling indicated that except for functional prosumption, the remaining three factors of media literacy (functional consumption, critical consumption, and critical prosumption) had significant positive effects on perceived learning outcomes. Critical prosumption was found to be the most powerful significant influence on student learning outcomes in the online learning environment. The findings provide some significant practical implications for stakeholders in setting up strategic plans for increasing the effectiveness of online classes.


This study examined the relationship between regulatory focus and creativity in combination with adaptive-innovative cognitive style and school climate. A total of 687 middle school and high school students (Mage = 13.98 years; 52.8% males) completed a creative task and questionnaires concerning regulatory focus, adaptive-innovative cognitive style, school climate, and creativity. Structural equation modeling (SEM) revealed that promotion focus positively predicted creativity through innovative style and negatively predicted creativity through adaptive style, and prevention focus negatively predicted creativity through adaptive style. SEM also showed that school climate strengthened the positive association between promotion focus and innovative style and inhibited the positive association between prevention focus and adaptive style. Furthermore, conditional process analysis suggested that school climate moderated the mediating effect of adaptive-innovative cognitive style in the relationship between regulatory focus and creativity. School climate moderated not only the association between regulatory focus and adaptive-innovative cognitive style but also the mediating effect of adaptive-innovative cognitive style in the association between regulatory focus and creativity.

Aspects économiques de l’éducation


This paper revisits the link between education-based marriage market sorting and income inequality. Leveraging Danish administrative data, we develop a novel categorization of marriage market types based on the starting wages and wage growth trajectories associated with educational programs: ambition types. We find a substantial increase in sorting by educational ambition over time, which explains more than 40% of increasing inequality since 1980. In contrast, sorting trends are flat with the commonly used level of education. Hence, the mapping between education and marriage-market types matters crucially for conclusions about the role of marital sorting in rising income inequality.

The qualitative and granular nature of most structural indicators and the variety in data sources poses difficulties for consistent cross-country assessments and empirical analysis. We overcome these issues by using a machine learning approach (the partial least squares method) to combine a broad set of cross-country structural indicators into a small number of synthetic scores which correspond to key structural areas, and which are suitable for consistent quantitative comparisons across countries and time. With this newly constructed dataset of synthetic structural scores in 126 countries between 2000-2019, we establish stylized facts about structural gaps and reforms, and analyze the impact of reforms targeting different structural areas on economic growth. Our findings suggest that structural reforms in the area of product, labor and financial markets as well as the legal system have a significant impact on economic growth in a 5-year horizon, with one standard deviation improvement in one of these reform areas raising cumulative 5-year growth by 2 to 6 percent. We also find synergies between different structural areas, in particular between product and labor market reforms.


This paper evaluates the impact of “Coding Girls”, an educational enrichment program designed to address the underrepresentation of women and girls in the fields of science, technology, engineering, and math (STEM) in Italy by stimulating young female students’ interest in programming and science and encouraging them to consider careers in STEM-related fields. Implemented in ten secondary schools in Turin (Italy) over the period 2019-2022, the Coding Girls program provided lab-based computer programming instruction as well as introductory talks on specific topics in STEM. The program was evaluated by randomized controlled trial. Our results show that Coding Girls had a significant and positive impact on male and female students’ programming skills and on their awareness of gender differences in the workforce. However, it did not seem to affect girls’ aspirations to pursue higher education in STEM-related disciplines. The gender stereotypes children are exposed to from a very young age tend to steer girls and young women to the humanities. This bias is deeply entrenched and difficult to modify.


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We study the returns to experience in teaching, estimated using supervisor ratings from classroom observations. We describe the assumptions required to interpret changes in observation ratings over time as the causal effect of experience on performance. We compare two difference-in-differences strategies: the two-way fixed effects estimator common in the literature, and an alternative which avoids potential bias arising from effect heterogeneity. Using data from Tennessee and Washington, DC, we show empirical tests relevant to assessing the identifying assumptions and substantive threats—e.g., leniency bias, manipulation, changes in incentives or job assignments—and find our estimates are robust to several threats.


The paper evaluates math performance at four high-need middle schools during a four-year intervention, which was designed to help math teachers diagnose students’ areas of need and to design lesson plans responsive to those needs. Before the intervention began, the researchers pre-selected four comparison schools by matching based on achievement and also on demographics. A difference-in-difference analysis finds a significant increase of about 0.11 standard deviation in test scores per year for students in the program schools. Supplementary event study and synthetic control analyses to detect year-by-year effects lack precision but are weakly suggestive of a smaller impact in year 1 than later years. A cost analysis considers the affordability of extending similar programs.


School choice lotteries are an important tool for allocating access to high-quality and oversubscribed public schools. While prior evidence suggests that winning a school lottery decreases adult criminality, there is little evidence for how school choice lotteries impact non-lottery students who are left behind at their neighborhood school. We leverage variation in actual lottery winners conditional on expected lottery winners to link the displacement of middle school peers to adult criminal outcomes. We find that non-applicant boys are more likely to be arrested as adults when applicants from their neighborhood win the school choice lottery. These effects are concentrated among boys who are at low risk of being arrested based on observables. Finally, we confirm evidence in the literature that students who win the lottery decrease adult criminality but
show that after accounting for the negative impact on the students who forego the lottery, lotteries increase overall arrests and days incarcerated for young men.


Growing reliance on student loans and repayment difficulties have raised concerns of a student debt crisis in the United States, but little is known about the effects of student borrowing on human capital and long-run financial well-being. We use variation induced by recent expansions in federal loan limits combined with administrative datasets to identify the effects of increased access to student loans on credit-constrained students’ educational attainment, earnings, debt, and loan repayment. Increased student loan availability raises student debt and improves degree completion, later-life earnings, and student loan repayment while having no effect on homeownership or other types of debt.


In this study, I shed new light on the short-run effects of access to high-speed internet on educational disparities, before and after the pandemic shock. By following 3 million students belonging to 6 different cohorts over the period 2012-2022, I estimate the effect of the broadband infrastructure on student performance. While most previous contributions use discontinuous jumps in the available broadband connection speed across space at a given moment in time, this study exploits the actual roll-out of an infrastructural policy associated with an increase in 30 Mbit/s household broadband coverage from 40% to 80% over a 5-year period. The estimation strategy relies on a unique dataset, combining panel data on student performance with a rich set of school- and student-level information and broadband data measured at a very fine spatial scale. Results show an average null effect of high-speed broadband on 8th grade student performance in both numeracy and maths. However, this results masks substantial heterogeneity: lower performers in grade 5 and students with better backgrounds gain from internet speed, whereas the opposite is true for other students. Interestingly, the stronger effect on low-performers tends to disappear during the lockdown, suggesting a negligible mitigating role for high-speed internet during the period of school closure. On the other hand, the broadband infrastructure might have further amplified the gap between students with different socioeconomic background.


School inspections are a common feature of education systems across the world. These involve trained professionals visiting schools and reaching a high-stakes judgement about the quality of education they provide. By their nature, school inspections rely upon professional judgement, with different inspectors potentially putting more emphasis on certain areas than others. Yet there is currently little academic evidence investigating
the consistency of school inspections, including how judgements vary across inspectors with different characteristics. We present new empirical evidence on this matter, drawing upon data from more than 30,000 school inspections conducted in England between 2011 and 2019. Male inspectors are found to award slightly more lenient judgements to primary schools than their female counterparts, while permanent Ofsted employees (Her Majesty’s Inspectors) are found to be harsher than those who inspect schools on a freelance basis (Ofsted Inspectors).


In this paper, we investigate whether the cooperation with universities may stimulate the innovative performance of Italian firms. We use a dataset merging information from two different surveys carried out by the Bank of Italy between 2007 and 2010. We derive our results using a two-stage procedure with the aim of ruling out spurious correlations due to the existence of omitted variables. Results show that the cooperation with universities does not affect the likelihood of firms introducing technological innovations. However, when we distinguish between pure technological innovation outcomes (only new products and/or productive processes) and joint innovation outcomes, which involve both organizational and technological changes, we find that only the latter is positively stimulated by the cooperation with universities. These findings are promising since, according to the innovation management literature, joint innovation activities are more successful in transferring new ideas and new business opportunities into market success.


We quantify the causal effect of schooling on cognitive skills across 21 countries and the full distribution of working-age individuals. We exploit exogenous variation in educational attainment induced by a broad set of institutional reforms affecting different cohorts of individuals in different countries. We find a positive effect of an additional year of schooling on internationally-comparable numeracy and literacy scores. We show that the effect is substantially homogeneous by gender and socio-economic background and that it is larger for individuals completing a formal qualification rather than dropping out. Results suggest that early and late school years are the most decisive for cognitive skill development. Exploiting unique survey data on the use of skills, we find suggestive evidence that our result is mediated by access to high-skill jobs.


We show that, when the educational choice is costly, the motive of seeking positive peer effects can result in ability grouping. In particular, high-achieving students self-sort by choosing costly courses, which we refer to as « endogenous tracking. » We demonstrate the implications of endogenous tracking using the data from French middle schools,
where ability grouping officially is not allowed. Instead, students are grouped together to study all courses in the standardized curriculum based on their choices between studying Spanish or a more effort-costly German. We find that costly language choices result in groups that significantly differ in terms of academic performance. Furthermore, we exploit regional differences in the effort costs of learning German to confirm that larger costs of choosing German result in more selective endogenous tracking. Finally, we identify peer effects that, together with sorting, generate inequality in educational outcomes. Such inequality, combined with observed inequality in socioeconomic status between the formed groups, works against egalitarian educational policies. JEL Codes: H75, I21, I28, J24

This article assesses the impact of a two-year long project-based learning program conducted by the National Opera of Paris in a large number of middle schools located in underprivileged areas, aiming at preventing school dropout and tackling educational inequalities by providing disadvantaged students with the opportunity to discover the world of opera. Taking a counterfactual approach (propensity score matching), we measure the impact of participation in the program on final exam and continuous assessment grades. The analysis displays mixed results: a significant and positive impact for the students who participate in the program for its whole duration (two years), at least for continuous assessment scores, but a negative impact for those who leave the program after only one year. The contrast between the effects of full and partial participation in the program suggests that these may be primarily due to a selection effect in favor of the most culturally and socially compliant students, in line with Bourdieu’s and Passeron’s reproduction theory (1997 [1970]) rather than a mobility effect (DiMaggio, 1982) resulting from the transfer of cultural capital to disadvantaged students.

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Does relaxing strict school discipline improve student achievement, or lead to classroom disorder? We study a 2012 reform in New York City public middle schools that eliminated suspensions for non-violent, disorderly behavior. Math scores of students in more-affected schools rose by 0.05 standard deviations over three years relative to other schools. Reading scores rose by 0.03 standard deviations. Only a small portion of these aggregate benefits can be explained by the direct impact of eliminating suspensions on students who would have been suspended under the old policy. Instead, test score gains are associated with improvements in school culture, as measured by the quality of student-teacher relationships and perceptions of safety at school. We find no evidence of trade-offs between students, with students benefiting even if they were unlikely to be suspended themselves.

Renouvelant notre regard sur l'histoire, la cliométrie nous aide à comprendre comment, pourquoi et quand les changements économiques se produisent.

Previous research has shown that parents respond to differences in their children's potential by providing them with different levels of support, and that such support allocation decisions are shaped by socioeconomic status (SES). We extend this observation to the assumption, raised in research on parental compensation and social mobility, that not only the allocation, but also the form of support provided is socially stratified. Specifically, we investigate whether socioeconomically advantaged parents use mechanisms that do not rely directly on cognitive enhancement. Drawing on data from three consecutive waves of the German TwinLife study (N=962), we use twin fixed-effects models to examine how parents respond to their children having different grades. We investigate parental support strategies, including help with schoolwork and school-related communication, encouragement and explicitly formulated expectations, and extracurricular cognitive stimulation. Our findings suggest that high-SES parents tend to compensate for their children’s poor performance by helping them with schoolwork, fostering communication, and formulating academic expectations and encouragement. In contrast, we found no evidence that parents in either high- or low-SES families respond to differences in their children’s school performance by providing them with extracurricular cognitive stimulation.

Studies have shown that a lack of adult supervision of school-aged children is associated with antisocial behavior and poor school performance. To mitigate this, one policy
response is to provide structured, adult-supervised programs offered after school throughout the academic year. After-school programs in Norway are an integrated part of school, used to extend the school day to a full working day by providing care before and after school. Participation is voluntary and is subject to fees paid by parents. In the past decade, the quality and content of these programs and the role they can play in integrating children have been under scrutiny. In 2016/17, the city of Oslo gradually introduced and expanded an offer of free part time participation in its after-school program, starting with city districts with a high share of children with an immigrant background. We utilize the staggered roll out of this free after-school program to investigate enrollment, learning outcomes and student wellbeing. The take-up was substantial, raising enrollment rates rates from about 70 to 95% in the first wave of affected schools. However, our difference-in-differences estimates show little overall effect of the program on academic performance, neither on average nor across subgroups. There is also little evidence that the program enhanced student well-being or decreased bullying and we find no evidence of increased maternal labor supply.


Empirical evidence supports the hypothesis that an individual’s position in an income stratum—more than the absolute income level—determines subjective well-being. However, studies on subjective well-being suffer from a critical methodological weakness: they use exogenously defined reference groups. Our study addresses this point by applying an innovative new survey instrument. We ask respondents to identify individual reference persons for income comparisons. We find that these reference persons come from a range of social groups. Interactions between personality traits and the direction of income comparisons lead to different levels of subjective well-being. This highlights the importance of collecting information on personality traits in research on subjective well-being. We conclude that questions about self-defined individual income comparisons can be a valuable and straightforward addition to future surveys.


Do agents believe to be agreeing more with others in the long-run? This paper designs an experiment to study how cognitive abilities affect actual and perceived disagreement in a standard sequential belief updating task with public signals. We document a persistent gap in the perception of disagreement as a function of cognitive ability. Higher cognitive ability is associated with less perceived disagreement, although the average subject underestimates the extent of actual disagreement regardless of cognitive ability. Learning about the state of the world has little effect on the evolution of perceived disagreement when controlling for cognitive ability. Providing subjects with information about their partner’s cognitive ability affects perceived disagreement only when the partner is less cognitively able.

This study explores the impact of industrialization on secondary schooling in 19th century France. As a source of exogenous variation in industrialization across the French territory, it takes advantage of the openings and closures of mines which were supervised by the Ministry of Public Works, independently from the Ministry of Education. The results suggest that industrialization had a negative but mostly insignificant effect on high-school enrollment. However, industrialization increased the share of high-school pupils in applied sections and the wages of mathematics teachers.

This study provides evidence on the immediate and long-term effects of parental separation and union dissolution on children’s test scores. We use administrative full population data on parents moving out of the joint home and national school-administered low-stakes test. First, a staggered event-study design finds long-term negative effects on test scores with indications of a dynamic effect increasing by time since separation. Results hold when applying recent innovation in difference-in-differences methods. Further, the decline in test scores originates from the middle of the skill distribution. Second, we demonstrate plausible indications of an immediate negative effect of parental separation on children’s test scores using a regression discontinuity design, with the difference in time between test date and parental separation as the running variable.

Since the 90s many developed countries have experienced job polarisation, whereby employment shifts away from middle-paying jobs and towards both higher-paid and lower-paid ones. The most popular explanation is that technological changes have been biased against routine tasks. This paper offers a complementary explanation that emphasises the increase in skill supply and the resulting adoption of technology. I exploit the large policy-driven expansion of higher education in the UK and argue that this supply-side shift has caused the adoption of routine-biased technology and thereby employment polarisation. This framework is supported by three facts observed in the UK. First, employment has shifted from the middle to the top, with not much change at the bottom of the occupation distribution. Second, there were relatively little movements in occupational wages and the pattern is not U-shaped. Third, over a period of rapidly increasing supply of graduates, occupational outcomes among graduates have been broadly stable. I build an equilibrium multi-sector model of occupational labor and fit it to UK data over 1997-2015. I find that in most industries, technical change over the period was biased against routine tasks and favoured managerial and professional tasks. Allowing endogenous technological change, the shift in skills supply alone can account for between a third and two thirds of the actual decline in routine manual occupations.
We develop novel measures of early-career skills that are more detailed, comprehensive, and labor-market-relevant than existing skill proxies. We exploit that skill requirements of apprenticeships in Germany are codified in state-approved, nationally standardized apprenticeship plans. These plans provide more than 13,000 different skills and the exact duration of learning each skill. Following workers over their careers in administrative data, we find that cognitive, social, and digital skills acquired during apprenticeship are highly — yet differently — rewarded. We also document rising returns to digital and social skills since the 1990s, with a more moderate increase in returns to cognitive skills.

We study whether female students benefit from being taught by female professors, and whether such gender match effects differ by class size. We use administrative records of a German public university, covering all programs and courses between 2006 and 2018. We find that gender match effects on student performance are sizable in smaller classes, but do not exist in larger classes. This difference suggests that direct and frequent interactions between students and professors are important for the emergence of gender match effects. Instead, the mere fact that one’s professor is female is not sufficient to increase performance of female students.

We study the intergenerational effect of education policy on crime. We use Swedish administrative data that links outcomes across generations with crime records and we show that the comprehensive school reform, gradually implemented between 1949 and 1962, reduced conviction rates both for the generation directly affected by the reform and for their sons. The reduction in conviction rates occurred across many types of crime. Key mediators for this reduction in the child generation are an increase in education and a decline in crime amongst their fathers.

Grade retention offers students a chance to catch up with unmastered material but also leads to less labor-market experience by delaying graduation and labor-market entry. This is the first paper to quantify this trade-off, using an exit exam cutoff of Dutch academic secondary schools, where failing implies grade retention. I find no impact of retaining on final educational attainment, although retained students are later to graduate. Grade retention does lead to annual earnings loss at age 28 of 3000 euro (8.5%) due to reduced labor-market experience. Overall, grade retention is of no benefit for students around the cutoff.

Artificial Intelligence (AI) scoring for constructed-response items, using recent advancements in multilingual, deep learning techniques utilising models pre-trained with a massive multilingual text corpus, is examined using international large-scale assessment data. Historical student responses to Reading and Science literacy cognitive items developed under the PISA analytical framework are used as training data for deep learning together with multilingual data to construct an AI model. The trained AI models are then used to score and the results compared with human-scored data. The score distributions estimated based on the AI-scored data and the human-scored data are highly consistent with each other; furthermore, even item-level psychometric properties of the majority of items showed high levels of agreement, although a few items showed discrepancies. This study demonstrates a practical procedure for using a multilingual data approach, and this new AI-scoring methodology reached a practical level of quality, even in the context of an international large-scale assessment.


We study whether a particular socio-emotional skill - grit (the ability to sustain effort and interest towards long-term goals) - can be cultivated through a large-scale program, and how this affects student learning. Using a randomized control trial, we evaluate the first nationwide implementation of a low-cost intervention designed to foster grit and self-regulation among sixth and seventh-grade students in primary schools in North Macedonia (about 33,000 students across 350 schools). The results of this interventions are mixed. Exposed students report improvements in self-regulation, in particular the perseverance-of-effort facet of grit, relative to students in a control condition. Impacts on students are larger when both students and teachers are exposed to the curriculum than when only students are treated. For disadvantaged students, we also find positive impacts on grade point averages, with gains of up to 28 percent of a standard deviation one-year post-treatment. However, while this intervention made students more perseverant and industrious, it reduced the consistency-of-interest facet of grit. This means that exposed students are less able to maintain consistent interests for long periods.


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.


Peers may both promote conformity and discourage ambitious choices when students make educational decisions. Low socioeconomic status (SES) students may be more sensitive to outside influence than high SES students when making educational decisions. Considering the case of choosing between an academic track and a vocational track in Danish post-compulsory education, I test whether low SES students are more prone to conform to peer preference or more likely to be deterred from choosing the more ambitious academic track by more ambitious peers. I test these hypotheses using multilevel models with school fixed effects on survey data from 882 Danish 9th-grade students, with information on track choice and survey measures of normative track preference. I find that higher classroom peer preference for the academic track is associated with higher probability of choosing the academic track, especially for low SES students. Thus, ambitious peers may help compensate for inequality in track choice.


Le nombre d’étudiants concernés par les droits différenciés, de 50 700 étudiants extracommunautaires à la rentrée 2019, a progressivement augmenté pour atteindre 96 600 à la rentrée 2021. Seuls 6 % de ces étudiants directement concernés doivent s’acquitter d’un tarif plein et 17 % sont totalement exonérés.


The Covid-19 pandemic caused prolonged school closures worldwide. Children in resource-poor settings were particularly affected given their limited access to remedial distance learning opportunities through the internet, television, and radio. To address the poor access to formal education, we designed an educational intervention consisting of a set of audio lessons that were delivered through mobile phones to primary school students using Interactive Voice Response (IVR). During the 15-week program period, parents could access the lessons for free by calling a designated phone number and listening to a lesson with their child at any time. We delivered the randomized intervention to 1,763 primary school children across 90 villages in Bangladesh during the 2021 Covid-19 school closures. The intervention improved the test scores of children in literacy and numeracy by 0.60 Standard Deviations (SD). Additionally, the intervention led to an increase in the amount of time that parents spent on homeschooling. The intervention was particularly beneficial for academically weaker students, those from the poorest
strata, and those with less-educated caregivers. Our results suggest that this scalable and low-cost intervention could be leveraged in similar settings to address learning losses of marginalized students.


New hand-collected school administrative data from 1870s Virginia, alongside linked individual US Census records, reveals that temporary school closures had lasting effects on literacy and income in adulthood. Those affected by the closures had lower intergenerational economic mobility, particularly those from low-income backgrounds. The age at which the closures occurred also played a role with younger cohorts more affected by early developmental disruptions and older cohorts more affected by prolonged closures.


I evaluate the effect of wildfire smoke on primary and middle school students’ English Language Arts (ELA) and math achievement across the United States. To estimate students’ exposure to wildfires at the school district level, I merge satellite-based wildfire smoke plume boundaries and 1km-grid daily PM2.5 values with school district locations, and weight the exposure by census tract population. I find that recent drifting wildfire smoke plumes significantly lower ELA and math test scores. When I proxy the wildfire intensity by PM2.5, results suggest that severe wildfires generate lasting effects on young students in primary school. Effects are only transitory for students in middle school. Further analysis reveals that Black students in primary school and economically disadvantaged students are more negatively affected than others. Males are more affected by unhealthy air quality in elementary ELA and middle school math than female students. Overall, findings suggest that more environmental and educational policy responses are needed to protect students with the increase in wildfire occurrence and intensity.

Aspects psychologiques de l'éducation


Face au constat de désintérêt des adolescentes pour l'Éducation Physique et Sportive (EPS), notamment au lycée professionnel, les enseignants paraissent manquer de solutions, même si une dense littérature scientifique sur la motivation pour l’activité physique fournit des recommandations. Cette thèse a pour ambition de mener une réflexion partagée, entre enseignants et chercheurs, sur les pratiques et les contenus susceptibles de faire évoluer l’intérêt du public féminin en EPS. À partir d’un travail d’analyse de la littérature scientifique, et d’une étude observationnelle sur la spécificité des sources de l’intérêt en situation chez les filles en EPS, ce projet s’est concrétisé par la

Childhood exposure to adversity and its consequences is a significant public health challenge. Schools are beginning to understand the impact of adverse childhood experiences (ACEs) and some schools are considering screening for ACEs. However, dissemination of the ACEs screener and subsequent interventions may lead to challenges and iatrogenic outcomes for students if caution is not taken. This paper examines key considerations, including ethical and legal guidelines, surrounding screening for ACEs within the school system. Through conceptual analysis, the National Association of School Psychologists Principles for Professional Ethics are examined in conjunction with educational law regarding ACEs screening. Additionally, key considerations and limitations such as whether the screener captures trauma rather than adversity, the use of parents as informants, racial inequities, and potential stigma of conducting ACEs screening in schools are addressed through the integration of ACEs scholarship. Recommendations and alternative solutions for school districts seeking to address ACEs within their student population are provided in support of trauma-sensitive schools.

Depression is more prevalent among medical students. Its level can be changed by different factors. The present study was designed and implemented in order to determine the path analysis of factors affecting depression in students of Qazvin University of Medical Sciences. This descriptive-analytical study was conducted on 291 randomly selected students of Qazvin University of Medical Sciences in 2018. Data were collected using demographic characteristics questionnaires, Beck Depression Inventory and Gadzla Academic Stress Questionnaire. The data were analysed using one-way ANOVA and F test, independent t-test, and Pearson correlation coefficient in SPSS software version 22, and significance level 0.05. According to the path analysis final model, there was a significant relationship between age and hope for continuing education with academic stress, and there was no significant relationship between satisfaction and academic stress. There was a significant relationship between age, hope for continuing education, academic satisfaction and stress with depression (p < 0.001). According to the obtained results, measures should be taken in order to reduce individual and environmental stresses and factors effective in depression. Detection and follow-up in disease cases, especially in the younger generation, is important in preventing debilitating effects of the disease, and its consequences should be prevented by quick and timely detection.
This report of the development of an intervention in practice outlines the design, delivery, and evaluation of a tailored, school-based, group adolescent sleep intervention utilising youth participation methodology and an intervention mapping protocol as a framework. The intervention also included supplementary video support. The intervention was delivered to 5-year 11 students attending a pupil referral unit. This alternative education provision is organised to provide education for young people who cannot participate in school and may not otherwise receive suitable education in Britain. Through co-formulation and cooperative design, the voice of the young people was sought throughout the design, implementation, and evaluation process. The behavioural objectives of the intervention were to increase stress management techniques and reduce technology usage. These were chosen to align with the overall outcomes: improving sleep behaviours and reducing negative sleep hygiene practices. Improvements in sleep behaviour and decreases in negative sleep hygiene practices were achieved post-intervention and at 4-month follow-up. Strengths of the intervention, future intervention optimisation, and implications for practice are considered.


Immigrant-origin (I-O) youth face increasing anti-immigrant rhetoric in the United States, including in their schools. School-based intergroup dialogue programming may help I-O youth and their peers build a more inclusionary culture. We qualitatively examined how I-O youth and their peers experienced a week-long school-wide intergroup dialogue program that aimed to foster connection among participants at a Northeastern high school. Participants’ (N = 159) experience in the program were analyzed using post-program reflections. Participants were 53% female and 74% underclassmen; 59% Latinx, 14% Black, 13% multiracial, 9% White, and 5% Asian and Middle Eastern; generationally, 54% identified as second-generation immigrants, 38% as nonimmigrant origin, and 8% as first-generation. Participation in the program produced mixed results. For many, participation led to a greater sense of connection; youth reported that they learned about their peers, the immigrant experience, and sometimes, themselves. Connection was especially fostered among the dominant demographic groups in the school: second-generation and Latinx youth. Learning about others was less likely to cultivate connections when participants could not relate their own experiences, and at times even made participants feel more different from their peers. Intergroup dialogue has the potential to foster connection when participants are able to relate across experiences.


Student interactions in distance learning have been a critical element of the transactional distance theory. Research shows that student interactions have a positive effect on learning outcomes. However, little is known about how student interactions can be improved. The need to understand student interactions and to determine the relationships between the variables that are effective in these interactions has become

This study aims to investigate the impact of e-learning readiness and the motivations of students in distance learning on student interactions. In addition, it was examined whether motivation mediated the relationship between e-readiness and student interactions. The study was conducted with 172 students enrolled in a postgraduate program conducted by distance learning. Results showed that students' e-learning readiness and motivation are essential predictors of student interactions in distance learning. Furthermore, it was found that motivation had a mediation effect on the relationship between e-learning readiness and student interactions. The results of the research are helpful for both instructional designers and instructors of distance learning who want to reduce the transactional distance by increasing student interactions.


The work of school counsellors has become complex with the increasing technological advances and adolescents’ dependency on them. There is a surprising lack of study in the Indian context, aimed at school counsellor’s challenges in dealing with adolescents’ digital use. This paper provides better understanding of the challenges of school counsellors involving adolescents’ digital use in Indian schools. Three significant themes emerged from the data analysis: (a) negative aspects of digital use among Indian adolescents, (b) the need to effectively teach how to navigate the digital world and (c) the challenge of integrating technology with traditional counselling approaches to educate adolescents about their digital use. Furthermore, this paper presents implications for school counselling practice and research within Indian context.


As a novel type of mobile game, addictive behavior has attracted the attention of researchers due to its possible negative impacts on several forms of psychological problems. In this research, we tested the relationship between academic performance, mobile game addiction (MGA), and mobile self-efficacy among undergraduates in Taiwan. An academic model has been suggested from the hypotheses and using a sample of 739 college students by estimating the structural equation modeling. This result discloses that college students are an at-risk swarm for the MGA. We realized that MGA was negatively connected with academic performance and mobile self-efficacy, exhibiting a positive relationship between the latter two. Further analysis on age, place of stay, and the duration of playing mobile games distinction was tested in the trajectories from MGA to these psychological health results, and the results revealed that they were significantly associated with MGA. We also dealt with the limitations and recommended that the authorities immediately regard this, and to complete academic goals, college students should refrain from playing mobile games and participate in other forms of healthy entertainment.

Purpose: To identify key issues that university-based leadership coaches act upon in work to fortify the developmental opportunity of the clinical experience for aspiring principals, and how leadership coaches act upon these issues. Research: Data include roughly 75 hours of interviews with two cohorts of aspiring principals and 25 hours of interviews with the five leadership coaches assigned to these aspirants (N = 25). Drawing theoretically upon brokering and social networks brokerage, analysis of transcripts used both deductive and inductive coding. Findings: We identified five key issues acted upon by leadership coaches, including: (a) relational issues between the aspirant and the mentor; (b) insufficient time between the aspirant and the mentor; (c) aspirant identification of and engagement with clinical work of developmental importance; (d) aspirant access to and/or authority for clinical work; and (e) the developmental supports provided to aspirants by mentors. Drawing upon theories of brokering, social networks brokerage, and third-party influence as we examined how coaches acted upon aspirant issues, we found that coaches regularly worked as brokers and third-party influencers in these pursuits. The structuring and design of coaching as well as coaching tools proved vital to this work. Conclusion: Leadership coaches tethered to principal preparation programs can play an important role in fortifying the developmental opportunity of the clinical experience. Our findings suggest an assortment of implications for leadership preparation, the deployment and design of university-based leadership coaches, and the development of such coaches tied to principal preparation.


This study aimed to explore factors related to academic success (resilience) for students with socioeconomic disadvantages (SED) from the individual, school, and family domains. We also compared such factors with the results for students with socioeconomic advantages (SEA). A sample of 1767 eighth-graders (851 students with SEA and 916 students with SED) from a city in northern China completed the questionnaires online. We found that (a) the common factors related to academic success for students with SED and SEA are high educational expectations, intrinsic motivation, positive parent−child relationships, and schools with high socioeconomic status; and (b) the unique factors for students with SED (but not SEA) are appropriate parental involvement with more concern in daily life but less concern in study and close peer relationships. Findings highlight social support as a protective factor against academic failure, especially among students from low-income families.


This study aimed to evaluate the short-term effects of the social networking safety promotion and cyberbullying prevention presentation of the Arizona attorney general’s guided by the extended parallel process model (EPPM). A quasi-experimental (a pre-posttest) was used with two groups with random assignment to intervention. A total of 389 adolescents in seventh, eighth, and ninth grades at two public middle schools in Muscat city were involved in the study procedures and randomly divided into two groups (the experimental group (n = 186) and the waiting list group (n = 203). The risk behavior
diagnostic scale, behavioral intention and attitudes scale, coping strategies with cyberbullying scale, and self-protection behavior intentions were used. Five separate presentations (each presentation was 60 min, one presentation per week) were introduced to the adolescents in the experimental group. The results supported the efficacy of the intervention in changing adolescents’ attitudes and behavioral intentions against cyberbullying and promoting their security and safety during their use of social networks. Also, the intervention has a significant effect on the four EPPM components (susceptibility, severity, self-efficacy, and self-efficacy responses) and the participants learned coping skills to deal with potential cyberbullying incidents).


Executive functions are widely considered as an umbrella term for the higher order cognitive processes that contribute to goal-directed behavior. In addition, executive functions are highly correlated with positive academic outcomes. To promote the development of executive functions among youth within educational settings, some theorists and clinicians have proposed methods of explicitly instructing executive functioning skills, such as planning, organization, time management, and self-regulation skills. This critical review serves to evaluate the theoretical rationale and the supporting evidence of the six most cited handbooks for improving executive functions skills among elementary and high school students via class-wide instruction. Research that cited these handbooks and that addressed whole-class instruction of executive skills was evaluated and critiqued according to the four levels of the Every Students Succeeds Act. The overall evidence supporting each handbook was then critiqued as lacking, emerging, or sufficient. Although the handbooks are informed by theory and clinical experience, the supporting research is limited to mostly Level 3 and 4 evidence, as defined by the ESSA framework, including only a handful of case studies and small sampled quasi-experimental studies. Overall, the evidence supporting the explicit instruction of executive functioning skills through a class-wide approach is lacking and more rigorous research is still required. Best practices for instructing executive functioning skills to students and directions for future research are discussed.


Suicide is a significant public health concern school-aged youth. Although a growing body of literature has documented the association between cyberbullying and suicidal ideation, and the mediating effect of internalizing symptoms, there is no research to date examining the impact of witnessing cyberbullying and suicidal ideation. To address this gap, we conducted a cross-sectional study with middle school students (N = 130). Students completed questionnaires assessing witnessing cyberbullying, witnessing school bullying, depression, anxiety, and suicidal ideation. We used structural equation modeling to test a mediational model in which we hypothesized internalizing symptoms would mediate the unique relationship between witnessing cyberbullying and suicidal ideation (i.e., controlling for witnessing school bullying). Results supported the mediational model, indicating the frequency of witnessing cyberbullying was positively related to internalizing symptoms, which in turn were related to higher levels of suicidal ideation. Findings suggest the importance of providing programs to support middle school students
who witness cyberbullying to reduce the mental health risks (i.e., internalizing symptoms and suicidal ideation) associated with being a cyberbullying bystander.


Working in academia entails many challenges including rejections by journals, competition for funding or jobs, and uncertain job outlooks (for non-tenure staff), which can result in poor mental health and well-being. Previous studies have suggested self-compassion as a resource for mental health and well-being, but to date no study has been published that has tested interventions targeting self-compassion in academia. In this weekly diary study, 317 academics from Germany, Switzerland, and the US were asked to recall a negative event and were then randomly assigned to either a self-compassionate writing intervention, a three good things intervention, or an active control intervention, respectively. They also completed two surveys on four consecutive Thursdays measuring state positive and negative affect and job-related well-being (i.e., job satisfaction and work engagement). Using multi-level regression modelling, results showed that participants in the self-compassion condition reported more job satisfaction and work engagement due to experiencing less negative affect. Academics in the three good things condition showed no such effects. Results indicated that self-compassion in academia is a resource that enables emotion-oriented coping during difficult times or in challenging situations that may benefit academics’ job-related well-being. The study highlights both the importance of discussing well-being in academia and ways to strengthen it.


Empirical evidence supports the hypothesis that an individual’s position in an income stratum—more than the absolute income level—determines subjective well-being. However, studies on subjective well-being suffer from a critical methodological weakness: they use exogenously defined reference groups. Our study addresses this point by applying an innovative new survey instrument. We ask respondents to identify individual reference persons for income comparisons. We find that these reference persons come from a range of social groups. Interactions between personality traits and the direction of income comparisons lead to different levels of subjective well-being. This highlights the importance of collecting information on personality traits in research on subjective well-being. We conclude that questions about self-defined individual income comparisons can be a valuable and straightforward addition to future surveys.


The purpose of the current study was to investigate how preservice teachers perceived the utility of a psychological report for their practice (e.g., creating an individual education plan or a lesson plan). Teacher candidates, who were enrolled in an Inclusive Education course, used fictional psychological reports as the basis for course assignments and were then asked to rate and describe the utility of each report section. Participants reported that most sections of the report were very accessible, and that the
recommendations section was the most useful for their teaching practice. Qualitative comments revealed that teacher candidates were employing a student-focused lens and identifying information that would enable them to support students in their class. Implications are discussed with respect to how to close the knowledge gap between educators and school psychologists.


This study investigated whether some factors regarding especially pregnancy and post-pregnancy and 0–36-month-old infants’ exposure to digital screens played a role in the attention deficit hyperactivity disorder (ADHD) scores of 4–11-year-old children. The cross-sectional research method was used. The sample consisted of the mothers of 2835 (48.2%) daughters and 3042 (51.8%) sons. The children of the mothers in the sample were between 4 and 11 years old. The mothers were asked to fill in the personal information form about their children and the Conners Parent Rating Scale to determine the ADHD score of the child. The main results revealed associations between ADHD and digital screen exposure at 0–36 months. In conclusion, exposure to digital screen—whether much or little—for the purposes of feeding, silencing, distraction, language acquisition, and digital gaming might pose a serious risk for ADHD.


À quelques jours de la clôture des vœux sur la plate-forme d’admission postbac, le 9 mars, la cheffe de service de la Maison de Solenn propose de réfléchir à ce que l’on a envie d’expérimenter, plutôt que de choisir l’endroit où l’on serait le meilleur.


Training teachers to listen may enable them to experience increasingly attentive and open peer relationships at work. In the present research, we examined the outcomes of a year-long listening training on school teachers’ listening abilities and its downstream consequences on their relational climate, autonomy, and psychological safety. Teachers in two elementary schools engaged in a similar listening training program throughout the entire school year. The measures included indicators of a supportive relational climate that are known to be important to teacher well-being, namely, autonomy, psychological safety, and relational energy. Results of growth curve modeling showed linear increases in all three outcomes, such that more listening training corresponded to a more positive relational climate. Specifically, the teachers reported increasingly higher quality listening from their group-member teachers, felt more autonomy-satisfied, psychologically safe, and relationally energetic. Furthermore, latent growth curve modeling indicated that the teachers’ listening perception was positively and significantly associated with all three outcomes. We concluded that listening training is associated with teachers perceiving higher quality listening from their peers and, therefore, feeling more autonomy satisfied,
psychologically safe, and relationally energetic and discuss theoretical and practical implications.


At present, research on computational thinking in universities is gaining interest, and more attention is being paid to the cultivation and teaching of computational thinking. However, there is a lack of computational thinking assessment tools for college students, which makes it difficult to understand the current status and development of their computational thinking. In this study, computational thinking is regarded as the ability to solve practical problems. By analyzing the relevant literature, we identified five dimensions of computational thinking – decomposition, generalization, abstraction, algorithm and evaluation – and described their operational definitions. Referring to the Bebras and the problem situations in Google computational thinking education, we set up a life-based situation that college students are familiar with. Based on the life story situation, we developed a multidimensional assessment for college students’ computational thinking. This assessment tool contains 14 items, all of which are multiple-choice questions, and the structure and quality of the tool are verified by multidimensional item response theory. The results show that the assessment tool has good internal validity and can discriminate different disciplines of college students. The college students’ computational thinking test developed in this study can be used as an effective tool to assess college students’ computational thinking.


This study investigated the efficacy of a school-based intervention (8 sessions of 45 min) based on mindfulness and character strengths use (i.e., “Think Happy-Be Happy”). A quasi-experimental study, including assessments at baseline, post-intervention (i.e., one week after the intervention), and follow-up (i.e., six months after the intervention) was performed. Results at post-intervention revealed that adolescents who participated in all intervention sessions experienced significantly increased well-being (i.e., emotional, psychological, and social well-being) and decreased hyperactivity/inattention symptoms and peer-related problems compared to adolescents who did not participate in the intervention. The “intention to treat” analyses showed that adolescents who started the intervention, regardless of the number of sessions they attended, experienced significantly decreased hyperactivity/inattention symptoms compared to adolescents who did not participate in the intervention. However, significant outcomes were not maintained at follow-up. Nevertheless, this study demonstrates that integrating mindfulness with strengths use in school-based interventions might have the potential to promote the mental health of adolescents in terms of both increased well-being and reduced psychological problems.

The present study examines the psychometric properties of the long form (LF) of the Greek translation of the Friendship Quality Questionnaire (FQQ), a widely recognized self-report instrument that assesses children’s perceptions of the qualities of their friendships. Four hundred seventeen (417) typically developing primary-school students (50.8% boys), aged between 8 and 12 years (M = 9.77 years old, SD = 1.2), who had a mutual best friend in their class, completed the survey at school. Confirmatory factor analysis verified the six-factor structure of the original FQQ with all items fitting into the respective subscales. All factors presented high positive intercorrelations except for the Conflict and Betrayal subscale. All subscales demonstrated adequate internal consistency. Significant gender differences were observed. The Greek translation of the FQQ-LF shows strong evidence of validity and reliability and provides a suitable instrument for assessing the qualitative characteristics of best friendships.


Faute de voir dans l’élève un « corps apprenant », les approches éducatives qui prônent une sollicitation augmentée de la sphère sensori-motrice des sujets se prêvent d’un levier puissant pour justifier leur démarche et développer de nouveaux gestes pédagogiques. Après avoir fourni une définition théorique du « corps apprenant » et des exemples d’engagement marqué en cours de sciences ou de langues, nous proposons un modèle général d’organisation des activités corporelles. Nous terminons en formulant quelques principes d’évaluation qui rendent justice à la dynamique particulière des approches « par-corps ».


Rates of depression and suicide are rising in adolescents, with lesbian, gay, bisexual, transgender, and questioning (LGBTQ) youth experiencing higher rates. We examined the relationship between team sports participation, depression, and suicidal ideation among a representative sample of adolescents (n = 46,537) in the Healthy Kids Colorado Survey. Logistic regression models using team sports participation to predict depression and suicidal ideation for heterosexual; lesbian, gay, bisexual, and questioning (LGBQ); cisgender; and transgender youth demonstrated that team sports participation was associated with reduced likelihood of depression in all groups and reduced likelihood of suicidal ideation in all groups except for LGBQ youth. These findings indicate that LGBTQ youth may experience similar mental health benefits of team sports participation as heterosexual and cisgender youth, supporting the importance of inclusive sports policy and programming.

Racially and ethnically minoritized (REM) youth have been historically underrepresented in the field of school psychology due, in part, to poor program climate. Numerous strategies to increase the recruitment and retention of REM school psychology students have been put forth. Despite this, concerns regarding program climate remain and calls for the increased diversification of the field continue. The purpose of this article is to put forth the use of diversity committees (DCs) as a way to increase the recruitment and retention of REM students within school psychology. We present two case examples of DCs implemented in school psychology graduate programs. We conclude with implications, as well as future research needs as it relates to the examination of effectiveness and implementation of DCs.


Although mentoring often confers valuable benefits to the protégé, mentoring may also entail costs (e.g., time, effort, ego threat), resulting in added stressors and strain. Drawing on the job demands-resources model, the present quantitative review examines how mentoring influences protégé stressors and strains. We reviewed 90 published and unpublished studies with at least one mentoring variable and one stressor or strain measure to identify commonly studied relationships to analyze (e.g., mentoring functions received and role conflict). Due largely to heterogeneity in the operationalization of mentoring, only 18 samples representing six effects could be aggregated. Results indicate that mentoring may have both positive and negative relationships with stressors and strains. This is consistent with the job demands-resources theory, which suggests that job demands induce strain, but these job demands may be mitigated by resources that may be available via characteristics of the mentoring relationship.


The Ohio Internship Program in School Psychology was forced to adapt abruptly to the changing circumstances brought on by the novel coronavirus (COVID-19) pandemic beginning in March 2020. The purpose of this study was to determine the extent to which the school psychology internship outcomes were negatively affected by the COVID-19 pandemic in terms of supervisors’ ratings of intern competencies, the number of students served by interns, and the outcomes of academic and behavior interventions supported by interns. Findings of the annual evaluation of the Ohio Internship Program in School Psychology for the school year directly affected by the pandemic (2020–2021) were compared to the findings for the year the pandemic began (2019–2020) and the 3 years before the start of the pandemic. The results provide evidence of gains in professional competencies and positive outcomes for students served by interns. The results also highlight racial disparities in the counts of students provided school psychological services during the pandemic. Implications for school psychology graduate preparation and practice are discussed.

Fourth conference of the International Network for Didactic Research in University Mathematics. Consulté à l’adresse https://hal.science/hal-04026617
Change of math anxiety in mathematics course for non-STEM university students in Japan

It is well known that outlines can help learners establish a conceptual framework that connects new knowledge with prior knowledge, and thus promote learning. However, it is unclear whether outlines are beneficial before learning from watching an educational video. We tested the effects of two goal setting strategies on learning from a video lecture. Learners (N = 87) were randomly assigned to one of three groups: read an instructor-generated outline before the video (n = 29); read the same outline, and based on it, generate their own outline of the key ideas before the video (n = 29); control group (n = 29). The study was conducted in an eye-tracking laboratory. Learners in the instructor-generated outline group reported higher learning engagement than those in the control group. Learners in the reading and generating outline group paid greater attention to the learning materials, and had higher learning performance scores, than those in the control group. The two strategy groups did not differ from each other on learning engagement or learning performance. The findings suggest that: To improve learning, instructors should ask learners to read an instructor-generated outline, and to generate their own outline based on the instructor’s outline, before viewing the video lecture.

Problématique majeure, la santé mentale de l’enfant est dans une situation dramatique en France. En témoignent les chiffres de la prescription de psychotropes, hors de toute préconisation scientifique.

Although interest in mathematics anxiety in young children (6–11 years) has increased recently, the results of previous studies on the role of mathematics anxiety in the relationship between number sense and math performance are inconsistent. The study’s main objective was to establish whether math anxiety is a mediator or a moderator in the relationship between number line estimation (NLE) and mathematical outcomes. A cross-sectional, correlational design was used. A total of 234 Turkish public primary school children (third and fourth graders) participated in the study. The following hypotheses were tested: (1) math anxiety mediates the relationship between the approximate number system (ANS) (an easier and more difficult task of ANS) and math performance (math achievement and arithmetic fluency); (2) math anxiety moderates the relationship between ANS (an easier and more difficult task of ANS) and math performance (math achievement and arithmetic fluency). The results mostly suggest no mediation effect of math anxiety between NLE and math performance in young children. The results also
suggest that increases in difficulty level in NLE (increases of errors in NLE) is related to more anxiety regarding mathematics. Furthermore, moderation analyses indicated that the acuity of mental representation of numbers in high math-anxious children is a key factor contributing to math performance. Developmental aspects of the obtained results are also discussed in the paper.


The middle school version of the Washington Assessment of Risks and Needs of Students (msWARNs) is a self-report instrument designed for use by school personnel to identify barriers to school attendance and school success for sixth- to eighth-grade students. It measures six domains relevant to improving school outcomes that include aggression-defiance, depression-anxiety, substance use, peer deviance, home environment, and school engagement. In the present study, a bifactor S ? 1 model, for which the aggression-defiance domain was the reference factor for the general factor and the other domains constituted the subfactors, had good fit and better fit than several other alternative models. Results of multigroup confirmatory factor analysis revealed invariance across different groups defined by gender and race/ethnicity (Native American, African American, Hispanic, and White), with a sample of referred middle school students (N = 2,356; ages 10?15 years). Reliability analyses support the use of the general factor to guide decision-making, the reliable use of the depression-anxiety factor for providing additional insights, and the remaining factors for guiding communication, as part of an assessment and intervention program for middle school students.


Anxiety disorders are among the most prevalent psychopathologies in Western adolescents and have been on the rise in recent years. Not only does anxiety disrupt the daily lives of the young people who suffer from it, it can also have harmful behavioral, psychological, social, and academic effects. Given this, there is a pressing need to implement universal anxiety prevention programs for adolescents in one of their main living environments, the school. This type of program has the twofold advantage of reaching all adolescents before the onset of more significant symptoms and of promoting access to services for young people in difficulty. This study aimed to evaluate the effects of the HORS-PISTE—Exploration Cycle 1 program developed by the RBC Center for Academic Expertise in Mental Health, based on the initial level of problems presented by the students, using a preexperimental pretest–posttest design. A total of 2276 students in grades 7 and 8, with an average age of 12.65 years, from 16 high schools participated in the pretest and posttest evaluations. The results showed that the students who participated in the HORS-PISTE program reported a significant change in the intended direction for several of the variables examined between T1 and T2. In particular, decreases in anxiety symptoms, fear of being judged by others, perfectionism, internet addiction, intolerance of uncertainty, and anxiety interference, as well as an increase in the sense of self-efficacy, were observed between T1 and T2 for both boys and girls. The results also showed that students who presented at T1 with more significant anxiety symptoms and proximal risk factors experienced greater improvement than did those...
with a moderate or low level of initial problems. Overall, the results of this evaluative study of the HORS-PISTE program are promising, demonstrating positive changes in symptoms and in the main proximal risk factors for anxiety, in particular among students who initially presented with high levels of problems. This study therefore demonstrates the relevance of implementing this type of prevention program in high schools.


Temporary school lockdowns and physical distancing practices due to the Covid-19 pandemic have led to the risk of problematic social media use (PSU) in students who need to socialize. The effect of PSU on students' academic commitment and the mechanisms that moderate this effect spark interest in researchers. For this reason, the present study sought answers to the following two research questions: (a) Whether PSU positively predicts academic procrastination (AP), (b) Whether this relation is moderated by self-control and gender. Employing the additive multiple moderation model, the study was carried out with 370 Turkish middle school students (female: 65.1%, Mage: 12.82). The findings indicate that PSU positively affects AP. The positive effect of PSU on AP is higher in boys than in girls. Self-control acts as a buffering moderator in the positive effect of PSU on AP. As students' self-control levels increase, the positive effect of PSU on AP weakens. Self-control plays a greater role as a buffering moderator in girls than in boys. Regarding the context of middle school students' PSU and AP, the results extend the literature, which states that boys tend to act more impulsively. Also, this study adds new empirical evidence to the literature regarding the importance of high levels of self-control in minimizing the negative effects of PSU, which has become more common among middle school students after the Covid-19 pandemic, on AP.


Emotion is central to principals' daily operation of schools. As principals' work is intensifying, principals are increasingly encountering emotionally charged situations on a daily basis. This article uses data from a large provincial survey to explore what time demand factors contribute to these emotionally draining situations that principals are experiencing in the context of work intensification. An ordinal logit regression that is commonly employed for the analysis of ordinal categorical data was used for data analysis. The findings reveal that the time demands, such as the fast work pace, long work hours and lack of time, all work in concert to increase the likelihood of emotionally draining situations among school principals. As principals try to manage emotional situations, these contributing factors are far beyond their control. The unmanageable time demands can leave principals feeling frustrated and vulnerable and evoke negative emotions that adversely impact their own well-being as well as their schools.

This study examined the relationship between regulatory focus and creativity in combination with adaptive-innovative cognitive style and school climate. A total of 687 middle school and high school students (Mage = 13.98 years; 52.8% males) completed a creative task and questionnaires concerning regulatory focus, adaptive-innovative cognitive style, school climate, and creativity. Structural equation modeling (SEM) revealed that promotion focus positively predicted creativity through innovative style and negatively predicted creativity through adaptive style, and prevention focus negatively predicted creativity through adaptive style. SEM also showed that school climate strengthened the positive association between promotion focus and innovative style and inhibited the positive association between prevention focus and adaptive style. Furthermore, conditional process analysis suggested that school climate moderated the mediating effect of adaptive-innovative cognitive style in the relationship between regulatory focus and creativity, that is, the negative prediction of promotion focus for creativity through adaptive style occurred only when school climate was at a low level. Adaptive-innovative cognitive style mediated the association between regulatory focus and creativity. School climate moderated not only the association between regulatory focus and adaptive-innovative cognitive style but also the mediating effect of adaptive-innovative cognitive style in the association between regulatory focus and creativity.


Since 2018, a Sanitary Service for Health Students (SSHS) is being implemented throughout France. All French health students must complete their SSHS choosing one of the modules proposed by their institution to be trained to the principles of prevention and then bring them to carry out prevention and health promotion actions in their respective region. A controlled pre/post design was conducted to assess the impact of the Mental Health and Suicide Prevention (MHSP) training module on health students. Students assigned to this module were considered as exposed, and students assigned to any other module as unexposed. Health students from the Nord-Pas-de-Calais region involved in the SSHS during the school year 2018–2019 were asked to answer a self-administered questionnaire before (September 2018), and after completing their SSHS (May 2019). A total of 144 matched participants (48 in the exposed group and 96 in the unexposed group) were analyzed. When comparing the exposed group to the unexposed group, satisfaction with the training was greater (4.7 vs. 3.6 out of 5, p < 0.001), self-confidence in professional capacities improved (+1.8 vs. –0.2, p = 0.038), students were more likely to report having identified (68% vs. 48%, p = 0.043) or helped (66% vs. 18%, p < 0.001) someone, as well as having consulted for a mental health issue (13% vs. 4%, p = 0.008). In conclusion, the MHSP training module improves health students’ confidence in their professional abilities to help distressed people, promotes supportive behaviors of health students, and reinforces their help-seeking behaviors. It could be a useful tool for suicide prevention.


Teachers’ job burnout is becoming increasingly common in China. Based on the Job Demands–Resources model and Social identity theory, this study aimed to assess the
influence of professional identity on primary and secondary school teachers’ job burnout, mediating effect of career satisfaction, and moderating role of the value of competence and growth in these relationships. The cross-sectional design was conducted in this study with a total of 1362 teachers. The investigation materials included the Chinese versions of the teachers’ professional identity scale, career satisfaction scale, value and experience scale, and professional quality of life scale. The results indicated that career satisfaction mediated the relationship between teachers’ professional identity and job burnout. When the scores for competencies and growth were high, teachers’ professional identity exhibited the greatest predictive effect on burnout through career satisfaction. These findings have implications for preventing burnout among teachers.


It is worth paying attention to the level of worry and fear of students during the normalization of the epidemic. We conducted the cross-sectional study that included 182,991 high school students using an online survey to assess worry and fear levels and its influencing factors in three cities in Henan Province, China, from May 21 to May 27, 2021. Worry and fear levels were measured using a five-item Likert-type scale. Multinomial logistic regression was used to analyze the risk factors. Approximately 65.42% of students reported being high worry about the coronavirus disease 2019 (COVID-19) epidemic, and about 41.44% of students reported being high fear about the COVID-19 epidemic. In addition, compared with female, male had lower odds of suffering from a high worry, and compared with senior high school students, junior high school students were more likely to suffer from a high worry. Students lived in rural had highest odds increased likelihood of high worry. Similar results in fear levels. During the normalization period of the COVID-19 epidemic, many students have high levels of worry and fear. This study has implications for potential influencers of worry and fear levels in follow-up work.


Research has consistently demonstrated that learners are strikingly poor at metacognitively monitoring their learning and comprehension of texts. The aim of the present meta-analysis is to explore three important questions about metacomprehension: (a) To what extent can people accurately discriminate well-learned texts from less well learned ones? (b) What are the (meta)cognitive causes of poor metacomprehension accuracy? and (c) What interventions improve the accuracy of metacomprehension judgments? In total, the meta-analysis integrated 502 effects and data from 15,889 participants across 115 studies to assess these questions. The results showed a weighted mean correlation of .178 for nonintervention effects. Many interventions were shown to be effective, such as delayed summary writing and delayed keyword generation. In addition, combining different interventions tended to generate additive benefits. The findings support the transfer-appropriate monitoring account, the situation model framework, and the poor-comprehension theory as explanations for why metacomprehension accuracy is typically poor. Practical implications are discussed.

Metacognitive judgment of one’s online search process (calibration) is an important element of searching efficiency. This study investigated Chinese university students’ calibration during online information search. Fourteen students were asked to search answers for three assigned tasks. Immediately after the search, all participants attended individual interviews about their search behavior. Based on eye-tracking data of the actual search process, three profiles of searchers were identified: surface explorers, deep explorers, and smooth searchers. Eye-tracking and retrospective interview data were analyzed to examine the participants’ level of calibration. Results showed that the participants were not able to calibrate well on their searching process, with a mean score of 3.64 out of 10.0 ($SD = 1.91$), suggesting a mediocre level of calibration capacity. A moderate level of positive relationship ($r = .42$, $p > .05$) was also found between calibration scores and search performance scores, implying a general pattern wherein the high calibration group tended to perform better than the low calibration group. The findings called for integrating metacognitive judgment as a component of improving computer information literacy which, accordingly, could be used to enhance students’ ability to think critically about seeking and evaluating information.


Career development theory is critical in understanding how individuals make transitions through education and the workplace. However, despite evidence of the importance of geographical place in shaping individual trajectories, limited theoretical work has focused on the topic. In this paper, the potential for the development of a theoretical framework of career development that explicitly addresses the role of place is explored. This paper starts by outlining the limited ways that place has been conceptualised in existing career development literature, and then explores potential developments utilising the theoretical tools from careership theory and the work of Pierre Bourdieu and integrating insights from contemporary spatial theorists. The paper finishes by drawing together a spatio-relational framework for career development which both encompasses insights from the existing literature and extends this work arguing that place is a salient dimension in career development to a much more significant extent than has been previously recognised.


This paper revisits the link between education-based marriage market sorting and income inequality. Leveraging Danish administrative data, we develop a novel categorization of marriage market types based on the starting wages and wage growth trajectories associated with educational programs: ambition types. We find a substantial increase in sorting by educational ambition over time, which explains more than 40% of increasing inequality since 1980. In contrast, sorting trends are flat with the commonly
used level of education. Hence, the mapping between education and marriage-market types matters crucially for conclusions about the role of marital sorting in rising income inequality.


This paper evaluates the impact of “Coding Girls”, an educational enrichment program designed to address the underrepresentation of women and girls in the fields of science, technology, engineering, and math (STEM) in Italy by stimulating young female students’ interest in programming and science and encouraging them to consider careers in STEM-related fields. Implemented in ten secondary schools in Turin (Italy) over the period 2019-2022, the Coding Girls program provided lab-based computer programming instruction as well as introductory talks on specific topics in STEM. The program was evaluated by randomized controlled trial. Our results show that Coding Girls had a significant and positive impact on male and female students’ programming skills and on their awareness of gender differences in the workforce. However, it did not seem to affect girls’ aspirations to pursue higher education in STEM-related disciplines. The gender stereotypes children are exposed to from a very young age tend to steer girls and young women to the humanities. This bias is deeply entrenched and difficult to modify.


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Depuis 1967, la Revue française de pédagogie constitue au sein de l’espace francophone un lieu privilégié de publication et de discussion scientifique pour la recherche en éducation. Elle aborde ces questions dans une perspective large, ouverte à des approches diversifiées et à plusieurs disciplines de référence : psychologie, sociologie, philosophie, histoire, sciences de l’éducation, etc. Généralement regroupés en ensembles thématiques, les articles donnent accès aux apports les plus récents de la
recherche en éducation. Chaque numéro comporte également une note de synthèse qui présente et problématisé les acquis, les évolutions et les questions vives de la recherche dans un domaine donné, ouvrant des horizons sur le plan national et international. Enfin, la rubrique des notes critiques apporte aux lecteurs une information et une réflexion sur les principaux ouvrages récemment parus.


Pierre Merle, sociologue spécialiste des questions des politiques éducatives, réagit aux annonces du ministre sur la mixité sociale. Pour lui certaines idées proposées par le ministre de l’Éducation sont un premier pas mais leurs effets seront limités. Pour une mixité sociale et scolaire, le chercheur prône une modification ambitieuse de la sectorisation et une offre...


En matière d’orientation, la question des déterminismes de genre reste cruciale tant il convient de combattre les stéréotypes pour favoriser fluidité, mixité, égalité. Si l’on agit parfois pour que les filles choisissent davantage les filières scientifiques, on agit plus rarement pour que les garçons aussi choisissent les filières littéraires. Une exposition, « Ils comme littéraires », peut...


Le sexisme perdure, malgré une volonté politique affichée de l’éradiquer. Quel rôle l’école peut-elle jouer dans la déconstruction – voir la non-construction – des inégalités de genre ? « De manière générale, l’école est un lieu de reproduction sociale mais aussi un lieu de changement social. Le fait de travailler les questions d’égalité fille/garçon à l’école est...


Pour Louis Maurin, fondateur et directeur de l’Observatoire des Inégalités, pour combattre les inégalités sociales à l’école, il faudrait repousser d’un an l’enseignement de la lecture. Une idée intéressante que développe et étaye l’auteur en s’appuyant sur divers travaux. « Il existe deux manières de réduire les inégalités face à la lecture. La première est de...

School choice lotteries are an important tool for allocating access to high-quality and oversubscribed public schools. While prior evidence suggests that winning a school lottery decreases adult criminality, there is little evidence for how school choice lotteries impact non-lottery students who are left behind at their neighborhood school. We leverage variation in actual lottery winners conditional on expected lottery winners to link the displacement of middle school peers to adult criminal outcomes. We find that non-applicant boys are more likely to be arrested as adults when applicants from their neighborhood win the school choice lottery. These effects are concentrated among boys who are at low risk of being arrested based on observables. Finally, we confirm evidence in the literature that students who win the lottery decrease adult criminality but show that after accounting for the negative impact on the students who forego the lottery, lotteries increase overall arrests and days incarcerated for young men.


Immigrant-origin (I-O) youth face increasing anti-immigrant rhetoric in the United States, including in their schools. School-based intergroup dialogue programming may help I-O youth and their peers build a more inclusionary culture. We qualitatively examined how I-O youth and their peers experienced a week-long school-wide intergroup dialogue program that aimed to foster connection among participants at a Northeastern high school. Participants’ (N = 159) experience in the program were analyzed using post-program reflections. Participants were 53% female and 74% underclassmen; 59% Latinx, 14% Black, 13% multiracial, 9% White, and 5% Asian and Middle Eastern; generationally, 54% identified as second-generation immigrants, 38% as nonimmigrant origin, and 8% as first-generation. Participation in the program produced mixed results. For many, participation led to a greater sense of connection; youth reported that they learned about their peers, the immigrant experience, and sometimes, themselves. Connection was especially fostered among the dominant demographic groups in the school: second-generation and Latinx youth. Learning about others was less likely to cultivate connections when participants could not relate their own experiences, and at times even made participants feel more different from their peers. Intergroup dialogue has the potential to foster connection when participants are able to relate across experiences.


Les politiques de mixité sociale amènent-elles vraiment les élèves à diversifier leurs fréquentations et à nouer des amitiés hors de leur milieu d’origine ? Retour sur une enquête au collège.


This article assesses the impact of a two-year long project-based learning program conducted by the National Opera of Paris in a large number of middle schools located in underprivileged areas, aiming at preventing school dropout and tackling educational inequalities by providing disadvantaged students with the opportunity to discover the
world of opera. Taking a counterfactual approach (propensity score matching), we measure the impact of participation in the program on final exam and continuous assessment grades. The analysis displays mixed results: a significant and positive impact for the students who participate in the program for its whole duration (two years), at least for continuous assessment scores, but a negative impact for those who leave the program after only one year. The contrast between the effects of full and partial participation in the program suggests that these may be primarily due to a selection effect in favor of the most culturally and socially compliant students, in line with Bourdieu’s and Passeron’s reproduction theory (1997 [1970]) rather than a mobility effect (DiMaggio, 1982) resulting from the transfer of cultural capital to disadvantaged students.


This study aimed to explore factors related to academic success (resilience) for students with socioeconomic disadvantages (SED) from the individual, school, and family domains. We also compared such factors with the results for students with socioeconomic advantages (SEA). A sample of 1767 eighth-graders (851 students with SEA and 916 students with SED) from a city in northern China completed the questionnaires online. We found that (a) the common factors related to academic success for students with SED and SEA are high educational expectations, intrinsic motivation, positive parent–child relationships, and schools with high socioeconomic status; and (b) the unique factors for students with SED (but not SEA) are appropriate parental involvement with more concern in daily life but less concern in study and close peer relationships. Findings highlight social support as a protective factor against academic failure, especially among students from low-income families.


Previous research has shown that parents respond to differences in their children’s potential by providing them with different levels of support, and that such support allocation decisions are shaped by socioeconomic status (SES). We extend this observation to the assumption, raised in research on parental compensation and social mobility, that not only the allocation, but also the form of support provided is socially stratified. Specifically, we investigate whether socioeconomically advantaged parents use mechanisms that do not rely directly on cognitive enhancement. Drawing on data from three consecutive waves of the German TwinLife study (N=962), we use twin fixed-effects models to examine how parents respond to their children having different grades. We investigate parental support strategies, including help with schoolwork and school-related communication, encouragement and explicitly formulated expectations, and extracurricular cognitive stimulation. Our findings suggest that high-SES parents tend to compensate for their children’s poor performance by helping them with schoolwork, fostering communication, and formulating academic expectations and encouragement. In contrast, we found no evidence that parents in either high- or low-SES families respond to differences in their children’s school performance by providing them with extracurricular cognitive stimulation.


Despite the group of Newly Arrived Migrant Students (NAMS) being very diverse, their educational outcomes are homogeneous and rather weak in many countries. In Flanders (Belgium) the educational trajectory of NAMS starts in a separate program that prepares them for their transition to regular secondary education. Rather than seeing the outcomes of reception education as the result of the behaviour of individual teachers and students, we argue that this problem should be addressed using a field approach that directs attention to the structural relationships between reception education and regular education. We rely on Bourdieu’s agency-structure bridging concept of social fields to reveal this relative position and the implicit assumptions or doxa that sustain it. Administrative data on teachers and students in secondary education, as well as policy texts, the transcripts of 37 interviews with teachers and the fieldnotes from the observations of 28 admission councils were analysed.

Teachers are increasingly required to enact assessment policies in digitalised spaces, raising ethical issues of privacy and surveillance in the process. Yet, while policy enactment has been examined extensively, there remains research uncertainty around the ethical dimensions associated with assessment policy in digitalised settings. Drawing upon Ball et al.’s Typology of Policy Positions, and utilising Australian teachers’ interviews, we illustrate how the policy positions of the latter were shaped by critical ethical incidents in digitalised conditions. We describe how teachers struggled to reconcile their ethical obligation to provide valid assessment outcomes with their duty of care, procedural institutional commitments, and the need to protect student privacy. To ensure ‘ethical assessment’ practices that best fulfil their obligations, the educators were not confined to one policy position, rather they moved across roles, also framed as moral recuperation mechanisms. Regulations to help facilitate policy enactments of ‘ethical assessment’ in digitalised contexts are suggested.


L’égalité réelle et l’égalité professionnelle entre les sexes reste un enjeu, également dans les métiers de l’Education Nationale, majoritairement féminins. A l’aune d’une répartition genrée des métiers, leur revalorisation salariale, et sociale, ne serait-elle pas un levier essentiel pour une égalité réelle femmes-hommes, pour une société plus égalitaire et solidaire ? Parce que les femmes sont...


Depuis longtemps, la recherche montre que l’espace cour de récréation est un lieu où se joue la construction des stéréotypes de genre. « « Se rendre compte que nos gestes professionnels participent malgré nous à reproduire les stéréotypes et les inégalités de genre, cela peut être douloureux ! » témoigne Virginie Morin, directrice de l’école élémentaire Saint Exupéry de...


Marc Bablet, membre du bureau et du comité scientifique de l’OZP, réagit aux annonces du Ministre pour une meilleure mixité sociale et scolaire. L’ancien chef du bureau de l’éducation prioritaire à la DGESCO déplore que ces annonces soient le « fruit d’un travail des services administratifs et du cabinet, sans association véritable de tous les acteurs...


This study provides evidence on the immediate and long-term effects of parental separation and union dissolution on children’s test scores. We use administrative full population data on parents moving out of the joint home and national school-administered low-stakes test. First, a staggered event-study design finds long-term
negative effects on test scores with indications of a dynamic effect increasing by time since separation. Results hold when applying recent innovation in difference-in-differences methods. Further, the decline in test scores originates from the middle of the skill distribution. Second, we demonstrate plausible indications of an immediate negative effect of parental separation on children’s test scores using a regression discontinuity design, with the difference in time between test date and parental separation as the running variable.


Occupational gender segregation is still a persistent problem in the labor market. This study investigates gender differences in gender typicality and prestige of occupational aspirations in early adolescence, as well as the role of agency and communion in these differences. In total, 2779 adolescents (age 11–15) reported their occupational aspirations, later coded for gender typicality and prestige. Participants also described themselves spontaneously with three attributes, then coded in terms of agency and communion. The results showed significant gender differences in a stereotypical direction for 40% of the occupations named, with boys expressing a clear preference for male-dominated and girls for female-dominated occupations. Conversely, the results revealed higher aspirations among girls regarding occupational prestige. Communion was found to be a significant mediator between gender and aspirations to typically feminine occupations, while agency mediated the relationship between gender and the prestige of aspirations. The findings’ implications for theory and practice are discussed.


External privatisation of public education has emerged in Finland in the admission to higher education. A field analysis of thematic interviews (N = 22) with powerful actors in the private educational market and middle-class young people applying for places at universities in the highly competitive disciplines of medicine and law was conducted. The research task was to examine the discourses that construct the limits of the public and private fields, and the kind of homology that emerges. Four discourses were identified: support, business, social responsibility, and personal responsibility. The private field distinguished itself from the public fields through the discourse of business and attached itself to it through the discourse of support. The dominance of the symbolic power of
transformed economic capital in the private field mobilised in the public field was misrecognised during the admission process as ‘motivation’. The homology between the two fields was strong yet hidden.


Purpose: A growing number of school districts have recently added a position to the superintendent’s cabinet, often titled chief equity officer. While the chief equity officer position is still in its early stages, we have an opportunity to examine insights from this work in the higher education context—both to support the adoption and implementation of the position, and the change work the chief equity officer will lead throughout the organization. The following conceptual question guides our analytical review: How can the role of chief equity officer be meaningfully and thoughtfully adapted for K-12 schools and districts in a critical anti-racist manner? Moreover, how might insights from higher education and scholarly knowledge on the nature of educational institutions, change within organizations, leadership practice, and learning inform the development of this role? Proposed Conceptual Argument: While the chief equity officer position was initially developed in response to historic and systemic inequities, over time, as this position becomes standardized through a process scholars call mimetic isomorphism, it runs the risk of becoming symbolic, only serving to signal an organization’s commitment to equity-oriented work without meaningfully attending to its structures for learning, policies, or practices. Implications: Chief equity officers have a formal role within the district; however, their work requires an organizational commitment, from educators and educational leaders, for anti-racist systemic change. Structural, financial, and personnel-oriented supports are critical. Training programs for educators and leaders should thoughtfully prepare future chief equity officers, and continue to extend existing efforts to prepare anti-racist, equity-oriented principals, superintendents, teachers, and other educational leaders.


Methods for estimating causal impact aim to either remove or reduce bias. This study estimates the degree of bias reduction obtained from regression adjustment and propensity score methods when only a weak set of predictors are available. The study uses an experimental test of providing emergency financial assistance to participants in a job training program to estimate an experimental benchmark and compares it to nonexperimental estimates of the impact of receiving assistance. When estimating the impact of receiving assistance, those who received it constitute the treatment group. The study explores two different comparison groups: those who could have (because they were assigned to the experimental treatment group) but did not receive emergency assistance; and those who could not receive emergency assistance because they were randomly assigned to the experimental control group. It uses these groups to estimate impacts by applying three estimation strategies: unadjusted mean comparison, regression adjustment, and inverse propensity weighting. It then compares these estimates to the experimental benchmark using statistical tests recommended by the within-study comparison literature. The nonexperimental approaches to addressing
selection bias suggest large positive impacts. These are statistically different from the experimental benchmark, which shows that receipt of emergency assistance does not improve educational progress. Further, over 90% of the bias from a simple comparison of means remains. Unless a stronger set of predictors are available, future evaluations of such interventions should be wary of relying on these methods for either unbiased estimation of impacts or bias reduction.


As contemporary research explores the social and cultural dynamics of school bullying, notions of space and time provide avenues to unpack youth-centred insights into students’ bullying experiences. Furthermore, spatiotemporal analysis demonstrates the links between similar experiences, such as bullying and relationship violence, that are often siloed in research and policy. Yet, within this converging field, there are contradictory accounts, from both young people and researchers, of the school as both a non-violent space and a space filled with unseen violence. In this paper, I argue that this contradiction reveals an essential aspect of young people’s experience of bullying in schools. To develop this approach, school bullying is conceptualised in this paper as ‘social violence’ with a momentum that can linger and become institutionalised in the architecture of schools.


We study whether female students benefit from being taught by female professors, and whether such gender match effects differ by class size. We use administrative records of a German public university, covering all programs and courses between 2006 and 2018. We find that gender match effects on student performance are sizable in smaller classes, but do not exist in larger classes. This difference suggests that direct and frequent interactions between students and professors are important for the emergence of gender match effects. Instead, the mere fact that one’s professor is female is not sufficient to increase performance of female students.


Addressing in-service teacher professional development is a significant issue for educational stakeholders as reform movements mobilize to replace teacher-led instruction with student-centred pedagogies. Teachers need access to high-quality professional development to mitigate implementation problems associated with reform practices. Drawing on critical ethnography, I followed the year-long professional journey of six in-service science teachers in Quebec, Canada. Video-recorded professional development meetings and semi-structured interviews captured how teachers worked to enact sophisticated inquiry-based teaching practices. I have used a Bourdieusian lens to examine teachers' shifting habitus as they professionally develop in collaborative professional development. Findings suggested that the field of educational reform is transformative when teachers engage with a professional learning model emphasizing
critical reflection and collaborative discourse. Using Bourdieu’s concept of habitus and field, findings illustrate the benefits of pedagogic work on teachers’ repertoires of practice to understand the generative potential of professional development to transform teachers’ instructional practices.


We study the intergenerational effect of education policy on crime. We use Swedish administrative data that links outcomes across generations with crime records and we show that the comprehensive school reform, gradually implemented between 1949 and 1962, reduced conviction rates both for the generation directly affected by the reform and for their sons. The reduction in conviction rates occurred across many types of crime. Key mediators for this reduction in the child generation are an increase in education and a decline in crime amongst their fathers.


À l’occasion de la Journée internationale des droits des femmes, le ministère de l’Enseignement supérieur et de la Recherche présente l’édition 2023 de la brochure.


A considerable body of sociological literature has examined the role that education plays in the ongoing reproduction of class-based inequalities. However, there is a relative lack of research that has focused on the reproduction of inequalities linked to the combined influences of disability and social class. Based on a qualitative study of 19 Australian families, this article examines how the strategies that mothers adopt to advocate for their dyslexic children are shaped by social class. We argue that the expectation by schools that mothers will advocate for their child reproduces inequality because advocacy hinges on mothers having access to specialised cultural capital and considerable financial capital. Our findings also indicate that there is a reliance on mothers to advocate for their child in order to get support. We argue that this reliance on advocacy shifts responsibility for inclusion from the state to mothers, further reproducing a system that is exclusionary of students with disabilities.


The 2023 Gender, Education and Skills Report on the persistence of gender gaps in education and skills presents fresh insights on progress towards gender equality in education, from proficiency in reading, mathematics and science through to career...

Les inégalités de scolarisation des enfants (6-12 ans) et des jeunes (12-15 ans) est préoccupante dans toute société et particulièrement en République Démocratique du Congo (RDC). Objet de débat et de discussion parmi les politiciens, les chercheurs et les organismes nationaux ou internationaux, (Rayou & Van Zanten, 2011 ; Reboul, 2016), le droit d’accéder à l’éducation est loin d’être appliqué à tous les enfants du monde. Il l’est encore moins au Sankuru, notre terrain de recherche. Une jonction des facteurs permet d’expliquer et de comprendre le paradoxe du maintien des inégalités d’accès et de condition de scolarisation des enfants dans un contexte d’expansion de l’enseignement primaire et secondaire au Sankuru : le manque d’écoles publiques, la non application du principe de gratuité, le manque de moyens financiers, matériels et humains. Le rapport entre la politique publique et éducative de la province du Sankuru est ici capital. Notre échantillon diversifié, composé d’écoles et de personnes (élèves, parents, personnel éducatif, décideurs politiques, paysans, commerçants et boutiquiers) nous a permis de mener des entretiens et observation du terrain. L’analyse des données recueillies du terrain nous a permis de constater des inégalités résultant de politiques discriminatoires mises en œuvre par les pouvoirs publics, dont certaines familles et enfants sont victimes. Une violence symbolique (culturelle) intrafamiliale s’observe aussi, expliquant la disparité d’accès à l’école entre les filles et les garçons.


Existing inequalities in STEM-related vocational-technical education (VTE) programs are more prevalent than within 4-year programs. Situated in Chile, this study tests whether Social Cognitive Career Theory (SCCT) adequately explains career development among students enrolled in STEM-VTE programs. In doing so, it also examines how external factors such as supports, barriers, and secondary track differentially affect career development by gender. Using a sample of 698 students in their second year of STEM-VTE studies, we confirmed that the SCCT model produced a good fit for the data in this alternative institutional setting. The findings also showed few gender differences in the effects of external factors on self-efficacy and career expectations, except for teaching support that substantially alters these cognitive factors to more extent among males than females. Moreover, although self-efficacy beliefs were similar between gender, gains in career expectations due to these beliefs are lower for female students. We conclude by discussing implications for future research and practice.


How do leaders make the impossible choice between harm enacted on racially oppressed students and families, and harm enacted on them as advocates for racial justice in systems steeped in whiteness? How do they negotiate multiple harms in Black and Brown bodies? Purpose: Situated in between the literature on tempered radicalism and Applied Critical Leadership (ACL), this study explores the experiences of six Black
and Brown mid-level and senior-level district leaders in Greater Toronto Area, in Ontario, Canada. Research Methods/Approach: We draw on counter-narrative methodologies including in-depth oral history interviews and ongoing communication with participants to explore the impossibilities and possibilities of leading for racial justice. Findings: Impossibilities include complicities and complexities, accountabilities and alliances, and different metrics, different expectations. Possibilities include present and future hopes, personal power and voice, and joy and fulfillment. Implications for Research and Practice: This study adds to the literature on critical race-tempered radicalism by offering three important shifts in perspectives about leading for racial justice that blur revolutionary leadership and ACL. These include challenging a politics of representation and the necessary change in metrics, accountability measures, and systemic necessary to demonstrate the readiness for anti-racist leadership; anti-racist leadership as messy, ambiguous, and contextual that make space for complicities and complexities of this work; and anti-racist leadership beyond anti-racist leaders, which recognizes leadership beyond any one person, role, location, or generation.


Peers may both promote conformity and discourage ambitious choices when students make educational decisions. Low socioeconomic status (SES) students may be more sensitive to outside influence than high SES students when making educational decisions. Considering the case of choosing between an academic track and a vocational track in Danish post-compulsory education, I test whether low SES students are more prone to conform to peer preference or more likely to be deterred from choosing the more ambitious academic track by more ambitious peers. I test these hypotheses using multilevel models with school fixed effects on survey data from 882 Danish 9th-grade students, with information on track choice and survey measures of normative track preference. I find that higher classroom peer preference for the academic track is associated with higher probability of choosing the academic track, especially for low SES students. Thus, ambitious peers may help compensate for inequality in track choice.


This paper explores the ways in which white monolingual and monocultural English teachers articulate racial issues and conceptualise the racial identities of multiply-marginalised students in the classroom context. Drawing on the work of Charles Mills, this contribution aligns with an understanding of white supremacy as a means to historically dispossess, assimilate, and eliminate negatively racialized and language-minoritized communities, through mechanisms of Western settler-colonial hegemony and English language teaching. The authors present a qualitative case study of discursive practices of white English language educators who, despite their intentions to be inclusive, often (re)produce white supremacist values, language, and knowledges. Finally, this paper supports a more critical approach to the field of English language teaching, which recognizes and contends with whiteness and white supremacy in the co-construction of negatively-racialized and language-minoritized identities.

The middle school version of the Washington Assessment of Risks and Needs of Students (msWARNS) is a self-report instrument designed for use by school personnel to identify barriers to school attendance and school success for sixth- to eighth-grade students. It measures six domains relevant to improving school outcomes that include aggression-defiance, depression-anxiety, substance use, peer deviance, home environment, and school engagement. In the present study, a bifactor $S^2 1$ model, for which the aggression-defiance domain was the reference factor for the general factor and the other domains constituted the subfactors, had good fit and better fit than several other alternative models. Results of multigroup confirmatory factor analysis revealed invariance across different groups defined by gender and race/ethnicity (Native American, African American, Hispanic, and White), with a sample of referred middle school students (N = 2,356; ages 10-15 years). Reliability analyses support the use of the general factor to guide decision-making, the reliable use of the depression-anxiety factor for providing additional insights, and the remaining factors for guiding communication, as part of an assessment and intervention program for middle school students.


Although previous studies have investigated the contribution of several components of the school choice paradigm to school segregation, one critical aspect has not received attention from segregation scholars: schools’ priority rules, that is, the rules schools apply in case of oversubscription. We evaluate how three priority rules – grade-based, distance-based, and random-based – shape school segregation. Using Swedish register data on students’ applications to upper secondary education in Stockholm, Sweden, we assess the effect of these priority rules from two counterfactual frameworks. One uses actual students’ rank-ordered lists, and the other relies on a large-scale simulation framework. We show that grade-based and distance-based priorities produce higher levels of segregation than random-based priorities through different mechanisms. Our results hold, even when we control for students’ school preferences and residential segregation.


Scholars have recognized young people’s educational expectations as a key factor in predicting educational outcomes, but few studies have attempted a comprehensive classification of how young people’s educational expectations are shaped. In this article, I outline a typology of how young people from different social class origins shape their educational expectations. Drawing on 100 interviews with 15-year-olds, I find two underlying dimensions in young people’s accounts of their educational expectations: how risk aware they are and how goal oriented they are. These dimensions translate into a heuristic model for understanding the structure of young people’s educational expectations. I identify four major approaches to shaping educational expectations - the confident, the determined, the explorative, and the anxious - and show how these approaches connect to the young people’s class origin. The typology of approaches offers a conceptual framework for understanding the mechanisms that lead young people to shape their expectations in qualitatively different ways.

Temporary school lockdowns and physical distancing practices due to the Covid-19 pandemic have led to the risk of problematic social media use (PSU) in students who need to socialize. The effect of PSU on students’ academic commitment and the mechanisms that moderate this effect spark interest in researchers. For this reason, the present study sought answers to the following two research questions: (a) Whether PSU positively predicts academic procrastination (AP), (b) Whether this relation is moderated by self-control and gender. Employing the additive multiple moderation model, the study was carried out with 370 Turkish middle school students (female: 65.1%, Mage: 12.82). The findings indicate that PSU positively affects AP. The positive effect of PSU on AP is higher in boys than in girls. Self-control acts as a buffering moderator in the positive effect of PSU on AP. As students’ self-control levels increase, the positive effect of PSU on AP weakens. Self-control plays a greater role as a buffering moderator in girls than in boys. Regarding the context of middle school students’ PSU and AP, the results extend the literature, which states that boys tend to act more impulsively. Also, this study adds new empirical evidence to the literature regarding the importance of high levels of self-control in minimizing the negative effects of PSU, which has become more common among middle school students after the Covid-19 pandemic, on AP.


This study examines how social context, in this case, income inequality, shapes the role of cultural capital in educational success. First, we revisit the associations between (objectified) cultural capital and academic achievement, and cultural capital’s role in mediating the relationship between family SES and academic achievement. More importantly, we explore how national-level income inequality moderates these two relationships. By analyzing a multilevel dataset of 32 OECD countries, a combination of PISA 2018 data and several national indexes, we find that: (1) cultural capital not only has a positive association with students’ academic achievement but also acts as a significant mediator of the relationship between family SES and academic achievement in OECD countries; (2) both cultural capital’s association with academic achievement and its mediating role are stronger in more equal countries than in unequal ones. The findings shed new light on understanding how cultural capital shapes intergenerational education inequality across countries with different levels of inequality.


Quand il n’est pas empêché par les déclarations du Président sur l’innovation ou de son épouse sur l’uniforme, quand il n’est pas empêtré dans les déclarations contradictoires sur la pseudo-revalor
I evaluate the effect of wildfire smoke on primary and middle school students’ English Language Arts (ELA) and math achievement across the United States. To estimate students’ exposure to wildfires at the school district level, I merge satellite-based wildfire smoke plume boundaries and 1km-grid daily PM2.5 values with school district locations, and weight the exposure by census tract population. I find that recent drifting wildfire smoke plumes significantly lower ELA and math test scores. When I proxy the wildfire intensity by PM2.5, results suggest that severe wildfires generate lasting effects on young students in primary school. Effects are only transitory for students in middle school. Further analysis reveals that Black students in primary school and economically disadvantaged students are more negatively affected than others. Males are more affected by unhealthy air quality in elementary ELA and middle school math than female students. Overall, findings suggest that more environmental and educational policy responses are needed to protect students with the increase in wildfire occurrence and intensity.

Comment et dans quelle mesure les étudiants-adultes chinois ont reconsidéré leurs propres identités individuelles et familiales, les rôles joués par leurs parents, et les liens tissés entre deux générations dans un contexte de communication à distance ? Tel est l’objet de cette recherche doctorale. Les étudiants-adultes qui nous intéressent ont grandi sous la politique de l’enfant unique et de grands changements sociaux historiques qui leur permettent à la fois de capter l’attention de toute la famille et d’interagir davantage avec l’extérieur. Pour répondre à notre question initiale, nous nous sommes intéressés à ceux qui se trouvent actuellement en France pour y suivre une formation et obtenir un diplôme. Ces jeunes adultes ont accès à de nouvelles valeurs qui ne sont pas toujours compatibles avec les traditions transmises par leurs parents, surtout dans le domaine familial. Les jeunes adultes, au contraire, revendiquent de plus en plus souvent d’être traités par leurs parents comme vrais adultes qui peuvent profiter d’une autonomie individuelle. En nous appuyant sur un corpus original d’entretiens individuels effectués en région parisienne, nous cherchons à conduire ce travail empirique. Nous étudions, tout d’abord, comment les relations parents-enfant chinoises sont construites et analysons les caractéristiques et les origines du lien filial chinois. Notre travail explore ensuite, à distance, les manières dont se manifestent les relations intergénérationnelles dans la vie quotidienne, à savoir les échanges entre les étudiants-adultes en France et leurs parents en temps normal et pendant la crise sanitaire, les objectifs des communications et surtout les manières de s’interagir en s’appuyant sur les fonctions de l’application Wechat. À travers ces détails, nous tentons de saisir le rapport de force entre les enquêtés et leurs parents perçu par les jeunes adultes. Nous identifions ainsi les attentes parentales aux yeux de la jeune génération et voyons comment les étudiants-adultes y répondent. Notre démarche nous conduit à souligner les effets genrés, aussi bien pour les enquêtés que pour leurs parents sur les modalités de pratiques numériques dans leurs échanges quotidiens. En nous appuyant sur les comportements des enquêtés et de leurs parents interprétés par eux-mêmes, nous analysons les reconfigurations des relations familiales et les changements des rôles de chacun au sein de la sphère familiale.

Using three-wave longitudinal data, this study tested the potential mediating roles of teacher–student relationship quality and teachers’ career support efficacy in the association between Chinese adolescents’ family socioeconomic status (SES) and career development (N = 1410). Results showed that adolescents’ family SES at Wave 1 was negatively associated with their career ambivalence at Wave 3 via positive associations with both teacher–student relationship quality and teachers’ career support efficacy at Wave 2. Moreover, adolescents’ family SES at Wave 1 was positively related to career adaptability at Wave 3 via its positive association with teachers’ career support efficacy at Wave 2. This study highlighted the important role of teacher–student interaction in adolescents’ career development.


Despite the vast body of research focusing on peer effects in education, the role of the immediate peer environment in school choice has been understudied to date. We study the extent to which students from the same primary school cluster in the same secondary school, and how this effect varies by a student’s socio-economic background. We use register data from the Netherlands, covering six cohorts of students (2013–2019), that enable us to account for selection into primary schools and other endogeneity issues when identifying peer effects. The results indicate that students are more likely to choose a secondary school when students from their primary school cohort also choose this school, even after accounting for school popularity trends. We find evidence that students from socially disadvantaged backgrounds are more likely to cluster in the same secondary school as their primary school peers, yet these differences are small.


This study aimed to evaluate the short-term effects of the social networking safety promotion and cyberbullying prevention presentation of the Arizona attorney general’s guided by the extended parallel process model (EPPM). A quasi-experimental (a pre-posttest) was used with two groups with random assignment to intervention. A total of 389 adolescents in seventh, eighth, and ninth grades at two public middle schools in Muscat city were involved in the study procedures and randomly divided into two groups (the experimental group (n = 186) and the waiting list group (n = 203). The risk behavior diagnostic scale, behavioral intention and attitudes scale, coping strategies with cyberbullying scale, and self-protection behavior intentions were used. Five separate presentations (each presentation was 60 min, one presentation per week) were introduced to the adolescents in the experimental group. The results supported the efficacy of the intervention in changing adolescents’ attitudes and behavioral intentions.
against cyberbullying and promoting their security and safety during their use of social networks. Also, the intervention has a significant effect on the four EPPM components (susceptibility, severity, self-efficacy, and self-efficacy responses) and the participants learned coping skills to deal with potential cyberbullying incidents).


Preservice teachers will one day be responsible for addressing bullying among their students but their readiness to fulfill this critical role is unknown. This article addressed this line of inquiry by conducting a systematic review assessing preservice teachers' knowledge, attitudes, sense of responsibility, and confidence to deal with bullying. A total of 42 studies met our inclusion criteria and were included in our review. Results suggest that few preservice teachers understand the hallmarks of bullying. In terms of their attitudes toward bullying, most preservice teachers report they are concerned about bullying, but some still believe it to be a normal part of growing up. Preservice teachers tended to view different forms of bullying as more serious than others, with many considering physical bullying to be the most serious form. Most preservice teachers report feeling responsible for dealing with bullying, yet many do not feel confident in their ability to do so. Implications for future research on preservice teachers, teacher preparation programs, and future efforts to reduce bullying in schools are discussed.


Suicide is a significant public health concern school-aged youth. Although a growing body of literature has documented the association between cyberbullying and suicidal ideation, and the mediating effect of internalizing symptoms, there is no research to date examining the impact of witnessing cyberbullying and suicidal ideation. To address this gap, we conducted a cross-sectional study with middle school students (N = 130). Students completed questionnaires assessing witnessing cyberbullying, witnessing school bullying, depression, anxiety, and suicidal ideation. We used structural equation modeling to test a mediational model in which we hypothesized internalizing symptoms would mediate the unique relationship between witnessing cyberbullying and suicidal ideation (i.e., controlling for witnessing school bullying). Results supported the mediational model, indicating the frequency of witnessing cyberbullying was positively related to internalizing symptoms, which in turn were related to higher levels of suicidal ideation. Findings suggest the importance of providing programs to support middle school students who witness cyberbullying to reduce the mental health risks (i.e., internalizing symptoms and suicidal ideation) associated with being a cyberbullying bystander.


Working in academia entails many challenges including rejections by journals, competition for funding or jobs, and uncertain job outlooks (for non-tenure staff), which can result in poor mental health and well-being. Previous studies have suggested self-compassion as a resource for mental health and well-being, but to date no study has been published that has tested interventions targeting self-compassion in academia. In
this weekly diary study, 317 academics from Germany, Switzerland, and the US were asked to recall a negative event and were then randomly assigned to either a self-compassionate writing intervention, a three good things intervention, or an active control intervention, respectively. They also completed two surveys on four consecutive Thursdays measuring state positive and negative affect and job-related well-being (i.e., job satisfaction and work engagement). Using multi-level regression modelling, results showed that participants in the self-compassion condition reported more job satisfaction and work engagement due to experiencing less negative affect. Academics in the three good things condition showed no such effects. Results indicated that self-compassion in academia is a resource that enables emotion-oriented coping during difficult times or in challenging situations that may benefit academics’ job-related well-being. The study highlights both the importance of discussing well-being in academia and ways to strengthen it.


Empirical evidence supports the hypothesis that an individual’s position in an income stratum—more than the absolute income level—determines subjective well-being. However, studies on subjective well-being suffer from a critical methodological weakness: they use exogenously defined reference groups. Our study addresses this point by applying an innovative new survey instrument. We ask respondents to identify individual reference persons for income comparisons. We find that these reference persons come from a range of social groups. Interactions between personality traits and the direction of income comparisons lead to different levels of subjective well-being. This highlights the importance of collecting information on personality traits in research on subjective well-being. We conclude that questions about self-defined individual income comparisons can be a valuable and straightforward addition to future surveys.


As contemporary research explores the social and cultural dynamics of school bullying, notions of space and time provide avenues to unpack youth-centred insights into students’ bullying experiences. Furthermore, spatiotemporal analysis demonstrates the links between similar experiences, such as bullying and relationship violence, that are often siloed in research and policy. Yet, within this converging field, there are contradictory accounts, from both young people and researchers, of the school as both a non-violent space and a space filled with unseen violence. In this paper, I argue that this contradiction reveals an essential aspect of young people’s experience of bullying in schools. To develop this approach, school bullying is conceptualised in this paper as ‘social violence’ with a momentum that can linger and become institutionalised in the architecture of schools.


This research strives to enrich criminological and educational literature by providing a better understanding of relationships among school performance and achievement,
attendance, and demographic information based upon the number of exclusionary disciplinary actions within public high schools. Using data on 409 traditional high schools from the Pennsylvania Department of Education, this quantitative study uses path analysis to examine the relationships between school factors, including demographics and achievement measures, and exclusionary discipline. The findings indicated a direct relationship between a school’s drop-out rate, AP courses, and standardized test scores and the school’s total number of exclusionary disciplinary actions. In addition, socioeconomic status and attendance rates indirectly impacted exclusionary disciplinary actions. The study also determined a correlation between the number of minority students within a school and the total number of disciplinary actions. These findings have a number of implications for school systems that hope to eliminate the school-to-prison pipeline.


This study examined the relationship between regulatory focus and creativity in combination with adaptive-innovative cognitive style and school climate. A total of 687 middle school and high school students (Mage = 13.98 years; 52.8% males) completed a creative task and questionnaires concerning regulatory focus, adaptive-innovative cognitive style, school climate, and creativity. Structural equation modeling (SEM) revealed that promotion focus positively predicted creativity through innovative style and negatively predicted creativity through adaptive style, and prevention focus negatively predicted creativity through adaptive style. SEM also showed that school climate strengthened the positive association between promotion focus and innovative style and inhibited the positive association between prevention focus and adaptive style. Furthermore, conditional process analysis suggested that school climate moderated the mediating effect of adaptive-innovative cognitive style in the relationship between regulatory focus and creativity, that is, the negative prediction of promotion focus for creativity through adaptive style occurred only when school climate was at a low level. Adaptive-innovative cognitive style mediated the association between regulatory focus and creativity. School climate moderated not only the association between regulatory focus and adaptive-innovative cognitive style but also the mediating effect of adaptive-innovative cognitive style in the association between regulatory focus and creativity.

Young, C. (2023). How to tackle cyberbullying: at school, at home and online [Data set]. https://doi.org/10.1787/257929f6-en
Cyberbullying is a growing problem worldwide and has serious consequences for students. It can take place on social media, gaming platforms and mobile phones, and often involves scaring, angering or shaming an individual or group. The experience can be incredibly traumatic for young people, who sometimes feel that escaping from it is impossible. It can also have academic consequences, with OECD data suggesting that students who are regularly bullied score lower on reading tests. As digital technologies radically change the way young people interact, communicate and get information, the OECD’s Education and Skills Directorate has released a working paper, Cyberbullying: An overview of research and policy in OECD countries, outlining ways to deal with the issue. The author, OECD analyst Francesca Gottschalk, and Christina Salmivalli, professor of psychology at the University of Turku in Finland, discuss what can be done.


During the previous decade, growth in the numbers of internationally mobile students included international high school students. Prior research on international students’ career development in higher education may not account for the unique context of younger international students in secondary schools. The current study investigated career influences for international secondary students, using the Systems Theory Framework (Patton & McMahon, 2021). International students in senior years completed written, open-ended surveys and in-person interviews regarding their career aspirations, plans and key influences on their decision-making. International student coordinators and school staff also offered their perspectives about these influences. Results indicate the inter-related systemic influences of individuals, significant relationships, location and country contexts, the secondary school environment, and perceived characteristics of occupations and future career pathways. Implications for supporting international high school students in the school setting and future research directions are discussed.


This paper evaluates the impact of « Coding Girls », an educational enrichment program designed to address the underrepresentation of women and girls in the fields of science, technology, engineering, and math (STEM) in Italy by stimulating young female students’ interest in programming and science and encouraging them to consider careers in STEM-related fields. Implemented in ten secondary schools in Turin (Italy) over the period 2019-2022, the Coding Girls program provided lab-based computer programming instruction as well as introductory talks on specific topics in STEM. The program was evaluated by randomized controlled trial. Our results show that Coding Girls had a significant and positive impact on male and female students’ programming skills and on their awareness of gender differences in the workforce. However, it did not seem to affect girls’ aspirations to pursue higher education in STEM-related disciplines. The gender stereotypes children are exposed to from a very young age tend to steer girls and young women to the humanities. This bias is deeply entrenched and difficult to modify.
The paper evaluates math performance at four high-need middle schools during a four-year intervention, which was designed to help math teachers diagnose students’ areas of need and to design lesson plans responsive to those needs. Before the intervention began, the researchers pre-selected four comparison schools by matching based on achievement and also on demographics. A difference-in-difference analysis finds a significant increase of about 0.11 standard deviation in test scores per year for students in the program schools. Supplementary event study and synthetic control analyses to detect year-by-year effects lack precision but are weakly suggestive of a smaller impact in year 1 than later years. A cost analysis considers the affordability of extending similar programs.

This report of the development of an intervention in practice outlines the design, delivery, and evaluation of a tailored, school-based, group adolescent sleep intervention utilising youth participation methodology and an intervention mapping protocol as a framework. The intervention also included supplementary video support. The intervention was delivered to 5-year 11 students attending a pupil referral unit. This alternative education provision is organised to provide education for young people who cannot participate in school and may not otherwise receive suitable education in Britain. Through co-formulation and cooperative design, the voice of the young people was sought throughout the design, implementation, and evaluation process. The behavioural objectives of the intervention were to increase stress management techniques and reduce technology usage. These were chosen to align with the overall outcomes: improving sleep behaviours and reducing negative sleep hygiene practices. Improvements in sleep behaviour and decreases in negative sleep hygiene practices were achieved post-intervention and at 4-month follow-up. Strengths of the intervention, future intervention optimisation, and implications for practice are considered.

Depuis 1967, la Revue française de pédagogie constitue au sein de l'espace francophone un lieu privilégié de publication et de discussion scientifique pour la recherche en éducation. Elle aborde ces questions dans une perspective large, ouverte à des approches diversifiées et à plusieurs disciplines de référence : psychologie, sociologie, philosophie, histoire, sciences de l'éducation, etc. Généralement regroupés en ensembles thématiques, les articles donnent accès aux apports les plus récents de la recherche en éducation. Chaque numéro comporte également une note de synthèse qui présente et problématise les acquis, les évolutions et les questions vives de la recherche dans un domaine donné, ouvrant des horizons sur le plan national et
international. Enfin, la rubrique des notes critiques apporte aux lecteurs une information et une réflexion sur les principaux ouvrages récemment parus.


This study investigated the efficacy of a school-based intervention (8 sessions of 45 min) based on mindfulness and character strengths use (i.e., “Think Happy-Be Happy”). A quasi-experimental study, including assessments at baseline, post-intervention (i.e., one week after the intervention), and follow-up (i.e., six months after the intervention) was performed. Results at post-intervention revealed that adolescents who participated in all intervention sessions experienced significantly increased well-being (i.e., emotional, psychological, and social well-being) and decreased hyperactivity/inattention symptoms and peer-related problems compared to adolescents who did not participate in the intervention. The “intention to treat” analyses showed that adolescents who started the intervention, regardless of the number of sessions they attended, experienced significantly decreased hyperactivity/inattention symptoms compared to adolescents who did not participate in the intervention. However, significant outcomes were not maintained at follow-up. Nevertheless, this study demonstrates that integrating mindfulness with strengths use in school-based interventions might have the potential to promote the mental health of adolescents in terms of both increased well-being and reduced psychological problems.


We present results from a meta-analysis of 37 contemporary experimental and quasi-experimental studies of summer programs in mathematics for children in grades pre-K–12, examining what resources and characteristics predict stronger student achievement. Children who participated in summer programs that included mathematics activities experienced significantly better mathematics achievement outcomes compared to their control group counterparts. We find an average weighted impact estimate of +0.10 standard deviations on mathematics achievement outcomes. We find similar effects for programs conducted in higher- and lower-poverty settings. We undertook a secondary analysis exploring the effect of summer programs on noncognitive outcomes and found positive mean impacts. The results indicate that summer programs are a promising tool to strengthen children’s mathematical proficiency outside of school time.


We study whether a particular socio-emotional skill - grit (the ability to sustain effort and interest towards long-term goals) - can be cultivated through a large-scale program, and how this affects student learning. Using a randomized control trial, we evaluate the first nationwide implementation of a low-cost intervention designed to foster grit and self-
regulation among sixth and seventh-grade students in primary schools in North Macedonia (about 33,000 students across 350 schools). The results of this interventions are mixed. Exposed students report improvements in self-regulation, in particular the perseverance-of-effort facet of grit, relative to students in a control condition. Impacts on students are larger when both students and teachers are exposed to the curriculum than when only students are treated. For disadvantaged students, we also find positive impacts on grade point averages, with gains of up to 28 percent of a standard deviation one-year post-treatment. However, while this intervention made students more perseverant and industrious, it reduced the consistency-of-interest facet of grit. This means that exposed students are less able to maintain consistent interests for long periods.


Anxiety disorders are among the most prevalent psychopathologies in Western adolescents and have been on the rise in recent years. Not only does anxiety disrupt the daily lives of the young people who suffer from it, it can also have harmful behavioral, psychological, social, and academic effects. Given this, there is a pressing need to implement universal anxiety prevention programs for adolescents in one of their main living environments, the school. This type of program has the twofold advantage of reaching all adolescents before the onset of more significant symptoms and of promoting access to services for young people in difficulty. This study aimed to evaluate the effects of the HORS-PISTE—Exploration Cycle 1 program developed by the RBC Center for Academic Expertise in Mental Health, based on the initial level of problems presented by the students, using a preexperimental pretest–posttest design. A total of 2276 students in grades 7 and 8, with an average age of 12.65 years, from 16 high schools participated in the pretest and posttest evaluations. The results showed that the students who participated in the HORS-PISTE program reported a significant change in the intended direction for several of the variables examined between T1 and T2. In particular, decreases in anxiety symptoms, fear of being judged by others, perfectionism, internet addiction, intolerance of uncertainty, and anxiety interference, as well as an increase in the sense of self-efficacy, were observed between T1 and T2 for both boys and girls. The results also showed that students who presented at T1 with more significant anxiety symptoms and proximal risk factors experienced greater improvement than did those with a moderate or low level of initial problems. Overall, the results of this evaluative study of the HORS-PISTE program are promising, demonstrating positive changes in symptoms and in the main proximal risk factors for anxiety, in particular among students who initially presented with high levels of problems. This study therefore demonstrates the relevance of implementing this type of prevention program in high schools.


The Covid-19 pandemic caused prolonged school closures worldwide. Children in resource- poor settings were particularly affected given their limited access to remedial distance learning opportunities through the internet, television, and radio. To address the
poor access to formal education, we designed an educational intervention consisting of a set of audio lessons that were delivered through mobile phones to primary school students using Interactive Voice Response (IVR). During the 15-week program period, parents could access the lessons for free by calling a designated phone number and listening to a lesson with their child at any time. We delivered the randomized intervention to 1,763 primary school children across 90 villages in Bangladesh during the 2021 Covid-19 school closures. The intervention improved the test scores of children in literacy and numeracy by 0.60 Standard Deviations (SD). Additionally, the intervention led to an increase in the amount of time that parents spent on homeschooling. The intervention was particularly beneficial for academically weaker students, those from the poorest strata, and those with less-educated caregivers. Our results suggest that this scalable and low-cost intervention could be leveraged in similar settings to address learning losses of marginalized students.

Marché du travail


The qualitative and granular nature of most structural indicators and the variety in data sources poses difficulties for consistent cross-country assessments and empirical analysis. We overcome these issues by using a machine learning approach (the partial least squares method) to combine a broad set of cross-country structural indicators into a small number of synthetic scores which correspond to key structural areas, and which are suitable for consistent quantitative comparisons across countries and time. With this newly constructed dataset of synthetic structural scores in 126 countries between 2000-2019, we establish stylized facts about structural gaps and reforms, and analyze the impact of reforms targeting different structural areas on economic growth. Our findings suggest that structural reforms in the area of product, labor and financial markets as well as the legal system have a significant impact on economic growth in a 5-year horizon, with one standard deviation improvement in one of these reform areas raising cumulative 5-year growth by 2 to 6 percent. We also find synergies between different structural areas, in particular between product and labor market reforms.


This paper is a first attempt to draw attention to the misconception and stigma of career interruptions and provide a new conceptualization of this widely existing career phenomenon. The unique contribution of introducing Taoism into conceptualizing career interruptions is to help bring the ontological aspects of career interruptions into a sharper focus. The present study borrows the conceptions such as Wu, Wu-Wei, and the cyclic motion of time from Chinese Taoism to reveal the attributes of career interruptions and introduce the appreciator stance into the career interruption literature. The article is structured as follows. First, an overview of the literature is provided. Second, the present study argues that a reconceptualization is needed to deal with the misconception and stigma associated with career interruptions. Third, borrowing from the wisdom of
traditional Chinese Taoism, four propositions are developed to help reconceptualize career interruptions. Implications for research and practice are discussed.


Un ouvrage montre que les préjugés peuvent être classés en quatre catégories : les compétences spécifiques, le rôle de mère, les souhaits intrinsèques et la justification de certaines inégalités.


Quatre types culturels d’accompagnement des fins de carrière ont pu être identifiés dans les pays développés et le modèle français ne semble pas le plus approprié au contexte démographique.


This article explores the role of union-centered brokerage in promoting women’s labor force participation in Organisation for Economic Co-operation and Development countries for the last three decades. Using two measures of brokerage, a union’s core brokerage role, and its general brokerage role, we attempted to capture the processes by which union activists mobilize and extend women’s rights in associational fields. Then, we tested our key argument that union-centered brokerage plays the most effective role among the different brokerage types in channeling women’s interests by transforming them into wider class-linked or cross-class concerns. Cross-national and comparative case studies demonstrate that union-led brokerage promotes greater presence of women in the economy. Our findings revealed that, when controlling for economic, regional, and cultural factors, both types of brokerage roles impact women’s participation in the labor market and their participation compared to that of men. The overall findings underscore the importance of creating and utilizing solidarity structures through effective channeling mechanisms in civic associational fields between labor-based organizations and other reform-oriented civic groups in achieving egalitarian socioeconomic goals.


Although mentoring often confers valuable benefits to the protégé, mentoring may also entail costs (e.g., time, effort, ego threat), resulting in added stressors and strain. Drawing on the job demands-resources model, the present quantitative review examines how mentoring influences protégé stressors and strains. We reviewed 90 published and unpublished studies with at least one mentoring variable and one stressor or strain measure to identify commonly studied relationships to analyze (e.g., mentoring functions
received and role conflict). Due largely to heterogeneity in the operationalization of mentoring, only 18 samples representing six effects could be aggregated. Results indicate that mentoring may have both positive and negative relationships with stressors and strains. This is consistent with the job demands-resources theory, which suggests that job demands induce strain, but these job demands may be mitigated by resources that may be available via characteristics of the mentoring relationship.


There is a workforce shortage in middle-skill occupations requiring some educational training but not a 4-year college degree, such as skilled trades (e.g., construction), transportation (e.g., drivers), and manufacturing. Identifying factors that promote adolescent interest in middle-skill occupations is crucial in combating this shortage. This study examined whether variables contributing to adolescent interest in STEM occupations, such as gender, occupation goal affordances, and occupational knowledge, extend to middle-skill occupations. Results from hierarchical linear models revealed that adolescents (N = 502) were interested in middle-skill occupations for which they felt knowledgeable and perceived to afford agentic and communal goals. The effect of perceived knowledge on interest in construction and manufacturing occupations was stronger for boys than girls. Efforts to increase interest in middle-skill occupations should address the gender gap in perceived knowledge and highlight how these occupations fulfill agentic and communal goals.


Mentoring is a valuable resource that enhances outcomes like career success. Applying conservation of resources theory, we examine the interaction effects of workers’ management aspirations and lengthy career interruption(s) on the mentoring-career success relationship. Utilizing 259 older professional workers, we test these relationships with both cross-sectional and time-separated data. Although the pattern of results was similar when comparing the cross-sectional data to the time-separated data, we found that relationships were stronger within the cross-sectional data, resulting in the support of two additional hypotheses. With the time-separated data, we found evidence of a three-way interaction. Specifically, mentoring is more valuable for the perceived career success of workers with higher management aspirations who had not experienced a lengthy career interruption than it is for workers with higher management aspirations who had experienced a lengthy career interruption or for workers with lower management aspirations regardless of whether they had experienced a career interruption.


An exploration study was conducted to explore what Chinese undergraduates considered to be a “good job.” A total of 143 (M = 21.45, SD = 1.53, 51.04% male) undergraduates from 10 cities participated in this study. The prototype research methodology was applied to explore the underlying complex structure of the “good job.” The results revealed 157 items associated with the “good job” that were merged into two
categories “high-quality work” and “high-quality life.” Furthermore, each category included basic- and superordinate-levels prototypes. The structure depicted Chinese undergraduates’ expectations of a “good job” and emphasized the importance of work-life balance among young people. Additionally, traditional Chinese culture was consistently found to have a significant impact on young people’s expectations of a “good job.” These findings have implications for career development research and career counseling practices about Chinese young people.


School inspections are a common feature of education systems across the world. These involve trained professionals visiting schools and reaching a high-stakes judgement about the quality of education they provide. By their nature, school inspections rely upon professional judgement, with different inspectors potentially putting more emphasis on certain areas than others. Yet there is currently little academic evidence investigating the consistency of school inspections, including how judgements vary across inspectors with different characteristics. We present new empirical evidence on this matter, drawing upon data from more than 30,000 school inspections conducted in England between 2011 and 2019. Male inspectors are found to award slightly more lenient judgements to primary schools than their female counterparts, while permanent Ofsted employees (Her Majesty’s Inspectors) are found to be harsher than those who inspect schools on a freelance basis (Ofsted Inspectors).


Après une prise de conscience du caractère hégémonique de l’écrit comme modalité de validation des connaissances et compétences, l’autrice interroge les possibilités d’une écriture alternative dans le cadre de ses travaux universitaires, et plus précisément de sa thèse. Cet article décrit son cheminement personnel et les raisons qui l’ont amenée à choisir, parmi plusieurs options, la bande dessinée. Il est aussi une occasion d’expérimenter la bande dessinée non seulement en tant que modalité d’écriture scientifique, mais aussi en tant qu’outil méthodologique à part entière.


Purpose: Teacher shortages disrupt multiple aspects of school functioning. Negative effects of shortages are linked to poor outcomes for students, teachers, and organizational climate and culture. However, less attention has been paid to the impact of shortages on principals’ leadership activities. Research Methods/Approach: This study uses qualitative data from 23 principals in four Oklahoma school districts to describe the impact of teacher shortages on principals’ leadership practice and the extent to which principals alter leadership behaviors in relation to shortages. Findings: Findings offer new
evidence suggesting teacher supply, principal leadership, and organizational functioning are tightly coupled. Specifically, principals experienced competing managerial demands as they reported stronger impacts of shortages on tasks associated with organizational management, instructional management, and internal relations, while indirect or minor impacts were reported for administrative and external relations tasks. Implications: As teacher shortages increase across the U.S., this study highlights the cumulative impacts of shortages on schools and offers implications for school leadership, policy, and practice.


Purpose: To identify key issues that university-based leadership coaches act upon in work to fortify the developmental opportunity of the clinical experience for aspiring principals, and how leadership coaches act upon these issues. Research: Data include roughly 75 hours of interviews with two cohorts of aspiring principals and 25 hours of interviews with the five leadership coaches assigned to these aspirants (N = 25). Drawing theoretically upon brokering and social networks brokerage, analysis of transcripts used both deductive and inductive coding. Findings: We identified five key issues acted upon by leadership coaches, including: (a) relational issues between the aspirant and the mentor; (b) insufficient time between the aspirant and the mentor; (c) aspirant identification of and engagement with clinical work of developmental importance; (d) aspirant access to and/or authority for clinical work; and (e) the developmental supports provided to aspirants by mentors. Drawing upon theories of brokering, social networks brokerage, and third-party influence as we examined how coaches acted upon aspirant issues, we found that coaches regularly worked as brokers and third-party influencers in these pursuits. The structuring and design of coaching as well as coaching tools proved vital to this work. Conclusion: Leadership coaches tethered to principal preparation programs can play an important role in fortifying the developmental opportunity of the clinical experience. Our findings suggest an assortment of implications for leadership preparation, the deployment and design of university-based leadership coaches, and the development of such coaches tied to principal preparation.


The reform of mathematics teacher education in Hungary


A bibliometric analysis of 309 publications related to Education 4.0 published in both Scopus and Web of Science (WoS) databases has been conducted to analyze the development of this research field since the first articles published in 2017. Although being an emerging field, the number of publications increased quickly. Scholars from developing countries (i.e., Malaysia, Indonesia, Mexico, Brazil, and Philippines) are among the most productive authors, but internal and cross-country collaborations
between them are very limited. Quality of the publication collection is not high as within the top ten most popular journals, five journals are not qualified to the Scopus database since 2020, and only three journals belong to the WoS core collections. Research topics related to Education 4.0 can be classified into five main clusters, including application of modern technologies on Education 4.0, effects of Industry 4.0 on teaching and learning activities, Education 4.0 in engineering education, education innovations in Education 4.0, and empirical research and quantitative analyses using questionnaires on different aspects of Education 4.0.

Pour Yannique Delabos, doctorante en sciences de l’éducation, le groupe de préparation de la publication de la revue Pratiques de formation/Analyses est un espace de formation complémentaire au travail personnel de recherche.

Cet ouvrage s’adresse à tous les professionnels et chercheurs de l’éducation et de formation des enseignants mais intéressera autant les personnels éducatifs chevronnés que débutants. La focalisation portée sur l’analyse de situations de travail réelles dans diverses disciplines d’enseignement, de formation ou de pilotage d’établissements au moyen de méthodologies de recherche variées offre un regard nouveau sur les situations d’enseignement, l’organisation du travail enseignant, l’apprentissage des élèves et le développement professionnel des acteurs de l’éducation.


The purpose of the current study was to investigate how preservice teachers perceived the utility of a psychological report for their practice (e.g., creating an individual education plan or a lesson plan). Teacher candidates, who were enrolled in an Inclusive
Education course, used fictional psychological reports as the basis for course assignments and were then asked to rate and describe the utility of each report section. Participants reported that most sections of the report were very accessible, and that the recommendations section was the most useful for their teaching practice. Qualitative comments revealed that teacher candidates were employing a student-focused lens and identifying information that would enable them to support students in their class. Implications are discussed with respect to how to close the knowledge gap between educators and school psychologists.


The current study set out to highlight the voices and stories of 129 female-identifying assistant professors in Science, Technology, Engineering, and Mathematics (STEM) who responded to open-ended questions regarding their perceived barriers, supports, and experiences on their journey toward tenure. The current study utilized Consensual Qualitative Research-Modified (CQR-M; Spangler et al., 2012) for the methodology and data analysis, as the current study included a relatively large number of women and brief qualitative data. Responses fell into four domains: barriers, supports, needed resources, and miscellaneous responses. Additionally, responses were compared between women in STEM fields with higher percentages of female faculty versus STEM fields with lower percentages of female faculty, with results indicating that women in STEM fields with lower gender equality reported more gender discrimination, more difficult colleagues, and less institutional or administrative supports and policies. Future directions and clinical implications are discussed.


Des écrits rédigés par des membres d’une organisation d’éducation populaire aux Philippines ont été utilisés pour produire des connaissances scientifiques sur le processus de relogement mené par le gouvernement. L’article décrit et définit ces écrits produits au plus près des situations de grande pauvreté, et interroge la subjectivité de leurs auteurs et autrices à partir d’un exemple personnel, en mettant en parallèle la forme de ces écrits avec celle du journal, avec la forme ethnographique puis avec la forme autobiographique. La mise en corpus de ces écrits conçus par des praticien·nes de l’éducation populaire permet par la suite de fournir des connaissances scientifiques, ces écrits contribuant donc à une écriture différente de la recherche.


Pratiques de formation/Analyses est une revue formatrice dont le comité encourage les étudiant·es en master ou doctorat à participer au processus éditorial. Ce texte souhaite témoigner de cette philosophie. En toute subjectivité, l’autrice, doctorante de première
année, présente ses contributions et les questionnements nés dans le cadre de sa participation.


Entre témoignage, réflexion, mise en débat et analyse, cet article ne choisit pas son camp pour exposer sous quelques coutures choisies l’expérience de(s) jeune(s) docteur·e·s sur le fil, entre volonté d’intégrer l’institution universitaire et celle d’en transformer les pratiques.


Cette table ronde a eu lieu en visioconférence le 11 janvier 2022. Par l’intermédiaire d’un modérateur, Alban Roblez – chercheur postdoctoral à l’Institut français de l’Éducation (ENS Lyon) et au Conseil d’évaluation de l’École (MENJ) –, des invité·es pouvaient poser des questions aux participant·es. La transcription de la table ronde a été établie par Élodie Lambert, Lucie Ouimet, Lou Verdet, Christian Verrier, puis soumise aux participant·es pour approbation. – Christian Verrier. Juste a...


Purpose: Building upon the positive findings from culturally sustaining pedagogical studies, this paper explores how culturally sustaining approaches might operate on an organizational level. Examined in the context of dual language bilingual education (DLBE), this paper proposes a conceptually and empirically-guided culturally and linguistically sustaining school leadership approach (CLSL) as one option for researchers and practitioners to reimagine schools to be more affirming and sustaining for Students of Color (SOC). Research Methods: This project employed a constant comparative analysis across case studies to describe and compare culturally and linguistically sustaining mindsets and practices of DLBE principals in the state of Utah (Miles et al., 2014). Data collection involved participant methods and data analysis was completed through cycles of inductive and deductive qualitative coding. Findings and Implications: The study unveiled four leadership dimensions – cultivating critical consciousness for self and community, fostering a culturally and linguistically sustaining school climate, supporting culturally sustaining pedagogies, and enacting democratic structures—that operated in tandem to configure a culturally and linguistically sustaining school leadership. The themes bridge existing literature to define culturally sustaining tenets represented in the leadership role by describing ways principals reimagined schools to benefit SOC rather than solely responding to students' identities and maintaining assimilative student outcomes.


Purpose: A growing number of school districts have recently added a position to the superintendent's cabinet, often titled chief equity officer. While the chief equity officer position is still in its early stages, we have an opportunity to examine insights from this work in the higher education context—both to support the adoption and implementation of the position, and the change work the chief equity officer will lead throughout the organization. The following conceptual question guides our analytical review: How can the role of chief equity officer be meaningfully and thoughtfully adapted for K-12 schools and districts in a critical anti-racist manner? Moreover, how might insights from higher education and scholarly knowledge on the nature of educational institutions, change within organizations, leadership practice, and learning inform the development of this role? Proposed Conceptual Argument: While the chief equity officer position was initially developed in response to historic and systemic inequities, over time, as this position becomes standardized through a process scholars call mimetic isomorphism, it runs the risk of becoming symbolic, only serving to signal an organization’s commitment to equity-oriented work without meaningfully attending to its structures for learning, policies, or practices. Implications: Chief equity officers have a formal role within the district; however, their work requires an organizational commitment, from educators and educational leaders, for anti-racist systemic change. Structural, financial, and personnel-oriented supports are critical. Training programs for educators and leaders should thoughtfully prepare future chief equity officers, and continue to extend existing efforts to prepare anti-racist, equity-oriented principals, superintendents, teachers, and other educational leaders.


Notre entretien, qui se présente sous la forme d’un podcast auquel nous avons ajouté un court texte enrichi de visuels, vise à présenter un travail constitutif de la thèse de doctorat en sciences de l’éducation de Magali Loffreda (2021) sur l’activité d’organisation des ressources éducatives par les enseignantes. Ce travail a consisté en l’éditorialisation d’un livret graphique réalisé en partenariat avec Solène Voegel, alors graphiste chez Okoni, dans l’objectif de rendre compte des pratiques enseignantes autour des ressources.


Pour les élèves, le choix des spécialités, au lycée, est une première étape déterminante pour le choix d’une formation dans l’enseignement supérieur. Une décision compliquée dans la mesure où une mauvaise combinaison peut bloquer l’accès au cursus escompté.

resources and demographics. Psychology in the Schools, 60(4), 943-964. https://doi.org/10.1002/pits.22814

Equity for students includes access to a healthy teacher workforce across all school settings. This study sought to disentangle the role of racial/ethnic (in)congruence in teacher stress from school resources by using propensity score analysis to match Black, Hispanic, and White elementary teachers on individual, classroom, and school characteristics, and examining whether these matched teachers reported differences in stress outcomes when working in schools where the predominant student demography was either congruent or incongruent with their own. Data from the 2015–2016 National Teacher and Principal Survey was used to find propensity score matches among 7540 Black, Hispanic, and White elementary teachers. Black, Hispanic, and White teachers all reported stronger occupational health outcomes in higher-resourced, majority-White schools. Black and Hispanic teachers reported higher levels of occupational health outcomes than White teachers when teaching in under-resourced, majority–minority schools. These findings suggest important implications for teacher training and support, such as considering increased training and reflection opportunities on culturally responsive teaching, broadening policies that homogeneously categorize and aim to uniformly support “teachers of color,” and examining the ways in which teacher identity uniquely informs their workplace experiences and may necessitate differentiated resources.


Purpose: We examine the extent to which assistant principals’ time spent in different leadership roles (instructional leadership, student affairs, and school management) is associated with their perceptions of the evaluation system. We focus on this outcome because individuals are more likely to engage with evaluation feedback if they have positive perceptions of their evaluations. Research Method: We use survey data from assistant principals in Tennessee, where assistant principals are evaluated using a state-wide leadership evaluation system. We use regression analysis to determine the relationship between assistant principals’ roles and their perceptions of this evaluation system. Findings: On average, assistant principals in our sample spend 29% of their time on instructional leadership, 46% of their time on student affairs, and 25% of their time on school management. Those that spend more time on instructional leadership have more positive perceptions of the evaluation system. Perceptions of the evaluation system are also related to previous evaluation scores, the principal–assistant principal relationship, and novice assistant principal status. Implications: Our work raises important questions about the potential misalignment between assistant principals’ roles and their evaluations. This misalignment has potential implications for assistant principals’ development and career advancement. States and districts might consider if assistant principals’ evaluation systems are well-aligned with assistant principals’ roles and developmental needs. Further research is needed on the topic of assistant principals’ evaluation systems.

Cet article présente un ensemble des pratiques de création existentielles dans le processus de production et de diffusion de la recherche en philosophie. Ces pratiques renvoient à une éducation de soi, qui vise une modification du rapport de soi à soi. Elles s’inscrivent dans une perspective de résistance par la création d’un espace-temps de réflexivité critique à la colonisation de l’existence par le technocapitalisme. Elles ne s’opposent pas aux modes classiques d’écriture philosophique, mais cherchent à permettre une dynamique de création philosophique par la dialectisation entre l’écriture analytique, l’écriture narrative et la création visuelle. La validité de la démarche philosophique n’est pas ici liée uniquement à des critères théoriques, mais à une adéquation entre le discours et la pratique. Cela ouvre à la possibilité d’une pratique populaire de la philosophie où le geste philosophique n’est pas jugé uniquement sur la base de la virtuosité théorique.


How do leaders make the impossible choice between harm enacted on racially oppressed students and families, and harm enacted on them as advocates for racial justice in systems steeped in whiteness? How do they negotiate multiple harms in Black and Brown bodies? Purpose: Situated in between the literature on tempered radicalism and Applied Critical Leadership (ACL), this study explores the experiences of six Black and Brown mid-level and senior-level district leaders in Greater Toronto Area, in Ontario, Canada. Research Methods/Approach: We draw on counter-narrative methodologies including in-depth oral history interviews and ongoing communication with participants to explore the impossibilities and possibilities of leading for racial justice. Findings: Impossibilities include complicities and complexities, accountabilities and alliances, and different metrics, different expectations. Possibilities include present and future hopes, personal power and voice, and joy and fulfillment. Implications for Research and Practice: This study adds to the literature on critical race-tempered radicalism by offering three important shifts in perspectives about leading for racial justice that blur revolutionary leadership and ACL. These include challenging a politics of representation and the necessary change in metrics, accountability measures, and systemic necessary to demonstrate the readiness for anti-racist leadership; anti-racist leadership as messy, ambiguous, and contextual that make space for complicities and complexities of this work; and anti-racist leadership beyond anti-racist leaders, which recognizes leadership beyond any one person, role, location, or generation.
Le présent rapport réunit un ensemble de données à la fois quantitatives et qualitatives témoignant de l’ampleur des problèmes liés à l’offre de personnel enseignant, notamment en termes d’évolution des modèles, et identifie les principaux facteurs permettant d’expliquer les tendances actuelles.

Pour commencer, réfléchissant à la question de l’alternatif pour les besoins de ce numéro de Pratiques de Formation/Analyses, je réalise que sans l’avoir prémédité, par trois fois dans le passé, il m’est arrivé d’en passer par ce qu’il serait peut-être possible de considérer comme de l’écriture alternative dans mes démarches de recherche, ou ce qui pourrait lui être apparenté. Une première fois, il s’est agi d’écriture à proprement parler, pour un livre consacré à Jacques Ardoino2. Écrire (ve...

Emotion is central to principals’ daily operation of schools. As principals’ work is intensifying, principals are increasingly encountering emotionally charged situations on a daily basis. This article uses data from a large provincial survey to explore what time demand factors contribute to these emotionally draining situations that principals are experiencing in the context of work intensification. An ordinal logit regression that is commonly employed for the analysis of ordinal categorical data was used for data analysis. The findings reveal that the time demands, such as the fast work pace, long work hours and lack of time, all work in concert to increase the likelihood of emotionally draining situations among school principals. As principals try to manage emotional situations, these contributing factors are far beyond their control. The unmanageable time demands can leave principals feeling frustrated and vulnerable and evoke negative emotions that adversely impact their own well-being as well as their schools.

Teachers’ job burnout is becoming increasingly common in China. Based on the Job Demands–Resources model and Social identity theory, this study aimed to assess the influence of professional identity on primary and secondary school teachers’ job burnout, mediating effect of career satisfaction, and moderating role of the value of competence and growth in these relationships. The cross-sectional design was conducted in this study with a total of 1362 teachers. The investigation materials included the Chinese versions of the teachers’ professional identity scale, career satisfaction scale, value and experience
scale, and professional quality of life scale. The results indicated that career satisfaction mediated the relationship between teachers’ professional identity and job burnout. When the scores for competencies and growth were high, teachers’ professional identity exhibited the greatest predictive effect on burnout through career satisfaction. These findings have implications for preventing burnout among teachers.


Mobile learning is the newest and emerging technology embraced by universities and this seems to be fast establishing itself as the preferred mode of learning in many countries. However, ways in which mobile devices are used to meet learning goals seem under-researched and may require more effort from researchers, especially in the context of Africa. This empirical study sought to investigate the state of mobile usage among higher education students, their experiences, and available facilitating conditions that influence mobile learning in a Ghanaian university setting. A total of 222 students (distance and vacation students) were engaged to respond to the questionnaires employed for the study. Findings revealed that mobile learning exists in a somewhat structured form as the environment showed most of the salient characteristics of mobile learning but largely remained unharnessed. To a large extent, facilitating conditions for mobile learning were available; students showed positive experiences with their mobile devices and their use in accessing learning, but largely such learning did not occur via the deployed learner management system of the institution. Implications for policy formulation for the Institution and other similar ones that are striving to incorporate mobile technology to increase access and improve the quality of instruction delivery are discussed.


This article analyzes the relationship between access to Information and Communication Technology (ICT) and school performance. It contributes to the empirical literature in the area since there is no consensus yet. Moreover, the context associated with COVID-19 pandemic also considers the analysis as the most relevant. The goal of this article is to study the impact of ICT on school performance at elementary level. The hypothesis set forth is that having both a computer and connection to Internet at the students’ homes, improves their school related achievements. To contrast it, we propose an econometric model using the Propensity Matching Score (PSM) methodology with data from the Learning 2018 (Aprender 2018) campaign of students at the last year of elementary school in Argentina and in each of the regions that conform it. Finally, there is evidence in favor of the hypothesis.

The emergence of wearable technologies, including smartwatches, has received considerable attention from scholars across several sectors. However, there is a scarcity of knowledge regarding the determinants affecting the adoption of these wearables in education. Therefore, this research aims to propose a theoretical research model through the integration of the theory of planned behavior (TPB) and protection motivation theory (PMT) to understand the students’ behavioral intention to use smartwatches in learning activities. Through the use of machine learning classification algorithms, the proposed model has been validated using data collected via an online survey from 511 university students. The results indicated that perceived severity, perceived vulnerability, self-efficacy, response efficacy, subjective norm, attitude, and perceived behavioral control have a significant positive impact on students’ behavioral intention to use smartwatches for educational purposes. Besides, response cost was found to have a significant negative effect on students’ behavioral intention. The evidence from these findings provides the policy-makers in higher educational institutions with a clear vision of the most effective policies and best practices to enhance the capacity and potential use of these wearables in educational activities. The theoretical contributions and practical implications were also discussed.


AR and VR are new introductions in many developing countries, including Malaysia. The present study conducted a qualitative case study with 23 high school teachers and investigated their perceptions of AR and VR in English language teaching and learning activities. A semi-structured interview was employed to collect the data. The data was analysed based on the thematic analysis suggested by Braun and Clarke (Qualitative Research in Psychology, 3(2), 77–101, 2006). The findings revealed positive and negative perceptions of integrating AR and VR in English language teaching and learning activities. The positive themes were related to effective English language learning, engaging students, bringing your own device (BYOD) and active learning. The negative perceptions were related to time-consuming and health-related matters. The study further suggested approaches that might be effective in adopting AR and VR in English language teaching and learning activities. It is hoped that the outcome of the present study can provide insights for teachers, curriculum planners, and policymakers to consider the strengths and limitations of AR and VR before it is integrated into English language teaching and learning activities.


The outbreak of COVID-19 has caused significant disruption in all sectors and industries around the world. To tackle the spread of the novel coronavirus, the learning process and the modes of delivery had to be altered. Most courses are delivered traditionally with face-to-face or a blended approach through online learning platforms. In addition, researchers and educational specialists around the globe always had a keen interest in predicting a student’s performance based on the student’s information such as previous exam results obtained and experiences. With the upsurge in using online learning platforms, predicting the student’s performance by including their interactions such as
discussion forums could be integrated to create a predictive model. The aims of the research are to provide a predictive model to forecast students’ performance (grade/engagement) and to analyse the effect of online learning platform’s features. The model created in this study made use of machine learning techniques to predict the final grade and engagement level of a learner. The quantitative approach for student’s data analysis and processing proved that the Random Forest classifier outperformed the others. An accuracy of 85% and 83% were recorded for grade and engagement prediction respectively with attributes related to student profile and interaction on a learning platform.


In this study, I shed new light on the short-run effects of access to high-speed internet on educational disparities, before and after the pandemic shock. By following 3 million students belonging to 6 different cohorts over the period 2012-2022, I estimate the effect of the broadband infrastructure on student performance. While most previous contributions use discontinuous jumps in the available broadband connection speed across space at a given moment in time, this study exploits the actual roll-out of an infrastructural policy associated with an increase in 30 Mbit/s household broadband coverage from 40% to 80% over a 5-year period. The estimation strategy relies on a unique dataset, combining panel data on student performance with a rich set of school- and student-level information and broadband data measured at a very fine spatial scale. Results show an average null effect of high-speed broadband on 8th grade student performance in both numeracy and maths. However, this results masks substantial heterogeneity: lower performers in grade 5 and students with better backgrounds gain from internet speed, whereas the opposite is true for other students. Interestingly, the stronger effect on low-performers tends to disappear during the lockdown, suggesting a negligible mitigating role for high-speed internet during the period of school closure. On the other hand, the broadband infrastructure might have further amplified the gap between students with different socioeconomic background.


La situation sanitaire subie depuis mars 2020 a conduit à une utilisation massive des contrôles à distance, sous la forme des tests en ligne, de type QCM ou apparentés (questions à réponses numériques, graphiques, calculées, ...). Ces contrôles étant réalisés sans surveillance, il est tentant pour certains étudiants d’échanger des informations en cours de test. Cet échange d’information, lorsqu’il a lieu, laisse une empreinte sous la forme d’anomalies statistiques dans les réponses aux questions ainsi que dans l’horodatage. L’objectif de notre travail était de proposer et de tester des méthodes visant à détecter automatiquement ces anomalies, en vue d’attirer l’attention de l’enseignant sur les cas suspects. Nous décrivons la méthode développée et nous l’illustrons à travers les résultats réels obtenus sur trois contrôles en ligne.

Recently, coding and robotics education has started to be integrated into early childhood education in Turkey. The current study aims to investigate the effects of “Productive Children: Coding and Robotics Education Program (PCP)” on children’s cognitive development skills, language development and creativity. Eighty children, enrolled in four different public kindergarten classrooms, participated in the study. Four classrooms were randomly assigned to two experimental and two control groups. The PCP was implemented in the experimental group at least twice a week for nine weeks. This program consists of three parts: unplugged coding, robotic tools and block coding. Before and after this intervention, all children’s cognitive, language and creative skills were measured. The results revealed that PCP, which is integrated into early childhood education activities, positively affects the cognitive development skills, language development and creativity of children. Additionally, there were statistically significant differences between the post-test scores of groups in favor of the experimental groups.


Student interactions in distance learning have been a critical element of the transactional distance theory. Research shows that student interactions have a positive effect on learning outcomes. However, little is known about how student interactions can be improved. The need to understand student interactions and to determine the relationships between the variables that are effective in these interactions has become evident. This study aims to investigate the impact of e-learning readiness and the motivations of students in distance learning on student interactions. In addition, it was examined whether motivation mediated the relationship between e-readiness and student interactions. The study was conducted with 172 students enrolled in a postgraduate program conducted by distance learning. Results showed that students’ e-learning readiness and motivation are essential predictors of student interactions in distance learning. Furthermore, it was found that motivation had a mediation effect on the relationship between e-learning readiness and student interactions. The results of the research are helpful for both instructional designers and instructors of distance learning who want to reduce the transactional distance by increasing student interactions.


Cette thèse, s’inscrivant dans les travaux sur la contextualisation didactique, présente une analyse de dispositifs pédagogiques basés sur la confrontation à distance de contextes, plus précisément ceux de la Guadeloupe et du Québec. Les situations didactiques en jeu reposent sur la mise en œuvre par des apprenants de chaque territoire de démarches d’investigation portant sur un même objet d’étude. Les apprenants échangent les résultats obtenus avec des moyens de communication numériques en modes synchrone et asynchrone. Les scenarios pédagogiques retenus sont conçus de manière à favoriser l’émergence des effets de contextes. Cette approche didactique a été testée et instrumentée, dans le cadre d’une démarche de type Design Based Research (DBR), lors de cinq itérations dans diverses disciplines (sociohistoire, géothermie, éducation au développement durable, sciences du...
langage) et sur différents niveaux scolaires (école primaire, collège, enseignement supérieur). Plus précisément, les objectifs de ce travail consistent à observer in situ le changement de conceptions lors des expérimentations chez les apprenants (axe 1), l’acquisition de compétences, en évaluant les apports du numérique éducatif (axe 2) et de l’interculturalité (axe 3). Ces deux derniers aspects sous-tendent cette approche didactique, mais ont été peu étudiés dans les travaux antérieurs sur les enseignements basés sur les effets de contextes (EBEC). La méthodologie de recherche est de type mixte et repose sur des données issues de questionnaires, de séances filmées (échanges synchrones), de traces numériques (échanges asynchrones) et d’entretiens. Les résultats permettent en premier l’identification et la caractérisation de l’évolution des conceptions chez des apprenants du primaire. À la suite de leur participation aux expérimentations, leurs conceptions s’expriment d’une façon plus scientifique ou plus contextuelle. Ces évolutions dépendent de la nature scientifique de l’objet étudié, des relations que les apprenants entretiennent avec leur propre contexte et de leur capacité à appréhender le contexte de l’autre territoire, dans le but d’élargir et compléter leurs connaissances. Nous décrivons également les usages du numérique éducatif dans les EBEC au travers de l’analyse de traces numériques déposées sur la plateforme asynchrone utilisée par les élèves du primaire lors des expérimentations. Nos résultats montrent que ces échanges sont soit centrés sur la tâche pédagogique, soit liés au désir des élèves d’illustrer leur propre contexte, en le partageant avec leurs homologues. Ces résultats mettent en valeur le caractère dynamique d’une approche médiatisée par le numérique, comme levier de développement des compétences comme la collaboration et la capacité communicationnelle. En troisième lieu, les résultats mettent aussi en relief la dimension interculturelle de ces apprentissages. Les analyses menées sur les questionnaires destinés aux apprenants du primaire montrent qu’ils accordent une importance significative aux dimensions interculturelles à trois niveaux : didactique (micro), éducatif (méso) et sociétal (macro). Cette dimension interculturelle est encore plus largement présente chez les étudiants de niveau master. Ces résultats montrent l’importance que les apprenants accordent à leur culture, leur langue et leur histoire, dans lesquelles l’objet d’étude didactique s’inscrit. Ainsi, cette étude contribue à documenter les approches pédagogiques contextualisées, visant à mettre en collaboration des apprenants de territoires différents, qui semblent favoriser les changements conceptuels et être propices au développement des compétences numériques et interculturelles. Enfin, nous revenons sur la pertinence de la démarche DBR utilisée dans le projet Technologies Educatives pour l’Enseignement en Contexte (TEEC) et concluons en défendant l’idée que les innovations didactiques prennent en compte les avancées des technologies éducatives et qu’elles progressent conjointement.


It is necessary to carry out large-scale evaluations to accurately diagnose the current situation and differences in teachers’ information literacy at the individual and school levels to provide a reference for information literacy education. Through a large-scale online evaluation of 152,885 participants, the current situation and its differences in individuals and schools were depicted. China has a general preference for awareness, security and ethics, but it is necessary to strengthen the learning, application and innovation of information knowledge. There are common differences in individuals and
schools, which are mainly concentrated in vulnerable groups with older age and less education; furthermore, schools in nonurban or western provinces need to be supported. Suggestions are put forward at the national, district, school, and individual teacher levels to eliminate the educational information gap and promote the balanced development of teachers’ information literacy.


This study investigated the role of online applets in early algebra lessons. The effect of two different types of intervention modules on developing students’ early algebraic thinking abilities was compared. The first intervention module involved the use of open applets and real-life contexts (open-real). The second intervention module involved the use of closed applets and pure mathematics contexts (closed/pure). “Open” applets are considered to promote more explorative ways of working with mathematical ideas, whereas “closed” applets are considered to guide students’ ways of working through more sequential, step-by-step approaches. Real-life contexts present everyday applications of mathematics, where pure mathematics contexts focus on the mathematical concepts and procedures, with no reference to the way they could be associated with real-life situations. Nevertheless, both intervention modules followed an inquiry-based approach. The total number of the participants were 96 young students of Grade 5 with an average age of 10.5 years old. These students were tested through a pre- and a post-test on early algebra thinking. The test involved three categories of early algebra tasks: generalized arithmetic, functional thinking, and modeling languages. Data from the pre- and post-test comparison showed that students who participated in the “open/real” module had a statistically significant higher improvement in functional thinking compared to students who participated in the “closed/pure” module. There were no statistically significant differences between the improvement of the two groups of students in generalized arithmetic and modeling languages. These findings offer pedagogical implications in respect to the design of early algebra lessons that take advantage of the affordances of available educational technology.


The work of school counsellors has become complex with the increasing technological advances and adolescents’ dependency on them. There is a surprising lack of study in the Indian context, aimed at school counsellor’s challenges in dealing with adolescents’ digital use. This paper provides better understanding of the challenges of school counsellors involving adolescents’ digital use in Indian schools. Three significant themes emerged from the data analysis: (a) negative aspects of digital use among Indian adolescents, (b) the need to effectively teach how to navigate the digital world and (c) the challenge of integrating technology with traditional counselling approaches to educate adolescents about their digital use. Furthermore, this paper presents implications for school counselling practice and research within Indian context.

Damra, J. K., & Omari, O. A. (2023). *The efficacy and feasibility of the Arizona attorney general’s school-based cyber-safety promotion and cyberbullying prevention

This study aimed to evaluate the short-term effects of the social networking safety promotion and cyberbullying prevention presentation of the Arizona attorney general’s guided by the extended parallel process model (EPPM). A quasi-experimental (a pre-posttest) was used with two groups with random assignment to intervention. A total of 389 adolescents in seventh, eighth, and ninth grades at two public middle schools in Muscat city were involved in the study procedures and randomly divided into two groups (the experimental group (n = 186) and the waiting list group (n = 203). The risk behavior diagnostic scale, behavioral intention and attitudes scale, coping strategies with cyberbullying scale, and self-protection behavior intentions were used. Five separate presentations (each presentation was 60 min, one presentation per week) were introduced to the adolescents in the experimental group. The results supported the efficacy of the intervention in changing adolescents’ attitudes and behavioral intentions against cyberbullying and promoting their security and safety during their use of social networks. Also, the intervention has a significant effect on the four EPPM components (susceptibility, severity, self-efficacy, and self-efficacy responses) and the participants learned coping skills to deal with potential cyberbullying incidents.

Délépine, J. (2023, mars 3). *Les 5 questions que pose le succès de ChatGPT*. Consulté 6 mars 2023, à l’adresse Alternatives Economiques website: [https://www.alternatives-economiques.fr/5-questions-pose-succes-de-chatgpt/00106001](https://www.alternatives-economiques.fr/5-questions-pose-succes-de-chatgpt/00106001)

L’agent conversationnel ChatGPT a attiré plus de 100 millions d’utilisateurs en un mois. Un succès qui secoue les Gafam dans la grande bataille industrielle de l’intelligence artificielle.


This study examines research on the impact of pervasive social media use on children’s and young people’s development. Acknowledging the many benefits children gain from being connected through social media, this study focuses on problematic use and the potential harm that may arise from content, contact, conduct and contract risks. Solutions are considered in light of EU policy and regulatory developments with particular reference to ensuring that children are protected, safe and empowered when they go online.


Suicide is a significant public health concern school-aged youth. Although a growing body of literature has documented the association between cyberbullying and suicidal ideation, and the mediating effect of internalizing symptoms, there is no research to date examining the impact of witnessing cyberbullying and suicidal ideation. To address this gap, we conducted a cross-sectional study with middle school students (N = 130). Students completed questionnaires assessing witnessing cyberbullying, witnessing school bullying, depression, anxiety, and suicidal ideation. We used structural equation modeling to test a mediational model in which we hypothesized internalizing symptoms
would mediate the unique relationship between witnessing cyberbullying and suicidal ideation (i.e., controlling for witnessing school bullying). Results supported the mediational model, indicating the frequency of witnessing cyberbullying was positively related to internalizing symptoms, which in turn were related to higher levels of suicidal ideation. Findings suggest the importance of providing programs to support middle school students who witness cyberbullying to reduce the mental health risks (i.e., internalizing symptoms and suicidal ideation) associated with being a cyberbullying bystander.


Á l’Université d’Abomey-Calavi (UAC), le nombre d’étudiants inscrits connaît chaque année une forte augmentation. Il faut ajouter à ce phénomène, la « vétusté » des moyens de communication de l’administration qui se limitent toujours au « bouche-à-oreille » ou à l’affichage, en ce qui concerne la communication avec les étudiants. Dans ce contexte, afin de satisfaire les besoins d’information et de communication qu’ils rencontrent, les responsables des étudiants et les étudiants eux-mêmes s’inventent le quotidien (de Certeau, 1990) à l’aide de l’internet. Ceux-ci se servent des réseaux sociaux numériques dont WhatsApp pour constituer des communautés d’étudiants virtuelles au sein desquelles l’information « circule »: l’information est non seulement donnée, mais elle est aussi relayée. Cette circulation se fait à travers la participation et le dynamisme de chaque membre du réseau. Les responsables sont informés par l’administration qui leur confie la totale responsabilité d’informer tous les autres étudiants. Dans ce nouveau schéma “info-communicationnel”, les responsables peuvent aussi compter sur les autres étudiants pour produire, à leur tour, l’information. Cette manière de participer contribue à pallier le phénomène d’insuffisance d’information, de communication et de collaboration auquel les étudiants sont confrontés dans leur quotidien. Cette thèse contribue, dans un premier temps, à montrer les représentations, les motivations et les usages des groupes WhatsApp. Elle vise, dans un second temps, à participer à l’amélioration des politiques institutionnelles de développement des TIC dans les universités en permettant d’identifier les aspects indispensables à une intégration progressive et effective du numérique à l’université d’Abomey-Calavi, la première et la plus grande université béninoise.


Educational multimedia has proven to be an effective and efficient way of learning. Designers strive to produce multimedia that convey concepts most efficiently. That is to design multimedia that imposes the least possible cognitive load on the learner. Mayer’s multimedia design principles are well-known, and multiple pieces of research have proven them to be effective. Reviewing the literature makes it obvious that there is a lack
of a neurologically supported measure to express the effectiveness of these principles in the enhancement of the learning process. Mayer has reported the importance of these principles through effect sizes of scores obtained from transfer tests taken from the subjects. In this research, we utilized five of the twelve design principles introduced by Mayer to create With-Principles multimedia. These five principles were signaling, coherence, spatial contiguity, temporal contiguity and redundancy. We selected one chapter from Oxford’s open forum 3 and designed two versions of multimedia (With-Principles and Without-Principles) for the chapter. In one version, we designed the multimedia according to the design principles, and in the other version, no specific design principles were applied. A total number of 28 non-native English speaker students were divided into two groups. One group watched the With-Principles version of the multimedia, and the other group watched the Without-Principles version. NASA-TLX and a final comprehension test accompanied the procedure. Meanwhile, the subjects’ brain signals were being recorded. The results from both the post-task tests and the EEG analysis show that the With-Principles multimedia has imposed a significantly lower cognitive load on the learners. Furthermore, we propose the effectiveness of each principle by measuring the amount to which each principle has contributed to reducing the cognitive load of the subjects during the multimedia. Subjects’ brain signals analysis reveals that the signaling and the spatial contiguity principles have the most effect on learning enhancement.


Teachers are increasingly required to enact assessment policies in digitalised spaces, raising ethical issues of privacy and surveillance in the process. Yet, while policy enactment has been examined extensively, there remains research uncertainty around the ethical dimensions associated with assessment policy in digitalised settings. Drawing upon Ball et al.’s Typology of Policy Positions, and utilising Australian teachers’ interviews, we illustrate how the policy positions of the latter were shaped by critical ethical incidents in digitalised conditions. We describe how teachers struggled to reconcile their ethical obligation to provide valid assessment outcomes with their duty of care, procedural institutional commitments, and the need to protect student privacy. To ensure ‘ethical assessment’ practices that best fulfil their obligations, the educators were not confined to one policy position, rather they moved across roles, also framed as moral recuperation mechanisms. Regulations to help facilitate policy enactments of ‘ethical assessment’ in digitalised contexts are suggested.


Worked examples can help novice learners develop early schemata from an expert’s solution to a problem. Nonetheless, the worked examples themselves are no guarantee that students will explore these experts' solutions effectively. This study explores two different approaches to supporting engineering technology students' learning in an undergraduate introductory programming course: debugging and in-code commenting worked examples. In a Fall semester, students self-explained worked examples using in-code comments (n = 120), while in a Spring semester, students debugged worked examples (spring n = 101). Performance data included the midterm and final exams. Prior
exposure to programming courses was taken from a survey at the beginning of each semester. Findings suggest that both the debugging and explaining forms of engagement with worked examples helped students with no prior programming experience to succeed in the course. For the worked examples to be effective, those need to be provided with some explicit form of engagement (i.e., debugging or self-explaining). Combining both strategies following explaining first and debugging second may result in a more effective approach.


Examining students' attitudes towards STEM (science, technology, engineering, and mathematics) fields starting from middle school level is important in their career choices and future planning. However, there is a need to investigate which variables affect students' attitudes towards STEM. Here, we aimed to estimate middle school students' attitudes towards STEM with data mining algorithms using classification analysis. Data mining is one of the data analysis methods used successfully in different fields, including education, in recent years. 600 middle school students from different grade levels selected from various districts of Istanbul province participated in the study. The data collection tools of the research are the STEM Attitude Scale and Personal Information Form. The data obtained from the Personal Information Form is about the students' school type, grade level, gender, academic achievement, mother and father occupation, education level of father and mother. According to the results of the research, the K-Star algorithm from the lazy group and the Random Tree algorithm from the trees group performed the best results in classifying data. According to the decision tree technique, the dominant factor influencing middle school students' attitudes towards STEM fields is the grade levels. Besides, the factors that the K-Star algorithm finds important after grade level variable in classification are mother occupation and academic achievement level. It is hoped that this study will enlighten future research on setting an example for the use of data mining methods in educational research and determining the factors that affect students' attitudes towards STEM fields.


Teachers’ digital competence is very significant in terms of integrating digital technologies into the education process. This study aims to develop an up-to-date scale that can determine the digital competencies required for teachers to acquire new skills that arise with the change and development of technology and use them in educational environments. A total of 695 teachers participated in the study. Exploratory and confirmatory factor analyses were used to examine the construct validity of the scale. To assess the discrimination index of the items, the lower 27% and upper 27% groups were determined, and the differences between the groups were examined. Internal consistency coefficients were calculated for the reliability analysis. According to the results of the analysis, the developed scale consists of six factors and 46 items, and the Cronbach Alpha coefficient of the entire scale is 0.975. The factors were identified as “Safety,” “Data Literacy,” “Problem Solving,” “Digital Content Creation,” “Communication and Collaboration,” and “Ethics,” respectively, according to the content of the items. When compared with the DigComp 2.1 framework developed by
the European Union, it was determined that the ethical factor emerged differently in this study. As a result, it can be said that the Digital Competency Scale for Teachers is a valid and reliable scale that can be used to measure teachers' digital competencies.


During the past years scholars have shown an increasing interest in supporting students' self-regulated learning (SRL). Learning analytics (LA) can be applied in various ways to identify a learner's current state of self-regulation and support SRL processes. It is important to examine how LA has been used to identify the need for support in different phases of SRL cycle, which channels are used to mediate the intervention and how efficient and impactful the intervention is. This will help the learners to achieve the anticipated learning outcomes. The systematic literature review followed PRISMA 2020 statement to examine studies that applied LA interventions to enhance SRL. The search terms used for this research identified 753 papers in May 2021. Of these, 56 studies included the elements of LA, SRL, and intervention. The reviewed studies contained various LA interventions aimed at supporting SRL, but only 46% of them revealed a positive impact of an intervention on learning. Furthermore, only four studies reported positive effects for SRL and covered all three SRL phases (planning, performance, and reflection). Based on the findings of this literature review, the key recommendation is for all phases of SRL to be considered when planning interventions to support learning. In addition, more comparative research on this topic is needed to identify the most effective interventions and to provide further evidence on the effectiveness of interventions supporting SRL.


This study focused on early childhood preservice teachers' perceptions of online technology, service learning, and their understanding of their role as community leaders through service learning. A survey was conducted among preservice early childhood teachers in Taiwan. The questionnaire was comprised of three factors: online engagement, civic responsibility, and service learning. These variables were tested for their relationships and interactions with mediating and moderating effects. The findings showed that early childhood preservice teachers had positive perceptions of using online technology in their service learning course, and that they employed this tool to perform their civic responsibilities as teachers and citizens. Most importantly, they responded that service learning experiences were helpful in expanding their civic awareness and sense of social responsibility to help disadvantaged groups achieve better social living situations.


Fundamentals of Database Systems is a core course in computing disciplines as almost all small, medium, large, or enterprise systems essentially require data storage
component. Database System Education (DSE) provides the foundation as well as advanced concepts in the area of data modeling and its implementation. The first course in DSE holds a pivotal role in developing students’ interest in this area. Over the years, the researchers have devised several different tools and methods to teach this course effectively, and have also been revisiting the curricula for database systems education. In this study a Systematic Literature Review (SLR) is presented that distills the existing literature pertaining to the DSE to discuss these three perspectives for the first course in database systems. Whereby, this SLR also discusses how the developed teaching and learning assistant tools, teaching and assessment methods and database curricula have evolved over the years due to rapid change in database technology. To this end, more than 65 articles related to DSE published between 1995 and 2022 have been shortlisted through a structured mechanism and have been reviewed to find the answers of the aforementioned objectives. The article also provides useful guidelines to the instructors, and discusses ideas to extend this research from several perspectives. To the best of our knowledge, this is the first research work that presents a broader review about the research conducted in the area of DSE.


The problem motivating this study is the urgent need to explore the antecedents of STEM career interest and the growing importance of coding in STEM careers, coupled with the unclear relationship between intrinsic coding interest and STEM career interest. To narrow the research gap, this study explores the direct and indirect effects of intrinsic coding interest on STEM career interest. As a quantitative cross-sectional survey research, 669 students from three senior high schools in two large Chinese cities were investigated. Applying a structural equation modeling approach, the research instrument was validated and the research hypotheses were tested. The findings articulate the direct influence of intrinsic coding interest, coding self-efficacy and perceptions of coders on STEM career interest, and detect the mediating roles of coding self-efficacy and perceptions of coders between intrinsic coding interest and STEM career interest. This study affirms a new theoretical model with strong predictive power, accounting for 64% of the variance in STEM career interest. This study contributes theoretically and practically to the limited literature on coding-related antecedents of STEM career interest.


At present, research on computational thinking in universities is gaining interest, and more attention is being paid to the cultivation and teaching of computational thinking. However, there is a lack of computational thinking assessment tools for college students, which makes it difficult to understand the current status and development of their computational thinking. In this study, computational thinking is regarded as the ability to solve practical problems. By analyzing the relevant literature, we identified five dimensions of computational thinking – decomposition, generalization, abstraction, algorithm and evaluation – and described their operational definitions. Referring to the Bebras and the problem situations in Google computational thinking education, we set
up a life-based situation that college students are familiar with. Based on the life story situation, we developed a multidimensional assessment for college students’ computational thinking. This assessment tool contains 14 items, all of which are multiple-choice questions, and the structure and quality of the tool are verified by multidimensional item response theory. The results show that the assessment tool has good internal validity and can discriminate different disciplines of college students. The college students’ computational thinking test developed in this study can be used as an effective tool to assess college students’ computational thinking.


As a consequence of the COVID-19 pandemic, many higher education programs had to switch to synchronous online teaching. Teachers suddenly faced pressing unaddressed challenges, such as how to better transfer their “presence” from the traditional classroom to the online space in a way that keeps students engaged. This paper explores new venues for increasing the quality of synchronous online learning. We propose the notion of broad on-slide presence, pillared on an increased instructor expressiveness and an elevated instructor slide-content interaction. We conducted four studies to investigate the benefits of delivering lectures in this format, using a mixed methods research approach. We combined survey methodology with transversal design and structural equation modelling with qualitative methodology using discourse analysis of teacher interviews. Results revealed a significant increase in perceived knowledge gain and attentional engagement, and an improved and more personal student experience. At the same time, the instructor’s broader on-slide presence also resulted in an increased teacher satisfaction.


The purpose of this study is to present a general perspective by examining the research works about primary school mathematics. In this direction, 637 articles in the Web of Science database and published in SSCI indexed journals between 1980 and 2021 were analyzed by bibliometric analysis, the general structure of the concepts in the studies was revealed, the emerging concept clusters were identified. Research findings include concepts related to primary school mathematics in general terms (1) “teaching anatomy”, which deals with teaching process of primary school mathematics, (2) “learning outcome”, which includes concepts related to the mathematical performance of students in primary school, (3) “affective comparison”, which covers the structure that includes the concepts related to affective characteristics as well as gender comparison and (4) “instructional practices”, which contains different strategies and teaching practices. This study provided maps indicating the richness and diversity of the concepts in primary school mathematics.

The purpose of this study was to explore teachers’ perceptions and patterns of their activities on a participatory platform for cultural heritage content creation and dissemination. Using a convenience sample of participants, eight in-service teachers enrolled in a postgraduate program were invited to the study. Qualitative research methods were used, including (a) interviews with in-service teachers, (b) focus group discussions with two randomly selected teachers, the instructor of the course and an ICT expert as a digital content evaluator, and (c) observation of teachers' activities patterns on the participatory Culture Gate platform. The results of this study highlight, as well as encourage discussion on how teachers can learn through online collaboration and also aims to identify factors connected with teachers' professional development within a pedagogic framework.


A three-phase exploratory sequential mixed-method study was conducted to propose and test a model showing the interrelationships among the contextual factors influencing the science teachers’ Technological Pedagogical Content Knowledge (TPACK). Though developing teachers' TPACK is critical for technology integration in education, the contextual factors influencing TPACK were mostly neglected and this study aimed to fill this gap in the literature. The first phase of the study was aimed to determine the contextual factors by interviewing science teachers and educational technology experts. The findings revealed nine common factors involving student influence, teachers’ beliefs and attitudes, technological infrastructure, administrative support, technical support, colleague interaction, lack of time, professional development, educational technology experience. In the second phase, a path model was hypothesized based on qualitative study results and related literature. In the third phase, a valid and reliable scale, named Contextual Factors Scale was developed to measure these contextual factors. Then, a questionnaire involving this scale and TPACK was administrated to 348 science teachers. Showing complex interrelationships among contextual factors, the model explained 45% of the variance in science teachers’ TPACK, with particular importance placed on professional development, teachers’ beliefs and attitudes, administrative support, and student influence. Looking from a holistic perspective, this study provided a valuable model for guiding decision-makers, researchers, and practitioners about how to improve teachers' TPACK and technology integration in the schools. Considering the complex interrelationships in the model, some simultaneous strategies dealing with each factor should be applied to improve teachers' TPACK and technology-related practices in the schools.


This study investigated the preparedness and experience of students for the fast-paced convergence of ICT and higher education. Overall, 366 distance students with a history of self-directed learning through correspondence courses were profiled using structured text-based online interviews. Twelve students’ attributes on ICT material possession and competencies and experience of Open Distance and Open Learning (ODeL) were collected and analysed. The findings show that the majority of students (72%) who had prior knowledge about the basic concepts of ODeL modalities indicated satisfaction with
the e-learning environment while the learning mode is challenging for traditional students (28%). Statistically significant positive correlations (p = 0.00) were observed between ICT competencies or preparedness: the level of prior academic qualifications (HAQ: r² = 0.35); key challenge faced (KC: r² = 0.26); and the convenience of ODeL (C.ODeL: r² = 0.18). To ensure that students are not left behind with the proliferation of ICT in distance education, principal component analysis revealed that having prior knowledge about the ODeL modalities is an important attribute that contributes to students’ preparedness for the e-learning environment, thus bridging the variance between the expected expectations and the actual expectations.


Virtual Reality (VR) is increasingly being viewed as one of the most effective and efficient instructional tools in educational settings. The successful implementation of this innovative instructional technology presupposes teachers’ acceptance and diffusion. And prospective teachers, as the teacher talent pool, their beliefs and acceptance of VR determine if and how they use it in the future classroom. However, little is known about their attitudes and adoptions. As such, the main goal of the present study is to investigate the behaviour and intentions of prospective teachers to use VR in class. The Unified Theory of Acceptance and Use of Technology 2 (UTAUT2) was used as an evaluative framework for the study. A pre-post design was used to collect perspectives before and after using VR through questionnaires (N = 58) and semi-structured interviews (N = 44). The findings indicated that following intervention, preservice teachers’ behavioural intention, effort expectancy, hedonic motivation, and price value were improved significantly; and that price value had a significant effect on behavioural intention. Meanwhile, barriers to implementing VR into future educational practises, such as the digital divide and culture reasons, were observed. Limitations and implications are also discussed.


Technological resources have the potential to improve the quality of life in a context in which social pressure for the use of these tools is increasing. In this sense, the adoption of technological resources by the elderly is a highly complex issue because numerous and varied factors are involved. Precisely for this reason, this study aims to analyze the effects that exist between a series of dimensions related to the perception of older people regarding the ease of use, the perceived usefulness of technological tools, attitudes towards technology and their intention to use them in everyday life. To do this, 415 adults (M = 66.27 years) enrolled in a program at the University of Experience in the Spanish context completed an online questionnaire. The application of a Structural Equations Model for data analysis highlights that the perceived ease of use of the technology has a positive effect on the perceived usefulness of these resources. Similarly, an indirect effect of the perceived usefulness of technology on the intention to use these resources is observed through the manifestation of positive attitudes towards the use of digital tools.

With the digital transformation of education, data and digital technologies are regarded as the driving forces for teaching innovation. Teachers' data literacy and digital teaching competence are becoming increasingly important for empowering students' digital capacity, ethically technology usage, and collaboration or communication skills in the classroom. Therefore, whether teachers' data literacy and digital teaching competence can empower students in the classroom needs to be explored. This study aims to reveal the relationship between teacher's information communication technology (ICT) attitude, ICT skills, data literacy, digital teaching competence and empowering students. The data were collected from an online self-assessment scale which included a total of 629 K-9 teachers who participated in this study. Using SPSS and AMOS, a model was built by using Structural Equation Models to explain and predict the relationships. The results indicated that: (a) ICT attitude had no significant impact on digital teaching competence, and ICT skills significantly predicted digital teaching competence, but neither ICT attitude nor skills had a significant direct impact on empowering students; (b) data literacy significantly predicted digital teaching competence and had a significant direct impact on empowering students; (c) digital teaching competence, as dominant mediator in ICT attitude, ICT skills and data literacy, strongly predicted empowering students. The findings provided valuable evidence for teachers, policymakers, administrators, teacher educators, and teachers to better reimagine the teachers' digital teaching competence. In the future, the teachers' digital teaching competence should become the top priority in teacher ICT training, which was the most direct influencing factor for empowering students.


The need for computer science (CS) education, especially computer network education, is increasing. However, the challenges of teaching students with diverse backgrounds and engaging them in hands-on activities to apply theories into practices exist in CS education. The study addressed the challenges by using project-based learning (PBL) and flipped teaching approaches to cover both theoretical and hands-on learning aspects in CS education. This study aims to demonstrate the design and development journey of a CS course and examine whether using PBL, hands-on activities, and flipped teaching approaches improves students' learning. The design-based research study was conducted in an undergraduate CS course from 2014 to 2020 at a midwestern university. The design and development trajectory in the six years were described. The descriptive statistics were used to analyze the trends of the course evaluation results, and ANOVA were conducted to examine whether the evaluation differs from each semester. The results indicated that using PBL, hands-on activities, and flipped teaching increased students’ learning motivation and their perceptions of their learning. Combining PBL and flipped teaching appropriately can enhance students' learning motivation and perceived learning in CS education, but further research is needed to examine how each individual intervention influence students’ learning motivation and learning outcomes.

The advancement of technology in recent years seems to be prompting a re-ontologising of the world. Digital technology is transforming the educational spaces we inhabit, as well as our way of processing information. Although there are already numerous studies that have addressed this technological reality, only a handful have done so from a theoretical perspective. That is why we present research that seeks to reinforce the latest theoretical contributions for understanding how modern technology may be affecting the way in which knowledge is built. Based on the latest research in social constructivism, this is a qualitative study designed to contribute to the creation of a specific theoretical framework for an onlife world. An ill-structured task and a semi-structured interview were used to observe the use of the thinking skills that enable us to build knowledge and the relationship between them. The results show that the ways of building knowledge are changing, as digital technology fosters the use of higher-order thinking skills that, furthermore, operate in a chaotic, complex, and unpredictable manner. In conclusion, this study upholds the notion that the ways of building knowledge are changing, but we still need more empirical contributions to create a generally accepted theoretical construct for explaining how we build knowledge through digital technology.


Providing access to higher education for people in marginalized communities, in particular for refugees, requires to re-think the traditional ways of teaching and learning in higher education institutions. The challenges of these circumstances both in terms of access to learning materials and the opportunity to collaboratively learn with others require specific support via appropriate didactical settings. Blended learning arrangements, i.e., settings that bring together online learning activities with synchronous, co-located settings show potential for addressing these requirements. In the present study, we examine the success factors in the design of blended learning settings for supporting higher education in marginalized communities. Based on an established model of blended learning success, we explore the specific challenges of the target group via a survey which was distributed to students of different subject areas and of the higher education programs of Jesuit Worldwide Learning. The 80 survey participants analyzed in this paper live in refugee camps, or marginalized areas located in rural and remote areas in Afghanistan, Guyana, India, Iraq, Kenya, Malawi, Myanmar, Philippines, Sri Lanka and Thailand. While we could confirm the success factors that also apply for blended learning scenarios in traditional settings, we also found evidence for the crucial role of facilitation in both, online and co-located learning phases, and challenges regarding the access to suitable infrastructure. Both need to be considered during design of blended learning programs for this target group.


Predicting student’s successful completion of academic programs and the features that influence their performance can have a significant effect on improving students’
completion, and graduation rates and reduce attrition rates. Therefore, identifying students are at risk, and the courses where improvements in content, delivery mode, pedagogy, and assessment activities can improve students' learning experience and completion rates. In this work, we have developed a prediction and explanatory model using adaptive neuro-fuzzy inference system (ANFIS) methodology to predict the grade point average (GPA), at graduation time, of students enrolled in the information technology program at Ajman University. The approach adopted uses students' grades in introductory and fundamental IT courses and high school grade point average (HSGPA) as predictors. Sensitivity analysis was performed on the model to quantify the relative significance of each predictor in explaining variations in graduation GPA. Our findings indicate HSGPA is the most influential factor in predicting graduation GPA, with data structures, operating systems, and software engineering coming closely in second place. On the explanatory side, we have found that discrete mathematics was the most influential course causing variations in graduation GPA, followed by software engineering, information security, and HSGPA. When we ran the model on the testing data, 77% of the predicted values fell within one root mean square error (0.29) of the actual GPA, which has a maximum of four. We have also shown that the ANFIS approach has better predictive accuracy than commonly used techniques such as multilinear regression. We recommend that IT programs at other institutions conduct comparable studies and shed some light on our findings.


Digital competence has become an important issue in academia owing to the advent of various communication tools. This study used a standardized questionnaire based on the Digital Competence of Educators (DigCompEdu) framework, which is a validated comprehensive framework, and its associated assessment tool. This tool was designed to assess professional skills of faculties in higher education institutes in United Arab Emirates (UAE) in terms of their abilities to use information and communication technology (ICT) and current digital competences in their teaching and educational practices. We conducted an online survey to help participants reflect on their strengths and weaknesses while using digital technologies in education to find correlation between them, thus helping teachers determine their relative strengths and identify areas that need more attention.


In recent years, the integration of STEM disciplines has been increasingly advocated. It is crucial to prepare and support teachers for integrated STEM education. However, few studies in the literature explore collaborating with teachers from different disciplines. This study investigates the effect of the professional development (PD) program designed for integrated STEM education on teachers’ pedagogical design competencies and the contribution of the PD program to teachers’ integrated STEM understanding. The pedagogical design competencies of the teachers were examined in terms of the level of conformity of the lesson plans they prepared based on the 5E learning model and how
they unified the computational thinking components into STEM education. The program comprised 48 h and five modules. 20 computer science (CS), ten mathematics, and ten science teachers working in middle schools participated in the study. The study shows that the lesson plans developed collaboratively by the teachers were at an acceptable level in terms of integrated STEM education. However, lesson plans need to be improved. Regarding computational thinking, the teachers were more efficient in associating simulation in CS education, data analysis in mathematics education, and data collection in science education compared to other components. They were insufficient in associating components such as parallelization in CS education and automation in science and mathematics education. The teachers stated that PD program strengthens their collaboration with colleagues, contributes to pedagogical design skills in integrated STEM lesson planning and integrating STEM disciplines, and improves their understanding of integrated STEM.


Social sciences expose many cognitively complex, highly qualified, or fuzzy problems, whose resolution relies primarily on expert judgement rather than automated systems. One of such instances that we study in this work is a reflection analysis in the writings of student teachers. We share a hands-on experience on how these challenges can be successfully tackled in data collection for machine learning. Based on the novel deep learning architectures pre-trained for a general language understanding, we can reach an accuracy ranging from 76.56–79.37% on low-confidence samples to 97.56–100% on high confidence cases. We open-source all our resources and models, and use the models to analyse previously ungrounded hypotheses on reflection of university students. Our work provides a toolset for objective measurements of reflection in higher education writings, applicable in more than 100 other languages worldwide with a loss in accuracy measured between 0–4.2%. Thanks to the outstanding accuracy of the deep models, the presented toolset allows for previously unavailable applications, such as providing semi-automated student feedback or measuring an effect of systematic changes in the educational process via the students’ response.


Previous studies have demonstrated the effectiveness of intelligent tutoring systems (ITS) in facilitating English learning. However, no empirical research has been conducted on secondary students’ intention to use ITSs in the language domain. This study proposes an extended technology acceptance model (TAM) to predict secondary students' continuance intention to use and actual use of ITSs for English learning. The model included fifteen hypotheses that were tested with 528 senior secondary students in China. The results of structural equation modeling showed that (1) perceived usefulness and price value had direct positive impacts on continuance intention; (2) perceived ease of use was not directly associated with students’ intention but indirectly influenced intention via perceived usefulness; (3) through the mediation of perceptions, learning goal orientation and facilitating conditions were positively associated with continuance intention; (4) perceived enjoyment positively predicted and anxiety negatively predicted students’ intention to use ITSs; and (5) students’ continuance intention to use ITSs was
significantly positively associated with their actual use of ITSs for English learning. The model showed strong explanatory power and might be implemented in future research. This study contributes to the theory and practice of ITSs in K-12 education.


L’Approche Par Compétences est désormais le cadre de référence pour la rédaction des référentiels de formation au Ministère des Enseignements Secondaires du Cameroun. En s’arrimant à cette approche, les curricula subissent de profondes modifications. La simulation a été introduite dans le curriculum des techniciens en maintenance électromécanique en tant que nouvelle stratégie d’apprentissage favorisant l’acquisition de compétences professionnelles. Or, acquérir le savoir pratique revient à apprendre par des manipulations physiques réelles. Suivant ce raisonnement, on pourrait s’attendre à ce qu’il y ait davantage d’effets positifs en termes d’acquisition de compétence lorsqu’on est en situation d’apprentissage réel et moins d’effets en situation d’apprentissage à base de simulation. Partant du point de vue que les compétences sont des ressources que le sujet mobilise pour traiter l’activité réalisée dans des situations particulières, notre objectif est de questionner lesdites ressources et méthodes mobilisées lors de la mise en œuvre de la compétence « améliorer ou modifier un bien par automatisation de son fonctionnement » en situation de simulation et transférables à la pratique professionnelle. Les résultats issus de l’observation en situation réelle d’apprentissage et des auto-confrontations de 36 lycéens (appariés pour avoir 18 équipes de 02 binômes) montrent d’une part, que les ressources mobilisées par les acteurs pour réaliser le cycle automatique de la machine à l’aide du GRAFCET comprennent les concepts pragmatiques « enchaînement des tâches » et « technologie des composants », deux (02) schémas (séquencement des actions et matérialisation technologique) qui ont été appréhendés dans leurs relations aux concepts pragmatiques. Et que les systèmes d’instruments mis en œuvre par les apprenants pour automatiser le fonctionnement du bien sont constitués du bouton poussoir « test » du logiciel de simulation, des règles associées au GRAFCET, des normes de symbolisation et de codification des systèmes automatisés de production. D’autre part, que l’utilisation de la simulation au début de la formation a un effet important comparativement à l’apport de la formation traditionnelle en phase initiale.


The current research strives for examining the power of utilizing computer-based simulations on students’ academic performance and their perceptions of organic chemistry after using computer-based simulations during their learning of organic chemistry. The study adopted mixed-method research. A total of 72 students whose ages range from 16 to 18 years old were included in this study and they were chosen from two secondary schools that have a combination where chemistry is taught in Gicumbi District in Rwanda. Two classes at every school were selected. One class functioned as the control group, and the other functioned as the experimental group. Their regular chemistry instructors that functioned as a facilitator in the research taught the units of
organic Chemistry. Each experimental group and control group comprised 36 students, making a total of 72 students in both groups. Pre- and post-tests were given to all 72 students in both groups. The dependability coefficient for the quantitative data, which was 0.791, was determined using an organic chemistry test. However, qualitative data were collected from only 20 students from the experimental group of 36 students after using computer-based simulation. The analysis of quantitative data was done by using the Statistical Package for the Social Sciences (SPSS software) where the mean of marks, standard deviation and the t-test were computed to report the research questions and to test the hypothesis. The findings revealed that the mean marks of students taught the units of organic chemistry by using computer-based simulations were extensively greater than those taught without using computer-based simulations. The findings also indicated that the students had a positive reflection, and motivation, and their understanding was increased after using computer-based simulations. Therefore, it was recommended that computer-based simulations should be used to improve students’ learning of organic chemistry.


Artificial Intelligence (AI) scoring for constructed-response items, using recent advancements in multilingual, deep learning techniques utilising models pre-trained with a massive multilingual text corpus, is examined using international large-scale assessment data. Historical student responses to Reading and Science literacy cognitive items developed under the PISA analytical framework are used as training data for deep learning together with multilingual data to construct an AI model. The trained AI models are then used to score and the results compared with human-scored data. The score distributions estimated based on the AI-scored data and the human-scored data are highly consistent with each other; furthermore, even item-level psychometric properties of the majority of items showed high levels of agreement, although a few items showed discrepancies. This study demonstrates a practical procedure for using a multilingual data approach, and this new AI-scoring methodology reached a practical level of quality, even in the context of an international large-scale assessment.


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Computational thinking (CT) has started to attract attention as an important research topic in recent years. It is important to describe the CT field in detail and to determine the research interests and trends of studies in this field. In this most comprehensive and first topic modeling based study in the field of CT, it was aimed to determine the current situation and research interests and trends in the articles on CT from past to present. For this aim, articles containing the term “computational thinking” in the title, keywords and abstract were retrieved by a search on January 18, 2022 from Scopus database. As a result of the search, a total of 1083 articles related to CT published in the Scopus database as of the end of 2021 were obtained. The bibliometric analysis findings of the study showed that there has been a significant increase in the number of publications in this field, especially since 2015. Studies are mostly of United States origin. Although the studies are interdisciplinary, they have been published mainly in journals in the field of educational technologies. The topic modeling analysis showed that the articles in this field were grouped under 13 topics. The first three of these topics, in order of volume, are “Game based learning”, “Programming skills” and “Early child coding”, respectively. When the acceleration of the topics is examined, the first three, whose weight increased over time compared to other topics, came to the fore as “Programming skills”, “Early child coding” and “robotic programming”, respectively. As a result, it is expected that this study will guide future studies in terms of determining research interests and trends in the field of CT.


L’évolution des formes éducatives à l’aune de l’intégration des technologies numériques au sein des pratiques pédagogiques intéresse de nombreux chercheurs, mais aussi les décideurs institutionnels. Cet article théorique propose un cadre de référence pour interroger et analyser les perturbations possibles engendrées par l’irruption, dans les pratiques pédagogiques, de pratiques médiatiques issues de la sphère personnelle. Considérée comme forme sociale de référence, la forme scolaire permet de définir et de décrire la forme universitaire sous l’angle de quatre dimensions constitutives. Plusieurs niveaux de changements de nature et d’intensité différentes sont envisagés pour apprécier les transformations qui peuvent s’opérer à partir de l’intégration de nouveaux dispositifs médiatiques et de l’effacement des frontières entre les sphères sociales caractéristiques des pratiques communicationnelles d’aujourd’hui.


It is well known that outlines can help learners establish a conceptual framework that connects new knowledge with prior knowledge, and thus promote learning. However, it is unclear whether outlines are beneficial before learning from watching an educational video. We tested the effects of two goal setting strategies on learning from a video lecture. Learners (N = 87) were randomly assigned to one of three groups: read an instructor-generated outline before the video (n = 29); read the same outline, and based
on it, generate their own outline of the key ideas before the video \((n = 29)\); control group \((n = 29)\). The study was conducted in an eye-tracking laboratory. Learners in the instructor-generated outline group reported higher learning engagement than those in the control group. Learners in the reading and generating outline group paid greater attention to the learning materials, and had higher learning performance scores, than those in the control group. The two strategy groups did not differ from each other on learning engagement or learning performance. The findings suggest that: To improve learning, instructors should ask learners to read an instructor-generated outline, and to generate their own outline based on the instructor’s outline, before viewing the video lecture.


Society is continually evolving and the needs of current generations of students are changing, deriving from the ongoing digital evolution of the whole of society. Gamification tools are increasingly being implemented in education, since previous studies have demonstrated their usefulness to foster motivation, particularly in the case of engineering students. For that reason, there is a great need to continue providing empirical evidence of experiences proving the positive consequences of new active learning tools.


L’irruption sur les écrans des élèves de ChatGPT, capable de rédiger des textes sur des sujets variés, invite les enseignants à réfléchir à la manière de composer avec les intelligences artificielles.

Sia, B., Ouedraogo, E., Kabore, D. S. P., Léo, P., & Kabore, A. P. (2022). *Les compétences informationnelles des élèves du Lycée Professionnel Régional du Centre (LPRC) à Ouagadougou*. Frantice.net. Consulté à l’adresse [https://hal.science/hal-03819361](https://hal.science/hal-03819361)
Les élèves des lycées et collèges ont aujourd’hui accès à une quantité importante d’informations sur le Web qu’ils utilisent dans le cadre de leurs apprentissages. Au regard de la surabondance d’informations, il est nécessaire pour les élèves de savoir rechercher, évaluer et utiliser l’information trouvée sur le Web pour la réalisation des activités d’apprentissage. Au Burkina Faso les compétences informationnelles ne sont pas prises en compte dans les programmes d’enseignement au post-primaire et au secondaire. La présente étude qui repose sur une approche mixte visait à déterminer les compétences informationnelles des élèves des lycées et collèges du Burkina Faso en se basant sur le cas d’un établissement de Ouagadougou, le Lycée Professionnel Régional du Centre à Ouagadougou. Les résultats montrent d’une part que la majorité des élèves utilisent principalement le moteur de recherche Google comme outil de recherche et d’autre part qu’ils éprouvent des difficultés pour trouver, évaluer et exploiter l’information dont ils ont besoin en situation d’apprentissage. Mots clés : compétences informationnelles, usage du numérique, usages éducatifs des TIC, TICE


The paper’s primary goal was to analyze and find interactive piano learning systems using the Suzuki method. The sample of respondents engaged in the investigation was made up of 200 students from the [Zhejiang Conservatory of Music]. The estimated Cohen’s kappa coefficient determined the level playing field of control and experimental groups at the start of training, as the coefficient was equal to 0.08. The survey measured the control and experimental group members’ awareness of the Suzuki method. 29% of students in the control group and 18% of students in the experimental group were somewhat aware of the Suzuki method and relevant theoretical background. The training program was based on: learning sheet music by listening with Madartt Pianote app; developing fine motor skills using Garritan; teamwork based on YOUSICIAN (for the experimental group) and Ding Talk (for the group of children); regular homework using Native Instruments GarageBand (for the experimental group) and WeChat (for children) mobile apps. After a year of study, 54% of students learned to comprehend melodies of varying complexity by ear with further playing on the piano. 58% of control group members learned to play sophisticated tunes using musical notation. During the second phase, which involved 5-7-year-old children, most of group 3 members acquired strong knowledge. Involvement of 5–7-year-olds was done to compare the effectiveness of the developed program for different age categories.


Although recent research looked at the unified theory of acceptance and use of technology (UTAUT) model among academicians, there is still lacking an adequate account for their technology adoption intentions and behaviors in the face of the COVID-19 virus. This study applies the conservation of resource (COR) theory to ground the statistical results investigating the moderation and moderated mediation effects of COVID-19 anxiety in relation to the UTAUT model. According to the COR theory, anxiety linked with the COVID-19 pandemic endangers resources such as human connections (death of friends and relatives), job security and finances, as well as physical health and...
psychological well-being. Since resource loss is more salient according to COR theory, academicians are more willing to employ technologies like Zoom, MS Teams, and Google Classroom since the COVID-19 threat is existential and the resource loss is eminent. To test the theory, data was collected through an anonymous survey during the months of December 2020 and January 2021. The resultant data from 215 academicians was analyzed using Hayes Process Macro in SPSS. COVID-19 Anxiety positive moderates both the direct effects of Performance Expectance-Behavior Intention and the mediating Performance Expectance-Behavior Intension-Usage relationships. Similar results were seen for other predictors, albeit the moderated mediations for Effort Expectancy and Facilitating Conditions were not significant. These findings overwhelmingly corroborate the claims that COR theory more comprehensively explains the effects of COVID-19 anxiety among academicians in relation to the UTAUT model.


Nowadays, online learning is already ubiquitous in the education of most countries and is one of the fastest-growing trends in the use of educational technology. However, despite literature on the effectiveness of online learning, little is known about the influence of student media literacy on effective learning outcomes in online learning. The present study tried to fill this research gap by exploring the effect of the four-factor construct of media literacy on effective learning outcomes that were measured by focusing on how students perceived their overall learning outcomes in online learning. Data were collected in a sample of 421 undergraduate students from 32 universities in Vietnam. The results of the structural equation modeling indicated that except for functional prosumption, the remaining three factors of media literacy (functional consumption, critical consumption, and critical prosumption) had significant positive effects on perceived learning outcomes. Critical prosumption was found to be the most powerful significant influence on student learning outcomes in the online learning environment. The findings provide some significant practical implications for stakeholders in setting up strategic plans for increasing the effectiveness of online classes.


Implementation of the practices of the Fourth Industrial Revolution (4IR) is currently a trendy topic worldwide since various interruptions are expected. Education is considered as a major tool to equip people with the necessary skills to be prepared for the Fourth Industrial Revolution (4IR). Botswana’s education system was ranked among the top ten on the African continent. Hence, this study explored the 4IR and education in Botswana, using a scoping review. The literature was analysed and presented, using themes. The findings showed that factors such as curriculum issues, lack of electricity in rural areas, amongst others are stumbling blocks in Botswana’s way as it continues to prepare itself for the 4IR through education. Also, there is limited scholarly work on education and the 4IR, specifically from the perspective of Botswana. Hence, research into current practices in the education sector and institutions of learning in Botswana was recommended.

This study explored certain popular educational apps’ vital characteristics and potential profiles \( (n_1 = 50) \) for kindergarten kids. The profile analysis involved a categorization ascended from an evaluation process conducted by pre-service early childhood teachers’ \( (n_2 = 295) \) at the University of Crete, Greece, using a new instrument, validated in the present research, the ETEA-2 scale. The categorization criteria were the five dimensions of the ETEA-2: Learning, Suitability, Usability, Security, and Parental Control. The classification based on Latent Class Analysis led to three apps’ profiles: Cluster/profile 1 includes apps that have high values in Learning, Usability, Suitability, and medium Parental Control and Security; Cluster/Profile 2 includes apps with medium Learning, Usability, Suitability, but low Parental Control and High Security; Cluster/Profile 3 includes apps with medium Learning, Usability, Suitability, but low Parental Control and low Security. This profile scheme is an indicative categorization summarizing the crucial features that popular apps possess and can help parents and/or educators’ decision-making on choosing the desirable application for their kids. Moreover, from an independent evaluation of these specific fifty apps sought on the internet, the members of Cluster2/Profile 2 were the most popular and preferable, as suggested by the number of downloads. This profile is distinguished for the security dimension.


The study’s main aim is to explore the preparedness of a sampled group of South African pre-service teachers at a Higher Education Institution (HEI) to teach adequately in the Fourth Industrial Revolution (4iR) classroom. The study employed a case study research design to ascertain the level of preparedness of pre-service teachers \( (n = 22) \) to use ICT tools for 4iR teaching and learning, using participant observation and focus group interviews. The Technological Pedagogical and Content Knowledge (TPACK) framework guided the research study in creating themes and analysing the data collected. The findings confirm that various aspects hindered the pre-service teachers from successfully implementing ICT tools in the 4iR classroom: school culture, inadequate computer infrastructure, and the need for the teacher education curriculum to be attuned to the 4iR teaching and learning. The study has thus significant implications on policy and practice in similar educational contexts around the need to develop appropriate intervention strategies towards advancing pre-service teachers’ skills related to 4iR.


The Covid-19 pandemic caused prolonged school closures worldwide. Children in resource-poor settings were particularly affected given their limited access to remedial distance learning opportunities through the internet, television, and radio. To address the poor access to formal education, we designed an educational intervention consisting of a set of audio lessons that were delivered through mobile phones to primary school students using Interactive Voice Response (IVR). During the 15-week program period, parents could access the lessons for free by calling a designated phone number and listening to a lesson with their child at any time. We delivered the randomized intervention
to 1,763 primary school children across 90 villages in Bangladesh during the 2021 Covid-
19 school closures. The intervention improved the test scores of children in literacy and
numery by 0.60 Standard Deviations (SD). Additionally, the intervention led to an
increase in the amount of time that parents spent on homeschooling. The intervention
was particularly beneficial for academically weaker students, those from the poorest
strata, and those with less-educated caregivers. Our results suggest that this scalable and
low-cost intervention could be leveraged in similar settings to address learning losses of
marginalized students.

for enhancing student learning achievement and behavioral engagement in blended

The application of student interaction data is a promising field for blended learning (BL),
which combines conventional face-to-face and online learning activities. However, the
application of online learning technologies in BL settings is particularly challenging for
students with lower self-regulatory abilities. In this study, a personalized learning analytics
(LA) intervention approach that incorporates ebook and recommendation systems is
proposed. The proposed approach provides students with actionable feedback
regarding personalized remedial actions as the intervention to help them to strategically
engage in the use of the ebook system and avoid academic failure when engaged in
BL. A quasi-experiment was conducted to examine two classes of an undergraduate
course that implemented a conventional BL model. The experimental group comprised
45 students from one class who learned using the proposed approach and received
personalized intervention, whereas the control group comprised 42 students from the
other class who learned using the conventional BL approach without receiving
personalized intervention. The experimental results indicated that the proposed
approach can improve students’ learning achievements and behavioral engagement
in BL. The findings provide pedagogical insights into the application of LA intervention
with actionable feedback in BL environments.


Metacognitive judgment of one’s online search process (calibration) is an important
element of searching efficiency. This study investigated Chinese university students’
calibration during online information search. Fourteen students were asked to search
answers for three assigned tasks. Immediately after the search, all participants attended
individual interviews about their search behavior. Based on eye-tracking data of the
actual search process, three profiles of searchers were identified: surface explorers, deep
explorers, and smooth searchers. Eye-tracking and retrospective interview data were
analyzed to examine the participants’ level of calibration. Results showed that the
participants were not able to calibrate well on their searching process, with a mean score
of 3.64 out of 10.0 (SD = 1.91), suggesting a mediocre level of calibration capacity. A
moderate level of positive relationship ($r = .42, p > .05$) was also found between
 calibration scores and search performance scores, implying a general pattern wherein
the high calibration group tended to perform better than the low calibration group. The
findings called for integrating metacognitive judgment as a component of improving
computer information literacy which, accordingly, could be used to enhance students' ability to think critically about seeking and evaluating information.

**Orientation scolaire et professionnelle**


Career development theory is critical in understanding how individuals make transitions through education and the workplace. However, despite evidence of the importance of geographical place in shaping individual trajectories, limited theoretical work has focused on the topic. In this paper, the potential for the development of a theoretical framework of career development that explicitly addresses the role of place is explored. This paper starts by outlining the limited ways that place has been conceptualised in existing career development literature, and then explores potential developments utilising the theoretical tools from careership theory and the work of Pierre Bourdieu and integrating insights from contemporary spatial theorists. The paper finishes by drawing together a spatio-relational framework for career development which both encompasses insights from the existing literature and extends this work arguing that place is a salient dimension in career development to a much more significant extent than has been previously recognised.


En matière d’orientation, la question des déterminismes de genre reste cruciale tant il convient de combattre les stéréotypes pour favoriser fluidité, mixité, égalité. Si l’on agit parfois pour que les filles choisissent davantage les filières scientifiques, on agit plus rarement pour que les garçons aussi choisissent les filières littéraires. Une exposition, « Ils comme littéraires », peut…


This paper is a first attempt to draw attention to the misconception and stigma of career interruptions and provide a new conceptualization of this widely existing career phenomenon. The unique contribution of introducing Taoism into conceptualizing career interruptions is to help bring the ontological aspects of career interruptions into a sharper focus. The present study borrows the conceptions such as Wu, Wu-Wei, and the cyclic motion of time from Chinese Taoism to reveal the attributes of career interruptions and introduce the appreciator stance into the career interruption literature. The article is structured as follows. First, an overview of the literature is provided. Second, the present study argues that a reconceptualization is needed to deal with the misconception and stigma associated with career interruptions. Third, borrowing from the wisdom of traditional Chinese Taoism, four propositions are developed to help reconceptualize career interruptions. Implications for research and practice are discussed.
À la rentrée 2022, les choix de triplettes et de doublettes des élèves de première et de terminale générale sont globalement très proches de ceux observés pour la cohorte précédente.

À quelques jours de la clôture des vœux sur la plate-forme d'admission postbac, le 9 mars, la cheffe de service de la Maison de Solenn propose de réfléchir à ce que l'on a envie d'expérimenter, plutôt que de choisir l'endroit où l'on serait le meilleur.

The problem motivating this study is the urgent need to explore the antecedents of STEM career interest and the growing importance of coding in STEM careers, coupled with the unclear relationship between intrinsic coding interest and STEM career interest. To narrow the research gap, this study explores the direct and indirect effects of intrinsic coding interest on STEM career interest. As a quantitative cross-sectional survey research, 669 students from three senior high schools in two large Chinese cities were investigated. Applying a structural equation modeling approach, the research instrument was validated and the research hypotheses were tested. The findings articulate the direct influence of intrinsic coding interest, coding self-efficacy and perceptions of coders on STEM career interest, and detect the mediating roles of coding self-efficacy and perceptions of coders between intrinsic coding interest and STEM career interest. This study affirms a new theoretical model with strong predictive power, accounting for 64% of the variance in STEM career interest. This study contributes theoretically and practically to the limited literature on coding-related antecedents of STEM career interest.

Occupational gender segregation is still a persistent problem in the labor market. This study investigates gender differences in gender typicality and prestige of occupational aspirations in early adolescence, as well as the role of agency and communion in these differences. In total, 2779 adolescents (age 11–15) reported their occupational aspirations, later coded for gender typicality and prestige. Participants also described themselves spontaneously with three attributes, then coded in terms of agency and communion. The results showed significant gender differences in a stereotypical direction for 40% of the occupations named, with boys expressing a clear preference for male-dominated and girls for female-dominated occupations. Conversely, the results revealed higher aspirations among girls regarding occupational prestige. Communion was found
to be a significant mediator between gender and aspirations to typically feminine occupations, while agency mediated the relationship between gender and the prestige of aspirations. The findings' implications for theory and practice are discussed.


Tout commença avec Agnès. Cela aurait pu être le titre de cette communication, voire le titre de ma thèse, tant il est vrai qu’Agnès, son parcours, son histoire ont participé de l’élaboration de ma réflexion. Ils en constituent aujourd’hui le fil rouge. C’est ce fil que je propose de dérouler autant que de suivre pas à pas.


There is a workforce shortage in middle-skill occupations requiring some educational training but not a 4-year college degree, such as skilled trades (e.g., construction), transportation (e.g., drivers), and manufacturing. Identifying factors that promote adolescent interest in middle-skill occupations is crucial in combating this shortage. This study examined whether variables contributing to adolescent interest in STEM occupations, such as gender, occupation goal affordances, and occupational knowledge, extend to middle-skill occupations. Results from hierarchical linear models revealed that adolescents (N = 502) were interested in middle-skill occupations for which they felt knowledgeable and perceived to afford agentic and communal goals. The effect of perceived knowledge on interest in construction and manufacturing occupations was stronger for boys than girls. Efforts to increase interest in middle-skill occupations should address the gender gap in perceived knowledge and highlight how these occupations fulfill agentic and communal goals.


Mentoring is a valuable resource that enhances outcomes like career success. Applying conservation of resources theory, we examine the interaction effects of workers' management aspirations and lengthy career interruption(s) on the mentoring-career success relationship. Utilizing 259 older professional workers, we test these relationships with both cross-sectional and time-separated data. Although the pattern of results was similar when comparing the cross-sectional data to the time-separated data, we found that relationships were stronger within the cross-sectional data, resulting in the support of two additional hypotheses. With the time-separated data, we found evidence of a three-way interaction. Specifically, mentoring is more valuable for the perceived career success of workers with higher management aspirations who had not experienced a lengthy career interruption than it is for workers with higher management aspirations who had experienced a lengthy career interruption or for workers with lower management aspirations regardless of whether they had experienced a career interruption.

States have introduced a range of policies and strategies aimed at boosting college readiness by strengthening collaborations between secondary and postsecondary education sectors. One popular strategy is Early College High Schools, which allows historically underserved student groups to complete college-level coursework and improve their college readiness while still in high school. This study examined the influence of academic momentum during high school on key measures of postsecondary success for ECHS students in a suburban school district in Texas. This quantitative study analyzed data for five ECHS graduating classes from a Texas community college and school district. Data analysis for the first research question included descriptive statistics. The second research question used a multinomial logistic regression model to determine the relationship between momentum measures and postsecondary matriculation. At-risk and low SES students were less likely to matriculate to a 2- or 4-year postsecondary institution. Overall, ECHS graduates who earned a degree while still in high school were more likely to matriculate to a 2- or 4-year postsecondary institution. Support structures embedded within the small learning environment of an ECHS can provide graduates an opportunity to learn behaviors important for college success. Recommended strategies for improving the ECHS model are provided.


Pour les élèves, le choix des spécialités, au lycée, est une première étape déterminante pour le choix d’une formation dans l’enseignement supérieur. Une décision compliquée dans la mesure où une mauvaise combinaison peut bloquer l’accès au cursus escompté.


Chaque année, des étudiants de grande école s’inscrivent en droit, en philosophie, en lettres ou en sciences humaines, pour continuer à « s’enrichir intellectuellement ».


Workforce shortages in the health and social care sectors are a relevant issue worldwide. One measure to mitigate workforce shortages is to improve working conditions and workers’ future prospects in order to encourage worker retention. Although studies have examined factors related to organizational turnover, less is known about the factors that lead to occupational turnover intentions. Drawing upon social cognitive career theory, this study examines the reasons behind health and social care workers’ occupational turnover intentions considering emotional exhaustion as an explanatory variable. The participants were 403 health and social care workers who responded to a questionnaire about 4 years after completing their vocational education and training at the upper-
secondary level. Structural equation analyses revealed that affective occupational commitment showed the highest negative correlation with occupational turnover intentions. Furthermore, the results suggest that career-related outcome expectations, wellbeing, and supportive working conditions are crucial for designing effective interventions.


Although job seekers often rely on indirect or inaccurate information to assess the attractiveness of potential employers, internship experience provides more realistic and accurate information, which may influence organizational attractiveness. Through the ex-ante and ex-post (i.e., pre-internship and post-internship) research design with a sample of Japanese undergraduate students in a university-sponsored internship program, we found that, although organizational attractiveness on average declined after the internship, skill variety and feedback from employees in the internship job were positively related to perceived needs-supplies (NS) fit beyond the effect of its pre-internship level. The NS fit, in turn, was related to organizational attractiveness beyond the effect of its pre-internship level. Moreover, some of the above mediating effects were stronger for interns with high social skill and/or high self-esteem. Our findings highlight the importance of the effect of internships on college students' school-to-work transition.


Existing inequalities in STEM-related vocational-technical education (VTE) programs are more prevalent than within 4-year programs. Situated in Chile, this study tests whether Social Cognitive Career Theory (SCCT) adequately explains career development among students enrolled in STEM-VTE programs. In doing so, it also examines how external factors such as supports, barriers, and secondary track differentially affect career development by gender. Using a sample of 698 students in their second year of STEM-VTE studies, we confirmed that the SCCT model produced a good fit for the data in this alternative institutional setting. The findings also showed few gender differences in the effects of external factors on self-efficacy and career expectations, except for teaching support that substantially alters these cognitive factors to more extent among males than females. Moreover, although self-efficacy beliefs were similar between gender, gains in career expectations due to these beliefs are lower for female students. We conclude by discussing implications for future research and practice.


An exploration study was conducted to explore what Chinese undergraduates considered to be a “good job.” A total of 143 (M = 21.45, SD = 1.53, 51.04% male) undergraduates from 10 cities participated in this study. The prototype research methodology was applied to explore the underlying complex structure of the “good job.” The results revealed 157 items associated with the “good job” that were merged into two categories “high-quality work” and “high-quality life.” Furthermore, each category
included basic- and superordinate-levels prototypes. The structure depicted Chinese undergraduates' expectations of a "good job" and emphasized the importance of work-life balance among young people. Additionally, traditional Chinese culture was consistently found to have a significant impact on young people's expectations of a "good job." These findings have implications for career development research and career counseling practices about Chinese young people.


This paper evaluates the impact of “Coding Girls”, an educational enrichment program designed to address the underrepresentation of women and girls in the fields of science, technology, engineering, and math (STEM) in Italy by stimulating young female students’ interest in programming and science and encouraging them to consider careers in STEM-related fields. Implemented in ten secondary schools in Turin (Italy) over the period 2019-2022, the Coding Girls program provided lab-based computer programming instruction as well as introductory talks on specific topics in STEM. The program was evaluated by randomized controlled trial. Our results show that Coding Girls had a significant and positive impact on male and female students’ programming skills and on their awareness of gender differences in the workforce. However, it did not seem to affect girls’ aspirations to pursue higher education in STEM-related disciplines. The gender stereotypes children are exposed to from a very young age tend to steer girls and young women to the humanities. This bias is deeply entrenched and difficult to modify.


Pour Louis Maurin, fondateur et directeur de l’Observatoire des Inégalités, pour combattre les inégalités sociales à l’école, il faudrait repousser d’un an l’enseignement de la lecture. Une idée intéressante que développe et étaye l’auteur en s’appuyant sur divers travaux. « Il existe deux manières de réduire les inégalités face à la lecture. La première est de…


The Scorecard 2023 provides a full comparative analysis of the state of play of university autonomy in 35 higher education systems in Europe. With findings across four dimensions of university autonomy - organisational, financial, staffing, academic - the Scorecard supports an evidence-based dialogue on this crucial topic. This allows concrete benchmarking of national regulatory frameworks as well as the exchange of good practices. For the first time, this update also includes a chapter on provisions for academic freedom in national legislation. Building on this analysis, the report identifies
several notable trends across the 35 systems considered. These include aspects related to changing governance models, consolidation of the higher education landscape, transnational university collaboration, underfunding challenges, tensions around campus real estate, evolving academic careers, and issues related to internationalisation, to name but a few. Three higher education systems (Georgia, Romania, Scotland) feature in this edition for the first time, alongside four returning systems (Cyprus, Czechia, Greece, Türkiye). This extended coverage enables better comparability as well as the possibility of drawing more comprehensive Europe-wide conclusions. The Hungarian higher education system is not included in the scoring, rather it is the subject of a complementary analysis. The report is complemented by a series of country profiles to be released throughout 2023.


School choice lotteries are an important tool for allocating access to high-quality and oversubscribed public schools. While prior evidence suggests that winning a school lottery decreases adult criminality, there is little evidence for how school choice lotteries impact non-lottery students who are left behind at their neighborhood school. We leverage variation in actual lottery winners conditional on expected lottery winners to link the displacement of middle school peers to adult criminal outcomes. We find that non-applicant boys are more likely to be arrested as adults when applicants from their neighborhood win the school choice lottery. These effects are concentrated among boys who are at low risk of being arrested based on observables. Finally, we confirm evidence in the literature that students who win the lottery decrease adult criminality but show that after accounting for the negative impact on the students who forego the lottery, lotteries increase overall arrests and days incarcerated for young men.


We quantify the causal effect of schooling on cognitive skills across 21 countries and the full distribution of working-age individuals. We exploit exogenous variation in educational attainment induced by a broad set of institutional reforms affecting different cohorts of individuals in different countries. We find a positive effect of an additional year of schooling on internationally-comparable numeracy and literacy scores. We show that the effect is substantially homogeneous by gender and socio-economic background and that it is larger for individuals completing a formal qualification rather than dropping out. Results suggest that early and late school years are the most decisive for cognitive skill development. Exploiting unique survey data on the use of skills, we find suggestive evidence that our result is mediated by access to high-skill jobs.

We show that, when the educational choice is costly, the motive of seeking positive peer effects can result in ability grouping. In particular, high-achieving students self-sort by choosing costly courses, which we refer to as « endogenous tracking. » We demonstrate the implications of endogenous tracking using the data from French middle schools, where ability grouping officially is not allowed. Instead, students are grouped together to study all courses in the standardized curriculum based on their choices between studying Spanish or a more effort-costly German. We find that costly language choices result in groups that significantly differ in terms of academic performance. Furthermore, we exploit regional differences in the effort costs of learning German to confirm that larger costs of choosing German result in more selective endogenous tracking. Finally, we identify peer effects that, together with sorting, generate inequality in educational outcomes. Such inequality, combined with observed inequality in socioeconomic status between the formed groups, works against egalitarian educational policies. JEL Codes: H75, I21, I28, J24

Craig, A. C., & Martin, D. (2023). Discipline Reform, School Culture, and Student Achievement (IZA Discussion Paper No 15906). Consulté à l’adresse Institute of Labor Economics (IZA) website: https://econpapers.repec.org/paper/izaizadps/dp15906.htm Does relaxing strict school discipline improve student achievement, or lead to classroom disorder? We study a 2012 reform in New York City public middle schools that eliminated suspensions for non-violent, disorderly behavior. Math scores of students in more-affected schools rose by 0.05 standard deviations over three years relative to other schools. Reading scores rose by 0.03 standard deviations. Only a small portion of these aggregate benefits can be explained by the direct impact of eliminating suspensions on students who would have been suspended under the old policy. Instead, test score gains are associated with improvements in school culture, as measured by the quality of student-teacher relationships and perceptions of safety at school. We find no evidence of trade-offs between students, with students benefiting even if they were unlikely to be suspended themselves.

The reform of mathematics teacher education in Hungary

Mathematics curriculum reforms in undergraduate engineering: An institutional analysis

Recommender systems have become one of the main tools for personalized content filtering in the educational domain. Those who support teaching and learning activities, particularly, have gained increasing attention in the past years. This growing interest has
motivated the emergence of new approaches and models in the field, in spite of it, there is a gap in literature about the current trends on how recommendations have been produced, how recommenders have been evaluated as well as what are the research limitations and opportunities for advancement in the field. In this regard, this paper reports the main findings of a systematic literature review covering these four dimensions. The study is based on the analysis of a set of primary studies (N = 16 out of 756, published from 2015 to 2020) included according to defined criteria. Results indicate that the hybrid approach has been the leading strategy for recommendation production. Concerning the purpose of the evaluation, the recommenders were evaluated mainly regarding the quality of accuracy and a reduced number of studies were found that investigated their pedagogical effectiveness. This evidence points to a potential research opportunity for the development of multidimensional evaluation frameworks that effectively support the verification of the impact of recommendations on the teaching and learning process. Also, we identify and discuss main limitations to clarify current difficulties that demand attention for future research.


Selon le Préambule de la Constitution de 1946, « l’organisation de l’enseignement public gratuit et laïque à tous les degrés est un devoir de l’État. » Cependant, avec la décentralisation, les collectivités viennent en appui de l’Éducation nationale dans l’exercice de cette mission. Cette territorialisation s’est approfondie en 40 ans.


Cet ouvrage étudie la question des inégalités en éducation en relation avec le développement durable. En quoi les inégalités, et particulièrement en éducation, doivent-elles être réduites pour permettre un véritable développement durable ? Toutes les formes d’inégalités en éducation sont étudiées par des chercheurs d’horizons différents : inégalités entre les pays du Nord et les pays du Sud devant l’éducation, inégalités sociales et ethniques, inégalités liées au sexe, inégalités liées au handicap, inégalités devant la langue maternelle ou les langues étrangères, inégalités devant le numérique... L’école doit être repensée par les dirigeants et les responsables éducatifs dans une perspective globale de réflexion sur le monde de demain. Elle doit être accessible à tous les citoyens du monde et ne pas laisser au bord du chemin 222 millions d’enfants et d’adolescents qui habitent dans des pays en situation de crise. Des propositions concrètes sont faites pour que tous les habitants de cette planète vivent dans un monde plus juste et plus équitable et que tous les enfants, tous les adolescents du monde entier puissent bénéficier d’une éducation de qualité.

Ce papier de recherche est tiré d’une étude conduite de septembre 2019 à novembre 2020 par une équipe pluridisciplinaire en sciences sociales dans six pays africains : Burkina Faso, Mali, Mauritanie, Niger, Tchad et Sénégal. L’offre d’éducation d’inspiration confessionnelle musulmane au Sahel s’est beaucoup renouvelée et diversifiée ces deux dernières décennies à la faveur de dynamiques propres aux sociétés étudiées, mais aussi en lien avec un engagement des organisations internationales et des États en faveur de la politique d’Éducation pour tous. Le pluralisme qui caractérise l’offre d’enseignement arabo-islamique du fait de l’existence de plusieurs sensibilités et de sources de financements très divers pose des défis multidimensionnels aux pays concernés, notamment dans leur capacité à articuler des systèmes de formation parfois différents, voire antagoniques en leur sein, de même que dans leur volonté de concevoir des politiques éducatives pertinentes dans ces contextes. Les réformes menées par les pouvoirs publics restent encore partielles, alors que de nombreux acteurs aux intérêts divers et parfois conflictuels cherchent à imprimer leur marque dans les champs éducatifs nationaux et sous-régionaux. Le devenir des systèmes éducatifs est par conséquent étroitement lié à la volonté des États à organiser et gouverner l’enseignement arabo-islamique si présent et ancré dans les dynamiques sociales locales, mais insuffisamment pris en compte dans sa complexité et sa permanence.


The Indonesian government has evaluated the research performance of universities, whose measurement process is projected into resources, management, outputs, and revenues to determine the provision of incentives, grants, and program funding to universities. However, efficiency calculations have shown that the outputs and competition-based incentives that drive scientific productivity are more complex. The most competitive systems must also be the most productive when considering resources. This study aimed to analyze the research efficiency in the Indonesian higher education system. The efficiency was analyzed by maximizing the 13 product outputs from the research budget and university staff. The result was then compared with the existing performance measurement analysis. Data Envelopment Analysis (DEA) was used to evaluate the efficiency based on the data of 47 universities in the Mandiri cluster and 144 in the Utama cluster for the 2014–2018 period. These findings showed that about 68% of universities have an efficiency value of 1 for the Mandiri group, almost 40% in the Utama group, and 41% for the two groups combined. Additionally, this study compared the efficiency analysis and the impact of the performance evaluation. The comparison showed that adding efficiency or productivity factors in the performance evaluation assessment produced a more accurate result.


The aim of this report is threefold. Its first section provides an overall sketch of the situation across Europe and the underlying mechanisms for the differences in European countries. The second section focuses on the heterogeneities within each country. It examines the disparities among students in order to understand which of those correlate with larger
learning deficits or worsening mental health. Section 3, considers the findings of the first two sections in order to discuss five policy recommendations for the short and long run.


Strategic plans are valuable tools for colleges seeking to cast vision and provide focused guidance for leadership and faculty, but it is not clear how these plans address student success. This study analyzed plans from 55 of the 58 community colleges in North Carolina. First, we analyzed the plans using a 10-step strategic planning framework to determine how well each aligned with this planning process. Then, we analyzed the plans to see how they aligned with a framework for student success that includes four elements: completion, learning, labor market outcomes and equity. Additionally, we examined the plans with an interest in understanding how they reflected the influence of neoliberalism ideals. We found that all 55 strategic plans identified goals, and most of the plans also provided strategies corresponding with these goals. Less attention, however, was given to implementation. A close look at the identified goals within the plans highlighted predominance of labor market objectives (36%), followed by attention to transfer/completion (31%) and learning (25%), with minimal attention to equity (9%), which suggests that neoliberal ideals – that gauge success by accountability measures of completion – have placed pressure on colleges in the strategic planning process. Our document analysis suggests that community college leaders are missing an opportunity to leverage the strategic planning process to support organizational learning and change by not focusing campus attention on shared goals prioritizing student success and advancing diversity, equity, and inclusion. Neglecting to provide publicly-available planning documents also misses the benefit of stakeholder engagement.


L’égalité réelle et l’égalité professionnelle entre les sexes reste un enjeu, également dans les métiers de l’Education Nationale, majoritairement féminins. A l’aune d’une répartition genrée des métiers, leur revalorisation salariale, et sociale, ne serait-elle pas un levier essentiel pour une égalité réelle femmes-hommes, pour une société plus égalitaire et solidaire ? Parce que les femmes sont...


Quels effets de la réforme du lycée professionnel sur les enseignants et enseignantes ? sur les élèves ? La réforme a beaucoup été commentée par les acteurs politiques, syndicaux ou les chercheurs. Aujourd’hui, le Café pédagogique fait le choix de donner la parole à une enseignante. Le lycée professionnel accueille des « élèves cabossés, souvent issus de l’immigration,...

The purpose of this study is to present a general perspective by examining the research works about primary school mathematics. In this direction, 637 articles in the Web of Science database and published in SSCI indexed journals between 1980 and 2021 were analyzed by bibliometric analysis, the general structure of the concepts in the studies was revealed, the emerging concept clusters were identified. Research findings include concepts related to primary school mathematics in general terms (1) “teaching anatomy”, which deals with teaching process of primary school mathematics, (2) “learning outcome”, which includes concepts related to the mathematical performance of students in primary school, (3) “affective comparison”, which covers the structure that includes the concepts related to affective characteristics as well as gender comparison and (4) “instructional practices”, which contains different strategies and teaching practices. This study provided maps indicating the richness and diversity of the concepts in primary school mathematics.


External privatisation of public education has emerged in Finland in the admission to higher education. A field analysis of thematic interviews (N = 22) with powerful actors in the private educational market and middle-class young people applying for places at universities in the highly competitive disciplines of medicine and law was conducted. The research task was to examine the discourses that construct the limits of the public and private fields, and the kind of homology that emerges. Four discourses were identified: support, business, social responsibility, and personal responsibility. The private field distinguished itself from the public fields through the discourse of business and attached itself to it through the discourse of support. The dominance of the symbolic power of transformed economic capital in the private field mobilised in the public field was misrecognised during the admission process as ‘motivation’. The homology between the two fields was strong yet hidden.


This study investigated the preparedness and experience of students for the fast-paced convergence of ICT and higher education. Overall, 366 distance students with a history of self-directed learning through correspondence courses were profiled using structured text-based online interviews. Twelve students’ attributes on ICT material possession and competencies and experience of Open Distance and Open Learning (ODeL) were collected and analysed. The findings show that the majority of students (72%) who had prior knowledge about the basic concepts of ODeL modalities indicated satisfaction with the e-learning environment while the learning mode is challenging for traditional students (28%). Statistically significant positive correlations ($\rho = 0.00$) were observed between ICT competencies or preparedness: the level of prior academic qualifications (HAQ: $r^2 = 0.35$); key challenge faced (KC: $r^2 = 0.26$); and the convenience of ODeL (C.ODeL: $r^2 = 0.18$). To ensure that students are not left behind with the proliferation of ICT in distance education, principal component analysis revealed that having prior knowledge
about the ODeL modalities is an important attribute that contributes to students’ preparedness for the e-learning environment, thus bridging the variance between the expected expectations and the actual expectations.


**Purpose:** Building upon the positive findings from culturally sustaining pedagogical studies, this paper explores how culturally sustaining approaches might operate on an organizational level. Examined in the context of dual language bilingual education (DLBE), this paper proposes a conceptually and empirically-guided culturally and linguistically sustaining school leadership approach (CLSL) as one option for researchers and practitioners to reimagine schools to be more affirming and sustaining for Students of Color (SOC). 

**Research Methods:** This project employed a constant comparative analysis across case studies to describe and compare culturally and linguistically sustaining mindsets and practices of DLBE principals in the state of Utah (Miles et al., 2014). Data collection involved participant methods and data analysis was completed through cycles of inductive and deductive qualitative coding. 

**Findings and Implications:** The study unveiled four leadership dimensions – cultivating critical consciousness for self and community, fostering a culturally and linguistically sustaining school climate, supporting culturally sustaining pedagogies, and enacting democratic structures—that operated in tandem to configure a culturally and linguistically sustaining school leadership. The themes bridge existing literature to define culturally sustaining tenets represented in the leadership role by describing ways principals reimagined schools to benefit SOC rather than solely responding to students' identities and maintaining assimilative student outcomes.


**Purpose:** A growing number of school districts have recently added a position to the superintendent’s cabinet, often titled chief equity officer. While the chief equity officer position is still in its early stages, we have an opportunity to examine insights from this work in the higher education context—both to support the adoption and implementation of the position, and the change work the chief equity officer will lead throughout the organization. 

The following conceptual question guides our analytical review: How can the role of chief equity officer be meaningfully and thoughtfully adapted for K-12 schools and districts in a critical anti-racist manner? Moreover, how might insights from higher education and scholarly knowledge on the nature of educational institutions, change within organizations, leadership practice, and learning inform the development of this role? 

**Proposed Conceptual Argument:** While the chief equity officer position was initially developed in response to historic and systemic inequities, over time, as this position becomes standardized through a process scholars call mimetic isomorphism, it runs the risk of becoming symbolic, only serving to signal an organization’s commitment to equity-oriented work without meaningfully attending to its structures for learning, policies, or practices. 

**Implications:** Chief equity officers have a formal role within the district; however, their work requires an organizational commitment, from educators and
educational leaders, for anti-racist systemic change. Structural, financial, and personnel-oriented supports are critical. Training programs for educators and leaders should thoughtfully prepare future chief equity officers, and continue to extend existing efforts to prepare anti-racist, equity-oriented principals, superintendents, teachers, and other educational leaders.


Methods for estimating causal impact aim to either remove or reduce bias. This study estimates the degree of bias reduction obtained from regression adjustment and propensity score methods when only a weak set of predictors are available. The study uses an experimental test of providing emergency financial assistance to participants in a job training program to estimate an experimental benchmark and compares it to nonexperimental estimates of the impact of receiving assistance. When estimating the impact of receiving assistance, those who received it constitute the treatment group. The study explores two different comparison groups: those who could have (because they were assigned to the experimental treatment group) but did not receive emergency assistance; and those who could not receive emergency assistance because they were randomly assigned to the experimental control group. It uses these groups to estimate impacts by applying three estimation strategies: unadjusted mean comparison, regression adjustment, and inverse propensity weighting. It then compares these estimates to the experimental benchmark using statistical tests recommended by the within-study comparison literature. The nonexperimental approaches to addressing selection bias suggest large positive impacts. These are statistically different from the experimental benchmark, which shows that receipt of emergency assistance does not improve educational progress. Further, over 90% of the bias from a simple comparison of means remains. Unless a stronger set of predictors are available, future evaluations of such interventions should be wary of relying on these methods for either unbiased estimation of impacts or bias reduction.


The article focuses on the school-based support that youths who are heading households get from public schools in South Africa. It is based on the study that was conducted focusing on the extent to which schools support youths who head households. The study adopted the qualitative research methodological approach where three methods were used to construct data. The three methods used are observation, semi structured interviews and documents. Eight children from four public schools were selected as participants in the study. Data constructed was analyzed by using the Thematic Content Analysis approach. The findings reveal that youths who head households are faced with challenges that include among others, economic constraints, lack of resources, and humiliation. Furthermore, they do not get the necessary support from schools. The article argues that lack of support by schools adds to the challenges that children are confronted with in their daily struggle for survival.

We study the intergenerational effect of education policy on crime. We use Swedish administrative data that links outcomes across generations with crime records and we show that the comprehensive school reform, gradually implemented between 1949 and 1962, reduced conviction rates both for the generation directly affected by the reform and for their sons. The reduction in conviction rates occurred across many types of crime. Key mediators for this reduction in the child generation are an increase in education and a decline in crime amongst their fathers.


Grade retention offers students a chance to catch up with unmastered material but also leads to less labor-market experience by delaying graduation and labor-market entry. This is the first paper to quantify this trade-off, using an exit exam cutoff of Dutch academic secondary schools, where failing implies grade retention. I find no impact of retaining on final educational attainment, although retained students are later to graduate. Grade retention does lead to annual earnings loss at age 28 of 3000 euro (8.5%) due to reduced labor-market experience. Overall, grade retention is of no benefit for students around the cutoff.


States have introduced a range of policies and strategies aimed at boosting college readiness by strengthening collaborations between secondary and postsecondary education sectors. One popular strategy is Early College High Schools, which allows historically underserved student groups to complete college-level coursework and improve their college readiness while still in high school. This study examined the influence of academic momentum during high school on key measures of postsecondary success for ECHS students in a suburban school district in Texas. This quantitative study analyzed data for five ECHS graduating classes from a Texas community college and school district. Data analysis for the first research question included descriptive statistics. The second research question used a multinomial logistic regression model to determine the relationship between momentum measures and postsecondary matriculation. At-risk and low SES students were less likely to matriculate to a 2- or 4-year postsecondary institution. Overall, ECHS graduates who earned a degree while still in high school were more likely to matriculate to a 2- or 4-year postsecondary institution. Support structures embedded within the small learning environment of an ECHS can provide graduates an opportunity to learn behaviors important for college success. Recommended strategies for improving the ECHS model are provided.


Purpose: We examine the extent to which assistant principals’ time spent in different leadership roles (instructional leadership, student affairs, and school management) is
associated with their perceptions of the evaluation system. We focus on this outcome because individuals are more likely to engage with evaluation feedback if they have positive perceptions of their evaluations. Research Method: We use survey data from assistant principals in Tennessee, where assistant principals are evaluated using a state-wide leadership evaluation system. We use regression analysis to determine the relationship between assistant principals’ roles and their perceptions of this evaluation system. Findings: On average, assistant principals in our sample spend 29% of their time on instructional leadership, 46% of their time on student affairs, and 25% of their time on school management. Those that spend more time on instructional leadership have more positive perceptions of the evaluation system. Perceptions of the evaluation system are also related to previous evaluation scores, the principal–assistant principal relationship, and novice assistant principal status. Implications: Our work raises important questions about the potential misalignment between assistant principals’ roles and their evaluations. This misalignment has potential implications for assistant principals’ development and career advancement. States and districts might consider if assistant principals’ evaluation systems are well-aligned with assistant principals’ roles and developmental needs. Further research is needed on the topic of assistant principals’ evaluation systems.


Depuis 1967, la Revue française de pédagogie constitue au sein de l'espace francophone un lieu privilégié de publication et de discussion scientifique pour la recherche en éducation. Elle aborde ces questions dans une perspective large, ouverte à des approches diversifiées et à plusieurs disciplines de référence : psychologie, sociologie, philosophie, histoire, sciences de l’éducation, etc. Généralement regroupés en ensembles thématiques, les articles donnent accès aux apports les plus récents de la recherche en éducation. Chaque numéro comporte également une note de synthèse qui présente et problématisé les acquis, les évolutions et les questions vives de la recherche dans un domaine donné, ouvrant des horizons sur le plan national et international. Enfin, la rubrique des notes critiques apporte aux lecteurs une information et une réflexion sur les principaux ouvrages récemment parus.


Les inégalités de scolarisation des enfants (6-12 ans) et des jeunes (12-15 ans) est préoccupante dans toute société et particulièrement en République Démocratique du Congo (RDC). Objet de débat et de discussion parmi les politiciens, les chercheurs et les organismes nationaux ou internationaux, (Rayou & Van Zanten, 2011 ; Reboul, 2016), le droit d’accéder à l’éducation est loin d’être appliqué à tous les enfants du monde. Il l’est encore moins au Sankuru, notre terrain de recherche. Une jonction des facteurs permet d’expliquer et de comprendre le paradoxe du maintien des inégalités d’accès et de condition de scolarisation des enfants dans un contexte d’expansion de l’enseignement primaire et secondaire au Sankuru : le manque d’écoles publiques, la non application du principe de gratuité, le manque de moyens financiers, matériels et humains. Le rapport entre la politique publique et éducative de la province du Sankuru est ici capital. Notre échantillon diversifié, composé d’écoles et de personnes (élèves,
parents, personnel éducatif, décideurs politiques, paysans, commerçants et boutiquiers) nous a permis de mener des entretiens et observation du terrain. L’analyse des données recueillies du terrain nous a permis de constater des inégalités résultant de politiques discriminatoires mises en œuvre par les pouvoirs publics, dont certaines familles et enfants sont victimes. Une violence symbolique (culturelle) intrafamiliale s’observe aussi, expliquant la disparité d’accès à l’école entre les filles et les garçons.


En France, depuis 2009, les instituts de formation en soins infirmiers (IFSI) sont entrés dans la réforme de l’universitarisation, amenant de nombreux changements au niveau de l’activité des cadres de santé formateurs (CDSF) : analyse de l’activité, simulation, e-learning et développement de compétences transverses (organisation, coordination...). Depuis, les CDSF vivent des moments de crise (par peur de perdre leur identité professionnelle, de disparaître des IFSI...), mais aussi des périodes de développement qui leur permettent notamment de construire de nouveaux projets, de mettre en place des partenariats avec des universitaires ; enfin, de se professionnaliser afin de s’adapter aux attentes du référentiel. Cette thèse vise à répondre à la question de recherche suivante : en quoi la mise en place de l’universitarisation en IFSI peut être considérée comme une évolution majeure, une transition professionnelle qui questionne les CDSF au niveau de leur activité, mais au-delà, sur le plan de leur identité professionnelle ? Pour ce faire, nous avons mobilisé le concept d’universitarisation ; nous retenons des modifications de statut des professionnels, mais également des activités essentielles comme la recherche. Cette universitarisation amène les acteurs à vivre une transition professionnelle ouvrant sur des tensions, mais aussi à s’adapter en se professionnalisant. Le plus souvent, des formations individuelles ou collectives leur ont permis de développer des compétences relatives aux nouvelles technologies de l’information et de la communication, à la recherche, à la simulation, aux dispositifs réflexifs, mais aussi des formations portant sur les caractéristiques des nouvelles générations d’étudiants. Tous ces changements semblent conduire à des remaniements identitaires chez les CDSF. Nous envisageons l’identité professionnelle à partir du modèle de la « triple transaction » (Perez-Roux, 2011). Au-delà de la double transaction (Dubar, 1991), la transaction intégrative s’intéresse particulièrement aux formes d’équilibre cognitif nécessaires pour faire face aux changements que vivent les professionnels. Notre approche compréhensive, orientée par le champ psychosocial, s’appuie sur des entrevues semi-directives. Les entretiens réalisés, d’une durée moyenne de 47 minutes ont été soumis à une analyse thématique transversale. La population interviewée était constituée de huit CDSF et cinq directeurs de trois IFSI différents. Nous constatons que l’universitarisation est présente dans les activités. La professionnalisation est évidente pour ces professionnels des IFSI avec un engagement important dans la mastérisation : l’acculturation, l’apprentissage de compétences pédagogiques et le développement d’une expertise dans les IFSI en sont les raisons principales. Les CDSF ainsi que les directeurs doivent s’adapter, collaborer avec les universitaires, ce qui amène ces différents professionnels à user de stratégies identitaires, mais aussi à exprimer leur individualité pour maintenir une certaine cohérence au sein des IFSI. Cela a une incidence sur leur activité et, au-delà, sur leur manière d’exercer cette fonction de CDSF. Face à de nouvelles pratiques, ces professionnels vivent des remaniements identitaires plus ou moins importants. Ces résultats nous amènent à questionner les tutelles des
instituts, mais aussi la répartition stratégique des centres sur le territoire. Ils permettent d’envisager également des évolutions pour les IFSI, mais aussi les IFCS, influencés par des logiques d’universitarisation et de professionnalisation. Nous constatons que dans un ensemble de formations adressées à autrui, ces mêmes logiques sont à l’œuvre. Enfin, la reconnaissance de ces acteurs de la formation est au cœur de la transition professionnelle : ces professionnels sont en quête de légitimité et revendiquent une identité professionnelle à la fois partagée, mais également influencée par des logiques plus personnelles.


How do leaders make the impossible choice between harm enacted on racially oppressed students and families, and harm enacted on them as advocates for racial justice in systems steeped in whiteness? How do they negotiate multiple harms in Black and Brown bodies? Purpose: Situated in between the literature on tempered radicalism and Applied Critical Leadership (ACL), this study explores the experiences of six Black and Brown mid-level and senior-level district leaders in Greater Toronto Area, in Ontario, Canada. Research Methods/Approach: We draw on counter-narrative methodologies including in-depth oral history interviews and ongoing communication with participants to explore the impossibilities and possibilities of leading for racial justice. Findings: Impossibilities include complicities and complexities, accountabilities and alliances, and different metrics, different expectations. Possibilities include present and future hopes, personal power and voice, and joy and fulfillment. Implications for Research and Practice: This study adds to the literature on critical race-tempered radicalism by offering three important shifts in perspectives about leading for racial justice that blur revolutionary leadership and ACL. These include challenging a politics of representation and the necessary change in metrics, accountability measures, and systemic necessary to demonstrate the readiness for anti-racist leadership; anti-racist leadership as messy, ambiguous, and contextual that make space for complicities and complexities of this work; and anti-racist leadership beyond anti-racist leaders, which recognizes leadership beyond any one person, role, location, or generation.


Ce livre interroge les parcours estudiantins et les positionnements professionnels liés à la maladie rare chez l’adolescent et le jeune adulte. En prenant le parti de donner la parole aux usagers et acteurs concernés, cet ouvrage apporte une meilleure compréhension des enjeux inclusifs et permet d’envisager la mise en place d’interventions médiatrices prenant en compte l’organisation actuelle des services et impliquant l’ensemble des personnes participant à l’accompagnement des jeunes adultes porteurs d’un handicap, dans l’enseignement supérieur. Le lycée et l’université ne sont pas deux univers disparates. Malgré les efforts entrepris, ils font toutefois état d’une étanchéité persistante. La médiation proposée ici aspire à les décloisonner afin d’établir ou de rétablir le lien inter-institutionnel, en suivant le jeune malade du second degré à l’enseignement supérieur.

In this theoretical article we present our hypothesis on the incompatibility of the inclusive education policy toward students with special educational needs with the meritocratic principle of education. If considering and recognizing the needs of these students is necessary to achieve a successful inclusive environment, we propose that this goal cannot be achieved within current educational systems driven by a meritocratic ideology. We base our rationale on social psychology theories such as system justification and backlash to argue that such incompatibility is particularly visible during the evaluation process. Finally, if we provide some incentives toward greater inclusion while considering the diverse contradictions such inclusivity generates, we also invite researchers to further empirically examine these contradictions in order to guide policy makers within their choices.


Le présent rapport réunit un ensemble de données à la fois quantitatives et qualitatives témoignant de l’ampleur des problèmes liés à l’offre de personnel enseignant, notamment en termes d’évolution des modèles, et identifie les principaux facteurs permettant d’expliquer les tendances actuelles.


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This meta-analysis examines the effects of sorting secondary students into different tracks (“between-school” tracking) or classrooms (“within-school” tracking) on the efficiency and inequality levels of an educational system. Efficiency is related to the overall learning achievement of students, whereas inequality can refer to “inequality of achievement”
(i.e., the dispersion of outcomes) or “inequality of opportunity” (i.e., the strength of the influence of family background on student achievement). The selected publications are 53 analyses performed in the period from 2000 to 2021, yielding 213 estimates on efficiency and 230 estimates on inequality. The results show that the mean effect size (Hedge’s $G$) of tracking on efficiency is not statistically significant ($G = -.063$), whereas it is significantly positive ($G = .117$) on inequality. We further set out to explain variation in effect sizes by (a) policy characteristics, (b) the operationalization of main variables, (c) the research design, (d) the set of control variables included in the statistical analyses, and (e) the quality of the study, year of publication, and publication status (peer reviewed or not peer reviewed).


Implementation of the practices of the Fourth Industrial Revolution (4IR) is currently a trendy topic worldwide since various interruptions are expected. Education is considered as a major tool to equip people with the necessary skills to be prepared for the Fourth Industrial Revolution (4IR). Botswana’s education system was ranked among the top ten on the African continent. Hence, this study explored the 4IR and education in Botswana, using a scoping review. The literature was analysed and presented, using themes. The findings showed that factors such as curriculum issues, lack of electricity in rural areas, amongst others are stumbling blocks in Botswana’s way as it continues to prepare itself for the 4IR through education. Also, there is limited scholarly work on education and the 4IR, specifically from the perspective of Botswana. Hence, research into current practices in the education sector and institutions of learning in Botswana was recommended.


Math courses serve as cornerstones to most, if not all, community college programs. Yet, these courses continue to be gatekeepers. Contextualization represents a promising venue through which instructors might break down math barriers for students. This study explores community college students’ learning experiences in contextualized math classes, and how those experiences shape momentum toward success. We used a narrative inquiry approach, drawing upon the stories of six students enrolled in two contextualized math courses at a two-year college in a Midwestern state. Interviews, field notes, and survey data helped build and deepen the students’ narratives. We presented each student’s narrative individually, detailing their experiences in the contextualized math classes. We also discussed the thematic analysis results, which revealed six themes. The first three themes spoke to clear expectations and learning path in math, digging into and building upon math content and knowledge, and individual and group work dynamics. The latter three themes centered on discovering and recognizing utility of math, building and translating a foundation in math, and situating math within broader education and goals. This study offers empirical evidence on the potential of contextualization to enhance community college students’ learning experiences and success in math, particularly across college-level math courses and various program areas.

New hand-collected school administrative data from 1870s Virginia, alongside linked individual US Census records, reveals that temporary school closures had lasting effects on literacy and income in adulthood. Those affected by the closures had lower intergenerational economic mobility, particularly those from low-income backgrounds. The age at which the closures occurred also played a role with younger cohorts more affected by early developmental disruptions and older cohorts more affected by prolonged closures.


I evaluate the effect of wildfire smoke on primary and middle school students’ English Language Arts (ELA) and math achievement across the United States. To estimate students' exposure to wildfires at the school district level, I merge satellite-based wildfire smoke plume boundaries and 1km-grid daily PM2.5 values with school district locations, and weight the exposure by census tract population. I find that recent drifting wildfire smoke plumes significantly lower ELA and math test scores. When I proxy the wildfire intensity by PM2.5, results suggest that severe wildfires generate lasting effects on young students in primary school. Effects are only transitory for students in middle school. Further analysis reveals that Black students in primary school and economically disadvantaged students are more negatively affected than others. Males are more affected by unhealthy air quality in elementary ELA and middle school math than female students. Overall, findings suggest that more environmental and educational policy responses are needed to protect students with the increase in wildfire occurrence and intensity.


Depuis 1967, la Revue française de pédagogie constitue au sein de l’espace francophone un lieu privilégié de publication et de discussion scientifique pour la recherche en éducation. Elle aborde ces questions dans une perspective large, ouverte à des approches diversifiées et à plusieurs disciplines de référence : psychologie, sociologie, philosophie, histoire, sciences de l’éducation, etc. Généralement regroupés en ensembles thématiques, les articles donnent accès aux apports les plus récents de la recherche en éducation. Chaque numéro comporte également une note de synthèse qui présente et problématisé les acquis, les évolutions et les questions vives de la recherche dans un domaine donné, ouvrant des horizons sur le plan national et international. Enfin, la rubrique des notes critiques apporte aux lecteurs une information et une réflexion sur les principaux ouvrages récemment parus.

In 2013, an urban college developed a mandatory soft skills course. Unique among postsecondary institutions, the course has been running since fall 2015. Research has now been conducted into the effectiveness of the course. A mixed-methods research study collected primary data and a literature review of the pertinent secondary data. Data sets include a comparison of co-op employer ratings of students in a semester before the course was mandated and a semester after the course was mandated; a survey of co-op employers to rate their co-op student’s soft skills achievement; and a pre-post/post-pre survey of current students asking them to rate the importance of soft skills, their knowledge and demonstration of soft skills, and their intention to use soft skills. All data strongly support the claim that the course has been a positive soft skills intervention. Hypotheses are shown to be valid: current students see the course as an effective way of improving their understanding of soft skills, their ability to deploy soft skills, and their intention to deploy soft skills in future; and, co-op employers see it as a positive intervention by reporting more effective demonstration of soft skills among co-op students who have taken the course than among co-op students from other institutions who have not taken the course. We conclude that offering a course that follows our pedagogy is the most effective way to increase postsecondary student soft skills capabilities and ensure employers continue to be satisfied with graduate soft skills.


AR and VR are new introductions in many developing countries, including Malaysia. The present study conducted a qualitative case study with 23 high school teachers and investigated their perceptions of AR and VR in English language teaching and learning activities. A semi-structured interview was employed to collect the data. The data was analysed based on the thematic analysis suggested by Braun and Clarke (Qualitative Research in Psychology, 3(2), 77–101, 2006). The findings revealed positive and negative perceptions of integrating AR and VR in English language teaching and learning activities. The positive themes were related to effective English language learning, engaging students, bringing your own device (BYOD) and active learning. The negative perceptions were related to time-consuming and health-related matters. The study further suggested approaches that might be effective in adopting AR and VR in English language teaching and learning activities. It is hoped that the outcome of the present study can provide insights for teachers, curriculum planners, and policymakers to consider the strengths and limitations of AR and VR before it is integrated into English language teaching and learning activities.

We study the returns to experience in teaching, estimated using supervisor ratings from classroom observations. We describe the assumptions required to interpret changes in observation ratings over time as the causal effect of experience on performance. We compare two difference-in-differences strategies: the two-way fixed effects estimator
common in the literature, and an alternative which avoids potential bias arising from effect heterogeneity. Using data from Tennessee and Washington, DC, we show empirical tests relevant to assessing the identifying assumptions and substantive threats—e.g., leniency bias, manipulation, changes in incentives or job assignments—and find our estimates are robust to several threats.


Ce livre examine la place et le rôle des objets lorsqu’ils sont mis au centre de pratiques enseignantes de la maternelle à l’université, en France et ailleurs. Ces « objets pour apprendre » sont considérés dans leur matérialité sensible comme production, oeuvre ou signe mobilisés en vue d’apprentissages. Ils deviennent des « objets à apprendre » quand la visée d’apprentissage est l’objet même. L’ouvrage privilégie une perspective transversale, en lien avec les domaines disciplinaires investigués et la pluralité des cadres de référence mobilisés par les chercheurs. L’ouvrage en deux volumes propose une vue d’ensemble des recherches actuelles sur le sujet avec ce premier volume qui introduit les questionnements portés par l’ouvrage, puis traite des objets au cœur des apprentissages et des rapports entre objets et langages.


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Dans cet ouvrage, les auteurs, enseignants et spécialistes de l’éducation, présentent et analysent la résolution collective en ligne d’une série d’énigmes. Ces échanges montrent...
l’intérêt de cette approche ludique qui stimule l’engagement des participants et permet une réflexion critique sur la pédagogie. Les énigmes présentées dans cet ouvrage proviennent d’une formation en ligne au numérique. On peut donc essayer de les résoudre pour tester sa propre culture numérique. Résoudre collectivement des énigmes ouvre de nouvelles perspectives pour l’enseignement, en présence comme à distance. Cet ouvrage présente une forme nouvelle de travail collectif, qui permet de souder les groupes d’apprenants, notamment dans la formation à distance.


Cette thèse, s’inscrivant dans les travaux sur la contextualisation didactique, présente une analyse de dispositifs pédagogiques basés sur la confrontation à distance de contextes, plus précisément ceux de la Guadeloupe et du Québec. Les situations didactiques en jeu reposent sur la mise en œuvre par des apprenants de chaque territoire de démarches d’investigation portant sur un même objet d’étude. Les apprenants échangent les résultats obtenus avec des moyens de communication numériques en modes synchrones et asynchrones. Les scenarios pédagogiques retenus sont conçus de manière à favoriser l’émergence des effets de contextes. Cette approche didactique a été testée et instrumentée, dans le cadre d’une démarche de type Design Based Research (DBR), lors de cinq itérations dans diverses disciplines (socio-histoire, géothermie, éducation au développement durable, sciences du langage) et sur différents niveaux scolaires (école primaire, collège, enseignement supérieur). Plus précisément, les objectifs de ce travail consistent à observer in situ le changement de conceptions lors des expérimentations chez les apprenants (axe 1), l’acquisition de compétences, en évaluant les apports du numérique éducatif (axe 2) et de l’interculturalité (axe 3). Ces deux derniers aspects sont implicitement cette approche didactique, mais ont été peu étudiés dans les travaux antérieurs sur les enseignements basés sur les effets de contextes (EBEC). La méthodologie de recherche est de type mixte et repose sur des données issues de questionnaires, de séances filmées (échanges synchrones), de traces numériques (échanges asynchrones) et d’entretiens. Les résultats permettent en premier l’identification et la caractérisation de l’évolution des conceptions chez des apprenants du primaire. À la suite de leur participation aux expérimentations, leurs conceptions s’expriment d’une façon plus scientifique ou plus contextuelle. Ces évolutions dépendent de la nature scientifique de l’objet étudié, des relations que les apprenants entretiennent avec leur propre contexte et de leur capacité à appréhender le contexte de l’autre territoire, dans le but d’élargir et compléter leurs connaissances. Nous décrivons également les usages du numérique éducatif dans les EBEC au travers de l’analyse de traces numériques déposées sur la plateforme asynchrone utilisée par les élèves du primaire lors des expérimentations. Nos résultats montrent que les échanges sont soit centrés sur la tâche pédagogique, soit liés au désir des élèves d’illustrer leur propre contexte, en le partageant avec leurs homologues. Ces résultats mettent en valeur le caractère dynamique d’une approche médiatisée par le numérique, comme levier de développement des compétences comme la collaboration et la capacité de communication. En troisième lieu, les résultats mettent aussi en relief la dimension interculturelle de ces apprentissages. Les analyses menées sur les questionnaires destinés aux apprenants du primaire montrent qu’ils accordent une importance significative aux dimensions interculturelles à trois niveaux : didactique (micro), éducatif (méso) et sociétal (macro). Cette dimension interculturelle est encore plus largement présente chez les étudiants de niveau master. Ces résultats montrent
l’importance que les apprenants accordent à leur culture, leur langue et leur histoire, dans lesquelles l’objet d’étude didactique s’inscrit. Ainsi, cette étude contribue à documenter les approches pédagogiques contextualisées, visant à mettre en collaboration des apprenants de territoires différents, qui semblent favoriser les changements conceptuels et être propices au développement des compétences numériques et interculturelles. Enfin, nous revenons sur la pertinence de la démarche DBR utilisée dans le projet Technologies Educatives pour l’Enseignement en Contexte (TEEC) et concluons en défendant l’idée que les innovations didactiques prennent en compte les avancées des technologies éducatives et qu’elles progressent conjointement.


Il est nécessaire de mener des évaluations de grande envergure pour déterminer de manière précise la situation actuelle et les différences entre les niveaux individuels et scolaires concernant la familiarisation des enseignants avec les technologies. A travers une évaluation en ligne de 152 885 participants, la situation actuelle et ses différences au niveau individuel et scolaire ont été représentées. En Chine, il est général de privilégier les notions d’attention, de sécurité et de morale, mais il est nécessaire de renforcer l’apprentissage, l’application et l’innovation concernant la connaissance des technologies. Il existe des différences communes au niveau individuel et scolaire, principalement concentrées chez les groupes vulnérables âgés et moins éduqués; de surcroît, les établissements scolaires situés dans les provinces non urbaines ou les provinces occidentales doivent être soutenus. Des suggestions sont formulées à un niveau national, d’arrondissement, d’établissement et individuel pour éliminer le fossé de l’information éducative et promouvoir le développement équilibré de la familiarisation des enseignants avec les technologies.


Cet étude a évalué le rôle des applets en ligne dans la résolution des problèmes d’algèbre de base. L'effet de deux types de modules d'intervention différents sur le développement des compétences d’algèbre de base des élèves a été comparé. Le premier module d'intervention impliquait l'utilisation d'applets ouverts et de contextes réels (ouverts-réels). Le deuxième module d'intervention impliquait l'utilisation d'applets fermés et de contextes de mathématiques pure (fermés-pure). Les applets ouverts sont considérés comme favorisant des approches plus exploratoires pour travailler avec les mathématiques, alors que les applets fermés sont considérés comme guidant les étudiants dans des approches plus séquentielles, étape par étape. Les contextes réels présentent des applications quotidiennes de la mathématique, alors que les contextes de mathématiques pure font référence aux concepts mathématiques et procédures sans référence à la façon dont ils pourraient être associés à des situations réelles. Malgré tout, les deux modules d’intervention étaient basés sur une approche d’enquête. Le nombre total de participants était de 96 étudiants de 5e année avec une moyenne d’âge de 10,5 ans. Ces étudiants ont été testés par une série de tests pré-test et post-test sur le raisonnement algébrique de base. Le test a impliqué trois catégories de tâches de mathématiques: arithmétique généralisée, pensée fonctionnelle, et langages de modélisation. Les données pré-test et post-test ont montré que les étudiants qui ont participé au module “ouverts-réels” ont obtenu un amélioration significativement plus élevée en pensée fonctionnelle comparativement aux étudiants qui ont participé au module “fermés-pure”. Il n'y a pas de différence significative entre l'amélioration des deux groupes.
of students in generalized arithmetic and modeling languages. These findings offer pedagogical implications in respect to the design of early algebra lessons that take advantage of the affordances of available educational technology.


Comment réformer nos systèmes éducatifs au XXIe siècle ? Les recherches scientifiques dites evidence-based education ou données probantes sont un outil au service d'une école plus efficace. Regroupant les spécialistes francophones de la question, ce livre analyse les modalités de telles recherches mais aussi leurs usages, leurs finalités et leurs perspectives avec comme objectif de : de préciser le rôle possible de l'intégration des données probantes dans les recherches en éducation ;d'intégrer, si les recherches sont concluantes, des pratiques pédagogiques nouvelles (yoga, méditation, école du dehors...) dans les systèmes éducatifs publics.Sujet d'actualité mais aussi question vive de la recherche, les différentes contributions interrogent directement les liens entre expérimentations par les données probantes et réformes éducatives.


Recommender systems have become one of the main tools for personalized content filtering in the educational domain. Those who support teaching and learning activities, particularly, have gained increasing attention in the past years. This growing interest has motivated the emergence of new approaches and models in the field, in spite of it, there is a gap in literature about the current trends on how recommendations have been produced, how recommenders have been evaluated as well as what are the research limitations and opportunities for advancement in the field. In this regard, this paper reports the main findings of a systematic literature review covering these four dimensions. The study is based on the analysis of a set of primary studies (N = 16 out of 756, published from 2015 to 2020) included according to defined criteria. Results indicate that the hybrid approach has been the leading strategy for recommendation production. Concerning the purpose of the evaluation, the recommenders were evaluated mainly regarding the quality of accuracy and a reduced number of studies were found that investigated their pedagogical effectiveness. This evidence points to a potential research opportunity for the development of multidimensional evaluation frameworks that effectively support the verification of the impact of recommendations on the teaching and learning process. Also, we identify and discuss main limitations to clarify current difficulties that demand attention for future research.


Preservice teachers will one day be responsible for addressing bullying among their students but their readiness to fulfill this critical role is unknown. This article addressed this line of inquiry by conducting a systematic review assessing preservice teachers’ knowledge, attitudes, sense of responsibility, and confidence to deal with bullying. A total of 42 studies met our inclusion criteria and were included in our review. Results suggest
that few preservice teachers understand the hallmarks of bullying. In terms of their attitudes toward bullying, most preservice teachers report they are concerned about bullying, but some still believe it to be a normal part of growing up. Preservice teachers tended to view different forms of bullying as more serious than others, with many considering physical bullying to be the most serious form. Most preservice teachers report feeling responsible for dealing with bullying, yet many do not feel confident in their ability to do so. Implications for future research on preservice teachers, teacher preparation programs, and future efforts to reduce bullying in schools are discussed.


Cet ouvrage s’adresse à tous les professionnels et chercheurs de l’éducation et de formation des enseignants mais intéressera autant les personnels éducatifs chevronnés que débutants. La focalisation portée sur l’analyse de situations de travail réelles dans diverses disciplines d’enseignement, de formation ou de pilotage d’établissements au moyen de méthodologies de recherche variées offre un regard nouveau sur les situations d’enseignement, l’organisation du travail enseignant, l’apprentissage des élèves et le développement professionnel des acteurs de l’éducation.


Teachers are increasingly required to enact assessment policies in digitalised spaces, raising ethical issues of privacy and surveillance in the process. Yet, while policy enactment has been examined extensively, there remains research uncertainty around the ethical dimensions associated with assessment policy in digitalised settings. Drawing upon Ball et al.’s Typology of Policy Positions, and utilising Australian teachers’ interviews, we illustrate how the policy positions of the latter were shaped by critical ethical incidents in digitalised conditions. We describe how teachers struggled to reconcile their ethical obligation to provide valid assessment outcomes with their duty of care, procedural institutional commitments, and the need to protect student privacy. To ensure ‘ethical assessment’ practices that best fulfil their obligations, the educators were not confined to one policy position, rather they moved across roles, also framed as moral recuperation mechanisms. Regulations to help facilitate policy enactments of ‘ethical assessment’ in digitalised contexts are suggested.


Forty-six interviews of French and Finnish Junior High School teachers clearly show a strong will to link professional commitment to common progressive values. However, the interviewees have to adjust these political or philosophical views when confronted with the reality of their professional everyday life and to the development of widely broadcast educational debates, like the ones about the recent reforms concerning the Junior High School level in both France and Finland, conducted at the time of the interviews (2016 and 2017). These adjustments, linked either to the circumstances or to practical realities, challenge the internal coherence of their ethical choices. This paper shows that the
reference principles and the practical implications of such choices are not asserted as sharply in France as in Finland. It highlights the unequal ability of the teachers of both countries to make sense of their professional experience and to appropriate the terms of the debates on the evolution of teaching.


Teachers’ digital competence is very significant in terms of integrating digital technologies into the education process. This study aims to develop an up-to-date scale that can determine the digital competencies required for teachers to acquire new skills that arise with the change and development of technology and use them in educational environments. A total of 695 teachers participated in the study. Exploratory and confirmatory factor analyses were used to examine the construct validity of the scale. To assess the discrimination index of the items, the lower 27% and upper 27% groups were determined, and the differences between the groups were examined. Internal consistency coefficients were calculated for the reliability analysis. According to the results of the analysis, the developed scale consists of six factors and 46 items, and the Cronbach Alpha coefficient of the entire scale is 0.975. The factors were identified as “Safety,” “Data Literacy,” “Problem Solving,” “Digital Content Creation,” “Communication and Collaboration,” and “Ethics,” respectively, according to the content of the items. When compared with the DigComp 2.1 framework developed by the European Union, it was determined that the ethical factor emerged differently in this study. As a result, it can be said that the Digital Competency Scale for Teachers is a valid and reliable scale that can be used to measure teachers’ digital competencies.


Scholarship, especially the Scholarship of Teaching and Learning (SoTL), can positively impact teaching and learning practices, yet there are many barriers to community college faculty engagement in these activities. Recognizing the important role of values in motivation and behaviors, the purpose of this study was to understand the perceived value of SoTL for community college faculty. A national sample of 348 full-time and 42 part-time community college faculty members teaching biology, chemistry, history, and sociology were surveyed. Based on the responses of the 390 completed surveys, there were three findings. First, community college faculty reported higher perceived institutional value of scholarship related to teaching (M = 3.08, SD .79) than they did for perceived institutional value of scholarship related to discipline (M= 2.53, SD .75). However, results indicated that there was a significant difference between perceived institutional value and individual value of scholarship related to teaching, with faculty reporting higher individual value as compared to perceived institutional value of
teaching-focused scholarship. There were no significant differences in individual or perceived institutional value in terms of full-time versus part-time status, degree, or discipline. Suggested institutional actions to increase faculty perception of the value of the SoTL are provided.


During the past years scholars have shown an increasing interest in supporting students' self-regulated learning (SRL). Learning analytics (LA) can be applied in various ways to identify a learner's current state of self-regulation and support SRL processes. It is important to examine how LA has been used to identify the need for support in different phases of SRL cycle, which channels are used to mediate the intervention and how efficient and impactful the intervention is. This will help the learners to achieve the anticipated learning outcomes. The systematic literature review followed PRISMA 2020 statement to examine studies that applied LA interventions to enhance SRL. The search terms used for this research identified 753 papers in May 2021. Of these, 56 studies included the elements of LA, SRL, and intervention. The reviewed studies contained various LA interventions aimed at supporting SRL, but only 46% of them revealed a positive impact of an intervention on learning. Furthermore, only four studies reported positive effects for SRL and covered all three SRL phases (planning, performance, and reflection). Based on the findings of this literature review, the key recommendation is for all phases of SRL to be considered when planning interventions to support learning. In addition, more comparative research on this topic is needed to identify the most effective interventions and to provide further evidence on the effectiveness of interventions supporting SRL.


This study focused on early childhood preservice teachers' perceptions of online technology, service learning, and their understanding of their role as community leaders through service learning. A survey was conducted among preservice early childhood teachers in Taiwan. The questionnaire was comprised of three factors: online engagement, civic responsibility, and service learning. These variables were tested for their relationships and interactions with mediating and moderating effects. The findings showed that early childhood preservice teachers had positive perceptions of using online technology in their service learning course, and that they employed this tool to perform their civic responsibilities as teachers and citizens. Most importantly, they responded that service learning experiences were helpful in expanding their civic awareness and sense of social responsibility to help disadvantaged groups achieve better social living situations.

Fundamentals of Database Systems is a core course in computing disciplines as almost all small, medium, large, or enterprise systems essentially require data storage component. Database System Education (DSE) provides the foundation as well as advanced concepts in the area of data modeling and its implementation. The first course in DSE holds a pivotal role in developing students’ interest in this area. Over the years, the researchers have devised several different tools and methods to teach this course effectively, and have also been revisiting the curricula for database systems education. In this study a Systematic Literature Review (SLR) is presented that distills the existing literature pertaining to the DSE to discuss these three perspectives for the first course in database systems. Whereby, this SLR also discusses how the developed teaching and learning assistant tools, teaching and assessment methods and database curricula have evolved over the years due to rapid change in database technology. To this end, more than 65 articles related to DSE published between 1995 and 2022 have been shortlisted through a structured mechanism and have been reviewed to find the answers of the aforementioned objectives. The article also provides useful guidelines to the instructors, and discusses ideas to extend this research from several perspectives. To the best of our knowledge, this is the first research work that presents a broader review about the research conducted in the area of DSE.


Training teachers to listen may enable them to experience increasingly attentive and open peer relationships at work. In the present research, we examined the outcomes of a year-long listening training on school teachers’ listening abilities and its downstream consequences on their relational climate, autonomy, and psychological safety. Teachers in two elementary schools engaged in a similar listening training program throughout the entire school year. The measures included indicators of a supportive relational climate that are known to be important to teacher well-being, namely, autonomy, psychological safety, and relational energy. Results of growth curve modeling showed linear increases in all three outcomes, such that more listening training corresponded to a more positive relational climate. Specifically, the teachers reported increasingly higher quality listening from their group-member teachers, felt more autonomy-satisfied, psychologically safe, and relationally energetic. Furthermore, latent growth curve modeling indicated that the teachers’ listening perception was positively and significantly associated with all three outcomes. We concluded that listening training is associated with teachers perceiving higher quality listening from their peers and, therefore, feeling more autonomy satisfied, psychologically safe, and relationally energetic and discuss theoretical and practical implications.


As a consequence of the COVID-19 pandemic, many higher education programs had to switch to synchronous online teaching. Teachers suddenly faced pressing unaddressed challenges, such as how to better transfer their “presence” from the traditional classroom to the online space in a way that keeps students engaged. This paper explores new venues for increasing the quality of synchronous online learning. We
propose the notion of broad on-slide presence, pillared on an increased instructor expressiveness and an elevated instructor slide-content interaction. We conducted four studies to investigate the benefits of delivering lectures in this format, using a mixed methods research approach. We combined survey methodology with transversal design and structural equation modelling with qualitative methodology using discourse analysis of teacher interviews. Results revealed a significant increase in perceived knowledge gain and attentional engagement, and an improved and more personal student experience. At the same time, the instructor’s broader on-slide presence also resulted in an increased teacher satisfaction.


The purpose of this study was to explore teachers’ perceptions and patterns of their activities on a participatory platform for cultural heritage content creation and dissemination. Using a convenience sample of participants, eight in-service teachers enrolled in a postgraduate program were invited to the study. Qualitative research methods were used, including (a) interviews with in-service teachers, (b) focus group discussions with two randomly selected teachers, the instructor of the course and an ICT expert as a digital content evaluator, and (c) observation of teachers’ activities patterns on the participatory Culture Gate platform. The results of this study highlight, as well as encourage discussion on how teachers can learn through online collaboration and also aims to identify factors connected with teachers’ professional development within a pedagogic framework.


A three-phase exploratory sequential mixed-method study was conducted to propose and test a model showing the interrelationships among the contextual factors influencing the science teachers’ Technological Pedagogical Content Knowledge (TPACK). Though developing teachers’ TPACK is critical for technology integration in education, the contextual factors influencing TPACK were mostly neglected and this study aimed to fill this gap in the literature. The first phase of the study was aimed to determine the contextual factors by interviewing science teachers and educational technology experts. The findings revealed nine common factors involving student influence, teachers’ beliefs and attitudes, technological infrastructure, administrative support, technical support, colleague interaction, lack of time, professional development, educational technology experience. In the second phase, a path model was hypothesized based on qualitative study results and related literature. In the third phase, a valid and reliable scale, named Contextual Factors Scale was developed to measure these contextual factors. Then, a questionnaire involving this scale and TPACK was administrated to 348 science teachers. Showing complex interrelationships among contextual factors, the model explained 45% of the variance in science teachers’ TPACK, with particular importance placed on professional development, teachers’ beliefs and attitudes, administrative support, and student influence. Looking from a holistic perspective, this study provided a valuable model for guiding decision-makers, researchers, and practitioners about how to improve teachers’ TPACK and technology
integration in the schools. Considering the complex interrelationships in the model, some simultaneous strategies dealing with each factor should be applied to improve teachers’ TPACK and technology-related practices in the schools.


Depuis 1967, la Revue française de pédagogie constitue au sein de l’espace francophone un lieu privilégié de publication et de discussion scientifique pour la recherche en éducation. Elle aborde ces questions dans une perspective large, ouverte à des approches diversifiées et à plusieurs disciplines de référence : psychologie, sociologie, philosophie, histoire, sciences de l’éducation, etc. Généralement regroupés en ensembles thématiques, les articles donnent accès aux apports les plus récents de la recherche en éducation. Chaque numéro comporte également une note de synthèse qui présente et problématisé les acquis, les évolutions et les questions vives de la recherche dans un domaine donné, ouvrant des horizons sur le plan national et international. Enfin, la rubrique des notes critiques apporte aux lecteurs une information et une réflexion sur les principaux ouvrages récemment parus.


L’année de formation initiale est souvent rapportée comme douloureuse et riche en émotions par les professeurs stagiaires (PS) d’anglais car leurs gestes professionnels sont encore en construction. On pourrait s’attendre à ce que les émotions des enseignants évoluent avec l’expérience. A travers l’analyse d’un vaste corpus constitué de questionnaires complétés par des enseignants d’anglais cristoliens à différentes étapes de leur carrière, et d’une triangulation menée hors Ile de France, nous avons pu constater que la colère et la joie ponctuaient le quotidien de tous les enseignants. Ces deux émotions peuvent être déclenchées par les élèves (comportement inadapté ou investissement), l’institution (surcharge de travail ou aide et soutien) ou l’enseignant lui-même (doutes et questionnement ou « bon cours »). Quatre études de cas ont été menées avec des enseignants d’anglais novices (2 PS, 1 PS puis T1 et 1 PS devenu T1 puis T2), le but étant d’observer les émotions en lien avec la construction des gestes professionnels à travers l’analyse de journaux de bord, de captations vidéo de cours et d’entretiens d’autoconfrontation. Ce corpus a permis de comprendre comment ces émotions se construisent et de découvrir qu’elles émergent lorsqu’il y a décalage ou adéquation entre la représentation mentale de l’enseignant ou « script prototypique » d’une situation et sa réalisation effective. Il a aussi permis de mettre en évidence que la colère et la joie impactent le discours des enseignants sur différents plans : linguistique, pragmatique et didactique. Les résultats de cette recherche offrent des axes de travail tant pour la formation initiale que continu(é)e.

Virtual Reality (VR) is increasingly being viewed as one of the most effective and efficient instructional tools in educational settings. The successful implementation of this innovative instructional technology presupposes teachers’ acceptance and diffusion. And prospective teachers, as the teacher talent pool, their beliefs and acceptance of VR determine if and how they use it in the future classroom. However, little is known about their attitudes and adoption. As such, the main goal of the present study is to investigate the behaviour and intentions of prospective teachers to use VR in class. The Unified Theory of Acceptance and Use of Technology 2 (UTAUT2) was used as an evaluative framework for the study. A pre-post design was used to collect perspectives before and after using VR through questionnaires (N = 58) and semi-structured interviews (N = 44). The findings indicated that following intervention, preservice teachers’ behavioural intention, effort expectancy, hedonic motivation, and price value were improved significantly; and that price value had a significant effect on behavioural intention. Meanwhile, barriers to implementing VR into future educational practices, such as the digital divide and culture reasons, were observed. Limitations and implications are also discussed.


With the digital transformation of education, data and digital technologies are regarded as the driving forces for teaching innovation. Teachers’ data literacy and digital teaching competence are becoming increasingly important for empowering students’ digital capacity, ethically technology usage, and collaboration or communication skills in the classroom. Therefore, whether teachers’ data literacy and digital teaching competence can empower students in the classroom needs to be explored. This study aims to reveal the relationship between teacher’s information communication technology (ICT) attitude, ICT skills, data literacy, digital teaching competence and empowering students. The data were collected from an online self-assessment scale which included a total of 629 K-9 teachers who participated in this study. Using SPSS and AMOS, a model was built by using Structural Equation Models to explain and predict the relationships. The results indicated that: (a) ICT attitude had no significant impact on digital teaching competence, and ICT skills significantly predicted digital teaching competence, but neither ICT attitude nor skills had a significant direct impact on empowering students; (b) data literacy significantly predicted digital teaching competence and had a significant direct impact on empowering students; (c) digital teaching competence, as dominant mediator in ICT attitude, ICT skills and data literacy, strongly predicted empowering students. The findings provided valuable evidence for teachers, policymakers, administrators, teacher educators, and teachers to better reimagine the teachers’ digital teaching competence. In the future, the teachers’ digital teaching competence should become the top priority in teacher ICT training, which was the most direct influencing factor for empowering students.


The need for computer science (CS) education, especially computer network education, is increasing. However, the challenges of teaching students with diverse
backgrounds and engaging them in hands-on activities to apply theories into practices exist in CS education. The study addressed the challenges by using project-based learning (PBL) and flipped teaching approaches to cover both theoretical and hands-on learning aspects in CS education. This study aims to demonstrate the design and development journey of a CS course and examine whether using PBL, hands-on activities, and flipped teaching approaches improves students’ learning. The design-based research study was conducted in an undergraduate CS course from 2014 to 2020 at a midwestern university. The design and development trajectory in the six years were described. The descriptive statistics were used to analyze the trends of the course evaluation results, and ANOVA were conducted to examine whether the evaluation differs from each semester. The results indicated that using PBL, hands-on activities, and flipped teaching increased students’ learning motivation and their perceptions of their learning. Combining PBL and flipped teaching appropriately can enhance students’ learning motivation and perceived learning in CS education, but further research is needed to examine how each individual intervention influence students’ learning motivation and learning outcomes.

Addressing in-service teacher professional development is a significant issue for educational stakeholders as reform movements mobilize to replace teacher-led instruction with student-centred pedagogies. Teachers need access to high-quality professional development to mitigate implementation problems associated with reform practices. Drawing on critical ethnography, I followed the year-long professional journey of six in-service science teachers in Quebec, Canada. Video-recorded professional development meetings and semi-structured interviews captured how teachers worked to enact sophisticated inquiry-based teaching practices. I have used a Bourdieusian lens to examine teachers’ shifting habitus as they professionally develop in collaborative professional development. Findings suggested that the field of educational reform is transformative when teachers engage with a professional learning model emphasizing critical reflection and collaborative discourse. Using Bourdieu’s concept of habitus and field, findings illustrate the benefits of pedagogic work on teachers’ repertoires of practice to understand the generative potential of professional development to transform teachers’ instructional practices.

In recent years, the integration of STEM disciplines has been increasingly advocated. It is crucial to prepare and support teachers for integrated STEM education. However, few studies in the literature explore collaborating with teachers from different disciplines. This study investigates the effect of the professional development (PD) program designed for integrated STEM education on teachers’ pedagogical design competencies and the contribution of the PD program to teachers’ integrated STEM understanding. The pedagogical design competencies of the teachers were examined in terms of the level of conformity of the lesson plans they prepared based on the 5E learning model and how they unified the computational thinking components into STEM education. The program
comprised 48 h and five modules. 20 computer science (CS), ten mathematics, and ten science teachers working in middle schools participated in the study. The study shows that the lesson plans developed collaboratively by the teachers were at an acceptable level in terms of integrated STEM education. However, lesson plans need to be improved. Regarding computational thinking, the teachers were more efficient in associating simulation in CS education, data analysis in mathematics education, and data collection in science education compared to other components. They were insufficient in associating components such as parallelization in CS education and automation in science and mathematics education. The teachers stated that PD program strengthens their collaboration with colleagues, contributes to pedagogical design skills in integrated STEM lesson planning and integrating STEM disciplines, and improves their understanding of integrated STEM.


Social sciences expose many cognitively complex, highly qualified, or fuzzy problems, whose resolution relies primarily on expert judgement rather than automated systems. One of such instances that we study in this work is a reflection analysis in the writings of student teachers. We share a hands-on experience on how these challenges can be successfully tackled in data collection for machine learning. Based on the novel deep learning architectures pre-trained for a general language understanding, we can reach an accuracy ranging from 76.56–79.37% on low-confidence samples to 97.56–100% on high confidence cases. We open-source all our resources and models, and use the models to analyse previously ungrounded hypotheses on reflection of university students. Our work provides a toolset for objective measurements of reflection in higher education writings, applicable in more than 100 other languages worldwide with a loss in accuracy measured between 0–4.2% Thanks to the outstanding accuracy of the deep models, the presented toolset allows for previously unavailability applications, such as providing semi-automated student feedback or measuring an effect of systematic changes in the educational process via the students’ response.


Artificial Intelligence (AI) scoring for constructed-response items, using recent advancements in multilingual, deep learning techniques utilising models pre-trained with a massive multilingual text corpus, is examined using international large-scale assessment data. Historical student responses to Reading and Science literacy cognitive items developed under the PISA analytical framework are used as training data for deep learning together with multilingual data to construct an AI model. The trained AI models are then used to score and the results compared with human-scored data. The score distributions estimated based on the AI-scored data and the human-scored data are highly consistent with each other; furthermore, even item-level psychometric properties of the majority of items showed high levels of agreement, although a few items showed discrepancies. This study demonstrates a practical procedure for using a multilingual data approach, and this new AI-scoring methodology reached a practical level of quality, even in the context of an international large-scale assessment.

A partir de deux études de cas à l’INSA Lyon réalisée pour l’enquête exploratoire de notre recherche doctorale, cette communication propose de retracer la façon dont nous avons utilisé l’échelle des niveaux de codétermination didactique proposée par Chevallard (1985 ; 2010). Dans la perspective de faciliter l’intégration des enjeux de la transition socio-écologique par les enseignants de l’établissement, nous avons cherché à mieux comprendre comment ceux-ci élaborent les curriculums de formation et le programme de leurs enseignements. La théorie anthropologique du didactique auquel se rattache cette échelle attire tout particulièrement l’attention sur l’écologie des systèmes didactiques et les multiples niveaux qui les co-déterminent à la fois de façon distincte et solidaire. Cela conduit à chercher à comprendre les conditions (négociables) et les contraintes (imposées) dans lesquelles l’enseignant travaille, toujours situé dans une ou plusieurs disciplines d’étude, aux prises avec des normes pédagogiques, évoluant dans une culture institutionnelle d’établissement particulière et prenant place dans une société singulière. Les niveaux d’analyse de cette échelle permettent de faire ressortir différentes dynamiques, croisant des enjeux à la fois pragmatiques, axiologiques et épistémologiques, qui définissent les contours des savoirs autorisés et prescrits par l’institution. Dans cette communication, pour présenter notre enquête exploratoire nous mettons en tension le cadre théorique retenu, inspiré à la fois de la théorie anthropologique du didactique et de la sociologie du curriculum. Cette seconde source nous a conduit à axer l’étude de ces niveaux de codétermination sous le prisme des rapports de pouvoir et de prestige pour saisir comment celles-ci interviennent dans l’activité enseignante et les compromis curriculaires, c’est-à-dire pour rendre compte de la disciplinarisation dans l’économie des savoirs (Lemaître, 2015). Cela souligne à nouveau l’importance de considérer les curriculums tout comme les systèmes didactiques comme des objets dynamiques (Forquin, 2008), dans lesquels la place et la nature des disciplines d’étude n’est pas définitive, mais doit être régulièrement réaffirmée, relégitimée voire transformée. Ces rapports, parfois conflictuels, ne sont pas sans influence sur les pratiques individuelles et collectives de formation, mais aussi sur les identités des enseignants. En définitive, nous proposons de rendre compte de notre manière d’articuler l’étude de ces trajectoires didactiques et curriculaires aux différents niveaux de codétermination didactique, avec des échelles de temps variées : de celle de l’institution à celle de la “durée de vie” d’une maquette pédagogique en passant par celle des carrières des enseignants.

Constatant la version actuelle du programme scolaire de Madagascar qui ignore le sens véritable de l’informatique, cette thèse, située dans le domaine de Didactiques des Mathématiques et de l’Informatique, propose une stratégie avérée relativement efficace d’intégrer l’éducation algorithmique à travers l’enseignement de la discipline des mathématiques au secondaire à l’aide de ses différentes techniques de résolution de problème. Des expérimentations pédagogiques comprenant des séances...
d’évaluation suivies d’analyse comparative en présence de population témoin ont été réalisées durant cette thèse pour étudier et identifier les liens implicatifs contenus dans la base de données collectées à cette occasion. Une implémentation optimisée des algorithmes d’extraction des règles d’association a été faite ; ce qui a conduit à la conception et à la réalisation d’un outil informatique d’Analyse Statistique Implicative basé sur la mesure MGK dans le contexte de la fouille de données binaires. Ce qui a permis d’extraire des liens implicatifs ou des règles d’association de type « si comportement (condition) A, alors comportement B ». 


Depuis 1967, la Revue française de pédagogie constitue au sein de l’espace francophone un lieu privilégié de publication et de discussion scientifique pour la recherche en éducation. Elle aborde ces questions dans une perspective large, ouverte à des approches diversifiées et à plusieurs disciplines de référence : psychologie, sociologie, philosophie, histoire, sciences de l’éducation, etc. Généralement regroupés en ensembles thématiques, les articles donnent accès aux apports les plus récents de la recherche en éducation. Chaque numéro comporte également une note de synthèse qui présente et problématisé les acquis, les évolutions et les questions vives de la recherche dans un domaine donné, ouvrant des horizons sur le plan national et international. Enfin, la rubrique des notes critiques apporte aux lecteurs une information et une réflexion sur les principaux ouvrages récemment parus.


Society is continually evolving and the needs of current generations of students are changing, deriving from the ongoing digital evolution of the whole of society. Gamification tools are increasingly being implemented in education, since previous studies have demonstrated their usefulness to foster motivation, particularly in the case of engineering students. For that reason, there is a great need to continue providing
empirical evidence of experiences proving the positive consequences of new active learning tools.

Shao, M. (2022). **How do teachers support students’ coordination of perception and logical reasoning in 3D dynamic geometry environments: French and Chinese cases** (Phdthesis, Ecole normale supérieure de Lyon - ENS LYON; East China normal university (Shanghai)). Consulté à l’adresse [https://theses.hal.science/tel-04027736](https://theses.hal.science/tel-04027736)

There have been long-standing challenges in learning 3D geometry. 3D dynamic geometry environments (3D DGEs) offer teachers new opportunities for supporting student visualization but also raise issues, such as the tension between students’ perception and logical reasoning. This study investigates an essential but challenging teacher practice in the learning environments integrated with 3D DGEs: the coordination behavior in support of students’ coordination of their own perception and different modes of logical reasoning which not only include theoretical deductive reasoning but also inductive and abductive reasoning. We further investigate how can this behavior be linked with the characteristics of the (dynamic) geometrical situation and teachers' knowledge and views. We establish a compound framework to address these questions. The Documentational Approach to Didactics (Trouche et al., 2020) serves as a global framework to integrate the regularities in teachers’ coordination behavior and the underpinning knowledge and views into a coherent unity – usage scheme (renamed “coordination scheme” in this study). The rules of action in the coordination scheme are connected with a sub-framework which is built with the help of Toulmin’s (2003) diagram of argument. The operational invariants in the coordination scheme are categorized with a framework, which is built on the TPACK knowledge framework (Koehler & Mishra, 2009) and other studies on teachers’ views about behavior control, social norms and time economy (Pierce & Ball, 2009; Ruthven, 2014). The characteristics of the (dynamic) geometrical situation are also structured from several dimensions which are identified according to the work of Piaget et al. (1973) and Morgan et al. (2009). Adopting a case study methodology and being situated in a Sino-French cooperation project, we use the compound framework to analyze the 3D DGE integrated lessons of experienced teachers in both France and China. The study finally leads to a renewed framework that allows capturing essential features of teachers’ coordination activities and opens new perspectives for both teacher education and further research.


The study’s main aim is to explore the preparedness of a sampled group of South African pre-service teachers at a Higher Education Institution (HEI) to teach adequately in the Fourth Industrial Revolution (4iR) classroom. The study employed a case study research design to ascertain the level of preparedness of pre-service teachers (n = 22) to use ICT tools for 4iR teaching and learning, using participant observation and focus group interviews. The Technological Pedagogical and Content Knowledge (TPACK) framework guided the research study in creating themes and analysing the data collected. The findings confirm that various aspects hindered the pre-service teachers from successfully implementing ICT tools in the 4iR classroom: school culture, inadequate computer infrastructure, and the need for the teacher education curriculum to be attuned to the 4iR teaching and learning. The study has thus significant implications on policy and
practice in similar educational contexts around the need to develop appropriate intervention strategies towards advancing pre-service teachers’ skills related to 4IR.


The application of student interaction data is a promising field for blended learning (BL), which combines conventional face-to-face and online learning activities. However, the application of online learning technologies in BL settings is particularly challenging for students with lower self-regulatory abilities. In this study, a personalized learning analytics (LA) intervention approach that incorporates ebook and recommendation systems is proposed. The proposed approach provides students with actionable feedback regarding personalized remedial actions as the intervention to help them to strategically engage in the use of the ebook system and avoid academic failure when engaged in BL. A quasi-experiment was conducted to examine two classes of an undergraduate course that implemented a conventional BL model. The experimental group comprised 45 students from one class who learned using the proposed approach and received personalized intervention, whereas the control group comprised 42 students from the other class who learned using the conventional BL approach without receiving personalized intervention. The experimental results indicated that the proposed approach can improve students’ learning achievements and behavioral engagement in BL. The findings provide pedagogical insights into the application of LA intervention with actionable feedback in BL environments.


Using three-wave longitudinal data, this study tested the potential mediating roles of teacher–student relationship quality and teachers’ career support efficacy in the association between Chinese adolescents’ family socioeconomic status (SES) and career development (N = 1410). Results showed that adolescents’ family SES at Wave 1 was negatively associated with their career ambivalence at Wave 3 via positive associations with both teacher–student relationship quality and teachers’ career support efficacy at Wave 2. Moreover, adolescents’ family SES at Wave 1 was positively related to career adaptability at Wave 3 via its positive association with teachers’ career support efficacy at Wave 2. This study highlighted the important role of teacher–student interaction in adolescents’ career development.

This study explores the impact of industrialization on secondary schooling in 19th century France. As a source of exogenous variation in industrialization across the French territory, it takes advantage of the openings and closures of mines which were supervised by the Ministry of Public Works, independently from the Ministry of Education. The results suggest that industrialization had a negative but mostly insignificant effect on high-school enrollment. However, industrialization increased the share of high-school pupils in applied sections and the wages of mathematics teachers.


Since the 90s many developed countries have experienced job polarisation, whereby employment shifts away from middle-paying jobs and towards both higher-paid and lower-paid ones. The most popular explanation is that technological changes have been biased against routine tasks. This paper offers a complementary explanation that emphasises the increase in skill supply and the resulting adoption of technology. I exploit the large policy-driven expansion of higher education in the UK and argue that this supply-side shift has caused the adoption of routine-biased technology and thereby employment polarisation. This framework is supported by three facts observed in the UK. First, employment has shifted from the middle to the top, with not much change at the bottom of the occupation distribution. Second, there were relatively little movements in occupational wages and the pattern is not U-shaped. Third, over a period of rapidly increasing supply of graduates, occupational outcomes among graduates have been broadly stable. I build an equilibrium multi-sector model of occupational labor and fit it to UK data over 1997-2015. I find that in most industries, technical change over the period was biased against routine tasks and favoured managerial and professional tasks. Allowing endogenous technological change, the shift in skills supply alone can account for between a third and two thirds of the actual decline in routine manual occupations.


The 2023 Gender, Education and Skills Report on the persistence of gender gaps in education and skills presents fresh insights on progress towards gender equality in education, from proficiency in reading, mathematics and science through to career...

This article analyzes the relationship between access to Information and Communication Technology (ICT) and school performance. It contributes to the empirical literature in the area since there is no consensus yet. Moreover, the context associated with COVID-19 pandemic also considers the analysis as the most relevant. The goal of this article is to study the impact of ICT on school performance at elementary level. The hypothesis set forth is that having both a computer and connection to Internet at the students’ homes, improves their school related achievements. To contrast it, we propose an econometric model using the Propensity Matching Score (PSM) methodology with data from the Learning 2018 (Aprender 2018) campaign of students at the last year of elementary school in Argentina and in each of the regions that conform it. Finally, there is evidence in favor of the hypothesis.


The paper evaluates math performance at four high-need middle schools during a four-year intervention, which was designed to help math teachers diagnose students’ areas of need and to design lesson plans responsive to those needs. Before the intervention began, the researchers pre-selected four comparison schools by matching based on achievement and also on demographics. A difference-in-difference analysis finds a significant increase of about 0.11 standard deviation in test scores per year for students in the program schools. Supplementary event study and synthetic control analyses to detect year-by-year effects lack precision but are weakly suggestive of a smaller impact in year 1 than later years. A cost analysis considers the affordability of extending similar programs.


In this study, I shed new light on the short-run effects of access to high-speed internet on educational disparities, before and after the pandemic shock. By following 3 million students belonging to 6 different cohorts over the period 2012-2022, I estimate the effect of the broadband infrastructure on student performance. While most previous contributions use discontinuous jumps in the available broadband connection speed across space at a given moment in time, this study exploits the actual roll-out of an infrastructural policy associated with an increase in 30 Mbit/s household broadband coverage from 40% to 80% over a 5-year period. The estimation strategy relies on a unique dataset, combining panel data on student performance with a rich set of school- and student-level information and broadband data measured at a very fine spatial scale. Results show an average null effect of high-speed broadband on 8th grade student performance in both numeracy and maths. However, this results masks substantial heterogeneity: lower performers in grade 5 and students with better
backgrounds gain from internet speed, whereas the opposite is true for other students. Interestingly, the stronger effect on low-performers tends to disappear during the lockdown, suggesting a negligible mitigating role for high-speed internet during the period of school closure. On the other hand, the broadband infrastructure might have further amplified the gap between students with different socioeconomic background.


As a novel type of mobile game, addictive behavior has attracted the attention of researchers due to its possible negative impacts on several forms of psychological problems. In this research, we tested the relationship between academic performance, mobile game addiction (MGA), and mobile self-efficacy among undergraduates in Taiwan. An academic model has been suggested from the hypotheses and using a sample of 739 college students by estimating the structural equation modeling. This result discloses that college students are an at-risk swarm for the MGA. We realized that MGA was negatively connected with academic performance and mobile self-efficacy, exhibiting a positive relationship between the latter two. Further analysis on age, place of stay, and the duration of playing mobile games distinction was tested in the trajectories from MGA to these psychological health results, and the results revealed that they were significantly associated with MGA. We also dealt with the limitations and recommended that the authorities immediately regard this, and to complete academic goals, college students should refrain from playing mobile games and participate in other forms of healthy entertainment.


Does relaxing strict school discipline improve student achievement, or lead to classroom disorder? We study a 2012 reform in New York City public middle schools that eliminated suspensions for non-violent, disorderly behavior. Math scores of students in more-affected schools rose by 0.05 standard deviations over three years relative to other schools. Reading scores rose by 0.03 standard deviations. Only a small portion of these aggregate benefits can be explained by the direct impact of eliminating suspensions on students who would have been suspended under the old policy. Instead, test score gains are associated with improvements in school culture, as measured by the quality of student-teacher relationships and perceptions of safety at school. We find no evidence of trade-offs between students, with students benefiting even if they were unlikely to be suspended themselves.


This study aimed to explore factors related to academic success (resilience) for students with socioeconomic disadvantages (SED) from the individual, school, and family domains. We also compared such factors with the results for students with socioeconomic advantages (SEA). A sample of 1767 eighth-graders (851 students with SEA and 916 students with SED) from a city in northern China completed the
questionnaires online. We found that (a) the common factors related to academic success for students with SED and SEA are high educational expectations, intrinsic motivation, positive parent-child relationships, and schools with high socioeconomic status; and (b) the unique factors for students with SED (but not SEA) are appropriate parental involvement with more concern in daily life but less concern in study and close peer relationships. Findings highlight social support as a protective factor against academic failure, especially among students from low-income families.


Strategic plans are valuable tools for colleges seeking to cast vision and provide focused guidance for leadership and faculty, but it is not clear how these plans address student success. This study analyzed plans from 55 of the 58 community colleges in North Carolina. First, we analyzed the plans using a 10-step strategic planning framework to determine how well each aligned with this planning process. Then, we analyzed the plans to see how they aligned with a framework for student success that includes four elements: completion, learning, labor market outcomes and equity. Additionally, we examined the plans with an interest in understanding how they reflected the influence of neoliberalism ideals. We found that all 55 strategic plans identified goals, and most of the plans also provided strategies corresponding with these goals. Less attention, however, was given to implementation. A close look at the identified goals within the plans highlighted predominance of labor market objectives (36%), followed by attention to transfer/completion (31%) and learning (25%), with minimal attention to equity (9%).
which suggests that neoliberal ideals – that gauge success by accountability measures of completion – have placed pressure on colleges in the strategic planning process. Our document analysis suggests that community college leaders are missing an opportunity to leverage the strategic planning process to support organizational learning and change by not focusing campus attention on shared goals prioritizing student success and advancing diversity, equity, and inclusion. Neglecting to provide publicly-available planning documents also misses the benefit of stakeholder engagement.


Pour les lycéens qui fréquentent l'internat, celui-ci est le plus souvent une solution d’hébergement lorsqu’ils habitent loin de leur établissement scolaire. Pour certains élèves, l'internat est également choisi afin de fournir un cadre de vie plus favorable à la scolarité que leur milieu familial. L’hébergement en internat est donc censé permettre aux élèves internes de suivre leur scolarité dans des conditions au moins aussi satisfaisantes que les autres élèves. Dans cette étude, nous comparons la réussite scolaire des élèves qui étaient internes l’année de leur entrée en lycée public à celle des autres élèves. Lorsqu’on tient compte des différences de caractéristiques entre les élèves internes et non-internes, leurs résultats en fin d’enseignement secondaire sont proches. Dans la voie professionnelle, les élèves internes obtiennent un peu plus souvent un diplôme que les non-internes.


With the digital transformation of education, data and digital technologies are regarded as the driving forces for teaching innovation. Teachers’ data literacy and digital teaching competence are becoming increasingly important for empowering students’ digital capacity, ethically technology usage, and collaboration or communication skills in the classroom. Therefore, whether teachers’ data literacy and digital teaching competence can empower students in the classroom needs to be explored. This study aims to reveal the relationship between teacher’s information communication technology (ICT) attitude, ICT skills, data literacy, digital teaching competence and empowering students. The data were collected from an online self-assessment scale which included a total of 629 K-9 teachers who participated in this study. Using SPSS and AMOS, a model was built by using Structural Equation Models to explain and predict the relationships. The results indicated that: (a) ICT attitude had no significant impact on digital teaching competence, and ICT skills significantly predicted digital teaching competence, but neither ICT attitude nor skills had a significant direct impact on empowering students; (b) data literacy significantly predicted digital teaching competence and had a significant direct impact on empowering students; (c) digital teaching competence, as dominant mediator in ICT attitude, ICT skills and data literacy, strongly predicted empowering students. The findings provided valuable evidence for teachers, policymakers, administrators, teacher educators, and teachers to better reimagine the teachers’ digital teaching competence. In the future, the teachers’ digital teaching competence should become the top priority in teacher ICT training, which was the most direct influencing factor for empowering students.

We present results from a meta-analysis of 37 contemporary experimental and quasi-experimental studies of summer programs in mathematics for children in grades pre-K–12, examining what resources and characteristics predict stronger student achievement. Children who participated in summer programs that included mathematics activities experienced significantly better mathematics achievement outcomes compared to their control group counterparts. We find an average weighted impact estimate of +0.10 standard deviations on mathematics achievement outcomes. We find similar effects for programs conducted in higher- and lower-poverty settings. We undertook a secondary analysis exploring the effect of summer programs on noncognitive outcomes and found positive mean impacts. The results indicate that summer programs are a promising tool to strengthen children’s mathematical proficiency outside of school time.


Providing access to higher education for people in marginalized communities, in particular for refugees, requires to re-think the traditional ways of teaching and learning in higher education institutions. The challenges of these circumstances both in terms of access to learning materials and the opportunity to collaboratively learn with others require specific support via appropriate didactical settings. Blended learning arrangements, i.e., settings that bring together online learning activities with synchronous, co-located settings show potential for addressing these requirements. In the present study, we examine the success factors in the design of blended learning settings for supporting higher education in marginalized communities. Based on an established model of blended learning success, we explore the specific challenges of the target group via a survey which was distributed to students of different subject areas and of the higher education programs of Jesuit Worldwide Learning. The 80 survey participants analyzed in this paper live in refugee camps, or marginalized areas located in rural and remote areas in Afghanistan, Guyana, India, Iraq, Kenya, Malawi, Myanmar, Philippines, Sri Lanka and Thailand. While we could confirm the success factors that also apply for blended learning scenarios in traditional settings, we also found evidence for the crucial role of facilitation in both, online and co-located learning phases, and challenges regarding the access to suitable infrastructure. Both need to be considered during design of blended learning programs for this target group.


Predicting student’s successful completion of academic programs and the features that influence their performance can have a significant effect on improving students' completion, and graduation rates and reduce attrition rates. Therefore, identifying students at risk, and the courses where improvements in content, delivery mode, pedagogy, and assessment activities can improve students' learning experience and completion rates. In this work, we have developed a prediction and explanatory model using adaptive neuro-fuzzy inference system (ANFIS) methodology to predict the grade
point average (GPA), at graduation time, of students enrolled in the information technology program at Ajman University. The approach adopted uses students’ grades in introductory and fundamental IT courses and high school grade point average (HSGPA) as predictors. Sensitivity analysis was performed on the model to quantify the relative significance of each predictor in explaining variations in graduation GPA. Our findings indicate HSGPA is the most influential factor in predicting graduation GPA, with data structures, operating systems, and software engineering coming closely in second place. On the explanatory side, we have found that discrete mathematics was the most influential course causing variations in graduation GPA, followed by software engineering, information security, and HSGPA. When we ran the model on the testing data, 77% of the predicted values fell within one root mean square error (0.29) of the actual GPA, which has a maximum of four. We have also shown that the ANFIS approach has better predictive accuracy than commonly used techniques such as multilinear regression. We recommend that IT programs at other institutions conduct comparable studies and shed some light on our findings.


Depuis 1967, la Revue française de pédagogie constitue au sein de l’espace francophone un lieu privilégié de publication et de discussion scientifique pour la recherche en éducation. Elle aborde ces questions dans une perspective large, ouverte à des approches diversifiées et à plusieurs disciplines de référence : psychologie, sociologie, philosophie, histoire, sciences de l’éducation, etc. Généralement regroupés en ensembles thématiques, les articles donnent accès aux apports les plus récents de la recherche en éducation. Chaque numéro comporte également une note de synthèse qui présente et problématise les acquis, les évolutions et les questions vives de la recherche dans un domaine donné, ouvrant des horizons sur le plan national et international. Enfin, la rubrique des notes critiques apporte aux lecteurs une information et une réflexion sur les principaux ouvrages récemment parus.


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.

The middle school version of the Washington Assessment of Risks and Needs of Students (msWARNs) is a self-report instrument designed for use by school personnel to identify barriers to school attendance and school success for sixth- to eighth-grade students. It measures six domains relevant to improving school outcomes that include aggression-defiance, depression-anxiety, substance use, peer deviance, home environment, and school engagement. In the present study, a bifactor S² 1 model, for which the aggression-defiance domain was the reference factor for the general factor and the other domains constituted the subfactors, had good fit and better fit than several other alternative models. Results of multigroup confirmatory factor analysis revealed invariance across different groups defined by gender and race/ethnicity (Native American, African American, Hispanic, and White), with a sample of referred middle school students (N = 2,356; ages 10?15 years). Reliability analyses support the use of the general factor to guide decision-making, the reliable use of the depression-anxiety factor for providing additional insights, and the remaining factors for guiding communication, as part of an assessment and intervention program for middle school students.


This meta-analysis examines the effects of sorting secondary students into different tracks (“between-school” tracking) or classrooms (“within-school” tracking) on the efficiency and inequality levels of an educational system. Efficiency is related to the overall learning achievement of students, whereas inequality can refer to “inequality of achievement” (i.e., the dispersion of outcomes) or “inequality of opportunity” (i.e., the strength of the influence of family background on student achievement). The selected publications are 53 analyses performed in the period from 2000 to 2021, yielding 213 estimates on efficiency and 230 estimates on inequality. The results show that the mean effect size (Hedge’s G) of tracking on efficiency is not statistically significant (G = −.063), whereas it is significantly positive (G = .117) on inequality. We further set out to explain variation in effect sizes by (a) policy characteristics, (b) the operationalization of main variables, (c) the research design, (d) the set of control variables included in the statistical analyses, and (e) the quality of the study, year of publication, and publication status (peer reviewed or not peer reviewed).


This study examines how social context, in this case, income inequality, shapes the role of cultural capital in educational success. First, we revisit the associations between (objectified) cultural capital and academic achievement, and cultural capital’s role in mediating the relationship between family SES and academic achievement. More importantly, we explore how national-level income inequality moderates these two relationships. By analyzing a multilevel dataset of 32 OECD countries, a combination of PISA 2018 data and several national indexes, we find that: (1) cultural capital not only has a positive association with students’ academic achievement but also acts as a significant mediator of the relationship between family SES and academic achievement.
in OECD countries; (2) both cultural capital’s association with academic achievement and its mediating role are stronger in more equal countries than in unequal ones. The findings shed new light on understanding how cultural capital shapes intergenerational education inequality across countries with different levels of inequality.


Math courses serve as cornerstones to most, if not all, community college programs. Yet, these courses continue to be gatekeepers. Contextualization represents a promising venue through which instructors might break down math barriers for students. This study explores community college students’ learning experiences in contextualized math classes, and how those experiences shape momentum toward success. We used a narrative inquiry approach, drawing upon the stories of six students enrolled in two contextualized math courses at a two-year college in a Midwestern state. Interviews, field notes, and survey data helped build and deepen the students’ narratives. We presented each student’s narrative individually, detailing their experiences in the contextualized math classes. We also discussed the thematic analysis results, which revealed six themes. The first three themes spoke to clear expectations and learning path in math, digging into and building upon math content and knowledge, and individual and group work dynamics. The latter three themes centered on discovering and recognizing utility of math, building and translating a foundation in math, and situating math within broader education and goals. This study offers empirical evidence on the potential of contextualization to enhance community college students’ learning experiences and success in math, particularly across college-level math courses and various program areas.


I evaluate the effect of wildfire smoke on primary and middle school students’ English Language Arts (ELA) and math achievement across the United States. To estimate students’ exposure to wildfires at the school district level, I merge satellite-based wildfire smoke plume boundaries and 1km-grid daily PM2.5 values with school district locations, and weight the exposure by census tract population. I find that recent drifting wildfire smoke plumes significantly lower ELA and math test scores. When I proxy the wildfire intensity by PM2.5, results suggest that severe wildfires generate lasting effects on young students in primary school. Effects are only transitory for students in middle school. Further analysis reveals that Black students in primary school and economically disadvantaged students are more negatively affected than others. Males are more affected by unhealthy air quality in elementary ELA and middle school math than female students. Overall, findings suggest that more environmental and educational policy responses are needed to protect students with the increase in wildfire occurrence and intensity.

The application of student interaction data is a promising field for blended learning (BL), which combines conventional face-to-face and online learning activities. However, the application of online learning technologies in BL settings is particularly challenging for students with lower self-regulatory abilities. In this study, a personalized learning analytics (LA) intervention approach that incorporates ebook and recommendation systems is proposed. The proposed approach provides students with actionable feedback regarding personalized remedial actions as the intervention to help them to strategically engage in the use of the ebook system and avoid academic failure when engaged in BL. A quasi-experiment was conducted to examine two classes of an undergraduate course that implemented a conventional BL model. The experimental group comprised 45 students from one class who learned using the proposed approach and received personalized intervention, whereas the control group comprised 42 students from the other class who learned using the conventional BL approach without receiving personalized intervention. The experimental results indicated that the proposed approach can improve students’ learning achievements and behavioral engagement in BL. The findings provide pedagogical insights into the application of LA intervention with actionable feedback in BL environments.

Depuis la Révolution française, l'éducation citoyenne est au cœur des missions de l'école publique dans sa volonté de changer le sujet en citoyen libre (Buisson, 1911, Audigier, 1999, 2015 ; Canivez, 1997 ; Galichet, 1998 ; Mougnotte, 1999). Dans cette entreprise, l'instruction devient un vecteur indispensable via les institutions publiques. En effet, à partir de Jules Ferry, l'École n'est plus considérée comme un simple service public, mais bien comme une institution politique, « un des lieu...


Cet article considère les rapports entre faits et valeurs dans l'enseignement de l'histoire du point de vue de sa contribution à l'éducation à la citoyenneté. Il met en discussion la tension entre l'objectivisme de la critique des témoignages comme mise à distance des valeurs (la connaissance historique comme « école du soupçon » selon Ricoeur) et le subjectivisme des témoins qui tend à récuser toute remise en question des faits. Cette tension est identifiée en didactique de l'histoire comme problématique du point de vue de la contribution de cette discipline à l'éducation à la citoyenneté. Une étude de cas menée auprès d'élèves de 8-9 ans permet d'observer que faits et valeurs se retrouvent dans l'appréhension subjective aussi bien qu'objective des témoignages, et qu'ils ne sont différenciés par les élèves qu'à condition que se développe un processus d'enquête historienne. Celle-ci se déploie selon un cadre formel analogue, sur des points essentiels, à celui d'un tribunal d'assises où se rejoue l'enquête, par les jurés/les élèves, sous le guidage du juge/professeur.


L'éducation du citoyen dans le système éducatif français est dans une situation ambiguë. D'un côté, elle est fortement mise en avant dans les missions de l'École et déclinée dans de nombreux dispositifs éducatifs et parcours pédagogiques, ainsi que dans les référentiels de compétences professionnelles ; d'un autre côté, elle se heurte à des difficultés si persistantes qu'elle semble relever d'une mission impossible. Cet article n'examine pas directement et empiriquement la faisabilité (Durand-Terreaux, 2017) de l'éducation à la citoyenneté dans la forme scolaire française, mais réfléchit indirectement, par une série de trois contrastes historiques et philosophiques, à l'idée d'une possible difficulté structurelle liée à la nature du projet éducatif de l'éducation scolaire. Que peuvent nous dire, par contraste, ces trois regards (sur les normes scolaires, sur le projet socialiste alternatif d'éducation intégrale et sur l'école danoise pour la vie) quant aux conditions de la formation du citoyen dans la forme scolaire française aujourd'hui ?


En matière d'éducation à la citoyenneté, les conceptions d'Arendt et de Dewey fournissent la matrice argumentative des controverses qui agitent l'intellectualité française. Cet article effectue une comparaison systématique des deux modèles en explicitant leurs fondements philosophiques. Il souligne trois oppositions majeures : 1)
d’abord quant à la conception de la culture, patrimoniale et substantielle chez Arendt et fonctionnelle chez Dewey ; 2) ensuite quant au rapport de continuité (Dewey) ou de rupture (Arendt) entre la culture et la vie ; 3) enfin, quant à la relation entre éducation et politique. Arendt distinguant rigoureusement les sphères publique, sociale et privée, fait de l’école un espace neutre alors que, pour Dewey, l’éducation prend nécessairement une couleur politique, en l’occurrence, démocratique. Les typologies actuelles des conceptions et des pratiques de formation à la citoyenneté sont à situer sur cette grille de lecture.


This study focused on early childhood preservice teachers’ perceptions of online technology, service learning, and their understanding of their role as community leaders through service learning. A survey was conducted among preservice early childhood teachers in Taiwan. The questionnaire was comprised of three factors: online engagement, civic responsibility, and service learning. These variables were tested for their relationships and interactions with mediating and moderating effects. The findings showed that early childhood preservice teachers had positive perceptions of using online technology in their service learning course, and that they employed this tool to perform their civic responsibilities as teachers and citizens. Most importantly, they responded that service learning experiences were helpful in expanding their civic awareness and sense of social responsibility to help disadvantaged groups achieve better social living situations.


Sur quels principes l’idée de citoyenneté se fonde-t-elle ? En passant de la sujétion au monarque à l’obéissance à la loi qu’on a contribué à élaborer, on ne peut plus se contenter de concevoir la liberté comme le droit personnel de désobéir. Au travers de la loi, le citoyen devient à la fois son propre maître et son propre sujet. Le mérite de Jean Jacques Rousseau et d’Emmanuel Kant est d’avoir posé l’autonomie à la racine de l’idée de citoyenneté. Comment cela est-il concevable ?


Au point de départ, un constat : l’importance accordée aujourd’hui à l’exercice du débat pour mettre en œuvre l’éducation à la citoyenneté des élèves. L’« éthique de la
discussion» de Habermas étant souvent mobilisée pour légitimer ce choix, on s’interrogera sur l’intérêt et les limites de cette référence. Viendra ensuite le temps de la discussion, la mise en débat du débat lui-même en partant de l’idée que la pratique de la discussion et l’action politique obéissent à deux logiques différentes, de telle sorte qu’il semble délicat de penser la seconde sur le modèle de la première. On ira même jusqu’à suggérer que, lorsque la sphère politique fait une place au débat, c’est, en réalité, pour neutraliser la conflictualité sociale dont il porteur. On soutiendra donc, pour conclure, que si la pédagogie du débat peut avoir une utilité en matière d’éducation citoyenne, ce serait surtout au sens où on y apprendrait d’abord à porter un regard critique sur la politique et les politiciens.


Many OECD countries have implemented programmes and policies specifically targeting the development of civic skills and values in schools. Some of the most successful practices steer away from knowledge-transfer-based learning, and towards experiential learning practices which empower children by placing them in the centre of the learning process. The benefits of experience-based learning programmes also have the potential to reach beyond the classroom walls, allowing schools and students to create and strengthen relationships with the communities around them.


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Y aurait-il, aujourd’hui encore, une laïcité inachevée, la « laïcité à l’alsacienne (...) préférable à la laïcité la française » (Gillig, 2017, p. 17) ? Cette interrogation est juridiquement posée en raison d’un particularisme scolaire en Alsace et en Moselle : aujourd’hui encore, un enseignement religieux confessionnel est obligatoire dans les établissements publics du premier et du deuxième degré. Cette législation d’exception serait-elle anachronique en contexte sécularisé et en obligation d...


On se propose d’étudier dans quelle mesure de nouveaux modèles d’éducation à une citoyenneté existentielle puissent une « radicalité » dans la pensée politique de la Grèce ancienne jusqu’à aujourd’hui, en se laissant interpeller par le Manifeste étudiant pour un réveil écologique et par l’enjeu de la Grande Transition.

L’objet de cet article est d’investir l’axe 1 du présent dossier, autrement dit de poser la question du modèle philosophique d’éducation du citoyen auquel il s’agit de se référer aujourd’hui pour les questions scolaires. Soucieux de proposer à la discussion une conception démocratique, individualiste et libérale de la citoyenneté comme de l’école contemporaine - en contrepoids des conceptions néo-républicaines de ces mêmes enjeux - nous proposons pour ce faire un dialogue critique, du point de vue de la philosophie politique de l’éducation, avec l’œuvre de Dominique Schnapper. Nous commençons par dégager, exposer et articuler les principales lignes de force de son modèle de citoyenneté et de ses implications en termes d’éducation citoyenne et de philosophie politique de l’école (1), puis le confrontons à deux critiques d’inspiration libérale, du républicanisme scolaire (2), avant de faire valoir pour finir l’intérêt d’une perspective néo-tocquevillienne et minimaliste de l’éducation citoyenne dans une société des individus (3).