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The common reproach: ‘think before you speak!’, epitomises an educational paradigm in which speech is only the act of transmission finalised ideas. In his inspiring short essay ‘On the Gradual Formation of Thoughts During Speech’ from 1805, the German writer Heinrich von Kleist challenged this approach when he described his habit of talking in order to think. Leaning on cognitive and philosophical theories that support Kleist’s intuitive insights, this study reads his essay as a practical guide in the learning paradigm that I call ‘speak-to-think’. While pedagogical theories have emphasised the importance of interpersonal dialogues and speech in the classroom for thinking and learning, I suggest that self-talk is a paradigmatic manifestation of speak-to-think, and a privileged learning method. Self-talk creates an internal dialogue that can promote meta-cognitive skills and critical thinking, while also challenging the normative perception of speech as a mere conduit for effective communication.


Working memory capacity is a key component of executive functioning and is thought to play an important role for a wide range of cognitive and noncognitive skills such as fluid intelligence, math, reading, the inhibition of pre-potent impulses or more general self-regulation abilities. Because these abilities substantially affect individuals’ life trajectories in terms of health, education, and earnings, the question of whether working memory (WM) training can improve them is of considerable importance. However, whether WM training leads to spillover effects on these other skills is contested. Here, we examine the causal impact of WM training embedded in regular school teaching by a randomized educational intervention involving a sample of 6–7 years old first graders. We find substantial immediate and lasting gains in working memory capacity. In addition, we document positive spillover effects on geometry, Raven’s fluid IQ measure, and the ability to inhibit pre-potent impulses. Moreover, these spillover effects emerge over time and only become fully visible after 12–13 months. Finally, we document that three years after the intervention the children who received training have a roughly 16 percentage points higher probability of entering the academic track in secondary school.


The increased use of digital technology in higher education requires university students to be digitally proficient. The main objective of this study is to examine the extent to which university students’ proficiency in various digital competences could be helpful towards
their learning performance. This study adopted DigComp 2.2 to design a data collection instrument for an online questionnaire survey and conducted data analysis on the valid 314 responses using partial least squares structural equation modelling (PLS-SEM). The findings indicate that, with the exception of safety, the digital competence areas of information and data literacy, communication and collaboration, digital content creation, and problem solving were significant to student learning performance. The findings also revealed that students’ current semester had no significant moderating effect on the relationships between their proficiency in digital competence areas and learning performance, with the exception of a relationship between information and data literacy and learning performance, as well as a relationship between problem solving and learning performance, between respondents in semesters 3 and 4, and between respondents in semesters 5 and 6, respectively. The findings contribute to a better understanding of DigComp 2.2’s applicability in higher education and can be used by educational institutions and educators to design learning activities and formative assessments that can help students improve their digital competence proficiency.


Competencies (knowledge, skills, and dispositions) enable employers and educators to speak a common language regarding what computing graduates are expected to demonstrate on the job. This study focuses on competencies required by managers in the computing industry, based on semi-structured interviews of ten individuals in managerial roles, such as directors, project managers, and product managers with prior experience in computing-related roles. Constant Comparative for Naturalistic Inquiry was used to analyze the data. The most frequently discussed managerial skills included leadership, project management, hiring and evaluating candidates, and mentorship. In addition, professional skills such as communication, problem-solving, and lifelong learning were mentioned, along with essential dispositions that support the development of these skills, e.g., collaborative mindset, lifelong learning orientation, and self-regulation. Participants also emphasized the need to make judgments, build relationships, and collaborate within or outside their team. Career readiness in the computing industry is not limited to entry-level jobs; professionals should have the opportunity to navigate their preferred career path—whether they aspire to move down a technical or managerial path. This study can contribute to both students’ and educators’ understanding of the managerial career path and what types of competencies and experiences should be included in computing education programs to set them up for success across their career path. Implications for pedagogical approaches will also be discussed.


On pense encore souvent que, si l’on peut donner des cours de peinture ou de composition musicale, l’écriture ne s’enseigne pas. Or apprendre à développer un style apporte beaucoup aux élèves.

Au cœur d’enjeux éducatifs aussi bien scientifiques que citoyens, construit complexe, susceptible de recevoir diverses définitions, l’esprit critique dans l’enseignement des sciences fait l’objet de différentes lignes de recherche empiriques et d’approches plus théoriques dont les six articles publiés dans ce dossier portent la trace. L’objectif du présent article est d’en proposer une mise en perspective, d’abord en dressant un panorama succinct des différentes lignes de recherche qui prennent l’esprit critique dans l’enseignement scientifique comme objet de recherche, puis en repérant leur positionnement concernant différents points identifiés comme des difficultés ou des points d’attention dans la littérature. Les questions soulevées par ce dossier à la fois sur l’élaboration d’une éducation à l’esprit critique des élèves et sur la formation des enseignants sont évoquées en conclusion.


Cette thèse s’intéresse aux grands adolescents nouvellement arrivés en France non ou peu scolarisés antérieurement. Pour pouvoir s’intégrer en France, ces jeunes doivent rattraper au plus vite un parcours scolaire qu’ils n’ont pas eu, en particulier dans le domaine de la lecture/écriture et de la phonologie du français. Or, les apprentissages se heurtent à un calendrier restreint et des conditions sociales difficiles. Ces difficultés structurelles rendent nécessaire la réflexion didactique afin d’identifier et de tester des démarches pédagogiques adaptées à ces conditions. Dans ce cadre, la littérature montre que leur parcours de vie pourrait être mis à profit pour entrer dans les apprentissages linguistiques de manière plus efficace. Par ailleurs, les démarches inductives et multimodales, dites engageantes, présentent des caractéristiques qui en font des entrées pédagogiques à priori privilégiées pour le public ciblé. La thèse propose ainsi d’élaborer et de tester un dispositif pédagogique inductif et multimodal prenant en compte les profils d’un groupe de 10 grands adolescents. L’analyse qualitative montre en quoi l’engagement des apprenants et de l’enseignant, constitutif de la démarche inductive et multimodale testée, a des effets positifs sur leur entrée dans la lecture, l’écriture et la phonologie du français.


L’IA peut aider comme nuire au processus créatif. Dans quelles conditions s’avère-t-elle un outil de brainstorming efficace ?


This study introduces an innovative approach to improving speaking proficiency among Korean EFL learners through the use of vlogs, further evaluating their impact on learners’ foreign language speaking anxiety (FLSA) and willingness to communicate (WTC). In this
In a semester-long experiment, 49 university students were divided into an experimental group (n = 25) and a control group (n = 24). The former engaged in vlogging activities, while the latter received traditional instruction devoid of social networking. Data were collected via pre- and post-questionnaires on FLSA and WTC, coupled with pre- and posttests assessing speaking skills. Vlogging significantly decreased FLSA and bolstered WTC in Korean EFL learners, demonstrating a marked improvement when contrasted with the control group. Additionally, the experimental group, engaged in vlogging, displayed superior advancement in vocabulary, comprehension, fluency and task proficiency. However, no discernible enhancements were observed in speaking accuracy when compared to the control group. With the evidence of reduced anxiety, increased communication willingness and enhanced speaking proficiency in the vlogging group, this study provides a concrete foundation for EFL teachers to consider integrating vlogging and similar social media-based activities into language instruction. This approach could contribute to creating more engaging and comfortable learning environments, aiding learners in overcoming affective barriers and improving their language skills. Practitioner notes

What is already known about this topic

Prior research in second language acquisition probed the impact of social media on diverse language learning areas: vocabulary, intercultural learning, speaking skills, pronunciation and writing skills. Social media-integrated language learning demonstrated potential in enhancing oral proficiency among English as a Foreign Language (EFL) learners. Limited research exists exploring the influence of social media, especially vlogging, on EFL learners’ speaking skills and affective factors such as Willingness to Communicate (WTC) and speaking anxiety. What this paper adds

This study demonstrates that a learning environment cultivated via social media, particularly vlogging, improves speaking proficiency and positively influences affective factors like Foreign Language Speaking Anxiety (FLSA) and WTC. The findings suggest that social media-integrated speaking activities, specifically vlogging, offer a beneficial and effective pedagogical strategy to ameliorate speaking proficiency, FLSA, and WTC in supportive and non-intimidating contexts. Implications for practice and/or policy

This study offers crucial insights for EFL teachers planning courses to enhance speaking proficiency: The integration of vlogging and similar social media-based activities into language instruction is strongly supported by the evidence of reduced anxiety, increased communication willingness and enhanced speaking proficiency in the vlogging group. This study provides a concrete foundation for such innovative approaches. The creation of an engaging, interactive and stress-free learning environment is essential, enabling learners to practice speaking English without anxiety. This approach can also aid learners in overcoming affective barriers and enhancing their language skills. EFL educators should prioritize improving key attitudinal factors, such as anxiety and WTC. These factors significantly contribute to the holistic development of oral proficiency. When incorporating social media-based speaking activities like vlogging, teachers’ targeted feedback on recurring learner mistakes can foster improvements in speaking accuracy. EFL teachers must recognize their critical role in nurturing a supportive, non-intimidating environment, paving the way for learners to effectively enhance their speaking proficiency.

This qualitative case study explores the Human Resource Development (HRD) interventions utilised in respect of local eco-skills with one marginalised group, the Roma, in the City of Liverpool, UK, and responds to HRD research calls into the cause of cycles of inequality. The case study illustrates the challenges experienced by precarious workers in accessing education and training. Further, it shares the interventions taken to address inequalities that a Higher EducationUK University and a local Non-Government Organisation took between 2016 and 2019. Roma is among the UK and Europe’s most disadvantaged and marginalised groups. Working in partnership, utilising Community-Based Participatory Research, we developed three HRD interventions: stakeholder groups (adult and young Roma), motivational interviewing and employability/education events. The findings unpack an understudied experience and context: the need for more attention to developing skills at a local level for marginalised precarious workers. We found that aspiration grew through focused community support and a partnership approach, and educational opportunities emerged, albeit at a relatively slow pace. This paper ends with a call for action for more HRD educators to work with those at the margins of society.


This study explores how master’s students perceive their research experiences and interpret the concept of research. Master’s education has been regarded as a steppingstone for doctoral study for several decades in many higher education systems; however, the meaning of ‘master’ has transformed academically and socially. Accordingly, the research requirement in many master’s programmes has become flexible or been replaced by other learning outcomes. This raises the question: what meanings do ‘thesis’ and ‘research’ have in the context of master’s education? In this study, we interviewed 73 master’s students from various universities and fields of study in Hong Kong to explore their perceptions of research. The thematic analysis showed that research was interpreted via multiple perspectives among the master’s students, such as learning outcomes, learning processes, and separate tasks. Three themes, namely eligibility, accountability, and agency, were identified as key elements of writing a thesis and understanding the research. The interpretations of research varied according to aspects of the students’ backgrounds, such as their academic discipline and work experience. Most importantly, research supervision was found to play a central role in shaping the students’ perceptions of research. This study suggests how research can be meaningfully integrated into today’s master’s education.


In this brief, we use a nationally representative sample of ever-English learners (ELs; N = 783) to examine relations between EL concentration within classrooms and reading growth between kindergarten and Grade 5. Piecewise growth models were used to estimate relations for four developmental periods (K–1, Grades 1–2, Grades 2–3, and Grades 3–5). Results indicate nonsignificant, trivially sized relations for classroom EL
concentration across periods, with and without controls for school concentration and student characteristics. Results were robust across multiple specifications. Findings call into doubt the academic benefits of the common practice of grouping ELs together in particular classrooms.

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In a digital society, teachers are required to carry out policy directives on both core knowledge and more vaguely described cross-curricular competences, one being digital competence. This paper reports on the findings of a study in which 41 teachers from three lower secondary schools in Sweden engaged in focus group interviews where they participated in sensemaking processes on students’ digital competence. The questions targeted what the teachers knew of their students’ digital experiences and how to facilitate and further develop these students’ digital competence. Based on the focus group interviews, four themes were identified: critical awareness, tool management, creativity, and avoidance of digital usage. Absent were themes related to democratic digital citizenship. The paper discusses the importance of moving away from a one-sided focus on individual teachers' professional digital competence in favour of focusing on how school organizations can negotiate and facilitate students' digital competence in local situ. Otherwise, there is a risk of overlooking students' cross-curricular digital competence and digital citizenship. This paper is a starting point for further research on how school as an organization can support teachers in facilitating various areas of students’ digital competence in a digital society.


The paper aims to develop and validate an internet literacy scale for high school students. The study emphasizes the importance of internet literacy, especially for adolescents who need sufficient internet literacy to gain self-development and live their whole lives in this information age. The study has recruited 744 high school students and provided a validated scale consisting of thirty items in eight dimensions: (1) self-management, (2) self-image construction, (3) damage control, (4) information processing, (5) critical thinking, (6) cooperation, (7) consciousness of morality, and (8) consciousness of security. The current developed scale can reflect the latest, abundant meaning of internet literacy. This study fulfills the need to build up a validated, comprehensive internet literacy scale for adolescents such as high school students. The study also suggests potential applications of the scale in the pedagogical context.


This scoping review examines the effectiveness of online and blended learning in fostering higher-order thinking skills in higher education, focussing on creativity and critical thinking. The paper finds that whilst there is a growing body of research in this area, its scope and generalisability remain limited. Current evidence suggests that, for
most students and contexts, in-person learning yields better or equivalent outcomes for higher-order thinking skills than fully online learning. However, blended and flipped learning show promise. In some cases, they may be more effective than in-person learning to develop higher-order skills. The review aims to be of use to higher education practitioners by synthesising, for the first time at such a scale, the diverse literature on what supports students to develop these skills online. This has been linked to active and interactive online learning, well-structured project-based learning, disciplined questioning, students labelling relevant dimensions of their thinking, and regular, quality instructor and peer feedback. The review calls for improved research design to understand the effectiveness of different modes of learning and address gaps in the literature, which include fostering creativity online and ensuring equitable online skills development across disciplines and teaching contexts. Policy implications include the need to integrate attention to higher-order thinking skills into professional learning, innovation funds, national networks and quality assurance to support effective online teaching of these skills across higher education systems.


La présente édition des Perspectives de l’OCDE sur les compétences montre combien il est important d’aider les individus à acquérir un large éventail de compétences, à des niveaux de maîtrise divers, afin de favoriser la résilience économique et sociale.


«Développer l’esprit critique des élèves», notamment en cours de sciences, est un objectif fort des programmes officiels actuels. Mais comment penser l’enseignement de «l’esprit critique» dans une démarche didactique? Pour rendre cette notion opératoire dans le contexte scolaire, nous proposons dans cet article de considérer l’esprit critique au sens d’une pratique normée de l’argumentation. Nous proposons ainsi d’étendre les concepts de pratiques de référence et de représentations spontanées pour outiller une réflexion didactique sur l’enseignement de l’argumentation critique sur des questions socioscientifiques (QSS). Dans cette perspective, d’une part, nous dégageons à partir de la littérature des normes épistémiques de référence caractérisant la pratique de l’argumentation sur des QSS. D’autre part, nous identifions dans l’argumentation des élèves des normes qu’ils construisent spontanément sur la base de leurs représentations de ce que doit être l’argumentation. Nous explorons le pouvoir heuristique de cette approche à travers une étude de cas portant sur un débat d’élèves au lycée sur une QSS. Les résultats obtenus montrent la coexistence dans l’argumentation des élèves de diverses normes spontanées, dont certaines correspondent à des normes de référence. L’interaction de ces normes spontanées et de référence met en évidence une pluralité de représentations de l’argumentation donnant des pistes pour penser une didactique de l’argumentation sur des QSS.
Reflective practice (RP) is a widely accepted approach for facilitating experiential learning within the professional development of service delivery practitioners. However, a dearth of empirical evidence exists to support the potential efficacy of RP for improving applied practice effectiveness. This study examined whether improving professionals’ ability to engage in RP at more advanced critical levels impacted their use of communication skills (CS) in practice. A quasi-experimental, multiple-baseline, crossover design was employed with 20 Emirati female dieticians who were assigned to one of two groups and exposed to three RP treatments and three control periods. Baseline and postintervention measures of RP and CS were administered to assess whether improved RP skills subsequently impacted practice behaviours. A significant difference between experimental and control groups’ RP scores were reported over the treatment period. For CS there was an intervention effect for: listening and rapport; questioning skills; comprehensiveness; organization; transitional statements; and approach to planning and education. The findings indicate that the intervention was successful for improving participants’ reflective skills, resulting in more favourable practice behaviours (e.g., CS). This study makes a novel contribution to the literature by providing rigorous empirical evidence to support the value of RP as a metacognitive strategy for improving service delivery behaviours in health professionals.


As block-based visual programming platform such as Scratch become more accessible and supportive to children’s programming learning, the demand on understanding a trajectory of children’s computational thinking development through programming from their early ages increases rapidly in recent years. To explore the developmental process of children’s computational thinking in twenty-first century, an experimental study was proposed to study the children’s acquisition of computational thinking (CT) concepts and skills through compulsory lessons in schools starting in the fourth grade. A computational thinking framework along with six units of programming lessons were developed as a part of the research, aiming to develop primary (or elementary) school students' computational problem-solving skills through a hybrid-based design of programming activities: combining unplugged (i.e., embodied cognitive activities without computing devices) and plugged (i.e., programming activities with computing devices) approach. Five primary schools participated in our main study, and a mixed method research was conducted with 400 fourth grade students (Male = 259; Female = 141) and 18 teachers involved in delivering our designed lessons. The findings in our study show that students achieved learning gains in basic computational thinking skills in solving programming problems under this hybrid-based learning approach. These findings can give insight for educators and researchers interested in incorporating computational thinking in primary education, which sets forth a research direction on the developmental aspects of computational thinking for children in the neo-Piagetian perspective.

This paper investigates the causal relationship between education and mental health in Turkey. We rely on the quasi-experimental setting created by the 1997 compulsory education reform that raised the compulsory years of schooling from five to eight years. Using regression discontinuity design, we use the birth year to indicate reform exposure and identify the causal effects of longer years of schooling on mental health. Our results demonstrate a sizable negative impact of education on the mental health scale. We present evidence that the reform had a more adverse effect on men’s mental health. There is also heterogeneity by the place of residence, as the longer school years led people who live in urban areas to experience worse mental health outcomes. By investigating possible mechanisms, we show that those with at least a middle school education did not invest more in their health than those without a middle school diploma. We explain the evidence for the adverse effects of education on mental health, especially experienced by those who face higher competition in the labor market, by the lack of an increase in household income despite the longer years in school.


What is the role of a society’s wealth in influencing educational choices? Although the theoretical literature provides several possible answers, from an empirical viewpoint answering question is not straightforward. Indeed, nowadays such an issue cannot be typically inspected before starting the college, due to the compulsory public education laws in force at lower education levels in nearly all countries. We investigate this problem by employing a unique dataset covering Sicilian wealth shares and primary school enrollment in the year 1858 at municipal level. This represents an ideal setting to study our research question as, at that time, schools at the lowest grade levels were available in almost each Sicilian municipality, but their attendance was not compulsory. Our identification strategy relies on the historical heritage of seismic events in shaping mid-19th century land and property distribution, which allowed for the emergence of a class of « wealthy » households. Results of the analysis show that, even in an almost entirely agrarian society, household wealth played a decisive role in educational choices: an increase of 10

Working memory capacity is a key component of executive functioning and is thought to play an important role for a wide range of cognitive and noncognitive skills such as fluid intelligence, math, reading, the inhibition of pre-potent impulses or more general self-regulation abilities. Because these abilities substantially affect individuals’ life trajectories in terms of health, education, and earnings, the question of whether working memory (WM) training can improve them is of considerable importance. However, whether WM training leads to spillover effects on these other skills is contested. Here, we examine the causal impact of WM training embedded in regular school teaching by a randomized educational intervention involving a sample of 6–7 years old first graders. We find substantial immediate and lasting gains in working memory capacity. In addition, we document positive spillover effects on geometry, Raven’s fluid IQ measure, and the ability to inhibit pre-potent impulses. Moreover, these spillover effects emerge over time and only become fully visible after 12–13 months. Finally, we document that three years after the intervention the children who received training have a roughly 16 percentage points higher probability of entering the academic track in secondary school.


We investigate the stages of childhood at which parental job loss is most consequential for their child’s education. Using Danish administrative data linking parents experiencing plant closures to their children, we compare end-of-school outcomes to matched peers and to closures hitting after school completion age. Parental job loss disproportionally reduces test taking, scores, and high school enrolment among children exposed during infancy (age 0-1). Effects are largest for low-income families and low-achieving children. The causal chain from job loss to education likely works through reduced family income. Maternal time investment partially offsets the effect of reduced income.


We study the effects of school starting age on siblings’ infant health. In Spain, children born in December start school a year earlier than those born the following January, despite being essentially the same age. We follow a regression discontinuity design to compare the health at birth of the children of women born in January versus the previous December, using administrative, population-level data. We find small and insignificant effects on average weight at birth, but, compared to the children of December-born mothers, the children of January-born mothers are more likely to have very low birthweight. We then show that January-born women have the same educational attainment and the same partnership dynamics as December-born women. However, they finish school later and are (several months) older when they have their first child. Our results suggest that maternal age is a plausible mechanism behind our estimated impacts of school starting age on infant health.

We study the choice of acquiring STEM and non-STEM college education using variation induced by the proximity to universities offering different types of programs. We adopt a novel methodology allowing the identification of the distribution of response types and treatment effects in a multiple unordered discrete choice setting (Heckman and Pinto, 2018). The empirical analysis is based on confidential survey data for Italy, combined with administrative information about the founding dates of all Italian universities and faculties. We find that most compliers are women at the margin of choosing STEM education versus not going to college. We simulate the effects of expanding the supply of STEM education and discover that, in addition to substantial effects on employment, the gender disparity in STEM education could potentially decrease by up to 20%.


We study the choice of acquiring STEM college education using variation induced by the proximity to universities offering different types of programs. We adopt the methodology by Heckman and Pinto (2018) allowing the identification of the distribution of response types and treatment effects with multiple unordered choices. We combine survey data for Italy with historical information about the founding dates of all universities and faculties. We find that most compliers are women at the margin of choosing STEM education versus not going to college. Expanding the supply of STEM education could reduce the gender gap in STEM by 20%.


This article offers new empirical evidence regarding the limits of the premises of educational privatisation policies. Educational markets rely on the assumption that private participation has the potential to boost school diversification and open new educational opportunities for students from disadvantaged backgrounds. Using a fresh empirical approach, we draw on the Chilean case to investigate this rationale, which remains a controversial issue in the global educational discussion regarding privatisation. We examine the assumption of diversification by analysing three aspects: the attributes used by private subsidised schools to position themselves in the educational market (‘Value Proposition’), the extent to which they embody these stated attributes and the alignment between them and parental preferences. Based on surveys and administrative records, our findings suggest that although schools display clear identities to position themselves in the educational market, there is also a mismatch between what some types of schools offer and what families receive. Our data also reveal a high level of social stratification between school types which cannot only be explained based on parental preferences or school admissions. We interpret the unfulfilled promise of diversification as a failure in the privatisation process. Based on these findings, we discuss
the policy-related factors of incoherent and unequal diversification in the Chilean educational system.


We examine the differential effects of automation on the labor market and educational outcomes of women relative to men over the past four decades. Although women were disproportionately employed in occupations with a high risk of automation in 1980, they were more likely to shift to high-skill, high-wage occupations than men in over time. We provide a causal link by exploiting variation in local labor market exposure to automation attributable to historical differences in local industry structure. For a given change in the exposure to automation across commuting zones, women were more likely than men to shift out of routine task-intensive occupations to high-skill, high-wage occupations over the subsequent decade. The net effect is that initially routine-intensive local labor markets experienced greater occupational gender integration. College attainment among younger workers, particularly women, also rose significantly more in areas more exposed to automation. We propose a model of occupational choice with endogenous skill investments, where social skills and routine tasks are q-complements, and women have a comparative advantage in social skills, to explain the observed patterns. Supporting the model mechanisms, areas with greater exposure to automation experienced a greater movement of women into occupations with high social skill (and high cognitive) requirements than men.


This paper presents a descriptive analysis of the impact of tuition fee increases in England on the full-degree mobility of undergraduate students from the European Union. First, we investigated whether the increase in tuition fees reduced the number of EU students in English higher education institutions. Our analysis shows that, on average, English universities suffered a sudden drop in EU enrolments in 2012/13 but recovered and then expanded their pre-2012 enrolment levels in subsequent academic years. We observe that those English universities regarded as less prestigious experienced the sharpest decline and took longer to recover their pre-2012 numbers. Second, we examined how changes in enrolment are associated with EU countries’ macro-level characteristics, using the push-pull model framework. While there was a significant decrease in the number of students from Northern and Western European countries attending English universities after 2012, the tuition fee increase did not impact the number of students coming from Southern Europe. We found an association between EU countries' youth employment rates and higher education system characteristics with changes in enrolment in English universities. By examining the effect of changes in the tuition fee policy on international student mobility, our research provides new evidence on how tuition fee policies might change the behaviour of students.

Recent research has shown that females make classrooms more conducive to effective learning. We identify the effect of a higher share of female classmates on students’ disruptive behavior, engagement, test scores, and major choices in disadvantaged and non-disadvantaged schools. We exploit the random assignment of students to classrooms in early high school in Greece. We combine rich administrative data with hand-collected student-level data from a representative sample of schools that feature two novel contributions. Unlike other gender peer effects studies, a) we use a rich sample of schools and students that contains a large and diverse set of school qualities, and household incomes, and b) we measure disruption and engagement using misconduct-related (unexcused) teacher-reported and parent-approved (excused) student class absences instead of self-reported measures. We find four main results. First, a higher share of female classmates improves students’ current and subsequent test scores in STEM subjects and increases STEM college participation, especially for girls. Second, a higher share of female classmates is associated with reduced disruptive behavior for boys and improved engagement for girls, which indicates an increase in overall classroom learning productivity. Third, disadvantaged students—those who attend low-quality schools or reside in low-income neighborhoods—drive the baseline results; they experience the highest improvements in their classroom learning productivity and their STEM outcomes from a higher share of female classmates. Fourth, disadvantaged females randomly assigned to more female classmates in early high school choose college degrees linked to more lucrative or prestigious occupations 2 years later. Our results suggest that classroom interventions that reduce disruption and improve engagement are more effective in disadvantaged or underserved environments.


This paper considers the problem of making inferences about the effects of a program on multiple outcomes when the assignment of treatment status is imperfectly randomized. By imperfect randomization we mean that treatment status is reassigned after an initial randomization on the basis of characteristics that may be observed or unobserved by the analyst. We develop a partial identification approach to this problem that makes use of information limiting the extent to which randomization is imperfect to show that it is still possible to make nontrivial inferences about the effects of the program in such settings. We consider a family of null hypotheses in which each null hypothesis species that the program has no effect on one of many outcomes of interest. Under weak assumptions, we construct a procedure for testing this family of null hypotheses in a way that controls the familywise error rate – the probability of even one false rejection – in finite samples. We develop our methodology in the context of a reanalysis of the HighScope Perry Preschool program. We find statistically significant effects of the program on a number of different outcomes of interest, including outcomes related to criminal activity for males and females, even after accounting for imperfections in the randomization and the multiplicity of null hypotheses.

Large-scale international achievement studies such as PISA have been widely used to study how educational inequality compares across countries. Yet the various different biases that may affect these estimates are often not considered or are poorly understood. In this paper we draw upon the total survey error framework to provide a case study of the potential biases affecting estimates of the socio-economic achievement gaps using PISA data from Germany. The results illustrate how procedural and measurement errors have a substantial impact upon estimates of socio-economic achievement gradients in Germany, including how it compares with other countries. This leads us to conclude that estimates of socio-economic achievement gaps using the PISA data for Germany do not seem to be particularly robust. More generally, we argue that better articulation and reporting of such challenges with comparing socio-economic achievement gaps using large-scale international assessment data such as PISA are needed.


Background Socio-economic status (SES) is a powerful predictor of attainment. Research has identified multiple mechanisms that underpin the effect of SES on attainment. For example, self-regulation (processes through which individuals direct and control their attention, emotion and behaviour) has been identified as one mechanism mediating the SES attainment gap. However, previous studies have not directly tested the statistical pathways by which children from lower SES backgrounds develop low self-regulation skills and subsequently poor attainment at the end of primary school. Adding the home learning environment, which is associated with both SES and self-regulation, further fleshes out the longitudinal pathways. Aims We propose and test a new model where the relationship between SES and school attainment is sequentially mediated by the family home learning environment and the child’s self-regulation. Sample This study uses the Effective Pre-school, Primary and Secondary Education data set to study 2311 English children. Methods We measured SES (via socio-economic disadvantage) based on an index of low parental education, occupation and income at age 3+. The home learning environment was measured by the Home Learning Environment Index at age 3+; self-regulation was a teacher report on the Child Social Behaviour Questionnaire at age 4+ and attainment was measured via scores on national assessments of English and Maths at age 11. Results Our measure of disadvantage predicted attainment. The home learning environment predicted children’s self-regulation skills. The relationship between disadvantage and attainment was sequentially mediated by the home learning environment and self-regulation. Conclusions These findings suggest that home learning environment and self-regulation may play a sequential role in perpetuating socio-economic disparities in education.

A growing number of states are placing restrictions on whether public universities can increase tuition, and this trend is likely to continue in the future. Yet no research has examined whether tuition caps or freezes have induced more students—particularly from historically underrepresented groups—to enroll in public higher education. In this paper, we constructed an institution-level dataset of tuition controls mandated by state legislatures or higher education agencies to answer these important questions. We found that tuition freezes were associated with increased enrollment of both in-state and out-of-state students, but primarily at less-selective universities that were willing to expand capacity. There is also some evidence that Hispanic enrollment may have increased following tuition freezes.


This study finds substantial reductions to criminal activity from the introduction of a comprehensive high school support program for disadvantaged youth living in the largest public housing project in Toronto. The program, called Pathways to Education, bundles supports such as regular coaching, tutoring, group activities, free public transportation tickets and bursaries for postsecondary education. In this paper, we use a difference-in-differences approach that compares students living in public housing communities where the program was offered to those living in communities where the program was not offered over time. We find that eligibility for Pathways reduces the likelihood of being charged with a crime by 32 percent at its Regent Park location. This effect is driven by a reduction in charges for breaking and entering, theft, mischief and other traffic offenses and Youth Criminal Justice Act offenses.


Although the literature on assignment mechanisms emphasizes the importance of efficiency based on agents’ preferences, policymakers may want to achieve different goals. For instance, school districts may want to affect student learning outcomes but must take teacher welfare into account when assigning teachers to students in classrooms and schools. This paper studies both the potential efficiency and equity test-score gains from within-district reassignment of teachers to classrooms using novel data that allows us to observe decisions of both teachers and principals in the teacher internal transfer process, and test-scores of students from the observed assignments. We jointly model student achievement and teacher and school principal decisions to account for potential selection on test score gains and to predict teacher effectiveness in unobserved matches. Teachers, but not principals, are averse to assignment based on the teachers’ comparative advantage. Estimates from counterfactual assignments of teachers to classrooms imply that, under a constraint not to reduce any retained teacher’s welfare, average student test scores could rise by 7% of a standard deviation. Although both high and low achievers would experience average gains under this counterfactual, gains would be larger for high-achieving students.
This paper examines the effects of daily exercise time on the academic performance of junior high school students in China, with an attempt to figure out the most appropriate daily exercise time for students from the perspective of improving students’ test scores. By dividing the daily exercise time into five sections to construct a categorical variable in a linear regression model as well as using another model to draw intuitive figures, I find that spending both too little and too much time on physical activity every day would have adverse impacts on students’ academic performance, with differences existing in the impacts by gender, grade, city scale, and location type of the school. The findings of this paper carry implications for research, school health and education policy and physical and general education practice. The results also provide recommendations for students, parents and teachers.

We examine the mortality effects of a 1947 school reform in Japan, which extended compulsory schooling from primary to secondary school by as much as 3 years. The abolition of secondary school fees also indicates that those affected by the reform likely came from disadvantaged families who could have benefited the most from schooling. Even in this relatively favorable setting, we fail to find that the reform improved later-life mortality up to the age of 87 years, although it significantly increased years of schooling. This finding suggests limited health returns to schooling at the lower level of educational attainment.

This article studies state-developed courses in career and technical education (CTE) that offer students the opportunity to earn college credit during high school. Using a regression-discontinuity approach, we examine the effects of passing the end-of-course exam necessary to secure college credit on postsecondary enrollment and choice. We find that barely passing a CTE dual-credit exam increases the likelihood of attending a public, in-state, 2-year institution, with at least part of that increased propensity stemming from a reduction in the likelihood of attending a private in-state institution. Furthermore, we find suggestive evidence that the boost in the likelihood of attending a public, in-state, 2-year college is relatively larger for male compared to female students.

We analyze the effectiveness of monetary incentives and/or feedback in order to improve students’ calibration of academic performance. A randomized field experiment is implemented in which undergraduate students enrolled in a Microeconomics course...
are offered the possibility to judge their academic performance immediately before (prediction) and after (postdiction) completing each of the three exam-multiple choice tests of their continuous evaluation. Potential (actual) miscalibration in each test is calculated as the difference between the predicted (post-dicted) grade and the actual grade. The treatment variables are monetary incentives and individual feedback since they may potentially affect students' judgment accuracy. Different treatments allow for the analysis of the effect of one of the variables alone or the joint effect of introducing the two variables. The main result is that potential and actual miscalibration are independent of the treatment variables. Our data analysis controls for confounding factors like students’ cognitive ability, academic record, risk attitudes and personality traits. Our data reflect that students’ potential miscalibration is significantly reduced in subsequent tests to the first, only in the treatment where individual feedback as well as monetary incentives are provided.


This study shows that civilians’ behavior can be severely affected by territorial control by an insurgent group, and that these effects can persist after the government regains control and the occupation ends. I consider a framework of civilian behavior under insurgent rule, where civilians have the option to cooperate with, or resist, rules imposed by insurgents. I exploit the temporary occupation of territory in Nigeria by Boko Haram, an insurgent group with a strong anti-educational stance, as a quasi-experiment. Behavior is measured through school participation among children. Using individual-level panel data, I compare children exposed to the insurgency with children exposed to both the insurgency and occupation. The main results show (i) an immediate, negative effect on school participation, especially for those sharing a social identity with the insurgents, exposed to violent rule enforcement, and facing social pressure to conform, (ii) these negative effects persist in the long-run for the first and second group only. The effects cannot be explained by well-documented mechanisms linking conflict to lower school participation, demonstrating the need to account for occupation, and not solely violence, when considering the impact of insurgencies on civilians.


This paper studies the effect of class-size reduction on students’ academic outcomes with a special focus on its heterogeneity based on classmates’ characteristics. We estimate the causal effects of class-size reduction on students’ mathematics and language test scores, controlling student-teacher fixed effects and applying the predicted class size with a cap as an instrument for the actual class size. Using rich panel data on Japanese primary school students, we find that the average effect of class size reduction is positive and robust for math test scores and that classes with high-ability classmates benefit even more from class size reduction. We find that the effect of class size reduction depends positively on the ability of the student with the lowest rank in a class. In addition, we find that classes with a high share of female students benefit more
from class size reduction. Our findings provide strong support for the theoretical framework of Lazear (2001).


Lorsque les bourses étudiantes augmentent, les aides des parents tendent à baisser. Comment ajuster au mieux le système de prestations publiques pour favoriser l’autonomie des jeunes ?

**Aspects psychologiques de l’éducation**


The current study’s purpose is to present a picture of the extent to and frequency at which Israeli Arab principals are perceived as displaying the leadership styles of participative leadership versus directive leadership and transformation versus transactional leadership and then investigating the relationship of these leadership styles to teachers' organizational commitment (OC). Data were collected from two sources: senior management team members and teachers to avoid same source and common method bias: 426 participants overall from 71 high schools in the Israeli Arab educational system. Unianova analysis and hierarchical regression analyses were used to test the proposed relationships. The results of the overall model indicated that although principals in the Arab society in Israel are perceived mostly as directive leaders, participative leadership was positively associated with teacher OC beyond the specific influence of directive leadership. Changes in teacher perceptions, toward freedom of self-expression and career advancement, seem to be reflected in the influence of principals' leadership styles on teachers' OC that are derived in part from cultural features of the school’s environment. Implications for theory and practice are discussed.


Background To accurately measure students’ science, technology, engineering and mathematics (STEM) career interest, researchers must get inside the ‘black box’ to understand students’ conceptualizations of STEM careers. Aims The aim of Study 1 was to explore whether students’ conceptualizations of STEM included medical careers. The aim of Study 2 was to explore whether predictors of STEM career interest (e.g., gender and motivation) varied by STEM definition (inclusion/exclusion of medical careers). Samples In Study 1, the sample was US college students (N = 125) who were mostly White (80%). In Study 2, the sample was US 10th-grade high school students (N = 455) who were mostly Black (79%). Methods In Study 1, students completed an online questionnaire. In Study 2, students completed various measures of math achievement, motivation (science and math expectancies of success, interest and importance value) and career interest with an importance. Results In Study 1, medical careers were less often classified as STEM careers than traditional STEM careers, but more often classified as STEM than non-STEM
careers. In Study 2, science importance value was the only motivational predictor of students' STEM+Medicine career interest, and no motivation constructs predicted traditional STEM career interest. Boys expressed greater interest in traditional STEM careers, while girls expressed greater interest in STEM+Medicine careers. Conclusions Students' conceptualizations of STEM are not binary. Thus, we recommend researchers are explicit about their definition of STEM with study participants, in their coding and in their publications.


Returned academics who have doctoral education abroad, a fast-growing group in developing countries, are seen favorably in producing quality academic outcomes. However, academic performance and barriers are also important to learning mobility benefits and ensuring optimal outcomes motivated by the absence of research in the native context. The explanatory sequential embedded mixed-methods study aimed to evaluate the teaching quality of returned doctorates compared with their local compatriots and explore teaching-related challenges at public sector universities in Punjab, Pakistan. A multilevel sequential mixed-methods sampling design was used to select 814 students and six academics from the six universities (three top and three medium-ranked higher education institution) of central Punjab. The researchers developed two research instruments: (a) Student Evaluation of Teaching Quality Scale (SETQS) and (b) Semi-Structured Interviews Protocol for Returnees (SSIP-R). The psychometric properties of quantitative measure (SETQS) were ensured through factor analysis, while an expert panel review validated the qualitative measure (SSIP-R). Inferential statistics were applied to quantitative data, while a thematic analysis technique was applied to qualitative data to find complementarity among results. The findings revealed that returnees and non-returnees were similar in a few teaching aspects. However, returnees performed relatively better in interpersonal behavior, subject mastery, instruction, and learning resources. Teaching performance differed slightly by discipline and largely by university ranking. Further, returnees' capacity to perform was impacted by various academic challenges. Explored challenges and relevant solutions correspond to Bronfenbrenner system theory’s microsystem, exosystem, and macrosystem levels. Higher education authorities and universities need to address academic challenges. In turn, this may lead to smooth, professional reintegration of the returnees into the local system, leading to enhanced teaching performance.


In this paper we respond to this special issue’s critical focus on mental health in education by considering the medicalised and homogenising approaches to the mental health of young people and the severely negative consequences for young people. Our argument is underpinned by the need to destabilise the hegemony of the current dominant discourses and practices of mental health used in education. The problem with these discourses and practices, informed by particular forms of psychiatry and psychology, is precisely their dominance and their popularised proxy take-up of these. We firstly outline this problem, explore the emergence and saturation of a ‘damaged self’ in education and consider the impact on young people. We offer counter-narratives
that involve a reframing of the self in relation to ethics, politics, capability and the arts and can assist in countering the psy-dominance in education. The paper concludes with some reflections on how teachers might work against the damaging effects of the psy-disciplines and instead support young people in finding their counter-narrative selves.


Digital games are widely used in education to motivate students for science. Additionally, augmented reality (AR) is increasingly used in education. However, recent research indicates that these technologies might not be equally beneficial for students with different background characteristics. Moreover, students with different backgrounds may differ in their self-efficacy and interest when playing games and this could lead to differences in performance. Given the increased use of games and immersive technologies in education, it is important to gain a better understanding of the effectiveness of games for different student groups. This study focused on the role of students’ socio-economic status (SES) and examined whether SES was associated with in-game performance and whether interest and self-efficacy mediated potential associations between SES and in-game performance. Since log data are increasingly used to predict learning outcomes and can provide valuable insights into individual behaviour, in-game performance was assessed with the use of log data. In total, 276 early secondary school students participated in this study. The results indicate that SES has no direct or indirect effect through self-efficacy and interest on in-game performance. However, a lower self-efficacy increased the likelihood to drop out of the game. These findings suggest that students from different socio-economic backgrounds are equally interested and self-efficacious while playing the game and that their performance is not affected by their background. The affordances of AR as an immersive learning environment might be motivating enough to help mitigate possible SES differences in students. Practitioner notes What is already known about this topic Digital games are an effective tool to increase motivation and learning outcomes of students. Students’ self-efficacy and situational interest influence learning outcomes and in-game performance. It is unclear whether digital games are equally effective for students with different socio-economic status. What this paper adds Socio-economic status (SES) of students does not affect in-game performance. Students with different SES are equally interested and self-efficacious. Lower self-efficacy and lower school track influence the likelihood of dropout. Implications for practice and/or policy Socio-economic status does not fortify the possible performance differences between students and games can be utilized as a learning tool that motivates all students equally. There are students who do not optimally benefit when games are implemented in education and who may need additional support.


This paper investigates the causal relationship between education and mental health in Turkey. We rely on the quasi-experimental setting created by the 1997 compulsory education reform that raised the compulsory years of schooling from five to eight years.
Using regression discontinuity design, we use the birth year to indicate reform exposure and identify the causal effects of longer years of schooling on mental health. Our results demonstrate a sizable negative impact of education on the mental health scale. We present evidence that the reform had a more adverse effect on men’s mental health. There is also heterogeneity by the place of residence, as the longer school years led people who live in urban areas to experience worse mental health outcomes. By investigating possible mechanisms, we show that those with at least a middle school education did not invest more in their health than those without a middle school diploma. We explain the evidence for the adverse effects of education on mental health, especially experienced by those who face higher competition in the labor market, by the lack of an increase in household income despite the longer years in school.


This study investigates the beliefs and attitudes about group work of students entering their first year of university and beginning a training program based on cooperative learning activities. Its objective is to determine the extent to which these beliefs and attitudes depend on students’ prior experience with group work, their motivation for studying, and their approach to learning. The study is based on the responses of 172 first-year university students to a questionnaire combining closed- and open-ended questions. The study shows that most students had a positive perception of group work, but did not spontaneously mention as benefits knowledge learning or the development of some crosscutting skills put forward by research on cooperative learning. It was found that the degree of reluctance towards group work is related to a low perception of its learning gains and the idea that it faces organisational constraints. The results also offer new insights into the origins of these beliefs and attitudes. The frequency of prior experience of group works is positively correlated with the perceived learning gains and negatively correlated with reluctance to work in groups. When considering motivation and deep approach to learning and their sub-dimensions, reflective approach to learning was found to be the main factor determining the perceived learning gains. These results suggest two avenues for teaching based on cooperative learning: discuss and clarify with students the mechanisms of cooperative learning, and structure the teaching to engage them in discussions to collectively self-regulate their activities.


The transition to secondary school can be a challenging period for adolescents. Although several questionnaires exist to measure transition-related concerns, there is a need to develop a comprehensive survey for assessing the knowledge and skills that adolescents require to adapt effectively to a new school. Thus, the purpose of this study was to develop and investigate the psychometric properties of a preliminary self-report tool (PSTRS) for identifying the presence or absence of factors that facilitate transition to secondary school and are important for adolescent understanding of well-being. The PSTRS was developed in a series of stages that involved a systematic review of the school transition literature, a review of psychometric scales, empirical data of adolescents' well-being conceptualizations, expert reviews, and a pilot study. Seventy-one items were
compiled to collect information on 20 school, social, physical, psychological, and spiritual components. Cronbach’s alpha for the survey was 0.943 in a sample of Year 8 NZ intermediate school students (N = 471). Test–retest reliability was 0.866 in a subsample of 121 participants. Single-measures ICCs of subscales ranged from 0.501 to 0.943. The PC analysis resulted in a three-component factor structure. The PSTRS and its subscales positively correlated with well-being and negatively correlated with anxiety. Overall, PSTRS appears to be a reliable and valid tool for determining adolescent readiness to transition to secondary school. PSTRS data may be useful for researchers, school professionals, psychologists, and policymakers to better understand positive school transitions. Implications for future research and practice are discussed.


We investigate the stages of childhood at which parental job loss is most consequential for their child’s education. Using Danish administrative data linking parents experiencing plant closures to their children, we compare end-of-school outcomes to matched peers and to closures hitting after school completion age. Parental job loss disproportionately reduces test taking, scores, and high school enrolment among children exposed during infancy (age 0-1). Effects are largest for low-income families and low-achieving children. The causal chain from job loss to education likely works through reduced family income. Maternal time investment partially offsets the effect of reduced income.


Interest in teachers’ moves to classroom discourse has started to increase since how teachers respond to students' thinking influences students’ learning. The purpose of this study was to investigate the moves used by one sixth grade mathematics teacher at a public middle school in Turkey to support student reasoning in mathematics instruction and their influence on classroom discourse. Six 80-min lessons were analyzed with particular attention to how the teacher elicits, responds to, facilitates, and extends student reasoning. The results revealed that teacher moves mainly included low-potential moves in all categories. The teacher mainly tried to elicit student answers in the lessons and aimed to facilitate their understanding through questioning. He also tended to confirm students' answers and re-represent their thoughts to the class, occasionally adding further information. However, the results showed that the teacher had a dominant role in classroom interactions. Besides, from time to time, the teacher did not focus on student responses and postpone the student reactions. However, the teacher moves that limit student contribution, such as ignoring students' answers and insisting on their own points of view, reduce the depth of classroom interactions and student understanding. In general, the teacher’s ability to support student reasoning and facilitate productive classroom discourse was not sufficient.

This paper presents a theoretical exploration of the relationship between imagination, cognition and metacognition, conceptualised within ‘emergent models’. These models are offered to enable dialogue and tools to understand and support imagination in education practice, through the presence of ever-transforming theory, conceived as emergent phenomena. The models are arrived at theoretically and pragmatically, drawing on evolutionary, philosophical, psychological and art paradigms. They demonstrate a fundamental relationship between cognition, metacognition and imagination. A major conclusion is that to nurture thinking, we should perceive and develop imagination as a fundamental aspect of thought, as opposed to often regarding it as a magical force. Of special importance is the necessity for and prominence of imagination in metacognition, given the strong evidence that metacognition supports achievement and attainment. Through its fundamental relationship with metacognition, imagination increases our capacity to learn, enables personal and potentially, democratic capacity.


Background When mathematical knowledge is expressed in general language, it is called verbalized mathematics. Previous studies on verbalized mathematics typically paid attention to mathematical vocabulary or educational practice. However, these studies did not exclude the role of symbolic mathematics ability, and almost no research has focused on verbalized mathematical principles. Aims This study is aimed to investigate whether verbalized mathematics ability independently predicts mathematics achievement. The current study hypothesized that verbalized mathematics ability supports mathematics achievement independent of general language, related cognitive abilities and even symbolic mathematical ability. Sample A sample of 241 undergraduates (136 males, 105 females, mean age = 21.95, SD = 2.38) in Beijing, China. Methods A total of 12 tests were used, including a verbalized arithmetic principle test, a mathematics achievement test, and tests on general language (sentence completion test), symbolic mathematical ability (including symbolic arithmetic principles test, simple arithmetic computation and complex arithmetic computation), approximate number sense ability (numerosity comparison test) and several related cognitive covariates (including the non-verbal matrix reasoning, the syllogism reasoning, mental rotation, figure matching and choice reaction time). Results Results showed that the processing of verbalized arithmetic principles displayed a significant role in mathematics achievement after controlling for general language, related cognitive abilities, approximate number sense ability and symbolic mathematics ability. Conclusions The results suggest that verbalized mathematics ability was an independent predictor and provided empirical evidence supporting the verbalized mathematics role on achievement as an independent component in three-component mathematics model.


Abstract This study investigates the impact of Perusall, a social annotation tool, on an online postgraduate course conducted over two semesters at an Australian university. We examine the connection between students’ pre-class engagement and learning outcomes, utilizing both secondary data from Perusall platform and primary data through
a survey. The findings indicate that pre-class social annotations have a positive impact on students' performance on post-class assessments. Notably, English as an Additional Language students with low English proficiency achieve comparable results in Perusall as those with high English proficiency. Additionally, the study identifies key aspects of social annotation that students highly value, providing insights for future implementation. Overall, this study highlights the potential of social annotation tools like Perusall to improve pre-class engagement and enhance learning outcomes. Practitioner notes What is already known about this topic Student engagement with pre-class activities is critical to their learning outcomes. The integration of social annotation tools for completing pre-class reading has become progressively prevalent among teachers. The use of social annotation tools for reading and annotating has been found to have a positive influence on students’ motivation, interactions, and academic performance. What this paper adds Online social annotation on lecture content has a short-term positive impact on subsequent assessments, indicating that it is an effective way to engage students in pre-class learning and improve their understanding and retention of course material. English as an Additional Language (EAL) students of varying levels of English proficiency achieve comparable results in social annotation assignments, highlighting the potential of this tool to provide an equitable learning experience for all students regardless of their language abilities. Social annotation activities promote a strong social presence with cohesive communication, positively impacting online learning’s cognitive presence. This highlights the significance of collaborative learning and social interaction in online education, and the potential of social annotation tools to create an engaging and supportive learning environment. Students prefer receiving feedback from teachers within a Community of Inquiry (CoI) rather than through traditional modes of direct instruction or conversation initiation, highlighting the importance of teaching presence in refining their cognitive and social presences, and ultimately enhancing the quality of their learning experience. Implications for practice and/or policy This study provides practical suggestions for designing pre-class learning activities that build upon pre-class lessons, helping teachers to optimize students’ learning experiences and outcomes. It sheds light on using inclusive and collaborative assessments as an effective way to enhance engagement and performance of EAL students. To cultivate a productive CoI within online educational contexts, teachers need to prioritize personalized feedback to students.


This study aims to document the emotional experiences of school counselors in promoting elementary school students’ health literacy during and after the coronavirus disease 2019 (COVID-19) pandemic. Six school counselors were voluntarily recruited as participants and invited to be interviewed. Interview data were analyzed using Andy Hargreave’s (2001) emotional geography. Findings show that school counselors felt dissatisfied, forced, and lonely when they promoted elementary school students’ health literacy remotely using synchronous and asynchronous modes during the pandemic. School counselor skills should be capable of promoting elementary school students’ health literacy after the COVID-19 pandemic and beyond.

Positive and negative leadership styles may influence classroom norms and be related to the school and psychological adjustment of children in general, and victims in particular. This study tested the relation between leadership styles and children's adjustment, and the moderating effects of leadership on the association between self-reported victimization and school and psychological adjustment (self-esteem, social anxiety, and depressive symptoms); and it tested for potential gender differences. Classrooms were classified into those with only positive leaders, only negative leaders, both positive and negative leaders, and without leaders. The sample contained 8748 children (Mage = 10.05, SD = 1.22; 51.2% girls) from 392 classrooms, in grades three to six, in 98 Dutch schools. Multilevel analysis revealed that, in general, children in negative leader classrooms experienced lower school well-being than children in other classrooms. In positive leader classrooms, male and female victims had lower school well-being. For psychological well-being, female victims had lower self-esteem and more depressive symptoms in positive leader classrooms. Male and female victims in negative leader classrooms did not suffer from additional maladjustment. These results demonstrate that negative leadership styles are related to lower school well-being of all children, whereas victimization in classrooms with positive leaders is negatively related to male and female victims' school well-being and girls' psychological adjustment (depressive symptoms); this is in line with the ‘healthy context paradox’.


Procrastination is a delay in an intended course of action and, thus, a self-regulation failure hindering growth and well-being. Contrarily, self-regulation is a set of cognitive and metacognitive skills and strategies supporting goal-directed behavior. There is ongoing discussion regarding the extent to which (and the ways in which) promoting self-regulation may counteract procrastination. On the one hand, it is argued that procrastination is linked with stable personal dispositions; on the other hand, it is said that this problematic behavior is associated with contextual influences. To deepen the understanding of these relationships, we used structural equation modeling (SEM) to test a theory-driven model integrating four self-regulation factors (goal setting, decision making, persevering, and learning from mistakes) and two measures of procrastination (irrational and academic). We hypothesized that goal setting, decision making, and perseverance would sequentially mediate between learning from mistakes and procrastination outcomes, thus, suggesting that cognitive-motivational (learning from mistakes, goal setting), strategic (decision making), and volitional (perseverance) factors may all be necessary for successful self-regulation, which could potentially be promoted by contextual influences. Participants of the present study were 433 Chilean university students (304 women, 129 men, M = 20.74 years, SD = 2.86) who completed measures for procrastination and self-regulation. Findings support the important roles of goal setting and perseverance for successful self-regulation and suggest that goal setting may mediate the effects of learning from mistakes on perseverance and decision making; whereas perseverance may mediate the effects of goal setting and decision making on procrastination variations. These results suggest that the negative effects of motivational and strategic factors of self-regulation on procrastination may depend at least partly on the abilities to improve goals and persevere. Taking into account these critical roles in dealing with procrastination, it seems appropriate to support college students' self-
regulation skills and strategies, raising awareness about the indispensability of adequate goal setting and persistence in following through with intended courses of action.


Background Modelling academic self-concept through second-order factors or bifactor structures is an important issue with substantive and practical implications; besides, the bifactor model has not been analysed with a Chinese sample and cross-cultural studies in the academic self-concept are scarce. Likewise, latent structure validity evidence using network psychometrics has not been carried out. Aims The aim of this study is twofold: to analyse (1) the internal structure of ASC through the Self-Description Questionnaire II-Short (SDQII-S) in Chinese and Spanish samples using two approaches, structural equation modelling and network psychometrics conducting an exploratory graph analysis; and (2) the measurement invariance of the best model across countries and investigate the cross-cultural differences in ASC. Sample The sample was composed by 651 adolescents. Seven models of ASC were tested. Results Results supported the multi-dimensional nature of the data as well as the reliability. The best-fitted model for the two subsamples was the three-factor ESEM model, but only the configural invariance of this model was supported across countries. The graph function shows that the school dimension appears more related to the verbal factor in the Spanish subsample and to the math dimension in the Chinese subsample. Likewise, the relationship between verbal and math factors in Spanish students is non-existent, but this connection is more relevant for Chinese students. Conclusion These two differences may be behind the difficulty in finding invariance using SEM models. It is a question of the construct’s nature, less related to analytical phenomena, and deserves deeper discussion.


Objective The study explored the prospective relations between depression and approach-avoidance achievement goals of undergraduate students in China. Methods 2473 full-time undergraduates reported their depression and achievement goals annually from the freshman to the senior year. Data were analysed using descriptive statistics, correlation analysis and cross-lagged models. Results Students’ achievement goals decreased gradually during the first 3 years but rose in the fourth year, and the avoidance goals appeared to be less prevalent than the approach goals over time. Depression was negatively associated with approach goals, whereas positively correlated with avoidance goals. Depression in the freshman and sophomore years resulted in more avoidance goals 1 year later, and the depressive problems in the junior year predicted the decline of approach goals in the senior year. Conclusions The present study highlighted the deleterious effects of depression on the achievement goals of college students.

The American School Counselor Association (ASCA) School Counselor Professional Standards & Competencies can provide the foundation for guiding and evaluating school counselors' practices and programs (ASCA, 2019). When appropriate measures are used to evaluate PK-12 school counselors, teachers, principals, and student support specialists, practice in schools may improve. The purpose of this study was to analyze the content and tools state-level departments of education in the United States have developed to evaluate school counselors throughout PK-12 schools. Data were collected and analyzed based on a rubric of three respected evaluation frameworks. Results of the study revealed that about three-fourths of 51 state agencies indicated that they have developed a specialized and specific evaluation tool for school counselors, while one-fourth of state agencies do not have a specific evaluation tool for school counselors. As an implication, some important assessment areas are missing on many of the evaluation tools that do exist. Our findings from the analysis of the school counselor evaluation tools provide insights into how pre-service and in-service principals and school counselors, higher education faculty, and policymakers can work together and consider how best to evaluate school counselors based on their specific roles and responsibilities to address students' social-emotional; academic; and career, college, and life readiness needs.


L'intelligence émotionnelle (IE) se définit comme la capacité à identifier, comprendre, exprimer, réguler et utiliser ses émotions et celles des autres. Principalement développée dans le monde de l’entreprise, l’IE n’a pas encore été beaucoup investiguée en contexte scolaire dans lequel elle s’opérationnalise sous le terme de compétences émotionnelles (CE). Pourtant, à l’école, les interactions multiples entre l’enseignant et les élèves impliquent une dimension émotionnelle omniprésente. Dès lors, l’objectif principal de cette thèse est d’étudier les déterminants et les effets des CE et de vérifier les effets d’un programme de développement de ces CE auprès des enseignants. Pour atteindre cet objectif, trois études ont été réalisées. L’étude 1, menée auprès de 9858 enseignants du premier et du second degré, met en évidence les effets des facteurs socio-démographiques et professionnels sur les CE des enseignants et détermine leurs liens avec la motivation, le style motivationnel, le sentiment d’efficacité personnelle, la santé mentale et la pratique d’une activité physique (AP). Dans l’étude 2, conduite auprès de 16 enseignants et 354 élèves, les relations entre les CE des enseignants et celles des élèves sont examinées au cours d’un trimestre. Enfin, l’étude 3 s’appuie sur une revue systématique pour construire un programme de développement des CE à destination des enseignants dont l’improvisation théâtrale constitue l’élément central et dont l’efficience a été contrôlée par une mesure de l’AP. Les résultats de nos études ont révélé que 1) les CE des enseignants dépendent du sexe, de l’âge, de l’expérience professionnelle et de la pratique d’une AP ; 2) les enseignants avec des CE élevées sont plus motivés de manière autonome, plus motivants auprès de leurs élèves, ont un meilleur sentiment d’efficacité personnelle dans leur travail et une meilleure santé mentale ; 3) les CE des élèves ne sont pas affectées par celles de leur enseignant, mais elles sont liées à leur réussite scolaire et leur perception du style motivationnel de leur professeur ; 4) le programme de développement des CE des enseignants améliore les versants intra et interpersonnel de leurs capacités à gérer les émotions et favorise la pratique d’une AP. Ces résultats mettent en évidence les effets positifs que peuvent avoir les CE sur de nombreux aspects de la vie des enseignants et sur la scolarité des élèves. Par ailleurs,
développer les CE en associant apports théoriques et improvisation théâtrale constitue une nouvelle piste professionnelle prometteuse dans le cadre des contenus et des modalités de formation initiale et continue des professeurs et des autres acteurs du système éducatif.


The news of a 16-year old teenager hacking a 13-year old boy to death in a toilet unprovoked in a secondary school in Singapore shook the whole nation in July 2021. In this article, we analyze the institutionalizing responses to the growing sense of youth mental health crisis in Singapore, catalyzed by River Valley High School incident, as the subjectification of wellbeing. We argue, firstly, that the national schools have become the main site for the production of networked surveillance and internalization of wellbeing. We examine the inclusive production of subjects characterized by varying levels of wellbeing in a rehabilitative social system exercising authority and control. Secondly, we argue that a totalizing system of surveillance and internalization is emerging in a technocratic heterotopia. We conclude by discussing interdisciplinary and intersectional alternative approaches emerging from the heterotopic space of the school.


Background Despite the growing emphasis on research-based teacher education and calls for evidence-informed practice, teachers tend to prefer experiential over scientific knowledge sources to inform their actions, justify decisions and analyse educational problems. This tendency already occurs as early as during initial teacher education, and it is possibly bolstered by school internships where mentors emphasise the value of practical over scientific knowledge. Aims The present study applied the theory of planned behaviour (TPB) to investigate under what conditions pre-service teachers intend to use and prefer scientific sources from educational research. Methods The study’s participants were 343 pre-service teachers in a half-year school internship who indicated their attitudes towards educational research, behavioural control (i.e. self-efficacy), perceived subjective norm, intentions of using research and preference for scientific sources in a survey. Perceived subjective norm was established by measuring whether pre-service teachers believed their mentors considered research-based knowledge. Results In line with the predictions of the standard TPB model, structural equation modelling confirmed the effects of positive attitudes, self-efficacy and perceived subjective norm on pre-service teachers’ intentions of using research. In turn, intentions and self-efficacy predicted preferences for scientific sources but not the use of scientific sources when planning a lesson in the internship. Conclusions Pre-service teachers’ scientific source preferences are shaped not only by personal dispositions but also by the social context of school.

Improving the management of principals has been proven to be an effective strategy to reduce preschool teachers' turnover. However, relevant empirical evidence for preschool teachers is still insufficient. A total of 3623 preschool teachers from the Chinese mainland participated in the current study through random cluster sampling and were administered self-report questionnaires to measure their principal’s restrictive behavior, work–family conflict, effort–reward imbalance (ERI), and turnover intention. This study used serial mediation models to examine the direct relationship between the principal’s restrictive behavior and preschool teachers’ turnover intention, as well as the indirect relationship between the two variables through the independent and serial mediating roles of ERI and work–family conflict (including work-to-family conflict [WFC] and family-to-work conflict [FWC]). Results showed that among Chinese preschool teachers, (1) the direct relationship between the principal’s restrictive behavior and turnover intention was significant; (2) ERI mediated the relationship between the principal’s restrictive behavior and turnover intention; (3) WFC and FWC both mediated the relationship between the principal’s restrictive behavior and turnover intention; and (4) a serial mediating effect of ERI and WFC/FWC was observed. The findings have theoretical and practical significance for interventions to reduce preschool teachers' turnover.


Background Research has shown that mathematics anxiety negatively correlates with primary school mathematics performance, including fraction knowledge. However, recently no significant correlation was found between fraction arithmetic performance and state anxiety measured after the fraction task. One possible explanation is the natural number bias (NNB), a tendency to apply natural number reasoning in fraction tasks, even when this is inappropriate. Students with the NNB may not realize they are answering incorrectly. Aims The aim is to examine whether a misconception, namely the NNB, can influence students’ fraction state anxiety. Sample The participants were 119 fifth- and sixth-grade students categorized as belonging to an NNB group (n = 60) or a No-NNB group (n = 59), according to their NNB-related answering profile on a fraction arithmetic task. Methods Group differences were examined for state anxiety and performance on a fraction and a whole number arithmetic task and self-reported trait mathematics anxiety. Results The NNB group reported lower fraction state anxiety than the No-NNB group, but there was no significant difference in trait mathematics anxiety. Furthermore, the NNB group reported lower fraction state anxiety than whole number state anxiety, while the opposite was true for the No-NNB group. Conclusion The present study suggests that students’ perceptions of their own performance influence their state anxiety responses, and students with a NNB may not be aware of their misconception and poor performance. Not taking into account qualitative differences in low performance, such as misconceptions, may lead to misinterpretations in state anxiety-performance relations.


Holistic and ecological approaches to mental health support have been identified by many as best-practice approaches for creating and sustaining well-being. Those who
experience mental health challenges including, for example, Borderline Personality Disorder (BPD), often struggle to find adequate, sustainable and ongoing care from clinical settings, and recent research shows that additional strategies such as peer support programs, arts approaches, and holistic school-based collaboration work effectively. More generally, the mainstream population continues to suffer from outdated, overly medicalised and frequently inaccurate notions of the experience of poor mental health and the effective support of those who suffer, and peer- and school-integrated approaches go some way toward better education about mental ill-health. This article uses a creative ecologies model (Harris, 2016) to help schools implement student- and family-led support programs for students experiencing mental health challenges in school settings.


Psychological problems are prevalent among adolescents, and previous studies have robustly demonstrated that individual and family factors play a role in the formation and maintenance of these problems. On the other hand, not all adolescents show the same characteristics in terms of these factors and can be categorized into different groups. Identifying this heterogeneity is also important in intervention for psychological problems. Thus, this study aimed to identify patterns of parental attitudes, basic psychological needs, self-regulation, and alexithymia, using latent class analysis (LCA), and investigated how different patterns of these individual and family factors are associated with psychological problems. Participants included a sample of 331 volunteer Turkish adolescents (140 male [42.3%], 191 female [57.7%]). LCA indicated a two-class solution fit the current data well and 65% of the participants were classified into the first latent class which was labeled as “positive individual and family context” (PIFC). The PIFC were found to have higher levels of parental sensitivity and autonomy support, need satisfaction and self-regulation, but lower levels of mother’s psychological and behavioral control and father’s behavioral control, need frustration, and alexithymia. The second latent class, labeled as “negative individual and family context” (NIFC), included 35% of the adolescents. Adolescents in NIFC had low levels of parental sensitivity, autonomy support, satisfaction of basic psychological needs, and self-regulation, but high levels of mother’s psychological and behavioral control, father’s behavioral control, frustration of basic psychological needs, and alexithymia. Moreover, after controlling gender and age, adolescents classified in the NIFC displayed significantly higher levels of psychological problems than those classified in the PIFC. These findings support the idea that individual and familial factors interact to affect adolescents’ mental health and suggest that clinicians and helping professionals would benefit from including these factors in intervention processes.


Background The control-value theory of achievement emotions postulates that it is possible to affect achievement emotions by decreasing or increasing control and value appraisals. This implies that changes in the latter should result in changes in the former. However, the assumption has been rarely tested. Aims This study aimed at verifying
whether changes in control and value appraisals—two proximal antecedents of achievement emotions—predicted changes in learning enjoyment over the course of lower secondary school. Moreover, since studying changes requires knowledge of their overall pattern, it also investigated the developmental trajectories of the three student characteristics. Sample The study used longitudinal data of 5125 German students gathered between Grades 5 and 9, four measurement occasions in total. Methods The hypotheses were tested using univariate and multivariate latent change score models. Results The analyses revealed decreases in control and value appraisals and learning enjoyment between Grades 5 and 9. Moreover, the decreases in control and value appraisals predicted the decreases in learning enjoyment. Conclusions The study provides support for the change–change assumption, which is one of the key but under-researched elements of the control-value theory of achievement emotions. As such, it suggests that alleviating the decrease in control and value appraisals may mitigate the decrease in learning enjoyment. Moreover, by providing longitudinal evidence on the decrease in the three constructs under study, it corroborates the inimical trend observed in past research.


The racialized history of sickle cell disease (SCD) continues to contribute to racial disparities in healthcare and education. In the context of the racialized history of SCD, we begin by outlining subtypes of SCD and explaining that SCD is associated with chronic pain, silent cerebral infarct, overt stroke, and poor overall well-being—all of which have implications for school functioning. A literature search was conducted to identify significant meta-analyses, systematic reviews, and empirical articles to inform school psychologists’ evaluation, service delivery, and decision-making practices when working with students with SCD. Common negative neuropsychological and psychoeducational outcomes associated with SCD are reviewed. Finally, recommended culturally responsive practices are discussed, ahead of a conclusion that contains a call to action for school psychologists.


Background In times of accelerating changes, teachers who proactively engage in activities towards school improvement and innovation are increasingly needed. Still, studies on factors that affect teachers’ proactive behaviour are rare. Aims Integrating previous research on proactive behaviour within the Job Demand–Resources (JD-R) Model, this paper investigates how job characteristics (time pressure, bureaucratic structures, participative climate, personal initiative of the team) and aspects of teachers’ professional competence (self-efficacy, self-regulation skills and knowledge) contribute to and interact with their proactive behaviour. Sample A total of 130 German secondary school teachers (M(SD)age = 44.05 (11.36), 65% female) participated in this study. Methods We employed a full two-wave panel design, with measurement points 5 months apart. The data were analysed with (moderated) single indicator modelling and a cross-lagged panel model. Results While teachers’ self-efficacy in implementing change and
self-regulation skills predicted their concurrent proactive behaviour, job characteristics and teachers’ knowledge had no such cross-sectional effects. In addition, we found an interaction effect of time pressure and teachers’ self-efficacy on proactive behaviour. Including the second measurement point, data indicated no cross-lagged effects of the job and personal factors on proactive behaviour. However, cross-lagged analysis revealed that teachers’ proactive behaviour predicted their later self-efficacy in implementing change and the time pressure they perceive. Conclusions Examining both cross-sectional and longitudinal effects, this study highlights the importance of measurements over time when analysing factors that influence teachers’ proactive behaviour: While aspects of professional competence appear to be trainable concurrent resources, time pressure can limit their effect. Finally, cross-lagged effects of teachers’ proactive behaviour on their later self-efficacy and time pressure appear as influential in the long run.


The Good Behavior Game (GBG) is a classroom management strategy that consistently demonstrates its ability to promote positive behaviors and peer relations among students, with immediate and long-term benefits. This scoping review aimed to provide an overview of peer-reviewed research on the GBG specifically focused on students with special educational needs (SEN) in mainstream education settings. Following a systematic search-and-selection procedure, 30 studies were included, 26 with an experimental design and 4 with a qualitative/mixed-methods design. SEN participants were mainly subgroups of students with baseline assessments of emotional-behavioral difficulties; there was, however, substantial clinical and methodological heterogeneity across studies. Integrative findings from quantitative and qualitative studies indicate that the GBG benefits most students with SEN in mainstream settings, while results for students with severe socio-behavioral difficulties are ambiguous. We identified a paucity of research on students with neurodevelopmental diagnoses such as attention deficit hyperactivity disorder or autism spectrum disorder, as well as on the perspectives of students and teachers and challenges associated with the GBG for students with severe difficulties. Schools implementing the GBG should be aware that some students may need individual adaptations to participate in the GBG, and teachers may need support to implement these adaptations.


Background Socio-economic status (SES) is a powerful predictor of attainment. Research has identified multiple mechanisms that underpin the effect of SES on attainment. For example, self-regulation (processes through which individuals direct and control their attention, emotion and behaviour) has been identified as one mechanism mediating the SES attainment gap. However, previous studies have not directly tested the statistical pathways by which children from lower SES backgrounds develop low self-regulation skills and subsequently poor attainment at the end of primary school. Adding the home learning environment, which is associated with both SES and self-regulation, further fleshes out the longitudinal pathways. Aims We propose and test a new model where the
The relationship between SES and school attainment is sequentially mediated by the family home learning environment and the child's self-regulation. Sample This study uses the Effective Pre-school, Primary and Secondary Education data set to study 2311 English children. Methods We measured SES (via socio-economic disadvantage) based on an index of low parental education, occupation and income at age 3+. The home learning environment was measured by the Home Learning Environment Index at age 3+; self-regulation was a teacher report on the Child Social Behaviour Questionnaire at age 4+ and attainment was measured via scores on national assessments of English and Maths at age 11. Results Our measure of disadvantage predicted attainment. The home learning environment predicted children’s self-regulation skills. The relationship between disadvantage and attainment was sequentially mediated by the home learning environment and self-regulation. Conclusions These findings suggest that home learning environment and self-regulation may play a sequential role in perpetuating socio-economic disparities in education.


The present study examined administrators’ views on the working status, contributions to the education process, performance status, and employment processes of the school auxiliary staff. The research was conducted in a holistic multiple-case study design, one of the qualitative research methods. The study group consisted of 22 school administrators who work in various K12 school settings in the central districts of a city in Turkey and voluntarily participated in the study. A maximum diversity sampling strategy, one of the purposeful sampling techniques, was employed in sample selection. The study’s data were obtained using a semistructured interview conducted by the researchers. An inductive content analysis technique was utilized to analyze the data, and the results were interpreted accordingly. The study’s findings revealed that administrators felt that their role is a very insignificant position in the recruitment of auxiliaries, the auxiliary staff has direct and indirect contributions to the education process, and they cause some unfavorable circumstances in some cases. In addition, it was found that school administrators think that the auxiliary staff could be efficient when employed through temporary recruitment procedures and if they have an active role in their recruitment.


Fetal alcohol spectrum disorders (FASD) represent a wide range of neurodevelopmental differences associated with prenatal alcohol exposure and are highly prevalent. The current study represents the initial stages in adapting the Families Moving Forward (FMF) Program, an evidence-based behavioral consultation intervention for caregivers of children with FASD, to a website for teachers. Aims were to understand teachers’ needs and preferences for an FASD-informed intervention website and to assess the goodness of fit of the FMF Program to teachers and the school setting. Twenty-three teachers with experience teaching students with FASD were interviewed. Interviews were conducted via Zoom and lasted about 53 min on average. Data were transcribed verbatim and analyzed using qualitative content analysis in Dedoose. Three overarching themes
represented teachers’ needs for an FASD-informed resource: teachers need evidence-based FASD information and strategies, teachers have very little extra time, and the needs of special and general education teachers vary. Teachers were positive about the concepts of the FMF Program and felt they would have good fit. Teachers need an evidence-based FASD-informed intervention that is easy to use, concise, and responsive to varying needs and levels of experience. Results will inform the adaptation process of the FMF Program.


Despite the important role of peers in the social process of classroom citizenship, the peer influence related to moral disengagement, social goals, and a sense of peer community remain unclear. To this end, it was examined to what extent youth become similar to their friends in moral disengagement, social goals, and a sense of peer community. Participants were 283 South Korean third to sixth graders (Mage = 9.60 years, SD = 0.97; 51.6% girls) who completed an online survey for moral disengagement, social goals, the sense of peer community and friendship network across the beginning (Time 1) and end (Time 2) of the school semester (September to December). Longitudinal social network analyses indicated that youth became more similar to their friends concerning moral disengagement and a sense of peer community, but did not select friends based on these aspects. The strength of these influence effects varied in terms of different levels of these aspects. Specifically, youth were more likely to become similar to their friends at lower levels of moral disengagement. Youth tended to be similar to the friends’ level of sense of peer community. This tendency was relatively strong at the lowest and the highest levels of a sense of peer community. Future research should address the role of friendship in shaping classroom citizenship and the importance of classroom daily teaching practice in youth citizenship development.


Depaepe, De Corte, and Verschaffel (2010) argue that teachers rarely, if ever, pay attention to the “how” and “why” of using a metacognitive skill. Dignath and Büttner (2018) confirmed that they mainly teach cognitive and only a few metacognitive strategies. The classroom learning process can be successful only when relevant metacognitive activities (planning, monitoring, and reflection) are made, students’ mindsets are considered, and coherent discourse is built (Cohors-Fresenborg, 2019). Planning entails identifying cognitive challenges and structuring cognitive efforts to accomplish particular goals. Monitoring is the control of cognitive processes and their outcomes. Reflection refers to thinking about cognitive activities involved in learning and understanding mathematics (Nowińska, 2019). The question arises as to whether these activities need to be developed in a targeted way in teacher training or whether they can be spontaneously integrated into practice by the end of the training. Our current research investigates metacognitive activities in classroom discourses implemented by pre-service teachers. The answer to the following research question was sought: What characterizes the metacognitive activities that occur in the classroom discourse?


This study was conducted as a descriptive and cross-sectional study to examine the effects of game addiction and social media addiction on the lifestyle of Turkish adolescents. The study was conducted between May to June 2022, involved 1116 adolescents in the 13–18 age group receiving education in three high schools situated in the Western region of Turkey. Data were collected online with the Descriptive Information Form, Game Addiction Scale Short Form for Adolescents (GAS), Social Media Addiction Scale for Adolescents (SMAS), and Adolescent Lifestyle Profile Scale (ALP). Mean, percentage, t test, analysis of variance and linear regression analysis were used for analyzing data. There was a statistically significant difference between the presence of social media accounts and smartphones, duration of having social media account, average time spent daily on social media accounts and virtual games, social media use characteristics for the last 6 months, interests of influencers followed on social media, affection by influencers, and effect of social media on daily life and the mean scores on GAS, SMAS, and ALP. It was determined that game addiction and social media addiction explained 61.8% of the lifestyles of adolescents and significantly affected them. In addition, social media use characteristics, game addiction, and social media addiction explain and significantly predict the lifestyle of adolescents at a rate of 62.8%. The results of the study reveal that game addiction and social media addiction is a significant predictor of Turkish adolescents’ lifestyle. It can be recommended to provide trainings that shed light on the importance of efficient use of technology to adolescents and their parents and to evaluate the effectiveness of these trainings.


There is a critical need for research examining how neural vulnerabilities associated with obesity, including lower executive control, interact with family factors to impact weight trajectories across adolescence. Utilizing a longitudinal design, the present study investigated caregivers’ emotion socialization practices as a moderator of the association between preschool executive control and adolescent body mass index (BMI) trajectories. Participants were 229 youth (Mage = 5.24, SD = 0.03; 47.2% assigned female at birth; 73.8% White, 3.9% Black, 0.4% Asian American, 21.8% multiracial; 12.7% Hispanic) enrolled in a longitudinal study. At preschool-age, participants completed performance-based executive control tasks, and their caregivers reported on their typical emotion-related socialization behaviors (i.e., supportive and nonsupportive responses to children’s negative emotions). Participants returned for annual laboratory visits at ages 14 through 17, during which their height and weight were measured to calculate BMI. Although neither preschool executive control nor caregiver emotion-related socialization behaviors were directly associated with BMI growth in adolescence, supportive responses moderated the association between executive control and BMI trajectories. The expected negative association between lower preschool executive control and
greater BMI growth was present at below average levels of supportive responses, suggesting that external regulation afforded by supportive responses might reduce risk for adolescent overweight and obesity among children with lower internal self-regulatory resources during preschool. Findings highlight the importance of efforts to bolster executive control early in development and targeted interventions to promote effective caregiver emotion socialization (i.e., more supportive responses) for youth with lower internal self-regulatory abilities to mitigate risk for overweight and obesity and promote health across childhood and adolescence.

Liu, K., Qu, H., Yang, Y., & Yang, X. (2024). *The longitudinal contribution of mapping to arithmetic: Do numeral knowledge, inhibition or analogical reasoning matter?* *British Journal of Educational Psychology, 94*(1), 58-73. https://doi.org/10.1111/bjep.12633

Background Recent studies have revealed the association between mapping and arithmetic (Ferres-Forga et al., *J. Numer. Cogn.*, 8, 2022, 123; LeFevre et al., *J. Numer. Cogn.*, 8, 2022, 1). Aim The underlying mechanism remains unclear. Materials & Methods The current study recruited 118 kindergarten children and followed up on them three times at 6-month intervals. They completed measures to assess mapping skills (T1), non-verbal IQ (T1), numeral knowledge (T2), inhibitory control (T2), analogical reasoning (T2) and arithmetic (T3). Results The results showed that mapping accounted for significant variance in arithmetic ability over and above age, gender and non-verbal IQ. Furthermore, analogical reasoning played an important role in the relationship between mapping and mathematics ability. Discussion The findings suggest the association between mapping and mathematics ability prior to formal schooling. Conclusion Analogical reasoning, rather than numeral knowledge or inhibitory control, may drive that association in young children.


This study aimed to explore the effectiveness of school-based mindfulness training on learning burnout of Chinese middle school students and the mediating role of psychological resilience between dispositional mindfulness and learning burnout. A cluster randomized controlled trial was conducted with repeated measurement analysis, in which 62 Chinese middle school students in the experimental group received a 10-week school-based mindfulness training. In comparison, 63 students in the control group were randomized to receive no intervention. Learning burnout, dispositional mindfulness, and psychological resilience were measured by Adolescent Student Burnout Inventory, Five Facet Mindfulness Questionnaire, and Resilience Scale for Chinese Adolescents, respectively. The results showed: (1) Compared with the experimental group’s pre-test scores and the control group’s pretest and posttest scores, the posttest scores of learning burnout in the experimental group significantly decreased. In contrast, the posttest scores of dispositional mindfulness and psychological resilience in the experimental group significantly increased. Meanwhile, the control group gained no significant changes between the pre-and posttest in learning burnout, dispositional mindfulness, and psychological resilience. (2) Dispositional mindfulness was positively related to psychological resilience, while dispositional mindfulness and psychological resilience were negatively associated with learning burnout. (3) The direct effect of dispositional mindfulness on learning burnout and the mediating effect of psychological resilience...
between dispositional mindfulness and learning burnout were significant. This study suggested that school-based mindfulness training distinctly improves dispositional mindfulness and psychological resilience and alleviates learning burnout in Chinese middle school students. Furthermore, psychological resilience plays a mediating role between dispositional mindfulness and learning burnout.


Background Self-related information is difficult to ignore and forget, which brings valuable implications for educational practice. Self-referential encoding techniques involve integrating self-referencing cues during the processing of learning material. However, the evidence base and effective implementation boundaries for these techniques in teaching and learning remain uncertain due to research variability. Aims The present meta-analysis aims to quantitatively synthesize the results from studies applying self-referential encoding techniques in education. Methods The analysis was based on data from 20 independent samples, including 1082 students from 13 primary studies identified through a systematic literature search. Results Results from random effect models show that incorporating self-referential encoding techniques improved learning (g = .40, 95% CI [.18, .62]). Subgroup analysis showed that the valence of learning material serves as a significant boundary condition for this strategy. The students’ cohorts, types of learning materials, and research context did not moderate the effect sizes. Conclusions Our results suggest that incorporating self-referential encoding techniques on negative materials shows an aversive effect. Overall, there is a universal benefit to using self-referential encoding techniques as an appropriate design guideline in educational contexts. Implications for teaching practice and future directions are discussed. Further studies are needed to investigate the effectiveness in more diverse educational and teaching situations.


Background Both teacher support and math attitudes have been identified as associated with math anxiety in primary school children. However, little is known about how they are interrelated longitudinally. Aims The study was designed to examine the associations among perceived teacher support, math attitudes, and math anxiety in Chinese primary school students. Sample The sample included 1802 students (56.16% boys) initially in the third and fourth grades in two public schools in China. Methods A three-year cross-lagged panel design was conducted to examine the associations among perceived teacher support, math attitudes, and math anxiety. Moreover, a multigroup analysis was used to examine whether the associations varied by gender. Results There were reciprocal associations over time between math attitudes and math anxiety. Meanwhile, both math attitudes and math anxiety significantly predicted perceived teacher support one year later, but not vice versa. Further, the association between T1 math anxiety and T3 perceived teacher support was mediated by T2 math attitudes; the association between T1 math attitudes and T3 perceived teacher support, on the other hand, was mediated by T2 math anxiety. Moreover, there were no significant gender differences in these associations. Conclusions Math anxiety and math
attitudes objectively affected each other, and both of them significantly predicted later perceived teacher support, but not vice versa. This study demonstrates that children are not merely passive recipients of environmental influences and offers theoretical guidance for intervention practices that aim to reduce the risk of math anxiety.


Researchers have found that violent online game addiction has become a serious global problem that negatively affects younger people. This study used a cross-sectional research design to examine the effects of violent online game contact on individuals' academic procrastination. We further explored the mediating role of emotional self-regulation and the moderating role of peer communication in the link between violent online game contact and academic procrastination. A sample of 1132 students completed self-reported questionnaires regarding violent online game contact, emotional self-regulation, peer communication, and academic procrastination. Participants were randomly selected from Guangdong Province, China. Results indicated that violent online game contact was positively correlated with academic procrastination, while emotional self-regulation indirectly affected the relationship. Peer communication played a moderating role in the indirect effect between emotional self-regulation and academic procrastination. The general pattern of this mechanism illustrates that as peer communication increased, the effects of emotional self-regulation on academic procrastination decreased. The findings elucidate how and for whom violent online game exposure is related to academic procrastination. This research demonstrates that violent game contact is an important factor affecting academic procrastination, clarifies the role of peer communication and emotional self-regulation, and provides practical suggestions for preventing academic procrastination in the field of school psychology.


Teachers have faced a variety of challenges since the onset of COVID-19 in the spring of 2020, including increased workloads, a range of modalities, and COVID-19 protocols. The challenges associated with teaching during the COVID-19 pandemic have led to increased burnout and stress, as well as diminished well-being and mental health in teachers. This study seeks to explore teacher burnout and subjective mental health from the start of the pandemic to the end of the 2020–21 school year. To better understand teachers’ experiences during this time, we conducted a nationwide survey (n = 302) with teachers between May and June 2021, as well as four focus groups and four one-on-one interviews in the fall of 2021. Results suggest that teachers’ subjective mental health, morale, and work-life balance have significantly declined since the beginning of the pandemic. Teachers reported feeling anxious and burned out from teaching due to greater workloads and decreased support from administrators and parents. We conclude by discussing the implications of teacher subjective mental health and burnout and offer suggestions for better supporting teachers, practitioners, and their mental well-being.

Generalized Anxiety Disorder 7-item Scale (GAD-7) has been found to accurately assess the presence of generalized anxiety disorder (GAD) in various populations. However, despite showing good psychometric properties in assessing GAD symptoms, there is a need to further validate GAD-7 in milieu of the pandemic, considering that recent cross-sectional studies have utilized this scale in understanding GAD prevalence and risk factors. The present study aimed to contextualize the GAD-7 scale into the present condition through investigating its (1) factor structure, (2) measurement invariance, and (3) latent classes. This study utilized 1922 (63.4%) secondary and 1110 (36.6%) tertiary Filipino teachers. Confirmatory factor analyses showed that the scale is best represented by two factors: cognitive–emotional experiences and somatic experiences. Moreover, the results revealed that while the two-factor GAD model showed good measurement equivalence across teacher groups, measurement non-invariance was observed in gender groups. Lastly, the latent class analysis yielded a three-class solution best fitting to the data. It specifically grouped GAD symptom intensity as low, moderate, and severe anxiety groups. These findings provide evidence of the scale’s validity, supporting the utilization of the GAD-7 scale in assessing pandemic-related generalized anxiety.


The incorporation of mental well-being provision into school curricula is increasingly the focus of government policy in the UK and internationally. However, it is not clear what well-being programmes schools provide to pupils, and how these programmes are delivered. The current study was an online survey to assess the use of whole-school well-being programmes in primary schools in North Wales. Normalisation Process Theory was utilised as a framework to assess normalisation of the well-being programmes. One-hundred and fifty-one schools in North Wales responded to the survey. The mean number of whole-school well-being programmes utilised by schools was 4.59, and nine of the 10 most frequently used programmes had little or no associated evidence base. The well-being programmes were generally perceived as normalised (i.e. everyday practice) by respondents. Implications for future practice are discussed, including the need to support schools to identify and implement evidence-based mental well-being provision.


À l’heure où nombre de pays s’efforcent de renforcer l’attrait de la profession enseignante, il apparaît donc essentiel de mieux comprendre les sources de stress dans ce métier. C’est dans cette optique que ce numéro se propose d’étudier les données de l’édition 2018 de l’enquête TALIS sur les enseignants du premier cycle du secondaire afin de déterminer si les sources de stress des enseignants varient en fonction du milieu socio-économique de leurs élèves. Il examine en outre les facteurs de stress les plus susceptibles d’être associés au niveau de satisfaction professionnelle des enseignants et à leur intention de rester dans la profession.

Il existe un lien étroit entre peur et mémoire. Faut-il en déduire que cette émotion peut aider à apprendre ? La recherche nous montre au contraire qu’elle a des conséquences négatives à long terme.


This study examines the influence of students’ individual attitude and social interactions on participation in collaborative and gamified online learning activities, as well as the influence of participating in those activities on students' online class- and test-related emotions. Based on a sample of 301 first year Economics and Law university students and using the Partial Least Squares-Structural Equation Modelling approach, all the relationships among first-order and second-order constructs included in the model are validated. The results support all the hypotheses studied, confirming the positive relationship that both students' individual attitude and social interactions have on participation in collaborative and gamified online learning activities. The results also show that participating in those activities is positively related with class- and test-related emotions. The main contribution of the study is the validation of the effect of collaborative and gamified online learning on university students’ emotional well-being through the analysis of their attitude and social interactions. Moreover, this is the first time in the specialised learning literature that students’ attitude is considered as a second-order construct operationalised by three factors: the perceived usefulness that this digital resource brings to the students, the entertainment that this digital resource brings to the students, and the predisposition to use this digital resource among all those available in online training. Our findings aim to shed light for educators when preparing and designing computer mediated and online teaching programs that seek to generate positive emotions as a motivation for students.

Qin, K., Zhou, J., & Wang, Y. (2024). **Learning strategies and reading achievement in primary schools: Longitudinal relationship and gender differences.** *British Journal of Educational Psychology, 94*(1), 74-88. [https://doi.org/10.1111/bjep.12634](https://doi.org/10.1111/bjep.12634)

Background Learning is a self-regulated loop where learning strategies and achievements are interrelated. In reading, although some studies have explored the relationship between different learning strategies (memorization, elaboration and control) and reading achievement, little is known about how they interact over time. Even though the longitudinal relationship was revealed in some studies, most of the evidence was based on the whole population, regardless of gender differences. Aims This study was designed to examine the longitudinal relationship between memorization, elaboration, control strategies and reading achievement, as well as the gender difference in the longitudinal relationship. Sample The sample consisted of 3878 Chinese students (2025 boys, 1853 girls) who were surveyed in Grade 4 and Grade 6. Methods A cross-lagged model was conducted to examine the longitudinal relationship between memorization, elaboration, control strategies and reading achievement while controlling for gender, age and parents’ educational levels. Multigroup cross-lagged models were conducted to examine gender differences in the longitudinal relationship between these
variables. Results Memorization and elaboration strategies were reciprocally related. Both predicted subsequent control strategies, but not vice versa. Only memorization strategies positively predicted subsequent reading achievement, while prior reading achievement positively predicted the subsequent three strategies. The effects of prior reading achievement on subsequent learning strategies were stronger for boys. Conclusions Memorization strategies play a prominent role in promoting deeper strategies and reading achievement in Chinese primary schools, which might relate to culture and developmental stages. Higher achievement or positive feedback from learning results might be motivation for using different strategies, especially for boys.


Background Within the same school class, it is usual to find children who differ in age by almost a full calendar year. Although associations between being relatively young and poor academic outcomes are well documented, and relatively consistent, the associations between being relatively young and psychosocial outcomes are less clearly documented. Aims To review research which presents data relating to associations between a child’s relative age and their psychosocial development. Methods A systematic review was conducted and reported in accordance with PRISMA guidelines. Results Fifty-nine papers met the inclusion criteria. The outcomes of the narrative synthesis and three meta-analyses found consistent, but very small, associations with relative age indicating that those who are relatively young are more likely to have more negative behaviour, mental well-being, and social experiences. Conclusions Although being relatively young is associated with more negative psychosocial outcomes, the magnitude of these associations is consistently small. Furthermore, many of the outcome measures used are likely to be the result of multiple influences, not limited to the effects of relative age. Therefore, the findings are reassuring as they suggest that relative age itself is unlikely to substantially increase an individual’s risk of poor psychosocial development.


Promoting teachers’ well-being through interventions within childcare environments has been associated with children’s social-emotional development, teacher behaviors, and job-related factors. The current study aimed to examine whether individual and contextual factors differentially impacted well-being outcomes among teachers who participated in a well-being program. Participants included 505 teachers who were enrolled in the program and completed pre- and post-intervention questionnaires on well-being outcomes (i.e., health motivation, physical activity, job stress, and resilience). Multilevel modeling estimated whether organizational, individual, and intervention-related characteristics were associated with program outcomes. Exploratory analyses examined the interactive effect of Teacher race and teacher–coach racial match over time. Results from the three-level model showed a significant change in study outcomes over time. Additionally, teacher race was associated with health motivation and resilience, such that Black, Indigenous, and people of color (BIPOC) teachers reported greater improvements over time, compared to White teachers. Exploratory analyses showed a significant three-way interaction, which indicated that White teachers who
were paired with a Black coach were associated with improvements in health motivation over time. Importantly, baseline differences in health motivation and resilience among BIPOC and White teachers may explain the variance in the significant effects. Findings from the present study have important implications for practitioners disseminating teacher well-being interventions in schools.


The objective of this study was to investigate how the gender and school level factors relate to disruptive behaviors during physical education (PE) classes in Tunisian schools. The study sample consisted of 632 Tunisian students aged 12−19 years, with 43.2% of them being boys and 56.8% girls. Among the participants, 64.9% were middle school students, while 33.1% were secondary school students. Self-reported data was collected using the 20-item “Physical Education Classroom Instrument.” Data was analyzed for a potential “Disruptive behavior × Gender” association, as well as a “Disruptive behavior × School level” association using the Pearson Chi-square ($\chi^2$) test. The key findings signaled that boys were more likely than girls to behave aggressively, distract/disturb others, and demonstrate poor self-management during PE classes. On the other hand, secondary school students are less likely than middle school students to behave aggressively and irresponsibly, disobey directions, distract others, and demonstrate poor self-management. These findings suggest associations between gender and school level with disruptive behaviors among Tunisian students during PE classes. By recognizing these associations, educators and policymakers can develop targeted interventions and strategies to effectively manage and mitigate disruptive behaviors in Tunisian PE settings.


The term “nei juan” (in English “involution”) has become a buzzword in recent Chinese tertiary educational contexts, denoting the intense competition and anxiety among Chinese college students. This project aims to develop a reliable and valid scale measuring Chinese college students' competitive psychology, that is, an Academic Involution Scale for College Students in China (AISCSC). To this end, the scale was administered online to 1015 Chinese college students from a university from the Northern China. Exploratory and confirmatory factor analyses resulted in a determination of three factors (i.e., academic behavior, social activity, and social relationship) with a strong psychometric basis. The correlations between students' academic anxiety and their involitional behavior further confirmed the concurrent validity of AISCSC.


Background Despite evidence that synthetic phonics teaching has increased reading attainments, a sizable minority of children struggle to acquire phonics skills and teachers lack clear principles for deciding what types of additional support are most beneficial. Synthetic phonics teaches children to read using a decoding strategy to translate letters
into sounds and blend them (e.g., c-a-t = “k - æ – t” = “cat”). To use a decoding strategy, children require letter-sound knowledge (LSK) and the ability to blend sound units (phonological awareness; PA). Training on PA has been shown to benefit struggling beginning readers. However, teachers in English primary schools do not routinely check PA. Instead, struggling beginner readers usually receive additional LSK support. Aims Until now, there has been no systematic comparison of the effectiveness of training on each component of the decoding process. Should additional support for struggling readers focus on improving PA, or on supplementary LSK and/or decoding instruction? We aim to increase understanding of the roles of LSK and PA in children’s acquisition of phonics skills and uncover which types of additional training are most likely to be effective for struggling beginner readers. Sample and Method We will compare training on each of these components, using a carefully controlled experimental design. We will identify reception-age children at risk of reading difficulties (target n = 225) and randomly allocate them to either PA, LSK or decoding (DEC) training. We will test whether training type influences post-test performance on word reading and whether any effects depend on participants’ pre-test PA and/or LSK. Results and Conclusions Two hundred and twenty-two participants completed the training. Planned analyses showed no effects of condition on word reading. However, exploratory analyses indicated that the advantage of trained over untrained words was significantly greater for the PA and DEC conditions. There was also a significantly greater improvement in PA for the DEC condition. Overall, our findings suggest a potential advantage of training that includes blending skills, particularly when decoding words that had been included in training. Future research is needed to develop a programme of training on blending skills combined with direct vocabulary instruction for struggling beginner readers.


The purpose of the study is to explore various facets of engagement in courses with Learning Assistant (LA) support. LA programmes frequently demonstrate positive effects on student learning and persistence, yet less is known about the nuances of the impact on student engagement. Data collected from students and LAs via online questionnaires are analysed to assess and compare the extent to which students and LAs perceive the presence of LAs contributes to increased student engagement. Results show both groups attribute students’ increased levels of social, cognitive, and affective engagement to the presence of the LAs more strongly than they do increased academic engagement. However, compared to students, LAs view their presence as more impactful across nearly all engagement facets. Training of LAs should therefore encourage LAs to target specific types of engagement they intend to impact, particularly cognitive engagement and social engagement with professors, while clarifying these aims with students.


Increasing mental health issues, such as emotional problems, pose a threat for the academic performance of undergraduate students. We propose a route connecting emotional problems and academic performance through executive functioning skills
Despite the abundance of research on the topic of EFS, there is a significant gap in understanding this route, specifically among a population of undergraduate students. The aim of this study was to examine whether EFS mediated the association between emotional problems and academic performance among undergraduate students. Cross-sectional data (n = 2,531) was used from a survey among Dutch undergraduate students from a large variety of faculties at a university of applied sciences. We assessed emotional problems using the Depression Anxiety Stress Scale-21, five EFS (cognitive inhibition, task initiation, sustained attention, planning, time management), and academic performance (study delay; yes/no). Mediation analyses were performed, using the Hayes PROCESS macro, adjusted for gender. We found that cognitive inhibition, task initiation, sustained attention, planning, and time management mediated the association between emotional problems and academic performance. Regarding separate EFS, no large differences were found. The data suggests that improving all EFS in undergraduates experiencing emotional problems could be a fruitful strategy for preventing academic delays.


The aim of this article is to call for qualitative researchers in education and other human sciences to grapple with recent developments in trauma studies and engage in reconceptualizing their research practices so that they pay attention to the catastrophic effects of colonialism on individuals and communities. Joining other critics who have called for decolonizing trauma studies, I turn to decolonial and postcolonial perspectives to reorient qualitative research practices for the collection and analysis of trauma narratives and suggest a decolonial understanding of trauma in education. In particular, I draw on literature from decolonizing trauma studies to propose two decolonial research orientations for qualitative researchers: (1) Acknowledging the problems of Eurocentric approaches to trauma in education; (2) reinventing research practices that are delinked from Western frameworks of understanding trauma, while embracing “other(ed)” ways of doing research on trauma. Specific examples are provided to show how researchers might advance these orientations.


School-based telebehavioral health service is increasingly important in addressing the health disparities youth in rural communities face. The study examines barriers and successes of implementation and sustainability of a rural school-based telebehavioral health program from the perspective of site coordinators or school champions informed by the Consolidated Framework for Implementation Research framework. Six coordinators participated in semi-structured interviews and completed a self-report questionnaire (organizational readiness for implementing change) to describe their experiences with telebehavioral health. The authors used thematic analysis to extract themes. The overarching themes included (1) benefits, challenges, and opportunities; (2) resources and support; and (3) work processes and challenges. Site coordinators endorsed their workplaces’ commitment to telebehavioral health but shared uncertainty about the telebehavioral health program’s sustainability. The emphasis coordinators place on relationships, communication, continuity, and advocacy for families and
students underscores their critical role in providing high-quality telehealth services in schools and the broader community. Their perspectives are vital to ensuring these services’ continued successful implementation and sustainability. Site coordinators’ focus on the need for school-based champions and increased awareness of telehealth services in their communities highlights a need for outreach efforts to continue engaging relevant stakeholders.


Background Mathematics homework is highly prevalent in East Asia. Teachers and parents expect mathematics homework to improve students’ performance; however, studies have not clearly defined the effectiveness of the assignment of different amounts of homework. Aims This study analyses the differential effect of homework amount on various facets of Chinese students’ mathematics achievement using a longitudinal design. It aims, thereby, to contribute to the existing knowledge of homework effectiveness and mathematics learning and to provide insights for student development. Sample The sample included 2383 grade 9 students from a mid-sized city with a moderate level of economic and educational development in central China. Methods We administered a student-reported questionnaire, collected school reports of mathematics achievements to track retrospective longitudinal variations in mathematics over half a year and analysed the differential effectiveness of homework on mathematics achievement at four hierarchical cognitive levels with Hierarchical Linear Model. Results The results indicated that assigning more homework at the class level could enhance students’ mathematics achievement at a low cognitive level, although this effectiveness tended to disappear when the set homework time reached about 1.5–2 h. We did not find evidence that assigning more homework enhances students’ mathematics achievement at higher cognitive levels. Conclusions Overall, this study provides evidence on the effectiveness of homework and offers implications for educational practice and future research.


Academic buoyancy has a significant and stable effect on adolescent academic achievement. Thus, it is vital to examine the antecedent variables of academic buoyancy. However, little research has examined the effect of body image dissatisfaction on academic buoyancy. This study investigates the link between body image dissatisfaction and academic buoyancy in Chinese adolescents, focusing on the mediating roles of social anxiety and basic psychological needs satisfaction. Using the Negative Physical Self Scale, the Social Anxiety Scale for Adolescents, the Basic Psychological Needs Satisfaction Scale, and the Academic Buoyancy Scale, questionnaires were administered to 516 high school students in Henan and Hunan provinces in China. The results revealed that: (1) basic psychological needs satisfaction mediated the relationship between body image dissatisfaction and academic buoyancy among Chinese adolescents; (2) social anxiety and basic psychological needs satisfaction had a serial mediating role between body image dissatisfaction and academic buoyancy among Chinese adolescents. This research provides a pioneering
exploration of the effect of body image dissatisfaction on academic buoyancy and its mechanisms. Implications for secondary school education practices and directions for future research are discussed.


Although academic resilience is of great concern to contemporary educational practitioners, there is no consensus on its measurement. Furthermore, protective factors characterized by East Asian societal contexts remain ambiguous. This systematic review aims to offer an overview of the operational definitions, statistical methodology, and protective factors of academic resilience identified in East Asian countries/economies. With a focus on large-scale assessment (LSA) research, three databases (i.e., Web of Science, CNKI, and AiritLibrary) were searched and returned 31 peer-reviewed studies over the last decade. Results indicated that the definition-driven method was commonly adopted in international LSA studies (e.g., Programme for the International Student Assessment) to measure academic resilience, and the research conducted in national/regional LSA (e.g., China Education Panel Survey) tended to use the process-driven approach. Logistic regression was the most frequently data analysis technique utilized in the definition-driven approach, while structural equation modeling and mediation/moderation analyses accounted for the largest proportion of the process-driven methods. Our study shed light on the methodological issues of academic resilience in LSA. Additionally, it highlights the aspiration of educational researchers to identify Asian-specific protective factors from the social-ecological perspective to propose appropriate interventions fostering academic resilience.


Utilizing the framework of the L2 motivational self-system as its theoretical foundation, this study focuses on a total of 52 students who discontinue their English learning within a senior high school in Yangzhou, Jiangsu Province. The primary objective of this study is to discern the underlying motivations prompting students to discontinue their English learning through a methodological approach encompassing video-mediated interviews with the students, subsequently subject to meticulous qualitative scrutiny through the Nvivo software. The analysis focuses on the systematic decoding and recoding of the interview transcripts to discern thematic patterns, hereby unraveling the motivations contributing to students’ cessation of English learning. The results indicate a spectrum of negative factors contributing to this phenomenon, including an aversion to the extant English learning milieu and the pressure of English learning, waning interest, diminished academic attainment, cultural disparities vis-à-vis English-speaking regions, and eroded self-efficacy in mastering the language. Moreover, this study elucidates various factors that collectively contribute to a lack of motivation among students, including the large class sizes, a paucity of English application contexts, the absence of phonetic pedagogy culminating in compromised autonomous learning ability, test-oriented teaching methods, ineffective English core subject literacy, and an overall substandard learning milieu.

Growing evidence has underscored the importance of female students’ relationships and interactions in Science, Technology, Engineering, and Mathematics (STEM) programs as crucial factors influencing their thriving within these programs. However, the discourse has seen a dearth of literature, especially in low-middle-income countries where deep-rooted cultural norms and values may complicate female students’ interactions and relationships with their peers (male students and female colleagues). Drawing on a phenomenological approach, we engaged female students in Mechanical Engineering at a Ghanaian university to share their experiences studying in such a hardcore male-dominated space with a focus on how they interact and relate with their peers. Data from participants were analyzed thematically using NVivo. Female students who participated in the study revealed that the daily interactions with their peers reinforced gendered norms, illuminating male students’ superiority in the program. Female students further asserted that the support from their male counterparts influenced their apathetic attitudes towards their female colleagues because they felt they had nothing to offer them academically, financially, and socially in the program. We argue the need to alter the perception of female students and promote a sense of relationship among them through seminars and support from women in STEM occupations.


Digital games are widely used in education to motivate students for science. Additionally, augmented reality (AR) is increasingly used in education. However, recent research indicates that these technologies might not be equally beneficial for students with different background characteristics. Moreover, students with different backgrounds may differ in their self-efficacy and interest when playing games and this could lead to differences in performance. Given the increased use of games and immersive technologies in education, it is important to gain a better understanding of the effectiveness of games for different student groups. This study focused on the role of students’ socio-economic status (SES) and examined whether SES was associated with in-game performance and whether interest and self-efficacy mediated potential associations between SES and in-game performance. Since log data are increasingly used to predict learning outcomes and can provide valuable insights into individual behaviour, in-game performance was assessed with the use of log data. In total, 276 early secondary school students participated in this study. The results indicate that SES has no direct or indirect effect through self-efficacy and interest on in-game performance. However, a lower self-efficacy increased the likelihood to drop out of the game. These findings suggest that students from different socio-economic backgrounds are equally interested and self-efficacious while playing the game and that their performance is not affected by their background. The affordances of AR as an immersive learning environment might be motivating enough to help mitigate possible SES differences in students. Practitioner notes What is already known about this topic Digital
games are an effective tool to increase motivation and learning outcomes of students. Students’ self-efficacy and situational interest influence learning outcomes and in-game performance. It is unclear whether digital games are equally effective for students with different socio-economic status. What this paper adds Socio-economic status (SES) of students does not affect in-game performance. Students with different SES are equally interested and self-efficacious. Lower self-efficacy and lower school track influence the likelihood of dropout. Implications for practice and/or policy Socio-economic status does not fortify the possible performance differences between students and games can be utilized as a learning tool that motivates all students equally. There are students who do not optimally benefit when games are implemented in education and who may need additional support.


Benissa, H. (2023). Les mondes étudiants au défi de la polarisation des sociétés. Étude comparée de la différence ethnoculturelle des étudiants en mobilité internationale à l'Université de Bordeaux (France) et à l'Université Laval (Québec) (Phdthesis, Université de Bordeaux; Université Laval (Québec, Canada)). Consulté à l’adresse https://theses.hal.science/tel-04431521

Le vaste mouvement de massification des universités et d’internationalisation du recrutement de leurs publics fait, de nos jours, des mondes étudiants des communautés marquées par le pluralisme ethnoculturel. Cette recomposition interne s’établit, en outre, dans un contexte marqué par une polarisation des sociétés fondée sur l’identité culturelle. Cette situation interpelle au premier chef les universités qui présentent une longue tradition de négligence en matière de gestion ouverte de la différence ethnoculturelle. Cette thèse entend, par l’usage d’une méthodologie mixte, analyser l’expérience de la différence ethnoculturelle vécue par les étudiants étrangers en mobilité individuelle, réalisant leur cursus universitaire à l’Université de Bordeaux (France) et à l’Université Laval (Québec) (2020-2023). Elle ambitionne également d’analyser les politiques universitaires de gestion de la diversité dans une double perspective, émique et étique. À l’aide d’une approche constructiviste, nous cherchons à étudier les processus d’exo-catégorisation conduisant au sentiment de discrimination chez le minoritaire (frontière en soi) et d’endo-catégorisation susceptibles de motiver un engagement dans des réseaux communautaires (frontière pour soi). Notre étude fait recours principalement au concept de frontière qui permet d’appréhender l’expérience des étudiants étrangers en situation de minoration, articulée aux problématiques d’enracinement et de reconnaissance dans les domaines corporel, linguistique et religieux. Les données de cette recherche sont constituées de 2 824 réponses à un questionnaire qui a été diffusé auprès des populations étudiantes dans les deux universités et de 82 entretiens réalisés avec des étudiants (59) et des responsables universitaires (23), ainsi que des données secondaires recueillies à l’aide d’un relevé de traces, d’une observation directe et indirecte et d’une analyse des documents institutionnels (plans d’action, rapports, sites numériques, etc.). Les résultats de notre recherche révèlent le taux du sentiment de discrimination fondé sur des marqueurs d’origine ethnique des étudiants et démontrent les mécanismes et les effets liés au traitement inégalitaire dans le milieu universitaire en particulier et dans la société en général. Paradoxalement, l’expérience de minoration peut conduire un nombre
important d’étudiants à s’engager dans des réseaux communautaires. On assiste dès lors à l’émergence d’une solidarité collective, accentuée en l’absence d’une politique universitaire structurée d’accueil, d’accompagnement et d’inclusion, notamment pour le cas français. Les réseaux communautaires imposent une réflexion profonde sur l’usage de la culture d’origine et de la croyance religieuse comme leviers de socialisation, d’enracinement et de promotion des particularismes dans la société d’accueil. Ces réseaux deviennent ainsi un lieu d’affirmation identitaire et participent à l’établissement, au renforcement ou à l’affaiblissement des frontières ethnoculturelles dans les mondes étudiants.


À la rentrée 2022, 103 200 étudiants extracommunautaires sont dans le périmètre d’application des droits majorés d’inscription universitaire.

Rurality is known to be associated with a number of weaker educational outcomes, from lower attainment through to lower social mobility. This is why so much policy and practitioner focus has been directed at addressing the rurality gap in educational outcomes. In this paper, we use pupil-level data for Scotland to contribute to two dimensions of this problem. First, we explore the relationship between socio-economic deprivation and educational mobility across urban and rural primary schools in Scotland. This provides new insights on the issue of rural disadvantage. Second, we use our dataset to explore the socio-economic makeup of urban and rural schools in Scotland, documenting that schools located in the highest and lowest SIMD areas are more homogeneous than those in the middle. This is important for the classification of schools in targeting educational interventions to improve social mobility.


À la rentrée 2018, six collèges nîmois ont été re-sectorisés et près de 600 élèves ont été déplacés. Cinq ans plus tard, le bilan est mitigé selon les établissements.

Chaiyasat, C. (2024). Experiencing semester abroad programs in a Thai higher educational institution: sociocultural adaptation and cultural challenges of German
In the initial phase of participating in short-term semester abroad programs, newly arrived international students may face a lot of difficulties and challenging experiences living in Thai society. This phenomenological study reports on the issues of socio-cultural adaptation experienced by German exchange students while participating in semester abroad programs at a Thai university and mechanisms through which to address the concerns. From 109 students' interview transcripts, the six groups of themes identified were (1) language barrier issues; (2) interpersonal communication issues; (3) academic-related issues; (4) personal interest/community involvement issues; (5) ecological adaptation issues; and (6) extra-curricular activity issues. The findings from this present study have implications for educators and all stakeholders working in the departments of international affairs and university administration to establish policies and practices for providing social support and tailoring study abroad programs to meet international students' expectations, needs, and satisfaction.


Scholars have identified many factors that lead to changes in anti-immigrant sentiment. Less is known, however, about the effects of anti-immigrant sentiment on the academic experiences and outcomes of immigrant students. This manuscript examines the relationship between anti-immigrant sentiment and immigrants' expectations to achieve a college degree and career success in Europe. Consistent with established literature on immigrant optimism, this study finds that immigrants generally have higher educational and occupational expectations than their nonimmigrant peers. However, these positive associations decrease in countries with higher levels of anti-immigrant sentiment. These patterns manifest for both first- and second-generation immigrants, indicating that the potential deleterious effects of anti-immigrant sentiment span generations of immigrants. These findings shed light on the out-of-family and out-of-school factors that shape the educational trajectories of immigrant youth and show that increases in anti-immigrant sentiment might bring about long-term damage to the success of immigrants in their host countries. They also suggest that school administrators and policymakers interested in immigrant success in the host countries should take anti-immigrant sentiment into account when devising approaches to aid immigrant incorporation.


In this collaborative autoethnographic piece, we present voices through critical incident technique replaying the same event at an academic conference, all seeking to understand how and why the disruption of voice occurs and what to do to counter it. We contextualize these experiences in the ideal of “sustainability of qualitative inquiry” through a feminist reflexive process, problematizing the potential for critical qualitative inquiry. We question how ownership of power, knowledge, education and voice within academic spaces can be embodied by women and other underrepresented groups. In the end, we provide a set of three potential solutions for conference committees and
individuals to critically self-reflect upon to create more social justice in qualitative research spaces. Such considerations are particularly important in times of social distancing, where considerations for inclusivity for all are imperative.

We examine the differential effects of automation on the labor market and educational outcomes of women relative to men over the past four decades. Although women were disproportionately employed in occupations with a high risk of automation in 1980, they were more likely to shift to high-skill, high-wage occupations than men in over time. We provide a causal link by exploiting variation in local labor market exposure to automation attributable to historical differences in local industry structure. For a given change in the exposure to automation across commuting zones, women were more likely than men to shift out of routine task-intensive occupations to high-skill, high wage occupations over the subsequent decade. The net effect is that initially routine-intensive local labor markets experienced greater occupational gender integration. College attainment among younger workers, particularly women, also rose significantly more in areas more exposed to automation. We propose a model of occupational choice with endogenous skill investments, where social skills and routine tasks are q-complements, and women have a comparative advantage in social skills, to explain the observed patterns. Supporting the model mechanisms, areas with greater exposure to automation experienced a greater movement of women into occupations with high social skill (and high cognitive) requirements than men.

The number of scientific publications about serious games has exponentially increased, often surpassing human limitations in processing such a large volume of information. Consequently, the importance of frameworks for summarising such fast-expanding literature has also grown. This paper draws a panorama of serious game research streams, focusing on higher education in engineering and management. The research design involves a systematic review using PRISMA guidelines, along with bibliometric and content analyses. The sample comprises 701 documents collected from both Scopus and Web of Science databases. For supporting bibliometric analyses, Bibliometrix and Biblioshiny tools are employed. In addition, a coding schema is developed for in-depth analysis of 701 documents selected according to the inclusion criteria. In short, the literature on serious games for engineering and management education grows more rapidly than modern science, following a globalised, collaborative and context-based trajectory. The results reveal five main research streams: game design guidelines, game design cases, game experiment guidelines, game experiment cases and generalists. These streams are summarised in a proposed framework. Cross-tabulation and statistical analyses conducted in SPSS Statistics identify the key relationships amongst the research streams. Finally, opportunities to investigate serious games for sustainable development education arise, and there is a need for future efforts to formalise the framework classification algorithm. Practitioner notes What is already known about this topic Scientific production related to Serious Games (SGs) has grown exponentially in a
globalised manner. It reflects the interest from various domains, particularly the field of sustainability in management. Literature reviews on SGs have emphasised various topics, including the acceptance of simulations and games as effective methods of teaching and learning. The role of technology-enhanced games and simulations in the context of digital transformation in education and the emergence of sustainability as a promising field for future SGs research are also highlighted. The literature has introduced three categories for empirical research on SGs: (1) game presentation, (2) game evaluation and (3) game effectiveness. It has also highlighted methodological rigour as a common challenge across studies. What this paper adds Scientific research on SGs in Engineering and Management Higher Education (EMHE) experiences exponential and significantly faster growth compared to modern science in a globalised and collaborative manner. This growth reveals the scarcity of experts in this area and attracts the attention of various fields, particularly in the realm of sustainability. Thematic trajectories indicate a decline in discussions regarding users' perceptions of SGs and their validity as educational tools. They also demonstrate consistency in discussions about SGs design, and the potential of sustainability emerges as a promising area for future SGs in EMHE. A comprehensive framework composed by five primary research streams connects game design cases and guidelines, game experiment cases and guidelines and generalists. This framework can serve as a lens for future context-based literature reviews, and the relationships amongst its streams reinforce the idea that the field can benefit from increased methodological rigour in experiments. Implications for practice and/or policy This review offers categorised supplementary material in which educators can discover a variety of artefacts for application in their specific educational contexts. Designers can access guidelines for enhancing the design of innovative games. Researchers can access guidelines for more effective evaluation of their artefacts across various contexts. Finally, policymakers can explore numerous experiments to inform decisions related to technology-enhanced innovations in the classroom.


Passer du lycée à l’université est souvent considéré par les élèves, les parents et les responsables politiques comme une rupture. Que s’y passe-t-il concrètement ? Les savoirs enseignés et les modalités pédagogiques sont-ils si différents ? Le travail auquel les étudiants sont confrontés à l’université est-il radicalement nouveau par rapport au lycée ? Une enquête de terrain a été réalisée en lycée général et en première année de licence universitaire, qui analyse la façon dont les professeurs et les élèves participent à la transmission des savoirs, soit en enseignant, soit en apprenant, à l’intérieur comme à l’extérieur des salles de classe. L’autrice étudie les différentes étapes de la transmission des savoirs (préparation collective des cours, négociation des savoirs en classe entre enseignants et élèves, travail personnel des élèves ou encore perspective sur les bons et les mauvais savoirs). Ce faisant, elle propose une nouvelle perspective d’analyse des savoirs qui sont enseignés et appris dans les institutions d’enseignement, envisagées, dans une approche interactionniste, comme des entreprises collectives.

Le retour du redoublement et les classes de niveaux vont accroître les inégalités à l'école. Les classes populaires, principales pénalisées, ne seront pas dupes. Le point de vue de Jean-Paul Delahaye, ancien haut fonctionnaire de l’Éducation nationale.


L’objectif de ce Cahier est de jeter les bases d’une sociologie de l’éducation au changement climatique et de faire apparaître la pertinence d’une telle approche. Pour ce faire, nous discutons le récit paradoxal sur l’urgence climatique selon lequel nos sociétés ne réagissent pas alors même qu’elles entendent l’alerte. Notre hypothèse est que ce récit, devenu lieu commun tant il est répandu, cadre inadéquatement la manière dont l’éducation (informelle) au changement climatique est pensée et conduite actuellement. Nous montrons que ce récit est contredit par ce que les études d’opinion existantes nous apprennent sur l’information du public à ce sujet, et sur le lien entre la connaissance et l’action individuelle ou collective. Nous synthétisons également ce que nous apprennent les recherches en sciences sociales sur les obstacles à l’engagement public et à la transformation profonde de la société.


Recent research has shown that females make classrooms more conducive to effective learning. We identify the effect of a higher share of female classmates on students' disruptive behavior, engagement, test scores, and major choices in disadvantaged and non-disadvantaged schools. We exploit the random assignment of students to classrooms in early high school in Greece. We combine rich administrative data with hand-collected student-level data from a representative sample of schools that feature two novel contributions. Unlike other gender peer effects studies, a) we use a rich sample of schools and students that contains a large and diverse set of school qualities, and household incomes, and b) we measure disruption and engagement using misconduct-related (unexcused) teacher-reported and parent-approved (excused) student class absences instead of self-reported measures. We find four main results. First, a higher share of female classmates improves students' current and subsequent test scores in STEM subjects and increases STEM college participation, especially for girls. Second, a higher share of female classmates is associated with reduced disruptive behavior for boys and improved engagement for girls, which indicates an increase in overall classroom learning productivity. Third, disadvantaged students—those who attend low-quality schools or reside in low-income neighborhoods—drive the baseline results; they experience the highest improvements in their classroom learning productivity and their STEM outcomes from a higher share of female classmates. Fourth, disadvantaged females randomly
assigned to more female classmates in early high school choose college degrees linked to more lucrative or prestigious occupations 2 years later. Our results suggest that classroom interventions that reduce disruption and improve engagement are more effective in disadvantaged or underserved environments.


The diverging destinies hypothesis predicts that educational inequality increases in contemporary societies because parents with higher levels of education postpone the birth of their children. This hypothesis is supported by empirical evidence demonstrating that advanced parental ages improve children’s educational outcomes. However, the consequences of socioeconomic differences in parental ages for the intergenerational transmission of education also depend on whether the associations between parental ages and child education vary by parental education. To test this hypothesis, we use data from three countries representing different welfare regimes: Germany, Norway, and the United States. In all three countries, children’s educational attainment at the secondary school level increases with higher parental ages more in families with low than in families with highly educated parents. In other words, the intergenerational transmission of education is stronger for younger than for older parents. Consequently, our findings nuance the diverging destinies hypothesis by demonstrating that increasing parental ages in socioeconomically disadvantaged families increases educational mobility more than decreasing parental ages in socioeconomically advantaged families. These findings are qualitatively the same in all three countries, suggesting that diverging destinies also occur in countries outside the United States.


This article demonstrates how stories serve as effective methodology when scrutinizing the meaning of social and political conflicts in diverse classrooms. I base my argument on a story about a distressing conflict among students from different ethnic, and national backgrounds occurring in an academic course at an Israeli college. A detailed description of the clash, which eventually evolved into a moment of mutual support and solidarity, provides a sense of immediacy and verisimilitude, and thus is the best way to introduce the dynamic, messy reality of the classroom. Moreover, I argue that story-like documentation may well expose social and political processes and subtleties better than any thin report and theoretical analysis and can form an archive of hope amid seemingly social and political estrangement and despair.


Formerly preferred, but increasingly required, a college degree has become a prerequisite in a competitive job market. For Black undergraduates who continue to face systemic disparities in college completion, gaps in hiring are exacerbated by unequal access to leadership positions and professional training, such as internships, during college. Since informal connections and social networks heavily influence occupational access, this research article presents a relational, ethnographic approach to better
understand the opportunities and constraints of networking for Black undergraduates in an urban campus context. This study advances prior social capital research by not only offering where networks exist but also presenting how they form and develop over time and across space. The findings show how Black students attending an urban, selective, and historically White institution (HWI) do not merely discover connections but deliberately construct them, illuminating the process through which social capital is made.


Large-scale international achievement studies such as PISA have been widely used to study how educational inequality compares across countries. Yet the various different biases that may affect these estimates are often not considered or are poorly understood. In this paper we draw upon the total survey error framework to provide a case study of the potential biases affecting estimates of the socio-economic achievement gaps using PISA data from Germany. The results illustrate how procedural and measurement errors have a substantial impact upon estimates of socio-economic achievement gradients in Germany, including how it compares with other countries. This leads us to conclude that estimates of socio-economic achievement gaps using the PISA data for Germany do not seem to be particularly robust. More generally, we argue that better articulation and reporting of such challenges with comparing socio-economic achievement gaps using large-scale international assessment data such as PISA are needed.


Background Socio-economic status (SES) is a powerful predictor of attainment. Research has identified multiple mechanisms that underpin the effect of SES on attainment. For example, self-regulation (processes through which individuals direct and control their attention, emotion and behaviour) has been identified as one mechanism mediating the SES attainment gap. However, previous studies have not directly tested the statistical pathways by which children from lower SES backgrounds develop low self-regulation skills and subsequently poor attainment at the end of primary school. Adding the home learning environment, which is associated with both SES and self-regulation, further fleshes out the longitudinal pathways. Aims We propose and test a new model where the relationship between SES and school attainment is sequentially mediated by the family home learning environment and the child’s self-regulation. Sample This study uses the Effective Pre-school, Primary and Secondary Education data set to study 2311 English children. Methods We measured SES (via socio-economic disadvantage) based on an index of low parental education, occupation and income at age 3+. The home learning environment was measured by the Home Learning Environment Index at age 3+; self-regulation was a teacher report on the Child Social Behaviour Questionnaire at age 4+ and attainment was measured via scores on national assessments of English and Maths at age 11. Results Our measure of disadvantage predicted attainment. The home learning environment predicted children’s self-regulation skills. The relationship between disadvantage and attainment was sequentially mediated by the home learning
environment and self-regulation. Conclusions These findings suggest that home learning environment and self-regulation may play a sequential role in perpetuating socio-economic disparities in education.


Ontario education policy articulates an explicit commitment to equity and inclusion for increasingly diverse classrooms. Despite policy commitments, when equity and inclusion intersect with religion, enactments remain underwhelming. This paper draws on the voices of 30 Ontario public school educators, all of whom self-identify as Muslim, to share the ways they affect and have been affected in attempting to enact a responsive pedagogy for faith-centred learners. Through the use of dialogic portraits in two different school boards, the voices of Muslim educators express consistent sentiments of responsibility to advocate for basic religious accommodations while at the same time needing to tread carefully with anything to do with religion in order to not be marginalised by colleagues. Participants in this study reinforce the need for more robust conceptions of equity and inclusion that consider the complexities of the religious identities of learners and educators in public education.


The persistence of degree-awarding gaps and anti-Black racism warrant an exploration of the quality and effectiveness of academic support offered to Black undergraduate students in British higher education, and how such support is perceived by students. Our phenomenographic study found that Black students’ conceptions of academic support range from broad expectations of help with their studies to more advanced understandings of their own agency and the context of academic support. Our results highlight that attempts to enhance academic support should revisit three interconnected areas: what type of academic support is provided, where, and by whom. Most importantly, we propose a new inclusive direction that replaces existing deficit models with approaches that will strengthen Black students’ agential effectiveness within historically White institutions.


Undergraduate research experiences can have a powerful impact on career aspirations and research skills, particularly among students from historically underrepresented groups. This study explores the conference-going experiences of first-generation, Mexican American undergraduates from migrant/seasonal farmworker backgrounds in the College Assistance Migrant Program (CAMP) at Arizona State University. Our research affirms that undergraduate conference participation strengthens students’ sense of self-
efficacy, or their ability to incorporate existing skills and competencies into their academic identities. However, conference experiences were most impactful when students experienced their cultural and academic identities as integrated. CAMP students also saw their development of self-efficacy through conference experiences as relational and connected to their ability to “give back” to their communities. Undergraduate research experiences can be integrated with a “border pedagogy” approach that brings students’ cultural knowledge into dialogue with academic knowledge production.


The experiences of lesbian, gay, bisexual, and transgender (LGBT+) individuals in Science, Technology, Engineering, and Mathematics (STEM) are still understudied and, despite some improvements, are still characterised by patterns of exclusion, disadvantage, and discrimination. In this article, we explore how visibility is perceived and navigated by LGBT+ academics and PhD students in STEM, with a focus on the ways that interlocking systems of oppression impact people and groups who are marginalised and historically excluded. This article draws on a broader research project about the experiences of women and LGBT+ people in STEM that was conducted between 2019 and 2020 at a UK university and is framed by intersectionality theory. Based on the thematic analysis of interviews and focus groups with 24 LGBT+ participants, findings suggest that visibility is still a risk for LGBT+ academics and PhD students in STEM. We found that the labour of navigating visibility was perceived as an unfair disadvantage and that the focus on individuals’ visibility in the absence of meaningful and transformative inclusion initiatives by higher education institutions was regarded as tokenistic. The article argues that addressing LGBT+ visibility should firstly be an institutional responsibility and
not an individual burden and that this work is essential to set the conditions for personal visibility to happen by choice, safely and without retribution.


The Brown decision represents a watershed moment in U.S. history as the remedy served as a guiding light during a pandemic. A pandemic is an epidemic taking place on a scale that spans the globe. A circumstance is not a pandemic merely because it exists in different regions of the world or results in the death of many people; it must also be infectious. For centuries, by way of mutually reinforcing regimes consisting of politicians, intellectuals, religious supporters, business leaders, and others, an ideology of racial biology “infected” the world, causing a disease to spread in global fashion. The disease fed on a rhetoric that assigned biological superiority to certain races. A resulting pandemic of segregation occurred. In the United States, the Brown decision offered hope as a therapeutic. This lecture examines Brown through the lens of a medical model while exploring its various pervasive effects on society and education.


Collaborative writing is well established in the humanities, but with little focus on how the writing relationship comes into being, including the power and relational dynamics at play. This is especially pertinent both when Black and “white” (sic) authors collaborate in writing about race, and in the process of writing collaborative autoethnographies. In this article the authors narrate, or rather “enact”, the movements of their coming together in order to write about race in the context of early learning and childcare. Linking their collaboration to the Deleuzian theory of becoming and Bakhtin’s dialogic imagination, they present a manifesto for anti-racist inquiry which decentres colonial tropes of individuation in favour of ‘staying with the trouble’ of identity and race. Throughout, they connect the inception of their research relationship to the politics of childhood and early years education in Scotland today.


Critical pedagogues advocate a constructivist approach to learning emphasising the self-directed construction of knowledge from the learners’ experiences while also expecting students to develop an explicit critique of the social order. However, the use of a constructivist approach for the pursuit of explicit ideological goals leaves educators with a dilemma: what happens when students’ reflections don’t lead them to the anti-oppressive conclusions teachers desire? Using comparative historical archival methods and oral history interviews, this study interrogates how teachers and students navigated this paradox in the Berkeley Experimental Schools Project (1968–1975), a public educational programme that sought to actualise the goals of both the Free School and Black Power movements. This study sheds light on this dilemma with particular clarity because the Free Schools represent one of the U.S.’ most radical experiments in
constructivist pedagogy, and the Black Power movement as one of our most heightened efforts to challenge systemic oppression. In demonstrating that in Berkeley, it was easier to build self-directed inquiry on a foundation of explicit critique than to build anti-racism on a foundation of free inquiry, this study elucidates tensions at the heart of critical pedagogy, social justice education, and curriculum theory.


Research has shown that gender role attitudes develop during adolescence; however, the relevant predictors remain a matter of debate. In adolescence, the school environment gains in importance. Thus, the present study investigates how students' and especially teachers' culture and composition predict the development of gender role attitudes in young adolescents. The study addresses this question using a sample of 7360 Flemish students (44.8% girls), who were surveyed three times after entering secondary education between 2012 (Mage = 13.14, SD = 0.56) and 2014. Latent change models reveal that boys' initial gender role attitudes are associated with the students' gender role culture; however, boys with more traditional gender role attitudes do not develop in an even more traditional direction at the beginning of secondary education. In contexts with a more privileged student SES composition, boys develop less traditional attitudes, while a traditional gender role culture among teachers supports the development of more traditional gender role attitudes among boys. Girls with more traditional gender role attitudes find themselves within student contexts with a more traditional culture. However, the development does not vary with the students' gender role culture. Overall, boys seem more susceptible to students' cultural and compositional characteristics.


Face au séparatisme scolaire, l’ancienne ministre de l’Education Najat Vallaud-Belkacem et le sociologue François Dubet proposent d’indexer le financement de l’école privée sur la composition sociale des établissements.


En France, le nombre d’étudiantes qui choisissent des filières scientifiques reste minoritaire. Comment inverser la tendance ?


Vrdoljak, A., Stanković, N., Ćorkalo Biruški, D., Jelić, M., Fasel, R., & Butera, F. (2024). “We would love to, but...”—needs in school integration from the perspective of refugee

Existing research on the education of refugee children has been conducted in countries with a longstanding tradition of refugee integration. The aim of this study was to gain insight into the integration process of refugee children in Croatian schools. Croatia is a small EU country with limited experience in refugee integration. The phenomenological approach was used to examine the experiences and perspectives of the relevant actors. Interviews and focus group discussions were conducted with refugee children (N = 15), their parents (N = 5), classmates (N = 50), and school staff (N = 54) from six elementary schools in Zagreb. Data analyses suggested three general needs: educational, language, and social, each of them connected to more specific needs, challenges, and suggestions. The results of the study are discussed within the Schachner et al. (2017) framework of immigrant adolescents’ acculturation.


Cette thèse se penche sur l’éducation des filles et des femmes en Tanzanie avant et après l’indépendance vis-à-vis de la Grande-Bretagne, obtenue en 1961, puis après l’adoption du socialisme en 1967. Elle revisite ainsi les dynamiques de l’éducation coloniale et comble un vide historiographique sur l’éducation féminine en Afrique postcoloniale. Alors que ces quatre décennies sont tout à la fois un moment d’essor exceptionnel de l’offre éducative, de construction nationale et de reconfiguration de la place sociale, économique et politique des femmes, cette recherche analyse comment les dynamiques éducatives ont fabriqué des rôles spécifiques pour les femmes dans la nation en construction. Pour ce faire, elle s’appuie sur une appréhension large du fait éducatif : scolarisation et programmes pour adultes, mais aussi mouvements de jeunesse, éducation coranique, ou encore formations professionnelles. Une approche intersectionnelle permet d’interroger comment le genre croise la classe sociale, l’âge, les catégorisations raciales et la religion pour définir les rapports des femmes aux institutions éducatives et à la nation. Sont analysés aussi bien les politiques éducatives, les débats publics, les contenus enseignés et les relations pédagogiques que les vécus de l’école et les parcours des instruites. Ce faisant, on croise de vastes pans de la société tanzanienne, toute entière en prise avec la construction nationale qui se joue à partir de ce projet collectif et de multiples expériences individuelles.

**Climat de l’école**


School exclusion reduction in Scotland—and especially in the city of Glasgow—has received substantial media and policy attention in recent years. In London in particular, multiple governmental agencies have explicitly expressed a desire to replicate the exclusion reduction which recently occurred in Glasgow, often citing the connection between school exclusion and violence as a key motivating factor. In this paper, after presenting the statistical trends in school exclusions in Scotland, England, Glasgow and London, we mobilise original interview data to (1) explain how school exclusion reduction occurred so rapidly in Glasgow between 2007 and 2019, and (2) explore whether a similar
reduction in exclusions could occur in contemporary London. We apply a theoretical framework to these issues which derives from Peters’ work on policy coordination, allowing us to compare the conditions in Glasgow and London for well-coordinated pan-city exclusion reduction. Building on previous research which has contrasted national school exclusion policies in Scotland and England, we conclude that policy conditions surrounding school exclusion in the two cities differ substantially. There are substantial barriers to significant exclusion reduction in London, relating to both city- and national-level factors. These barriers include competition between different agencies working in relevant policy spaces; the fragmentation of the city’s education system; the need for better incentivisation of inclusion by Ofsted and the Department for Education; and particular challenges to reframing the issue of school exclusion in London.


Although the significance of a positive social classroom climate in face-to-face learning has been established, its role within online and technology-enhanced learning environments is unclear. The central aim of this systematic review was to synthesize the findings of empirical studies which have examined any aspect of the social classroom climate in online and technology-enhanced learning environments in primary and secondary schools. Appropriate search terms were entered into ACM Digital Library, Web of Science, Scopus, and ERIC in November 2021. Articles were included if they were relevant for the aim, reported primary data, sampled primary/secondary school students and/or teachers, and were published in journals, conference proceedings, or book chapters in English. Furthermore, articles were excluded if they focused on the development/testing of measurement tools. The thematic narrative synthesis includes 29 articles, comprising of qualitative, quantitative, and mixed-method studies. A quality assessment checklist was completed for all. The findings encompass examinations of the social classroom climate in online learning before and during the Covid-19 pandemic, in blended learning environments and a comparison between them. Furthermore, associations between the online social classroom climate and academic variables is explored, as is the fostering thereof through synchronous/asynchronous discussion groups and social media. We discuss the theoretical framing of the studies, the impact of a positive classroom climate in online and technology-enhanced learning environments on students, as well as practical approaches and new opportunities in leveraging technologies. Based on the findings and the studies' limitations we outline implications and future research, such as the need to consider students’ voices and diversity, technology perspectives, a transdisciplinary approach and the reconceptualization of boundaries.


The news of a 16-year old teenager hacking a 13-year old boy to death in a toilet unprovoked in a secondary school in Singapore shook the whole nation in July 2021. In this article, we analyze the institutionalizing responses to the growing sense of youth mental health crisis in Singapore, catalyzed by River Valley High School incident, as the
subjectification of wellbeing. We argue, firstly, that the national schools have become the main site for the production of networked surveillance and internalization of wellbeing. We examine the inclusive production of subjects characterized by varying levels of wellbeing in a rehabilitative social system exercising authority and control. Secondly, we argue that a totalizing system of surveillance and internalization is emerging in a technocratic heterotopia. We conclude by discussing interdisciplinary and intersectional alternative approaches emerging from the heterotopic space of the school.


L’Enquête harcèlement a été menée en novembre 2023 auprès d’un échantillon de 21 700 élèves du CE2 à la Terminale.


The incorporation of mental well-being provision into school curricula is increasingly the focus of government policy in the UK and internationally. However, it is not clear what well-being programmes schools provide to pupils, and how these programmes are delivered. The current study was an online survey to assess the use of whole-school well-being programmes in primary schools in North Wales. Normalisation Process Theory was utilised as a framework to assess normalisation of the well-being programmes. One-hundred and fifty-one schools in North Wales responded to the survey. The mean number of whole-school well-being programmes utilised by schools was 4.59, and nine of the 10 most frequently used programmes had little or no associated evidence base. The well-being programmes were generally perceived as normalised (i.e. everyday practice) by respondents. Implications for future practice are discussed, including the need to support schools to identify and implement evidence-based mental well-being provision.


Currently, there is a national level debate on security-based school safety policies and practices, particularly in relation to the presence of police in schools. Decisions about school safety are discussed at the district level by administrators and board of education members who may not be aware of the importance of utilizing local data to ensure these decisions are data driven and beneficial to all the stakeholders they represent in diverse, urban districts. Research on security, policing, and social-emotional and school climate-based strategies are discussed, as is research on district-level decision-makers (boards of education and administrators) and decision making. This paper provides local school stakeholders, policy makers, and school safety researchers with a framework for collaborative work to ensure that evidence-based violence prevention programming and local data drive district-level decision making about school safety.

Indigenous Australian young people comprise over 50% of the total Indigenous population (Australian Bureau of Statistics, 2017). Yet, the voices of Indigenous young people are seldom centred in policy or scholarship (Shay & Sarra, 2021). This paper shares findings from a three-year national transdisciplinary, qualitative study that explored the identity and well-being of Indigenous young people in diverse school settings. The data told counter-stories through the lens of Indigenous young people currently absent in mental health and educational wellbeing scholarship. This article illustrates how the theoretical/methodological approach and data provide a strengths-based alternative to trauma-informed and medicalised mental health frameworks that dominate policy and practice approaches. This paper shares key findings from Indigenous young people who articulated their identities as underpinned by respect, pride and collectivism and shaped by culture, where you are from, physicality and role models. These expressions are clearly at odds with broader deficit discourses on Indigenous identity and have implications for health and schooling settings.


Survey research among Australian teachers revealed that teachers experience tensions between student well-being concerns and the demands of academic performance and improvement agendas. Qualitative findings revealed teachers view student-teacher relationships as imperative to student well-being and academic development. However, in a time of metrics-based education systems and pre-packaged programmes, a focus on strengthening teacher-student relationships is somewhat incongruent with current content-delivery trends and funding priorities. Teachers promoted a concept of holistic education that accorded with socio-ecological models of living and learning. These findings point to a need to better understand how to best resource student-teacher relationships for productive learning.


À la rentrée 2018, six collèges nîmois ont été re-sectorisés et près de 600 élèves ont été déplacés. Cinq ans plus tard, le bilan est mitigé selon les établissements.

Contexte et enjeux
Le plan « 1 jeune 1 solution » a été mis en place en juillet 2020 dans le cadre du plan France Relance. Il mobilise différents leviers pour proposer une solution à chaque jeune, via un accompagnement renforcé pour les jeunes éloignés de l’emploi (financements supplémentaires de la Garantie jeunes par exemple), la formation ou le soutien à l’embauche pour faciliter l’entrée dans la vie professionnelle. Au total, le plan « 1 jeune 1 solution » représente une dépense publique de près de 10 milliards d’euros sur la période 2020-2022 selon la Cour des comptes. Parmi les mesures mises en place, l’aide exceptionnelle versée pour embaucher des jeunes en apprentissage représente la mesure la plus coûteuse du plan, avec plus de 5 milliards d’euros, selon l’estimation de la Cour des comptes. Par ailleurs, le développement de l’apprentissage constitue, depuis plusieurs années, l’un des piliers des politiques d’emploi destinées aux jeunes, avec l’espoir de favoriser une meilleure et plus rapide intégration professionnelle.

Présentation
Ce rapport se concentre sur l’impact de l’aide exceptionnelle versée dans le cadre du plan « 1 jeune 1 solution » durant la première année de sa mise en œuvre, entre juillet et décembre 2020. Les auteurs mesurent l’impact de cette aide de l’Etat sur le nombre d’apprentis recrutés et montrons ensuite quel impact l’apprentissage peut avoir sur les trajectoires scolaires des étudiants en exploitant une réforme antérieure au plan « 1 jeune 1 solution ». Résultats clés

Un taux de recours variable à l’aide exceptionnelle
En moyenne, les entreprises de moins de 250 salariés touchent 5 960 € par apprenti embauché contre 2 830 € pour celles de plus de 250. On observe cependant une large hétérogénéité parmi ces dernières : les entreprises de plus de 250 salariés qui sont loin d’atteindre les objectifs nécessaires en termes d’embauches de contrats d’insertion professionnelle recourent moins souvent à l’aide exceptionnelle que celles qui sont déjà proches de la cible à atteindre. Une forte hausse de l’embauche d’apprentis La mise en place de l’aide exceptionnelle est concomitante avec une importante hausse du nombre d’apprentis embauchés par rapport à 2019 : le nombre d’apprentis embauchés augmente de plus de 40 % pour atteindre 479 000. La part d’apprentis recrutés par rapport au nombre total d’embauches dans chaque entreprise double : entre 2016 et 2019, le recrutement d’apprentis représente en moyenne 1,7 % des embauches totales, contre 3,3 % en 2020. On peut également mesurer cette évolution par type d’entreprise, selon leurs pratiques antérieures en termes de recrutement d’apprentis. En 2020, les trois quarts des apprentis embauchés le sont par des entreprises ayant déjà recruté au moins un apprenti durant les années précédentes. Néanmoins l’année 2020 se démarque par une hausse significative du nombre d’entreprises qui embauchent un apprenti pour la première fois. Enfin, on peut noter que la hausse du nombre d’apprentis embauchés observée en 2020 est principalement tirée par des apprentis dont le niveau du diplôme préparé est supérieur au bac. L’impact de l’aide exceptionnelle sur l’embauche d’apprentis Les auteurs montrent que les entreprises percevant en moyenne une aide plus élevée de l’Etat pour l’embauche d’apprentis recrutent effectivement un nombre d’apprentis plus important. En particulier, les entreprises de moins de 250 salariés perçoivent un montant d’aide moyen plus élevé que celles de plus de 250 salariés, qui doivent satisfaire des critères supplémentaires pour bénéficier de l’aide exceptionnelle. Ainsi, les entreprises légèrement au-dessus du seuil de 250 salariés ETP embauchent 18 % d’apprentis en moins par rapport aux entreprises légèrement en-dessous de ce seuil. Cette différence est principalement tirée par les structures pour lesquelles la cible d’embauches de contrats d’insertion professionnelle n’est pas encore atteinte : elles recourent moins souvent à l’aide exceptionnelle et embauchent ainsi un nombre plus...
limité d’apprentis que des structures comparables qui ne font pas face à ces contraintes. Les auteurs montrent par ailleurs que la hausse des embauches d’apprentis ne s’est pas faite au détriment de profils similaires sur le marché du travail : ils ne trouvent pas d’effet de substitution avec des personnes en contrat temporaire ou en stage. Au total, l’aide exceptionnelle a bien un impact global positif sur l’embauche d’apprentis. Les auteurs estiment que 80 500 embauches d’apprentis en 2020 peuvent être attribuées à la mise en place de l’aide exceptionnelle, ce qui représente 56% de la hausse des embauches observée entre 2019 et 2020. Cette estimation chiffrée doit cependant être utilisée avec prudence dans la mesure où elle repose sur l’hypothèse que l’échantillon utilisé pour l’estimation est représentatif de l’ensemble des entreprises bénéficiant de l’aide exceptionnelle. L’impact de l’apprentissage sur la probabilité d’interruption de la formation Sur la période considérée, la probabilité de préparer un BTS par la voie de l’apprentissage plutôt que par la voie scolaire augmente de façon significative : elle passe de 22% en 2017 à 39% en 2021. Nous montrons que cette évolution fait suite à la libéralisation du marché de l’apprentissage en 2018, qui a permis de diminuer la distance moyenne au CFA le plus proche pour les élèves. La stratégie empirique mise en œuvre montre ensuite que pour les étudiants en BTS, la formation en apprentissage plutôt que par la voie scolaire diminue la probabilité d’interrompre la formation à la fin de la première année de 19% l’année suivant la mise en place de la réforme. Les auteurs analysent également cet impact pour les étudiants en CAP, cependant les résultats sont difficilement interprétables dans la mesure où la diminution de la distance au CFA le plus proche est moins importante. Ils n’observent l’impact de la réforme qu’un an après sa mise en place : l’accès à des données plus récentes est susceptible de préciser ces premiers résultats.


The federal government and a number of nonprofit, non-governmental agencies have invested heavily in programs designed to provide research opportunities, financial support, and mentorship to undergraduates in science-related fields. These efforts are aimed at supporting students’ matriculation in science majors and into science-related careers. This study used a quasi-experimental design to examine whether college students who participate in a federally sponsored intervention program develop significantly stronger science identities in their first year of college compared to their peers who do not participate in the intervention. Results suggest intervention participants develop significantly stronger science identities compared to their counterparts in the control group, but these benefits are somewhat mitigated after controls for mentoring enter the model.


En croisant démarche ethnographique et développement d’un dispositif à l’échelle nationale, la recherche rend compte de l’expérimentation d’un dispositif de littératie familiale visant à engager l’ensemble des acteurs éducatifs du modèle Coup de Pouce et, en particulier, les parents. En considérant le partage et l’explicitation du rendement scolaire des pratiques de littératie familiale comme un levier d’engagement des adultes
au près des enfants bénéficiaires, la démarche vise leur reconnaissance, leur valorisation et leur appropriation par le plus grand nombre.


A growing number of states are placing restrictions on whether public universities can increase tuition, and this trend is likely to continue in the future. Yet no research has examined whether tuition caps or freezes have induced more students—particularly from historically underrepresented groups—to enroll in public higher education. In this paper, we constructed an institution-level dataset of tuition controls mandated by state legislatures or higher education agencies to answer these important questions. We found that tuition freezes were associated with increased enrollment of both in-state and out-of-state students, but primarily at less-selective universities that were willing to expand capacity. There is also some evidence that Hispanic enrollment may have increased following tuition freezes.


L’initiative gouvernementale « Deux heures hebdomadaires supplémentaires d’activité physique et sportive pour les collégiens » (2HSC) vise à encourager la pratique sportive chez les collégiens. Le ministère de l’éducation nationale, de la jeunesse, des sports et des jeux olympiques et paralympiques porte ce projet à travers la direction des sports (DS) et la direction générale de l’enseignement scolaire (DGESCO). Lancé à titre expérimental en novembre 2022 dans 167 collèges volontaires, le dispositif offre deux heures de sport supplémentaires par semaine à des collégiens également volontaires, en complément de l’éducation physique et sportive (EPS) et de l’association sportive du collège (AS). Sans les cibler exclusivement, cette initiative vise principalement à toucher les élèves qui sont habituellement moins enclins à la pratique sportive (filles, élèves en situation de handicap, nonadeptes d’une pratique sportive, etc.). Les établissements scolaires, particulièrement ceux appartenant au réseau de l’éducation prioritaire, ont saisi cette opportunité et ont bénéficié d’une large autonomie dans la définition du programme en fonction des opportunités et contraintes locales, couvrant le choix des disciplines sportives, des intervenants, des modalités de communication et de sélection des collégiens, et du créneau horaire. L’objectif principal est de lutter contre l’inactivité des jeunes, de prévenir le décrochage sportif et de promouvoir le bien-être physique. Cette expérimentation s’intègre dans une démarche nationale de promotion de la santé et du bien-être, en lien avec les Jeux olympiques et paralympiques de Paris 2024. Sa mise en place s’est heurtée à divers défis, notamment celui de l’identification des élèves éloignés de la pratique sportive, dans un contexte de première année de déploiement qui entraîne la capacité des établissements à proposer une offre optimale. De fait, la mise en place du dispositif a été graduelle au sein des établissements, 44 % des inscriptions ayant été enregistrées entre janvier et mars 2023 malgré un lancement survenu en novembre 2022. Une fois les difficultés initiales levées, la communauté éducative et les collégiens ont rapidement gagné en compréhension et montré plus
d’intérêt pour le dispositif. En conséquence, les conclusions de l’évaluation synthétisées ci-dessous, relatives à cette première année d’expérimentation, ne reflètent pas forcément ce qu’il adviendra à l’issue de la montée en charge, le dispositif ayant été étendu à plus de 700 collèges volontaires à la rentrée scolaire 2023-2024.


Background Despite evidence that synthetic phonics teaching has increased reading attainments, a sizable minority of children struggle to acquire phonics skills and teachers lack clear principles for deciding what types of additional support are most beneficial. Synthetic phonics teaches children to read using a decoding strategy to translate letters into sounds and blend them (e.g., c-a-t = “k - æ – t” = “cat”). To use a decoding strategy, children require letter-sound knowledge (LSK) and the ability to blend sound units (phonological awareness; PA). Training on PA has been shown to benefit struggling beginning readers. However, teachers in English primary schools do not routinely check PA. Instead, struggling beginner readers usually receive additional LSK support. Aims Until now, there has been no systematic comparison of the effectiveness of training on each component of the decoding process. Should additional support for struggling readers focus on improving PA, or on supplementary LSK and/or decoding instruction? We aim to increase understanding of the roles of LSK and PA in children’s acquisition of phonics skills and uncover which types of additional training are most likely to be effective for struggling beginner readers. Sample and Method We will compare training on each of these components, using a carefully controlled experimental design. We will identify reception-age children at risk of reading difficulties (target n = 225) and randomly allocate them to either PA, LSK or decoding (DEC) training. We will test whether training type influences post-test performance on word reading and whether any effects depend on participants’ pre-test PA and/or LSK. Results and Conclusions Two hundred and twenty-two participants completed the training. Planned analyses showed no effects of condition on word reading. However, exploratory analyses indicated that the advantage of trained over untrained words was significantly greater for the PA and DEC conditions. There was also a significantly greater improvement in PA for the DEC condition. Overall, our findings suggest a potential advantage of training that includes blending skills, particularly when decoding words that had been included in training. Future research is needed to develop a programme of training on blending skills combined with direct vocabulary instruction for struggling beginner readers.


La viticulture française fait face à de nombreuses mutations socio-environnementales. Les vignerons doivent s’adapter, voire repenser le fonctionnement des dispositifs traditionnels de production. Dès lors, ce sont les parcelles en marge des cadres dominants qui semblent offrir des solutions : pour expérimenter de nouvelles pratiques et porter un regard critique sur ces cadres mêmes. À partir d’une ethnographie auprès de
vignerons en Vallée du Rhône Nord, l’article propose d’analyser ces espaces comme des « hétérotopies » (Foucault, 2004).

Les espaces dédiés au travail constituent le poste de dépense le plus important après les salaires dans le tertiaire. Ces coûts sont aisé à calculer, contrairement à la valeur des espaces de travail comme « actants » de la performance des configurations productives tertiaires. En effet, les concepts et les outils de gestion disponibles ne permettent pas d’éclairer les conditions d’appropriation d’un enrichissement de leur contribution, en tenant compte des technologies, de l’extension du télétravail comme des attentes d’équilibre et d’autonomie des travailleurs. Les exigences de réduction des dépenses prennent le pas, conduisant à des offres qui se veulent optimisées, mais qui se révèlent peu habitables. Faire venir les salariés dans des espaces collectifs est une condition d’enrichissement des capacités productives par l’expérience de la coopération. Cela requiert des occupants une maîtrise d’usage des lieux de leur travail. S’ils permettent et facilitent l’appropriation, les agencements et les aménagements peuvent y contribuer. Invisibles et souvent mal valorisés comme des prestations techniques, ces services sont aujourd’hui le maillon faible de la contribution des espaces à la performance.

À partir de la pratique pédagogique d’un atelier d’apprentissage de la conception architecturale en première année des études d’architecture, l’article contribue à la réflexion collective sur les relations croisées entre les apprentissages et leurs lieux. Le détail d’un exercice d’autobiographie environnementale, de son cadre pédagogique, de son déroulement, de ses attendus, de ses arrière-plans théoriques, permet d’entrer dans le détail des critères d’appréciation et d’analyse des qualités, et significations, de nos liens aux lieux et milieux. Il s’agit pour les futurs architectes de se défier d’une approche trop ustensile, fonctionnaliste et positiviste, de leurs interventions, et aussi, d’une manière qui peut sembler paradoxale, de reconnaître les parts de modération, de ménagement, voire de non-intervention, qui peuvent aussi être mises en débat.

Quelle est la relation à l’espace dans les pratiques d’accompagnement ? N’y a-t-il pas une opportunité à explorer cette question compte tenu des processus de désaffiliation observés (publics dits invisibles). L’auteur définit ici l’espace comme la relation nouée avec ce qui nous entoure en montrant la dimension créative qu’il permet. À partir de l’analyse d’observations de terrain et le recueil de témoignages, il analyse les impacts du changement de lieu sur les personnes accompagnées. S’ouvre un autre espace d’inventivité permettant aux personnes, à certaines conditions, d’investir un lieu pour y mettre quelque chose d’elles, en s’ouvrant ainsi à des opportunités. L’article présente enfin un modèle fondé sur sept dimensions permettant d’expérimenter des formes d’accompagnement à faible structuration formelle et à forte inventivité circonstancielle,
afin de remettre du jeu et de l’interaction dans des processus menacés de standardisation.


Cet article présente un dispositif de formation des enseignants ancré sur un usage détourné du théâtre-forum, envisagé comme un artefact susceptible d’accompagner le développement professionnel. Le théâtre-forum permet de remettre en jeu(x) des situations vécues en classe. Il crée un espace dramaturgique au sein duquel les participants cherchent à résoudre des problèmes de métier en explorant des possibles d’action. Lieu d’une enquête collaborative, il constitue un espace potentiel d’apprentissage et de développement pour les enseignants.


La question du temps a fait l’objet d’importants développements en sciences de l’éducation. L’espace, à l’inverse, n’est jamais devenu l’objet intentionnel d’un savoir véritablement structure dans ces disciplines. Un certain nombre de travaux a pourtant concerné les « milieux associés » à la formation, et convoqué tout un ensemble de notions à priori solides de la notion d’espace. Il en est ainsi, par exemple, des notions de situation ou d’environnement qui composent le noyau dur de la didactique professionnelle, mais sans que leur composante spatiale ait toujours été clairement identifiée. L’article explore les relations qui s’établissent entre les usages de l’espace et sa constitution même, en tant qu’espace potentiel de développement. Il examine notamment la manière dont la spatialité peut être partitionnée – c’est-à-dire soumise à des processus orientés – dans l’intention d’occasionner des apprentissages et de construire l’expérience du sujet.


Cette étude explore comment la dynamique, interactionnelle éclaire la dynamique des espaces à l’œuvre dans la construction d’environnements individuels d’apprentissage des langues par des adultes engagés dans un dispositif hybride qui articule un environnement institutionnel d’apprentissage et le wild. Elle interroge ainsi la conception de formations dans l’apprentissage des langues tout au long et au large de la vie dans des espaces multiples et évolutifs.


politique d’animation territoriale qui trouve son point de départ dans une spatialité sanctuaire plus que dans une série d’activités à administrer auprès d’un secteur.


En formation professionnelle, la circulation entre différents espaces de formation est considérée comme favorisant les apprentissages, et les nombreux dispositifs en alternance l’organisent. L’auteure s’intéresse à un dispositif de formation s’effectuant en grande partie en situation de travail, et qui prescrit une circulation hebdomadaire entre plusieurs espaces de production-formation, comme condition de l’expérience de l’apprentissage du métier de maraîcher.


Cette recherche questionne l’efficacité d’une formation sur le lien entre espace, corps et interaction verbale chez des enseignantes novices en difficulté interactionnelle. Les auteures envisagent l’espace comme un espace dynamique et pluriel, à appréhender en termes de multimodalité de la communication interactionnelle : en quoi est-il un outil pour agir qui peut se révéler être outil de médiation tout autant qu’outil entravant la relation interactionnelle entre enseignant et élèves ?


Les restaurants d’application sont des espaces scolaires dédiés à la formation professionnelle. Bien qu’ils soient construits et équipés comme en entreprise, l’enjeu pour l’enseignant est de les aménager pour que les mises en situations professionnelles proposées soient des expériences effectivement apprenantes. Pour mieux comprendre le rôle joué par l’enseignant dans ces espaces, cet article s’intéresse aux gestes hybrides mobilisés entre monde scolaire et monde professionnel et aux différentes conceptions de l’espace qu’ils convoquent.

L'espace associatif des écoles de commerce est présenté comme lieu d'une formation, par la pratique, à la gestion. Cet article montre en quoi il est aussi celui d'une transformation silencieuse des individualités, à partir d'une réflexion sur la spatialité. Celleci permet de comprendre le processus de sélection et de socialisation à l'œuvre, son caractère pédagogique et ses effets sur les étudiants. Ce papier met en évidence le mécanisme d'une occultation sociale dans et par cet espace social, de représentation et de jeux, utile à ces futurs managers.


Cet article analyse l'usage et les fonctions de l'espace en formation. Après avoir précisé la notion d'espace dans son champ notionnel, l'auteure propose trois situations de formation et d'intervention lui permettant d'expliquer des conceptions pédagogiques qui, même si elles restent insues, n'en sont pas moins agissantes dans la manière de construire la relation aux apprenants. Elle aborde l'espace non pas comme une notion topographique mais comme une notion « investie », qui contribue au développement d'un travail vivant. Cette conception phénoménologique de l'espace la conduit à faire l'hypothèse de la nécessité d'une polyspatialité pour développer un travail de pensée en formation.


Pour mieux répondre aux besoins des élèves en situation de handicap, il importe de prendre en compte les recommandations de tous les professionnels qui l’accompagnent.


Offensive behaviour towards school employees is widespread and involves a number of potentially harmful acts. There is evidence that school employees' experiences of offensive behaviour are shaped by demographic, role and school-based factors that mediate the likelihood of victimisation. However, very few studies have investigated the prevalence and correlates of offensive behaviour against school leaders. This study analysed 13,028 survey responses from the Australia Principal Occupational Health, Safety and Wellbeing survey that were completed between the years 2011 and 2019. The analysis determined the prevalence of bullying, threats of violence and physical violence against government school leaders, the main perpetrators of these offenses and the moderating effects of key socio-demographic factors. Results from the study demonstrated that considerable proportions of Australian government school leaders were subjected to offensive behaviour with an average (pooled) prevalence of 36.2% for bullying, 48.6% for threats of violence and 38.7% for physical violence. School leaders
report that students and parents are responsible for most offensive behaviours, but that colleagues also contribute considerably to incidents of bullying. Our findings illustrate that offensive behaviours against Australian school leaders are very high and that particular groups of school leaders are at elevated risk of victimization, especially female school leaders and to a lesser extent assistant principals and those inner or outer regional areas.


The crisis of teacher shortages in Anglophone nation states can no longer be ignored as this long-term issue has been compounded by the pandemic. Growing evidence of the challenges of attracting and retaining a teaching workforce is now foregrounded in education policy internationally. This issue provides increased impetus for studying teacher motivations and principal dispositions particularly in relation to roles in hard-to-staff schools that tend to be in disadvantaged or rural communities in terms of how policies are received and enacted. This mixed methods study examined a teacher financial incentive (TFI) scheme aimed at facilitating the appointment of qualified teachers in hard-to-staff government schools in Victoria, Australia. Although evidence of TFI scheme’s effects and effectiveness as a policy solution to teacher shortages is limited, TFI schemes are widespread internationally. Our study shows that while the Victorian TFI scheme resulted in successful appointments for most participating schools, a financial incentive was only one among many other policy settings, personal and professional factors and other motivations informing teachers’ decisions to apply for a TFI position and the recruitment practices of principals.


Research demonstrates that attempts to improve the quality of education in higher education institutions (HEIs) through external quality assurance (EQA) systems have not always produced the expected results due to the complex nature of education and scepticism regarding the applicability of EQA systems to education. It frequently resulted in escalating tensions and distrust between academics and policymakers. The 2004 implementation of accreditation by the National Commission for Accreditation and Assessment (NCAAA) in the Kingdom of Saudi Arabia (KSA) intended to improve the education of HEIs and ensure the application of high standards. This mixed-methods research study aims to evaluate the impact of academic accreditation in KSA after nearly two decades of implementation. We collected quantitative data from participants at ten accredited universities using two self-designed Likert-scale surveys based on the NCAAA accreditation standards and ten semi-structured interviews for the qualitative data. The results indicate significant improvements but highlight some imperfections and contradictions that make it essential to ascertain our findings cautiously. This study demonstrates the value of qualitative data to better evaluate the effectiveness of EQA instead of a single quantitative approach.

Middle leaders in schools are increasingly recognised as playing pivotal roles in school improvement. Although some school systems provide formal professional development for middle leaders, many middle leaders express a preference for job-embedded learning. Yet, international research has documented difficulties in providing intensive support from principals which instead is often ad hoc. This study examines how middle leaders' professional learning can be supported through the development of appropriate organisational structures. It presents three principal-designed models distilled from qualitative data collected in 12 case study schools, inclusive of public, semi-private, and international schools in four East Asian societies. Each model contributed to the development of middle leadership capacity in areas relevant to the schools' improvement agendas. The models vary in degrees of formality, resource intensiveness, and processes for engaging and developing leadership. The findings contribute to the growing literature on middle leader development, and the role of school infrastructure in professional learning by suggesting how school-based leader development strategies can be framed in coherent and intentional models that take into account of the available infrastructure and potential professional interactions to provide systematic in situ support for middle leaders.


This study illuminates the motivation and learning experience of Chinese and European academic members who attended an educational leadership training programme. Data were collected through participants’ registration forms and learning reflection reports. A qualitative content analysis research method by MAXQDA2022 is adopted in this research. The findings revealed European and Chinese participants' motivation for joining the leadership training programme and their perceived effectiveness of the training programme. Drawing from the study’s findings, this research examines the components of a culturally appropriate methodology for a cross-cultural professional leadership training programme and provides insights into the interplay of factors that impact the perceived effectiveness of such a leadership training programme. Additionally, recommendations for future program design are offered.


Si les termes « inclusion scolaire » ou « élèves à besoins éducatifs particuliers » sont de plus en plus présents dans les médias, force est de constater que les accompagnantes des élèves en situation de handicap (aesh) sont quant à elles très rarement dans la lumière. Issu d’un travail de recherche en cours, cet article se propose de dresser les premiers contours morphologiques de ce groupe professionnel.


Many novice teachers learn to teach “on the job,” leading to burnout and attrition among teachers and negative outcomes for students in the long term. Preservice teacher education is tasked with optimizing teacher readiness, but there is a lack of
causal evidence regarding effective ways to prepare new teachers. In this paper, we use a mixed-reality simulation platform to evaluate the causal effects and robustness of an individualized, brief, and highly directive coaching model for candidates enrolled in a university-based teacher education program as well as for undergraduates considering teaching as a profession. Across five conceptual replication studies, we find that short, targeted, and directive coaching significantly improves candidates' instructional performance during simulated classroom sessions and that coaching effects are robust across different teaching tasks, study timing, and modes of delivery. However, coaching effects are smaller for a subpopulation of participants not formally enrolled in a teacher preparation program. These participants differed in terms of prior experiences learning about instructional methods, suggesting that coaching in isolation is not as effective without corresponding coursework on targeted practices. Taken together, our five studies provide encouraging evidence that teacher preparation can be an important time for rapid skill development when candidates are given targeted practice opportunities and corresponding support. Although we often think that practice has to happen in real classrooms with real students, we provide robust evidence that “the work of teaching” can be incorporated into teacher education coursework. We highlight implications for research and practice.


Dans son référé du 19 septembre 2019, la Cour rappelait au ministère de l’Enseignement supérieur et de la Recherche la nécessité d’abroger la circulaire n° 2002-007 du 21 janvier 2002 comme non conforme à la durée annuelle légale du temps de travail et recommandait de faire du respect de cette durée l’un des éléments du dialogue de gestion avec les établissements d’enseignement supérieur ainsi que l’un des objectifs des contrats de sites correspondants. Les deux recommandations n’ont pas été suivies d’effet, alors même que la loi de transformation de la fonction publique de 2019 réaffirme le principe d’une durée légale de 1 607 heures pour l’ensemble des agents publics. La Cour a, dès lors, procédé au suivi des suites de ce référé afin d’analyser les facteurs de blocage qui expliquent les difficultés, tant du ministère que des universités, pour opérer un retour à la norme et d’être ainsi en mesure de proposer des pistes d’évolution adaptées. La non-application de la durée annuelle légale du temps de travail pour les personnels de bibliothèques, ingénieurs, administratifs, techniques, sociaux et de santé (BIATSS) des universités constitue en effet une source d’inégalités entre personnels et entre universités, susceptible d’entraver le bon fonctionnement des services des établissements d’enseignement supérieur. Avec une durée annuelle du temps de travail des personnels non-enseignants des universités établie à 1 467 heures en moyenne par an et par agent, le déficit annuel est de 140 heures par rapport à la durée légale. Ce non-respect résulte des modalités spécifiques de mise en œuvre des 35 heures au sein de l’éducation nationale, négociées avec les organisations syndicales en 2001 et demeurées en vigueur, sans changement, jusqu’à aujourd’hui. Ce préjudice financier a privé les universités publiques de 9,7 millions d’heures travaillées en 2022, soit près de 6 000 équivalents temps plein annuel travaillé (ETPT). Le ministère doit produire un nouvel arrêté et une nouvelle circulaire sur le temps de travail. Le retour aux 1 607 heures devrait donc s’accompagner de mesures de compensation indemnitaire, qui...
pourraient être examinées notamment dans le cadre de la clause de revoyure prévue en 2023 par la loi de programmation de la recherche. Sur ce sujet, la Cour formule trois recommandations.


Alors que plusieurs rapports font état d’une « crise » des métiers de l’enseignement ces dernières années (C. comptes, 2013 ; Brisson & Laborde, 2018 ; Husson, 2021) caractérisée d’abord par une faible attractivité des concours du professorat (CNESCO, 2016), ensuite par une hausse des démissions en cours de carrière (Carle et Férat, 2017, 37), les métiers du professorat s’imposent paradoxalement comme l’une des voies de reconversion aujourd’hui fortement plébiscitée. À partir de ce constat, la thèse propose d’interroger la notion de « crise » de l’attractivité des métiers de l’enseignement. Pour ce faire, elle étudie la concomitance du phénomène de la hausse des démissions et des reconversions vers l’enseignement dans le cadre (et en perspective avec) des décisions politiques, mais aussi dans une perspective relationnelle et dynamique, en partant de l’idée que ces processus, en étant à la fois individuels, sont également co-construits par un ensemble d’agents. Les résultats s’attacheront à révéler les rôles de ces agents, ainsi que les conséquences des politiques en matière d’éducation mises en place ces dernières années sur l’attractivité des métiers de l’enseignement et sur les professionnalités enseignantes.


As anti-oppressive pedagogies gain increasing prominence in teacher education, there is a need to examine how preservice teachers understand and implement anti-oppressive frameworks. The role of the university supervisor is uniquely well-positioned to allow for insight into preservice teacher pedagogical practices; however, this role is grossly understudied. This study explores how the university supervisor fosters White preservice teachers’ theoretical and historical understandings of oppression, as well as the supervisor’s role in the negotiation between preservice teacher identity and implementations of anti-oppressive pedagogies. This study utilizes data from preservice teachers’ observations and reflections, and positions the university supervisor as an autoethnographic educator-researcher in order to understand the White supervisor’s own anti-oppressive practices. Drawing on Critical Whiteness Studies informed by intersectionality, we present two vignettes that illuminate the interplay between identity, anti-oppressive teaching, and the university supervisor. This research brings a new and pertinent lens to the field of education.


Les élèves québécois sont de retour en classe après cinq semaines d’une grève des enseignants inédite par son ampleur, et qui a permis quelques avancées.


Student performance data is increasingly used to monitor and evaluate teachers. This study examines whether the turnover intentions – if teachers would change schools given the chance – of teachers in socioeconomically disadvantaged classrooms are moderated by teacher appraisal practices based on student academic performance data at the school system-level. Three-level hierarchical modelling in 46 education systems is conducted based on the Teaching and Learning International Survey (TALIS) from 2018. Results show that the effect of classroom socioeconomic composition on teacher turnover intentions increases as a function of performance-based teacher appraisal. However, this is only true when the appraisal is conducted by external authorities, and not so when conducted by the school management team. The models are then re-run by school consequences of appraisal such as dismissal, financial bonuses, or sanctions, and then by teacher characteristics, including gender, experience, and teaching subject. Experienced teachers in socioeconomically disadvantaged classrooms are more likely to change schools in school systems with more performance data-based teacher appraisal. These results underscore the potential pitfalls of performance data-based accountability systems for students in socioeconomically disadvantaged educational settings.


Background Despite the growing emphasis on research-based teacher education and calls for evidence-informed practice, teachers tend to prefer experiential over scientific knowledge sources to inform their actions, justify decisions and analyse educational problems. This tendency already occurs as early as during initial teacher education, and it is possibly bolstered by school internships where mentors emphasise the value of practical over scientific knowledge. Aims The present study applied the theory of planned behaviour (TPB) to investigate under what conditions pre-service teachers intend to use and prefer scientific sources from educational research. Methods The study’s participants were 343 pre-service teachers in a half-year school internship who indicated their attitudes towards educational research, behavioural control (i.e. self-efficacy), perceived subjective norm, intentions of using research and preference for scientific sources in a survey. Perceived subjective norm was established by measuring whether pre-service teachers believed their mentors considered research-based knowledge. Results In line with the predictions of the standard TPB model, structural equation modelling confirmed the effects of positive attitudes, self-efficacy and perceived subjective norm on pre-service teachers’ intentions of using research. In turn, intentions and self-efficacy predicted preferences for scientific sources but not the use of scientific sources when planning a lesson in the internship. Conclusions Pre-service
teachers’ scientific source preferences are shaped not only by personal dispositions but also by the social context of school.


Lagging student performance in the Sultanate of Oman has, in recent years, led the Ministry of Education to target teachers’ professional learning as a key strategic pillar in its efforts to reform the education system. While international evidence finds principal leadership can make a meaningful difference in teacher engagement in professional learning, this has yet to be studied in Arab societies. The current study collected data from 887 teachers in 78 Omani middle schools with the aim of understanding if and how their principals’ learning-centered leadership influences teacher agency, teacher trust and teacher professional learning. Factor analysis, structural equation modelling, and bootstrapping were used to explore both partial and full mediation models of these relationships. Results validated a partial mediation model in which learning-centered leadership had moderate direct and indirect effects on teacher professional learning. The validated model also highlights the important role that principals can play in creating a climate of trust where teachers believe that investing their time and effort in professional learning will be beneficial for themselves and their schools. The results from Oman are compared with findings from other Asian societies and implications discussed.


clés dans l’analyse effectuée. Celle-ci est documentée à partir d’archives institutionnelles et privées.


In this essay, we explore the tension between research using continuous improvement (CI) paradigms, such as improvement science, and conventional research, and the role and regulation of Institutional Review Board (IRB) oversight. We argue that the current regulatory structure privileges traditional research and hinders collaborative inquiry that centers the voice and agency of those traditionally marginalized. We also question whether IRBs should limit CI efforts required of educational leaders as part of their jobs. We offer recommendations for how IRBs and scholar-practitioners can together support CI efforts.


This research uses poetry as a form of data to explore a sense of ‘belonging’ for staff working in higher education. Poetic content analysis was explored as a research method and using poetry in this way has allowed for a nuanced exploration of questions of belonging in the context of individual intersectional identities. Following an analysis of eighteen poems submitted by staff working in higher education four major categories emerged: ‘Community’, ‘Exclusion’, ‘Transformation’, and ‘Self’. These emergent narratives led to several recommendations that institutions and individuals might consider implementing to create a more positive sense of belonging for all staff working in higher education. These recommendations and emergent narratives are centred around a willingness for higher education as a sector to better recognise and nurture the deep-rooted commitment that is shared by many staff to the potential of higher education both now and in the future.


Reflexive commitments tend to be lacking, particularly from the perspective of early career scholars. This is particularly true in relation to published research, but evident in doctoral studies exploring teachers work. Using principles of phenomenological reflexivity, this methodological paper explores the critical incidents that have come to shape a qualitative, ethnographical case study before entering the field. Key findings highlight four implications for novice researchers: an engagement with critical independent reflection, critical friendship, skills development through academic modules and reflexive reading, and communities of practice. The paper calls for continued attention to the methodological framing of research, particularly during and after entering the field.

In the context of developed countries, a lot of research has been done to uncover and identify the problems school leaders face in their work but little is known about the school leadership of underdeveloped countries. In a quest to discover contextual problems in terms of role conflict and role ambiguity of school leaders, this qualitative study tries to capture the experiences of principals in Nepal through in-depth interviews of six community school principals. The findings reveal that the major sources of role conflict and ambiguity for principals from Nepal are problematic power-sharing, low job autonomy, dual role conflict, limited professional development training, and lack of leadership knowledge. The study has several policy-level implications such as importance of hiring principals with proven leadership skills and increasing the leadership skills of current principals to ensure that they can tackle these challenges.


Given the disruptions the COVID-19 pandemic has engendered in people’s professional lives, the importance and contribution of certain workforces has been under particular scrutiny. In England, the teaching profession has been under particularly close public scrutiny, with concerns that teachers’ perceived social appreciation may have decreased throughout the pandemic. Thus, the current study examined the trajectory of teachers’ perceptions of how much society, policymakers and the media had valued the teaching profession throughout this time. With an initial sample of 24 primary and secondary teachers in mainstream state schools in England, 54 online interviews took place at three time points: when school buildings were partially reopened for the first time (June 2020), when they were partially closed for the second time (February 2021) and when they were fully reopened for 16 months (July 2022). Three themes were identified in the data using a longitudinal trajectory analysis based on reflexive thematic analysis: ‘initial admiration from local communities progressively waned’, ‘continuous government disrespect towards teachers’ and ‘initial media vitriol towards teachers was sustained’. Implications for how teachers and other stakeholders in education can most effectively work together for the benefit of the health and effectiveness of the teaching profession and the educational system are considered in the context of the associated risks when teachers have low levels of perceived social appreciation.


Depaepe, De Corte, and Verschaffel (2010) argue that teachers rarely, if ever, pay attention to the “how” and “why” of using a metacognitive skill. Dignath and Büttner (2018) confirmed that they mainly teach cognitive and only a few metacognitive strategies. The classroom learning process can be successful only when relevant metacognitive activities (planning, monitoring, and reflection) are made, students’ mindsets are considered, and coherent discourse is built (Cohors-Fresenborg, 2019). Planning entails identifying cognitive challenges and structuring cognitive efforts to accomplish particular goals. Monitoring is the control of cognitive processes and their outcomes. Reflection refers to thinking about cognitive activities involved in learning and understanding mathematics (Nowińska, 2019). The question arises as to whether these activities need to be developed in a targeted way in teacher training or whether they
can be spontaneously integrated into practice by the end of the training. Our current research investigates metacognitive activities in classroom discourses implemented by pre-service teachers. The answer to the following research question was sought: What characterizes the metacognitive activities that occur in the classroom discourse?


This study tested a moderated mediation model of transformational leadership’s effects on teacher innovative practices, with teacher commitment as mediator and trust in principal as moderator. Implementing a cross-sectional survey design and using data from 611 teachers working in 56 schools in Turkey, we employed multilevel structural equation modelling with Bayesian estimation to estimate the structural links between our variables. The results provided evidence of the indirect effects of transformational leadership on teacher innovative practices through the significant mediator role of teacher commitment. We also found evidence that trust in principal acted as a significant moderator of the indirect effect of transformational leadership on teacher innovative practice through teacher commitment. This study adds nuanced evidence to the global literature by concluding that the effect of transformational leadership on teacher commitment and innovative practice is contingent upon the extent to which teachers trust their principals. We conclude with key implications for policy and practice.


This study responds to a recent call on coaches’ professional identity work through a socially contextualised lens. Coaches, as the freelancer, encounter complex working relationships with clients due to multiple contracting entities; yet coaches’ identity work has been neglected in the extant training and development courses. A total of 36 semi-structured interviews with coaches and relational others (e.g., coachees and organisational stakeholders) were conducted to understand how coaches develop professional identity as part of their career development in responding to interactions with relational others. The research findings identify that learning facilitator is the core identity of coaches regardless of varied stages of the coaching process. Three layers of sub-identity are distinguished for them to handle a multi-level working relationship with clients. Coaches often ‘travel’ in-and-out between layers of these sub-identities to incorporate micro-personal career interests, meso coaching dyadic working relationships and the macro-level organisational scope into their identity development and negotiation. Accordingly, coaches’ learning agility is required to remain identity flexibility for coping with varied coaching scenarios. This study outlines a conceptual framework which illustrates coaches’ identity work as a conscious cognitive learning process embedded social and psychological exchanges. This framework offers coaching professional development courses a groundwork to facilitate coaches’ identity development.

à l’adresse W.E. Upjohn Institute for Employment Research website: 

Although the literature on assignment mechanisms emphasizes the importance of efficiency based on agents’ preferences, policymakers may want to achieve different goals. For instance, school districts may want to affect student learning outcomes but must take teacher welfare into account when assigning teachers to students in classrooms and schools. This paper studies both the potential efficiency and equity test-score gains from within-district reassignment of teachers to classrooms using novel data that allows us to observe decisions of both teachers and principals in the teacher internal transfer process, and test-scores of students from the observed assignments. We jointly model student achievement and teacher and school principal decisions to account for potential selection on test score gains and to predict teacher effectiveness in unobserved matches. Teachers, but not principals, are averse to assignment based on the teachers’ comparative advantage. Estimates from counterfactual assignments of teachers to classrooms imply that, under a constraint not to reduce any retained teacher’s welfare, average student test scores could rise by 7% of a standard deviation. Although both high and low achievers would experience average gains under this counterfactual, gains would be larger for high-achieving students.

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Holocaust education, which refers to the teaching and learning of the Holocaust—the systematic genocide of six million Jews by Nazi Germany and its collaborators during World War II—is an essential component of history and social studies education in many countries. Its primary aim is to raise awareness of the Holocaust, promote understanding of its historical significance and develop critical thinking and empathy in students. However, despite the increasing specialisation and institutionalisation of Holocaust education, there is still a lack of understanding of how Holocaust educators acquire the knowledge and skills necessary to teach the subject effectively. This study aims to explore the learning ecologies of a group of Italian Holocaust educators, focusing on their motivations for initial and lifelong learning and their learning practices. Ten in-depth interviews were conducted with teachers from different subject areas. The results showed that participants were driven by either personal or curricular motivations and interests and used a range of learning approaches for both initial and lifelong learning. Although few participants considered digital technologies and social media as a learning environment, they were found to be useful resources. The study concludes with practical implications for further research.


En tenant compte de la récente réforme des retraites et dans un scénario haut, les départs en retraite de l’ensemble des enseignants titulaires augmenteraient de 42 % entre 2022 et 2030, principalement en raison d’effets démographiques (+ 40 % dans un scénario bas). La hausse atteindrait 50 % pour les EC et 17 % pour les ESAS.
À l’heure où nombre de pays s’efforcent de renforcer l’attrait de la profession enseignante, il apparaît donc essentiel de mieux comprendre les sources de stress dans ce métier. C’est dans cette optique que ce numéro se propose d’étudier les données de l’édition 2018 de l’enquête TALIS sur les enseignants du premier cycle du secondaire afin de déterminer si les sources de stress des enseignants varient en fonction du milieu socio-économique de leurs élèves. Il examine en outre les facteurs de stress les plus susceptibles d’être associés au niveau de satisfaction professionnelle des enseignants et à leur intention de rester dans la profession.

Given the recruitment and retention crisis within the teaching profession, it is essential that the factors contributing to this are examined. Studies suggest that there has been a general decline in teacher wellbeing since the onset of the Covid-19 pandemic, and student conduct problems are known to be a key negative contributor to poor teacher wellbeing. This study examines how student conduct problems influenced teachers’ wellbeing following the onset of the Covid-19 pandemic. Specifically, it explores the extent to which student behaviour was seen as changing during the pandemic, and how this may have had an impact on teachers’ wellbeing. Nine participants took part in this study. All the participants were teachers in schools in England (four primary and five secondary; nine female). The data were collected via semi-structured virtual interviews. Using a qualitative approach, the study undertook an in-depth analysis of the interview data using Interpretative Phenomenological Analysis. The findings suggest that the teachers experienced an increase in student conduct problems following the onset of the pandemic and that this negatively affected wellbeing for some. The teachers also reported an increased need for student support and differential needs for different groups of students. It is important that consideration is given as to how teachers can be effectively supported to manage student conduct problems and the potential impact of these on their wellbeing, particularly since the onset of the pandemic.

The purpose of this study is to investigate whether the principle of fairness as equity, defined by Adams, is applied during the selection of school principals. Our focus was on a secondary education directorate drawing data in two ways. Firstly, a questionnaire was given to candidates who participated in the selection process, in order to investigate to which extent fairness as equity is included both in the process and the selection criteria. Secondly, we examined whether the selection board through the oral interview moved with the respective conditions of fairness as equity through the candidates’ scoring. It seemed that the majority of participants have formed their opinion on fairness as equity based on their ‘incoming capital’ depending on their score, while they consider that the selection board was rather biased in rating their fellow candidates. This is due to previous
official or personal relationships with the members of the selection board and party involvement. For the Greek context, the selection of school principals can be characterised as a process that allows the influence of factors clearly non-relating to the principle of fairness as equity. Propositions at the level of educational policy are proposed.


The experiences of lesbian, gay, bisexual, and transgender (LGBT+) individuals in Science, Technology, Engineering, and Mathematics (STEM) are still understudied and, despite some improvements, are still characterised by patterns of exclusion, disadvantage, and discrimination. In this article, we explore how visibility is perceived and navigated by LGBT+ academics and PhD students in STEM, with a focus on the ways that interlocking systems of oppression impact people and groups who are marginalised and historically excluded. This article draws on a broader research project about the experiences of women and LGBT+ people in STEM that was conducted between 2019 and 2020 at a UK university and is framed by intersectionality theory. Based on the thematic analysis of interviews and focus groups with 24 LGBT+ participants, findings suggest that visibility is still a risk for LGBT+ academics and PhD students in STEM. We found that the labour of navigating visibility was perceived as an unfair disadvantage and that the focus on individuals’ visibility in the absence of meaningful and transformative inclusion initiatives by higher education institutions was regarded as tokenistic. The article argues that addressing LGBT+ visibility should firstly be an institutional responsibility and not an individual burden and that this work is essential to set the conditions for personal visibility to happen by choice, safely and without retribution.


Since the latter half of the 20th century many political efforts and initiatives have been launched to ensure that teacher education provides teachers with a positive (orderly) knowledge base. This includes things like professional teacher standards and notions like ‘best practices’ and ‘evidence-based practice’. Building on the work of Esposito and with inspiration from psychoanalytic theory, we argue that today’s educational policy can be seen as an attempt to immunise (teacher) education from risks associated with negativity - disorderly, disruptive and ‘destructive’ matters that can problematise and question the normal order of things within political debates and policy-based reforms. Drawing on examples from England and Denmark – contexts in which the authors work – we demonstrate how a dichotomy between desirable sound/healthy knowledge and undesirable unsound/unhealthy knowledge exist within teacher education. We examine how this produces epistemic injustice in that negative modes of thought and practice are rendered invisible, unthinkable and illegitimate. Being able to traverse such injustice, teachers must be encouraged to approach any and all sources of influence on their professional knowledge base with a sort of agonistic pragmatism, which may allow them to be faithful to the ethico-political situation they are engaged in. What we suggest in this regard is that teacher education must provide time and space for (student) teachers to engage with plurality, contingency and absence because such negative ‘stumbling blocks’ (always) play a vital part in education, preventing control, stability and harmony.


The purpose of the study is to explore various facets of engagement in courses with Learning Assistant (LA) support. LA programmes frequently demonstrate positive effects on student learning and persistence, yet less is known about the nuances of the impact on student engagement. Data collected from students and LAs via online questionnaires are analysed to assess and compare the extent to which students and LAs perceive the presence of LAs contributes to increased student engagement. Results show both groups attribute students’ increased levels of social, cognitive, and affective engagement to the presence of the LAs more strongly than they do increased academic engagement. However, compared to students, LAs view their presence as more impactful across nearly all engagement facets. Training of LAs should therefore encourage LAs to target specific types of engagement they intend to impact, particularly cognitive engagement and social engagement with professors, while clarifying these aims with students.


International teaching assistants (ITAs) often encounter challenges, and with the popularization of English medium instruction (EMI) in international higher education contexts, these problems are no longer restricted to English-speaking countries. Against this backdrop and drawing on the concept of identity paradox, the author presents an autoethnography of the identity construction of an ITA in Macau. Influenced by factors at four levels (individual, interpersonal, organizational, and societal), this
autoethnographic narrative suggests that ITA identity construction can be a journey of continual reconciliation of various paradoxical identity categories as captured by three pairs of identity paradoxes: “mute English user” vs. “advanced English learner,” “mechanical teacher” vs. “divergent thinker,” and “struggling fighter” vs. “ambitious planner.” Based on the findings, a theory-informed discussion and implications for ITA training are included.


Dans cet acte de colloque, nous interrogeons les transformations d’un module de formation (intitulé « relations humaines ») et sa réingénierie durant la pandémie à travers trois périodes distinctes correspondant aux trois dernières années scolaires (2019-2020, 2020-2021 et 2021- 2022). Ce module de formation est élaboré dans le cadre de la préparation au diplôme à partir de la pédagogie expérientielle et du socioconstructivisme, et met donc les interactions sociales au cœur des apprentissages. La réingénierie de ce module de formation porte donc une attention particulière à la préservation de ces méthodes durant la transposition du présentiel au format distanciel, hybride ou comodal.


The assessment process of readiness for adoption an educational system considers the lifeblood of the e-learning system in a particular educational organization and the ability to assess the organization’s readiness among the main factors which contributes to the success and progress. The readiness models are instruments that assist educational organizations in measuring their capability level and identifying the gaps to develop a strategy for implementing and adopting e-learning system. Due to the sudden chaos that Iraqi educational institutions have been exposed to the Covid-19 epidemic since the beginning of 2020, the e-learning system has been adopted as a quick alternative educational system for the continuation of the educational process without taking into consideration the readiness of the basic components of the educational process, which comprises the readiness of the infrastructure, human and educational organization to adopt such systems. Despite increased attention by stakeholders and the government with the readiness assessment process recently, there is no comprehensive model for assessing e-learning readiness in Iraqi higher education institutions, the purpose of this study is to design a model of an e-learning readiness assessment for Iraqi universities based on the comparative studies and the experts’ views. It is worth to mention that the proposed model has objectively designed according to particular features and local characteristics country. The fuzzy delphi method was utilized for the validation process of the proposed model. The main dimensions and all factors of the proposed model
reached the experts' agreement except a number of measures that did not achieve the assessment requirements. The final analysis result indicates that the e-learning readiness assessment model includes 3 main dimensions and 13 factors with 86 measures. Iraqi higher educational institutions can employ the designed model to assess their readiness and identify the areas that need improvement and reduce the gaps failures in e-learning adoption.


Digital games are widely used in education to motivate students for science. Additionally, augmented reality (AR) is increasingly used in education. However, recent research indicates that these technologies might not be equally beneficial for students with different background characteristics. Moreover, students with different backgrounds may differ in their self-efficacy and interest when playing games and this could lead to differences in performance. Given the increased use of games and immersive technologies in education, it is important to gain a better understanding of the effectiveness of games for different student groups. This study focused on the role of students’ socio-economic status (SES) and examined whether SES was associated with in-game performance and whether interest and self-efficacy mediated potential associations between SES and in-game performance. Since log data are increasingly used to predict learning outcomes and can provide valuable insights into individual behaviour, in-game performance was assessed with the use of log data. In total, 276 early secondary school students participated in this study. The results indicate that SES has no direct or indirect effect through self-efficacy and interest on in-game performance. However, a lower self-efficacy increased the likelihood to drop out of the game. These findings suggest that students from different socio-economic backgrounds are equally interested and self-efficacious while playing the game and that their performance is not affected by their background. The affordances of AR as an immersive learning environment might be motivating enough to help mitigate possible SES differences in students. Practitioner notes What is already known about this topic Digital games are an effective tool to increase motivation and learning outcomes of students. Students’ self-efficacy and situational interest influence learning outcomes and in-game performance. It is unclear whether digital games are equally effective for students with different socio-economic status. What this paper adds Socio-economic status (SES) of students does not affect in-game performance. Students with different SES are equally interested and self-efficacious. Lower self-efficacy and lower school track influence the likelihood of dropout. Implications for practice and/or policy Socio-economic status does not fortify the possible performance differences between students and games can be utilized as a learning tool that motivates all students equally. There are students who do not optimally benefit when games are implemented in education and who may need additional support.

Virtual Reality (VR) involves the coupling of visual communication hardware and software. The technology is capable of offering transformative educational practice and is increasingly being adopted within the biochemistry domain to better understand complex biochemical processes. This article documents a pilot study for the efficacy of VR in biochemistry education at undergraduate university level, focusing on the citric acid cycle: a central process for extracting energy in most cellular life forms. 10 participants were equipped with a VR headset and electrodermal activity (EDA) sensors, then immersed within a digital environment where they were able to learn the 8 main steps of the citric acid cycle within a virtual lab by completing 8 levels of activity. Post and pre surveys were taken, along with EDA readings throughout the students' interaction with VR. Research findings support the hypothesis that VR increase students' understanding, particularly if students feel engaged, stimulated and intend to use the technology. Moreover, EDA analysis indicated that the majority of participants demonstrate enhanced engagement in the education-based VR-experience as measured by elevated levels of skin conductance, a marker for autonomic arousal and a measure of engagement in an activity.


Our article unpacks the emergent and dynamic relationship between learning needs and approaches and the evolving landscape of the gig economy in the country. This research seeks to comprehend the contextual collapse of generic, utility-driven, and structured educational models to create space for a personalized and Do-It-Yourself (DIY) approach to acquiring skills and competencies. We argue that the platformization of learning, user-generated learning resources, and peer networks of communication and collaboration enable this DIY model of learning. We interviewed 16 young digital designers (graphic designers and user experience (UX) designers) from three cities in India–Delhi, Mumbai, and Bangalore. We complemented our interview data with social media ethnography to understand how young urban learners who work or aspire to join the gig economy design their learning experiences. Our goal was to understand how young artists who worked as gig workers or wanted to enter the gig economy defined education and learning in the context of the changing forms of employment and professional aspirations in the global South’s digitally connected and emerging market. Our analysis reveals the chasm between the rigidity of formal education and the future of work in India, including the evolving learning needs of young workers in a rising platform economy.


Employability skills are a significant concern for both graduates and practitioners. However, there is limited research on identifying and prioritizing factors affecting employability from experts’ perspectives, particularly in emerging economies. To prioritize the perceived employability skills of stakeholders’, a hybrid fuzzy AHP-TOPSIS approach
was used from the perspective of subject experts rather than just relying on the student’s perspective. Criteria and sub-criteria are identified and finalized with the help of the literature and the expert’s opinions. 45 experts’ (industry, academician, and students) opinions are taken into consideration. Secondly, fuzzy AHP is implemented to get the weights of identified criteria and sub-criteria to rank them. Thirdly, these weights are used in the fuzzy TOPSIS approach to rank the five alternatives. ‘Soft Skills’ is the most important criteria and ‘Personal Qualities’ is the least important criteria having the normalized weight of 0.355 and 0.043 respectively. The most important sub-criteria among all sub-criteria are ‘Innovation Skills’ followed by ‘Methodological Skills’. The least important sub-criteria is ‘Self-Esteem’. This unique empirical study identifies factors impacting graduate employability, prioritizes criteria and sub-criteria, and recommends the optimal candidate using an integrated fuzzy AHP-TOPSIS approach.


The paper introduces the student-coined term digital instinct which describes students' disposition to resorting to digital technology for solving problems and doing school assignments. Taking cues from the term digital instinct, the paper describes a student perspective on digital literacy emerging from 100 lived experience descriptions and interviews with 37 Danish upper secondary students. The findings show that students' digital practice is characterised by experience-based, intuitive and familiar use of technologies. Most notably, students employ digital technologies as cognitive partners that help them carry on with assignments that they initially did not understand, but that they were able to complete with the help of the computer. The study examines the nature of this partnership through the words of the students and identifies how technologies expand student agency but fall short of a reflective use of digital technologies. Recognising the strengths and weaknesses of students’ digital practices may inform the concept of digital literacy and encourage teachers to acknowledge the digital instinct as a steppingstone to foster students’ reflective use of digital technologies. Practitioner notes What is already known about this topic Students have inadequate command of digital literacies as described in curricular terminology. Students have positive as well as negative perceptions of the value and usefulness of digital technologies in school. Students both over- and underestimate their own digital literacies. What this paper adds Students have a fundamental utilitarian conception of digital technologies that either make schoolwork easier or more difficult, and they do not articulate that their use of digital technologies provides them with digital literacies. Students’ conception of a digital instinct describes an intuitive and familiar, albeit unreflected, use of technologies where students employ experience-based and self-taught methods for using digital technologies. The digital instinct accounts for a feeling of agency among students, manifested in a widespread confidence that they can do assignments and solve problems when they make use of their computer. Implications for practice and/or policy Curricular terminologies struggle to capture what students can and cannot do with technology, and how much they understand the underlying technology. Teachers can involve and build on students’ experience-based digital practices as a starting point for developing digital literacy among students?also as an entry to a curricular perspective. Teachers should acknowledge students’ conception of a “digital instinct” as an important disposition in its own right.

COVID-19 drastically disrupted teaching and learning worldwide and across all educational levels. Technology took on a central role in redefining education under these exceptional circumstances and frequently revealed challenges related to both infrastructure and to teachers’ and learners’ technological skills and readiness. This study aimed to investigate whether the experience of emergency remote education significantly impacted preservice teachers' knowledge and beliefs for their future teaching with technology. We investigated three cohorts of preservice teachers (pre-lockdown, n = 179; during lockdown, n = 48; post-lockdown, n = 228) and explored differences in their self-reported technological pedagogical content knowledge (TPACK) and their technological beliefs. Findings showed positive effects in the post-lockdown cohort, reflected in higher levels of technological knowledge (TK) and technological pedagogical content knowledge (TPCK) compared to the pre-lockdown cohort. In addition, unique positive effects on content knowledge (CK) and pedagogical content knowledge (PCK) were found in the post-lockdown cohort among preservice teachers with prior teaching experiences. No effects of either cohort or experience emerged for preservice teachers' technological beliefs. These findings indicate that, despite the challenges related to COVID-19 lockdowns, preservice teachers not only appear to have maintained positive beliefs towards technology but may have even been able to draw benefits from the experience of lockdown. These findings and the positive effects associated with teaching experience are discussed with regard to their implication for teacher education.


MOOC learners come from different backgrounds, and they have various motivations and intentions for taking online courses. This study examines learner intentions with subsequent behaviors and the reasons for the intention-behavior gap in MOOCs. A total of four MOOCs from Bilgeİş MOOC Portal was used in this study. This quantitative study with a qualitative follow up includes 9797 participants in total. Learners’ behaviors on the courses were compared with their intentions they stated before starting online courses. Four intention-behavior patterns, which are inclined actors, inclined abstainers, disinclined actors, and disinclined abstainers, were used. MOOC learners mostly wanted to complete the MOOCs and obtain certificates, yet they failed to do so, and their intentions changed. The results showed that intention-behavior gap occurs in the MOOCs as the learner intentions did not result in the intended behaviors. In brief, inclined abstainers were mainly responsible for the intention-behavior gap for failing to act upon their positive intentions, and the main reason behind intention-behavior gap was mostly related to the individual learner, including learner related time issues, learner related general issues, and learner related technical issues. More specifically, learners achieved below their intentions in the courses due to lack of time. This study also confirmed that the intention-behavior gap in MOOCs primarily occurs due to non-MOOC related reasons. That is, learners mainly failed to spare enough time for the MOOCs. Results were discussed and future research directions were provided.

The increased use of digital technology in higher education requires university students to be digitally proficient. The main objective of this study is to examine the extent to which university students’ proficiency in various digital competences could be helpful towards their learning performance. This study adopted DigComp 2.2 to design a data collection instrument for an online questionnaire survey and conducted data analysis on the valid 314 responses using partial least squares structural equation modelling (PLS-SEM). The findings indicate that, with the exception of safety, the digital competence areas of information and data literacy, communication and collaboration, digital content creation, and problem solving were significant to student learning performance. The findings also revealed that students’ current semester had no significant moderating effect on the relationships between their proficiency in digital competence areas and learning performance, with the exception of a relationship between information and data literacy and learning performance, as well as a relationship between problem solving and learning performance, between respondents in semesters 3 and 4, and between respondents in semesters 5 and 6, respectively. The findings contribute to a better understanding of DigComp 2.2’s applicability in higher education and can be used by educational institutions and educators to design learning activities and formative assessments that can help students improve their digital competence proficiency.


Writing is a fundamental skill linked closely with academic achievement, day-to-day communication, formal negotiations, and more. However, due to their lack of contextual experience, learning to write has been a demanding and complex cognitive process for most learners. As a result, learners struggle to exhibit positive learning behaviours and cognitive engagement in writing, let alone embrace deep and autonomous learning. To solve these problems, in the present study, a spherical video-based virtual reality (SVVR) learning environment is developed to provide students with a contextual learning experience. Moreover, a peer feedback strategy is used to guide students in deep learning in writing. A quasi-experimental study was conducted to verify the effectiveness of the proposed approach. A total of 79 students from one primary school in southeast China were recruited. The students were assigned to either the experimental group (EG) exposed to the peer-feedback-based SVVR (PF-SVVR) approach or the control group (CG) exposed to the conventional SVVR (C-SVVR) approach. The results show that PF-SVVR had more positive effects than C-SVVR in terms of students’ writing performance, cognitive engagement and autonomous learning tendency. In addition, the PF-SVVR approach was found to be more beneficial for triggering deep learning in writing than the C-SVVR approach. This study further found that students in the PF-SVVR group tended to exhibit less disorderly behaviours than those in the C-SVVR group. Our study contributes to the prior literature by exploring the educational potential of the PF approach in the context of SVVR-enabled writing learning. Practitioner notes What is already known about this topic Peer feedback approach provides opportunities for writing learners to regulate their longer-term cognitive and behavioural competencies. Spherical video-
based virtual reality (SVVR) not only provides an authentic experiential learning context for learners, but it also significantly reduces the cost and the need for the high-tech capabilities of traditional VR. What this paper adds A peer feedback-based SVVR approach is proposed to promote students in learning to write. It was found that students’ quality of learning to write can be improved by applying the PF-SVVR approach in writing courses. Implications for practice and/or policy It is worth promoting the application of the peer feedback strategy and SVVR in school settings. The PF-SVVR approach is useful for promoting young writing learners’ cognitive engagement, autonomous learning tendency and deep learning. Further investigations on the effects of employing the PF-SVVR approach in writing, with anonymous strategies in the process of giving or receiving peer feedback, are expected.


Scholars and educators have puzzled for decades about how to provide K-12 teachers with the resources necessary to support and improve teaching. New information and communication technologies have opened up infinitely more possibilities, setting the stage for a renewed discussion about what teaching entails and how best to support it. In this conceptual article, we propose a theoretical framework to understand how online resources can support K-12 teaching, and apply this framework to three online platforms. Our analysis highlights several design tradeoffs that reflect deeper tensions surrounding teaching and the teaching profession, and that direct our attention to (1) teacher agency, (2) the required expertise and effort, (3) teacher community, (4) and the desired degree of oversight. These tradeoffs imply that designers should go beyond attending to technological tools, and engage also with fundamental questions concerning the nature of teaching and the teaching profession.


Abstract During the COVID-19 pandemic, the challenges associated with the transition from face-to-face to emergency remote education increased concerns about student dropout. Aligned with this concern, this study investigates the impact of the pandemic on the dropout patterns of 3371 undergraduate students from a Brazilian institution. Using data mining and machine learning techniques, we developed predictive dropout models based on student data preceding and succeeding the onset of the pandemic. Through the interpretation and comparison of these models and with the support of statistical and graphical analyses, we identify that the patterns persistently indicate that young students in their initial semesters, characterized by lower income, academic performance, and interaction, remain most susceptible to dropping out. Despite the pandemic leading to an enhanced predictive capability of data regarding student interaction within the virtual learning environment, our analysis revealed a lack of significant variation in dropout patterns. Institutionally, this indicates that a considerable number of dropouts likely encountered challenges in adapting to higher education, both before and throughout the pandemic. Practitioner notes What is already known about this topic The challenges posed by emergency remote learning, implemented during the COVID-19 pandemic, may exacerbate the dropout problem and change the patterns
involved in this phenomenon. Despite being widely used to identify dropout profiles and/or predict at-risk students, data mining and machine learning techniques have been little explored in the investigation of changes associated with the pandemic context. What this paper adds We employ data mining and machine learning techniques to construct predictive and interpretable dropout models for the pre- and during-pandemic contexts of a Brazilian institution. Comparing these models, we investigate the impacts of the pandemic on dropout patterns. The pandemic and the shift to emergency remote learning have an enhanced predictive capability of data regarding student interaction within the virtual learning environment. Throughout the pandemic, there was limited variation observed in dropout patterns, consistently highlighting young students in their initial semesters with lower income, academic performance and levels of interaction. Implications for practice and/or policy This study urges the inclusion of interactional student data in future dropout prediction research, capitalizing on the enhanced predictive power attained through the widespread adoption of virtual learning environments. Institutionally, the dropout patterns from before and during the pandemic suggest that students may be facing difficulties in adapting to higher education. In addition to the need to intensify preventive actions, this work indicates the need to conduct a study specifically targeting first-semester students to understand their needs better and redesign preventive policies.


While social media is evolving rapidly, understanding its underlying and persistent features with the potential to support high-quality learning would provide opportunities to enhance competence acquisition and collaborative work in higher education. Moreover, the adoption of tools that students already use in their everyday lives facilitates the integration of new forms of learning. In this context, we have developed an initiative to disseminate content through TikTok in three modules of the Bachelor’s Degree in Nursing course, with the aim of promoting quality learning through these microlearning environments. To this end, we have implemented these learning environments and evaluated the users’ perceptions, as well as their level of acceptance of the technology according to the Technology Acceptance Model. Overall, our results show high levels of satisfaction with regard to engagement and the content generated, as well as in terms of the acceptance of the technology. Our results do not show gender-specific variations, but we did detect slight variations depending on the subject in which the microlearning tool was deployed. Although for the most part these variations do not change the participants’ assessment of their experience, it will be necessary in the future to determine the underlying reasons for these variations. In addition, our results suggest that it is possible to design a content creation system to promote quality learning through microlearning that can be transferred to other subjects, at least in the Bachelor’s Degree in Nursing.


Abstract This study investigates the impact of Perusall, a social annotation tool, on an online postgraduate course conducted over two semesters at an Australian university. We examine the connection between students’ pre-class engagement and learning
outcomes, utilizing both secondary data from Perusall platform and primary data through a survey. The findings indicate that pre-class social annotations have a positive impact on students’ performance on post-class assessments. Notably, English as an Additional Language students with low English proficiency achieve comparable results in Perusall as those with high English proficiency. Additionally, the study identifies key aspects of social annotation that students highly value, providing insights for future implementation. Overall, this study highlights the potential of social annotation tools like Perusall to improve pre-class engagement and enhance learning outcomes. Practitioner notes What is already known about this topic Student engagement with pre-class activities is critical to their learning outcomes. The integration of social annotation tools for completing pre-class reading has become progressively prevalent among teachers. The use of social annotation tools for reading and annotating has been found to have a positive influence on students’ motivation, interactions, and academic performance. What this paper adds Online social annotation on lecture content has a short-term positive impact on subsequent assessments, indicating that it is an effective way to engage students in pre-class learning and improve their understanding and retention of course material. English as an Additional Language (EAL) students of varying levels of English proficiency achieve comparable results in social annotation assignments, highlighting the potential of this tool to provide an equitable learning experience for all students regardless of their language abilities. Social annotation activities promote a strong social presence with cohesive communication, positively impacting online learning’s cognitive presence. This highlights the significance of collaborative learning and social interaction in online education, and the potential of social annotation tools to create an engaging and supportive learning environment. Students prefer receiving feedback from teachers within a Community of Inquiry (CoI) rather than through traditional modes of direct instruction or conversation initiation, highlighting the importance of teaching presence in refining their cognitive and social presences, and ultimately enhancing the quality of their learning experience. Implications for practice and/or policy This study provides practical suggestions for designing pre-class learning activities that build upon pre-class lessons, helping teachers to optimize students’ learning experiences and outcomes. It sheds light on using inclusive and collaborative assessments as an effective way to enhance engagement and performance of EAL students. To cultivate a productive CoI within online educational contexts, teachers need to prioritize personalized feedback to students.


Games have been used as a learning tool for centuries. Gamification and game-based learning are becoming more prominent in educational settings for several reasons. When it comes to learning, being focused and immersed can massively improve a student’s experience. The purpose of this study is to map the emerging trends of gamification and game-based learning (GBL) in the Vocational and Education Training (VET) sector. For this purpose, a Systematic Literature Review was conducted through the three most relevant scientific databases – Web of Science, Scopus, ScienceDirect, and PubMed with Google Scholar as a supporting database. The obtained sample was further selected following the PRISMA guidelines with screening and eligibility processes conducted based on inclusion criteria that were defined with consideration to the research’s aim. This review comprised seventeen studies. The findings revealed a growing interest in the
Asian continents in research from 2020 onwards. Furthermore, most of the study is centred on vocational schools and colleges in the engineering and healthcare fields. According to the overview, the digital learning platform and simulation technology are the most promising tools used in the research. The findings support the conclusion that gamification and game-based learning can improve academic performance, engagement, and motivation in vocational education learners. As a result, this study suggests that more research is needed to determine the gamification strategies that are most suited for vocational education and learning.


The number of scientific publications about serious games has exponentially increased, often surpassing human limitations in processing such a large volume of information. Consequently, the importance of frameworks for summarising such fast-expanding literature has also grown. This paper draws a panorama of serious game research streams, focusing on higher education in engineering and management. The research design involves a systematic review using PRISMA guidelines, along with bibliometric and content analyses. The sample comprises 701 documents collected from both Scopus and Web of Science databases. For supporting bibliometric analyses, Bibliometrix and Biblioshiny tools are employed. In addition, a coding schema is developed for in-depth analysis of 701 documents selected according to the inclusion criteria. In short, the literature on serious games for engineering and management education grows more rapidly than modern science, following a globalised, collaborative and context-based trajectory. The results reveal five main research streams: game design guidelines, game design cases, game experiment guidelines, game experiment cases and generalists. These streams are summarised in a proposed framework. Cross-tabulation and statistical analyses conducted in SPSS Statistics identify the key relationships amongst the research streams. Finally, opportunities to investigate serious games for sustainable development education arise, and there is a need for future efforts to formalise the framework classification algorithm.

Practitioner notes

What is already known about this topic

Scientific production related to Serious Games (SGs) has grown exponentially in a globalised manner. It reflects the interest from various domains, particularly the field of sustainability in management. Literature reviews on SGs have emphasised various topics, including the acceptance of simulations and games as effective methods of teaching and learning. The role of technology-enhanced games and simulations in the context of digital transformation in education and the emergence of sustainability as a promising field for future SGs research are also highlighted. The literature has introduced three categories for empirical research on SGs: (1) game presentation, (2) game evaluation and (3) game effectiveness. It has also highlighted methodological rigour as a common challenge across studies. What this paper adds

Scientific research on SGs in Engineering and Management Higher Education (EMHE) experiences exponential and significantly faster growth compared to modern science in a globalised and collaborative manner. This growth reveals the scarcity of experts in this area and attracts the attention of various fields, particularly in the realm of sustainability. Thematic trajectories indicate a decline in discussions regarding users’ perceptions of SGs and their validity as educational tools. They also demonstrate consistency in discussions about SGs design, and the potential of sustainability emerges as a promising area for future SGs in EMHE. A comprehensive framework composed by five primary research streams connects game design cases
and guidelines, game experiment cases and guidelines and generalists. This framework can serve as a lens for future context-based literature reviews, and the relationships amongst its streams reinforce the idea that the field can benefit from increased methodological rigour in experiments. Implications for practice and/or policy

This review offers categorised supplementary material in which educators can discover a variety of artefacts for application in their specific educational contexts. Designers can access guidelines for enhancing the design of innovative games. Researchers can access guidelines for more effective evaluation of their artefacts across various contexts. Finally, policymakers can explore numerous experiments to inform decisions related to technology-enhanced innovations in the classroom.


identifiées pour concevoir la v2. Nous discutons enfin des limites de cette démarche, que ce soit dans la mise en œuvre (mobilisation des parties prenantes) ou dans ses résultats (généralisation des résultats, transcription des besoins identifiés en fonctionnalités applicatives).


« Parler de transversalité du numérique c’est d’abord évoquer la place prise par ces moyens et ces pratiques dans la culture de chacun de nous », écrit Bruno Devauchelle. Pour le spécialiste de l’éducation, « l’organisation scolaire est trop sectorisée pour parvenir à prendre en compte les changements culturels globaux ». En témoigne la suppression de l’enseignement de la...


While technological advances have led to digital transformation in many higher education institutions (HEIs), digital divide, especially among students in developing nations, is becoming a growing concern. This study aims to investigate the use of digital technology among B40 students (students from the lower socioeconomic backgrounds) in Malaysian HEIs. Specifically, this study intends to investigate how perceived ease of use, perceived usefulness, subjective norms, perceived behavioural control, as well as gratification constructs significantly affect digital usage among B40 students in Malaysian HEIs. This study used the quantitative research method with an online questionnaire which received 511 responses. SPSS was employed for demographic analysis, while Smart PLS software was used for structural model measurements. This study was based on two theories: planned behaviour theory and uses and gratification theory. The results showed that perceived usefulness and subjective norms significantly influenced the digital usage of the B40 students. In addition, all three gratification constructs indicated a positive effect on the students’ digital usage.


Competencies (knowledge, skills, and dispositions) enable employers and educators to speak a common language regarding what computing graduates are expected to demonstrate on the job. This study focuses on competencies required by managers in
the computing industry, based on semi-structured interviews of ten individuals in managerial roles, such as directors, project managers, and product managers with prior experience in computing-related roles. Constant Comparative for Naturalistic Inquiry was used to analyze the data. The most frequently discussed managerial skills included leadership, project management, hiring and evaluating candidates, and mentorship. In addition, professional skills such as communication, problem-solving, and lifelong learning were mentioned, along with essential dispositions that support the development of these skills, e.g., collaborative mindset, lifelong learning orientation, and self-regulation. Participants also emphasized the need to make judgments, build relationships, and collaborate within or outside their team. Career readiness in the computing industry is not limited to entry-level jobs; professionals should have the opportunity to navigate their preferred career path—whether they aspire to move down a technical or managerial path. This study can contribute to both students’ and educators’ understanding of the managerial career path and what types of competencies and experiences should be included in computing education programs to set them up for success across their career path. Implications for pedagogical approaches will also be discussed.

Gíslason, I., Drijvers, P., Csapodi, C., Palmér, H., Gosztonyi, K., & Kónya, E. (2023, juillet). What can mathematics teacher-students learn from dialogue with AI? Consulté à l’adresse https://hal.science/hal-04393047


UNESCO’s reports analyze the challenges introduced by artificial intelligence in education. This literature review presents challenges for states and the evolution of its recommendations. A two-step methodology is proposed with first the construction of a grid to analyze the reports. Then, we will determine the evolutions of the recommendations and the observable themes in education, based on a textometric processing of the summaries of the reports.


Although the significance of a positive social classroom climate in face-to-face learning has been established, its role within online and technology-enhanced learning environments is unclear. The central aim of this systematic review was to synthesize the findings of empirical studies which have examined any aspect of the social classroom climate in online and technology-enhanced learning environments in primary and secondary schools. Appropriate search terms were entered into ACM Digital Library, Web of Science, Scopus, and ERIC in November 2021. Articles were included if they were relevant for the aim, reported primary data, sampled primary/secondary school students and/or teachers, and were published in journals, conference proceedings, or book chapters in English. Furthermore, articles were excluded if they focused on the development/testing of measurement tools. The thematic narrative synthesis includes 29 articles, comprising of qualitative, quantitative, and mixed-method studies. A quality
assessment checklist was completed for all. The findings encompass examinations of the
social classroom climate in online learning before and during the Covid-19 pandemic, in
blended learning environments and a comparison between them. Furthermore,
associations between the online social classroom climate and academic variables is
explored, as is the fostering thereof through synchronous/asynchronous discussion groups
and social media. We discuss the theoretical framing of the studies, the impact of a
positive classroom climate in online and technology-enhanced learning environments
on students, as well as practical approaches and new opportunities in leveraging
technologies. Based on the findings and the studies' limitations we outline implications
and future research, such as the need to consider students' voices and diversity,
technology perspectives, a transdisciplinary approach and the reconceptualization of
boundaries.

février 2024, à l’adresse The Conversation website: http://theconversation.com/ia-
influence-t-elle-la-créativité-des-élèves-223036
L'IA peut aider comme nuire au processus créatif. Dans quelles conditions s'avère-t-elle
un outil de brainstorming efficace ?

Han, H., Røkenes, F. M., & Krumsvik, R. J. (2024). Student teachers’ perceptions of flipped
classroom in EFL teacher education. Education and Information Technologies, 29(2),
1539-1558. https://doi.org/10.1007/s10639-023-11839-w
This paper aims to provide evidence on student teachers’ perceptions of Flipped
Classroom (FC) to help teacher educators (TEs) to make informed decisions about
implementing FC and support student teachers to reflect on the value of FC in their
teaching practice. FC, a pedagogical model requiring digital competence of students
and teachers, has been a popular teaching approach for nearly two decades in K-12
and higher education. After the outbreak of Covid-19, more teachers have started to
implement FC. In post-Covid-19, with the possibility of reusing video lectures made during
the pandemic and the familiarity of digital skills to create digital lectures, a question for
teachers is whether to continue with this approach. This paper follows an explanatory
sequential mixed methods research approach. Insights from student teachers (STs) in the
field of English as a foreign language (EFL) in Norway are the primary data, and surveys
and focus group interviews are the main instruments to collect the data. FC’s
advantages and challenges perceived by STs are reported, and the possibility of STs
becoming future flippers is explored. Findings from this paper indicate that STs would like
to have more courses flipped in their studies, yet STs seem hesitant about flipping their
courses in their teaching practice. STs also provide some practical suggestions on
implementing the FC approach.

Hathaway, D. M., Gudmundsdottir, G. B., & Korona, M. (2024). Teachers’ online
preparedness in times of crises: trends from Norway and US. Education and Information
The closing of schools worldwide in March 2020 due to the COVID-19 pandemic resulted
in a rapid and unexpected shift from predominantly in-person teaching to online
teaching practices. As teacher educators in the field of educational technology, we
wondered about the preparedness of teachers for making the transition to fully online
environments. Through an internationally distributed survey consisting of predominantly
open-ended questions, we captured teachers’ perceptions of this transition. We aimed
to inform our practice and that of other teacher educators about the strengths and weaknesses of professional development designed to develop teachers’ digital competence. In this paper, we present data from Norwegian $n = 574$ and US $n = 239$ teachers related to their elaborations on readiness. We qualitatively examined data for evidence of extent of preparedness and alignment to the pedagogical, ethical, attitudinal, and technical dimensions of digital competence. Findings indicated themes related to extent of preparedness, trends in preparation, focus on digital tools, teacher agency without autonomy, collaboration/networks, and challenges for work and learning lives. Findings informed implications and recommendations for the professional development of teachers’ digital competence at the teacher education, K-12 schools, and school policy/leadership levels.


Military culture involving, for example, a lack of autonomy and hierarchical structure, has hindered Taiwanese military students’ English learning and increased the difficulty to obtaining learning materials. In particular, English for specific purposes (ESP) vocabulary learning is difficult for military students when English is used as a medium of instruction. Mobile technology can be adopted to assist such students in learning ESP vocabulary. However, studies on this topic are limited. Therefore, the present study investigated military students’ acceptance of mobile-assisted engineering vocabulary learning. We recruited 45 military students to complete a 4-week mobile-assisted engineering vocabulary learning task using Quizlet. A questionnaire was administered, and their responses were analysed using partial least squares structural equation modelling. The results revealed that system characteristics positively influenced the perceived ease of use and perceived usefulness of Quizlet. Perceived usefulness positively influenced behavioural intention through attitude towards use. However, perceived ease of use did not significantly influence perceived usefulness or attitude towards use because of the limited convenience of studying at the military base. App developers and teachers should consider military students when designing apps and make design choices to maximise the ease of use of their apps outside of the classroom. The present study provides insight into mobile-assisted ESP vocabulary learning.


Ives, B., & Cazan, A.-M. (2024). Did the COVID-19 pandemic lead to an increase in academic misconduct in higher education? *Higher Education, 87*(1), 111-129. [https://doi.org/10.1007/s10734-023-00996-z](https://doi.org/10.1007/s10734-023-00996-z)

The shift to online instruction in higher education related to the COVID-19 pandemic has raised worldwide concerns about an increase in academic misconduct (cheating and plagiarism). However, data to document any increase is sparse. For this study, we collected survey data from 484 students in 11 universities in the USA, and 410 students in five universities in Romania. The data support the conclusions that (1) cheating on exams increased with the shift to online instruction, but plagiarism and cheating on assignments may not have increased, (2) significant differences between the two countries suggest that intervention planning should avoid assuming that results from one context may
generalize to another, and (3) influencing student beliefs about rates of AM among their peers may be a fruitful new route for reducing academic misconduct.


Empathy is an essential human skill that can be divided into two types: (i) cognitive empathy, which is the capacity of understanding others’ thoughts and emotions; and (ii) affective empathy, which is the capacity to feel others’ emotional states. Many educational contents exist for both types, and immersive virtual reality (VR) has been shown to be effective for empathy education. However, there is a lack of educational content on recognizing and accepting that people can have different perspectives and feelings in the same situation, which is a prerequisite for cognitive empathy. To this end, we developed an immersive VR game “Mysterious Museum” where the player solves various puzzles based on ambiguous images and three-dimensional models. Moreover, we implemented six versions of a level in the game based on design concepts for camera perspective (combinations of first-person and third-person with camera techniques) and content exhibition (gallery, conveyor belt). We then conducted a mixed-method formative evaluation with 19 participants (11 females, eight males, average age 25.4 years) measuring usability of the game, as well as cybersickness and preferences for the design concepts. The game’s usability was satisfactory except for the quality of instructions. Moreover, the conveyor belt, where the player does not need to move, was preferred over the gallery, while the fixed first-person perspective was the most preferred camera perspective. The latter along with the conveyor belt exhibition method caused the least cybersickness. These results can be useful to designers, developers, researchers, and psychologists interested in VR-based empathy education.


This study introduces an innovative approach to improving speaking proficiency among Korean EFL learners through the use of vlogs, further evaluating their impact on learners’ foreign language speaking anxiety (FLSA) and willingness to communicate (WTC). In this semester-long experiment, 49 university students were divided into an experimental group (n = 25) and a control group (n = 24). The former engaged in vlogging activities, while the latter received traditional instruction devoid of social networking. Data were collected via pre- and post-questionnaires on FLSA and WTC, coupled with pre- and posttests assessing speaking skills. Vlogging significantly decreased FLSA and bolstered WTC in Korean EFL learners, demonstrating a marked improvement when contrasted with the control group. Additionally, the experimental group, engaged in vlogging, displayed superior advancement in vocabulary, comprehension, fluency and task proficiency. However, no discernible enhancements were observed in speaking accuracy when compared to the control group. With the evidence of reduced anxiety, increased communication willingness and enhanced speaking proficiency in the vlogging group, this study provides a concrete foundation for EFL teachers to consider integrating vlogging and similar social media-based activities into language instruction. This approach could contribute to creating more engaging and comfortable learning environments, aiding learners in overcoming affective barriers and improving their language skills. Practitioner notes What is already known about this topic Prior research
in second language acquisition probed the impact of social media on diverse language learning areas: vocabulary, intercultural learning, speaking skills, pronunciation and writing skills. Social media-integrated language learning demonstrated potential in enhancing oral proficiency among English as a Foreign Language (EFL) learners. Limited research exists exploring the influence of social media, especially vlogging, on EFL learners’ speaking skills and affective factors such as Willingness to Communicate (WTC) and speaking anxiety. What this paper adds This study demonstrates that a learning environment cultivated via social media, particularly vlogging, improves speaking proficiency and positively influences affective factors like Foreign Language Speaking Anxiety (FLSA) and WTC. The findings suggest that social media-integrated speaking activities, specifically vlogging, offer a beneficial and effective pedagogical strategy to ameliorate speaking proficiency, FLSA, and WTC in supportive and non-intimidating contexts. Implications for practice and/or policy This study offers crucial insights for EFL teachers planning courses to enhance speaking proficiency: The integration of vlogging and similar social media-based activities into language instruction is strongly supported by the evidence of reduced anxiety, increased communication willingness and enhanced speaking proficiency in the vlogging group. This study provides a concrete foundation for such innovative approaches. The creation of an engaging, interactive and stress-free learning environment is essential, enabling learners to practice speaking English without anxiety. This approach can also aid learners in overcoming affective barriers and enhancing their language skills. EFL educators should prioritize improving key attitudinal factors, such as anxiety and WTC. These factors significantly contribute to the holistic development of oral proficiency. When incorporating social media-based speaking activities like vlogging, teachers’ targeted feedback on recurring learner mistakes can foster improvements in speaking accuracy. EFL teachers must recognize their critical role in nurturing a supportive, non-intimidating environment, paving the way for learners to effectively enhance their speaking proficiency.


Abstract High-immersion virtual reality (VR) is an increasingly valued environment for language learners. Although reading constitutes a core language skill, practicing reading in VR has received little attention. In this between-subject, quantitative study, 79 intermediate learners of English at a German university were randomly assigned to view an interactive, multimedia-rich story under two conditions. In the experimental condition, subjects (the VR group) experienced the story using a high-immersion VR headset. In the comparison condition, subjects (the video group) watched a video recording (ie, screencast) of the same VR experience. In both conditions, the story was presented using identical captions in English, which served as the reading comprehension text. In addition to measuring the impact of VR on reading comprehension, validated questionnaires yielded data on the subjects’ intrinsic motivation, sense of presence and cognitive load. The analysis produced several findings. First, t-tests revealed the VR group was associated with statistically significantly higher reading comprehension scores compared with the video group (p?=?0.03). Second, Wilcoxon signed-rank tests showed that the VR treatment elicited statistically significantly higher levels of motivation (p?≤?0.0001) and sense of presence (p?≤?0.0001). Cognitive load was not significantly different between the groups (p?=?0.22). Our main implication is that VR can be beneficial for reading practice. Practitioner notes What is already known about this topic High-immersion virtual
reality (VR) is engaging and motivational. Engaging students to practice reading is important. Research on practicing reading in VR has received little attention. What this paper adds is the examination of the effectiveness of using VR for practicing reading. It shows that VR enhances motivation and the sense of presence when reading. Students report equal levels of cognitive load while reading subtitles in VR and reading subtitles in videos. Implications for practice and/or policy Our main implication is that VR can be beneficial for reading practice. VR could be used as a motivational tool to engage students in reading activities.


It is aimed to examine the interaction experiences of distance education students in e-learning environments where content-integrated social interaction opportunities are offered, and in line with this purpose, the factors affecting students' level of interaction, appreciation, and participation in interactions were examined. The study group of the research, which was designed as a multiple case study, consists of 80 undergraduate students studying asynchronous activity-oriented distance education and 31 graduate students studying synchronous activity-oriented distance education in one of the major universities in Turkey. In the research, a social e-learning environment that works integrated with e-learning contents and offers students synchronous and asynchronous interaction options with educators and students at the same time was used. Students were expected to study the contents in this e-learning environment and establish social interactions at the same time. After the application, semi-structured interviews were conducted with the students. Descriptive analysis and content analysis were used in the analysis of the data obtained from the e-learning environment and interviews. In the research, asynchronous activity-oriented distance education students showed a study-oriented approach to the content by being involved in interactions in less time and fewer numbers than other students. Related to this, it was seen that content-based factors were one of the factors that most affected their participation and appreciation. In addition to studying the content, the synchronous activity-oriented distance education students actively used the synchronous interaction panel. Regarding this, the factor that most affected their participation and appreciation was the structural and technical features of the system, in which content-integrated social interactions were presented. In the research, in line with these results, the experiences of the students were evaluated and suggestions were made.


The higher the level of development of higher education, the larger its contribution to socioeconomic development. In order to predict the trend of higher education development in a country more accurately, a new methodology is employed in this study. A weakening buffer operator-based GM (1, 1) model is constructed using Kazakhstan’s gross enrollment rate (GER) of higher education as the subject of study, which eliminates the disturbance of the shock perturbation system and increases prediction accuracy. Seven models with varying sample sizes are constructed. It is discovered that the short sequence prediction model outperforms the long sequence prediction model. To demonstrate the superiority of the proposed method, cubic curves and logistic models are chosen for comparison. The results of the study revealed that the cubic curve has a better fitting, but the prediction results are overly large due to the quick growth rate of the recent raw data, which is not in line with the realistic development; the logistic model has poor fitting and cannot be used for prediction; the buffer operator-based GM (1, 1) model can effectively deal with the issue of missing data or data outliers, and provide accurate predictions of the trend of higher education development. When compared to other methods, the proposed method is more practicable, reliable, and superior.


Abstract Although the utilization of mobile technologies has recently emerged in various educational settings, limited research has focused on cognitive load detection in the pen-based learning process. This research conducted two experimental studies to investigate what and how multimodal data can be used to measure and classify learners’ real-time cognitive load. The results found that it was a promising method to predict learners’ cognitive load by analysing their handwriting, touch gestural and eye-tracking data individually and conjunctively. The machine learning approach used in this research achieved a prediction accuracy of 0.86 area under the receiver operating characteristic curve (AUC) and 0.85/0.86 sensitivity/specificity by only using handwriting data, 0.93 AUC and 0.93/0.94 sensitivity/specificity by only using touch gestural data, and 0.94 AUC and 0.94/0.95 sensitivity/specificity by using both the touch gestural and eye-tracking data. The results can contribute to the optimization of cognitive load and the development of adaptive learning systems for pen-based mobile learning. Practitioner notes What is already known about this topic Pen-based mobile learning systems allow natural ways of handwriting and gestural touching, which can facilitate learners’ cognitive processes in mobile learning. Behavioural and physiological multimodal data are helpful in detecting learners’ real-time cognitive load in mobile learning. The effectiveness of behavioural and physiological multimodal data for measuring cognitive load in pen-based mobile learning is limited investigated. What this paper adds This paper confirms the effectiveness of handwriting and touch gestural multimodal data for measuring cognitive load, in terms of their stroke-, path- and time-based features. This paper explores the potential of eye-tracking data in measuring pen-based learning cognitive load. A combination of behavioural and physiological multimodal data is reported to increase the prediction accuracy for cognitive load measurement. Implications for practice and/or policy Practitioners are suggested to use behavioural and physiological multimodal data individually or conjunctively for measuring cognitive load in pen-based learning. The results provide guides for
developing adaptive pen-based learning systems by optimizing the real-time cognitive load.

Li, X., Drijvers, P., Csapodi, C., Palmér, H., Gosztonyi, K., & Kónya, E. (2023, juillet). Bridging the literature gap: An innovative framework for understanding secondary school students’ emerging technology use in out-of-class mathematics learning contexts. Consulté à l’adresse https://hal.science/hal-04410865


Understandability and completeness are essential in modern collaborative digital platforms and their learning systems. These platforms have shaken up the traditional education setting, particularly in leveraging the coauthoring approach in problem-solving and streamlining the learning behavior of cowriting or corevising. Such a learning context has attracted considerable interest from various stakeholders; however, it needs to be explored further as an independent topic. Based on social capital and social identity theories, we explore how online collaborative problem-based learning (PBL) effectiveness, relational quality, and social identity influence students’ perceived PBL performance during learning activities. Based on the core elements of online coauthoring processes (i.e., platform, cocreation, and problem-solving), this study employs a holistic view of the coauthor to discuss the effects of understandability and completeness. This study also highlights the mediating impact of trust on students’ social identity. Based on the responses of 240 students, the results support the proposed hypotheses using partial least squares analysis. The study’s implications suggest guidelines to educators on how to enhance students’ perceived PBL performance by using wiki technologies.


With the development of information technology, co-viewing of live video streaming (LVS) has become a popular online learning method. However, existing studies have found inconsistent results regarding the effects of co-viewing, which could be due to the impact of learner-learner interactions. The present study tested the effects of co-viewing LVS on learning in elementary students, and whether learner-learner interaction moderated students’ attention allocation, learning performance (i.e., retention and transfer), learning efficiency, and metacognition. The study used a one-way between-subjects design, with 86 participants assigned randomly to one of three groups: learning alone group, merely co-viewing group, or co-viewing with interaction group. Kruskal-Wallis H tests showed that students in the co-viewing with interaction group allocated more attention to their co-viewer and less to the LVS. However, ANOVA results indicated that they had the best learning performance and metacognition, and demonstrated the highest learning efficiency. Meanwhile, those co-viewing without interaction did not show significantly positive effects compared to those learning alone. The results of informal interviews were largely consistent with the above findings. The findings of the present study suggest the benefits of co-viewing with interaction, providing practical
implications for the social context of learning from LVS for elementary students in particular.


The objectives of this work are to investigate the impact of automating the student assessment process using the Schoology web-based learning management system as an example and determine its effectiveness and usability by performing a comparative analysis between the survey results of educators and students. The research methodology is based on an exploratory survey using a data collection questionnaire composed of closed-ended questions. The respondents are 630 students and 159 faculty members from three Chinese higher education institutions. The data analysis enables the conclusion that the overall student and faculty satisfaction with Schoology is high (83.4% and 55%, respectively). The students and educators indicate that with the introduction of Schoology, learning and teaching became easier (82.5% and 53.4%, respectively). In line with this, the analysis of the effect of the automated performance assessment implementation on student academic performance find that learners are more prone to better learning outcomes after this system’s launching. The practical significance of this paper is that it demonstrates the positive influence of the Schoology system on educational process effectiveness.


Abstract Learning with digital games has gained considerable popularity. While digital game-based learning has the potential to improve learners’ language learning achievement, engagement and motivation, there still exists a gap when it comes to providing effective feedback to learners within these games. Conventional digital games generally provide learners with immediate error correction, which could be of less help to learners when learning complex language content, such as grammar. In this study, a metalinguistic corrective feedback-based digital gaming approach is proposed. Moreover, an experiment was conducted to explore how digital games, combined with metalinguistic corrective feedback, affect novice English learners’ grammar learning achievement, as well as their perceptions of learning motivation, self-efficacy and flow experience during learning. Lag sequential analysis was also applied to identify differences in the behavioural patterns of the two groups. A total of 76 university students participated in this study. The experimental group learned the target grammar via digital games combined with metalinguistic corrective feedback, whereas the control group learned with digital games combined with regular feedback, which is immediate error correction. The results suggest that metalinguistic corrective feedback has a positive impact on students’ grammar learning, and benefits students who have lower initial intrinsic motivation and self-efficacy. Different feedback types also lead to diverse learning behaviours. Practitioner notes What is already known about this topic Feedback has substantial potential within the domain of digital game-based learning. Proper instructional theories and strategies should be considered when designing digital games to guide language learners to engage in meaningful learning. What this paper adds Feedback that directs learners to rectify errors by emphasizing grammatical rules and
language structures is referred to as metalinguistic corrective feedback. This study proposed a metalinguistic corrective feedback-based digital gaming approach to explore the efficacy of such feedback in digital games. In addition to learning outcomes, learners’ learning behaviour patterns were also recorded and analysed in this study. Implications for practice and/or policy It is potentially worth integrating metalinguistic corrective feedback into digital games to facilitate language learners’ learning performances and perceptions. Metalinguistic corrective feedback has the potential to support learners with lower self-efficacy and motivation to learn complicated language content. Future research can integrate different feedback models into digital games and investigate their effectiveness.


In a digital society, teachers are required to carry out policy directives on both core knowledge and more vaguely described cross-curricular competences, one being digital competence. This paper reports on the findings of a study in which 41 teachers from three lower secondary schools in Sweden engaged in focus group interviews where they participated in sensemaking processes on students' digital competence. The questions targeted what the teachers knew of their students’ digital experiences and how to facilitate and further develop these students’ digital competence. Based on the focus group interviews, four themes were identified: critical awareness, tool management, creativity, and avoidance of digital usage. Absent were themes related to democratic digital citizenship. The paper discusses the importance of moving away from a one-sided focus on individual teachers' professional digital competence in favour of focusing on how school organizations can negotiate and facilitate students’ digital competence in local situ. Otherwise, there is a risk of overlooking students’ cross-curricular digital competence and digital citizenship. This paper is a starting point for further research on how school as an organization can support teachers in facilitating various areas of students’ digital competence in a digital society.


The paper aims to develop and validate an internet literacy scale for high school students. The study emphasizes the importance of internet literacy, especially for adolescents who need sufficient internet literacy to gain self-development and live their whole lives in this information age. The study has recruited 744 high school students and provided a validated scale consisting of thirty items in eight dimensions: (1) self-management, (2) self-image construction, (3) damage control, (4) information processing, (5) critical thinking, (6) cooperation, (7) consciousness of morality, and (8) consciousness of security. The current developed scale can reflect the latest, abundant meaning of internet literacy. This study fulfills the need to build up a validated, comprehensive internet literacy scale for adolescents such as high school students. The study also suggests potential applications of the scale in the pedagogical context.

Abstract Learning analytics (LA) is an emerging area that has had extensive development in higher education in recent years, focused both on the learning process of students within subjects and on monitoring their trajectories in training programmes. However, most of the developments remain in the pilot phase without reaching institutional adoption. This paper reports the results of a systematic review of the literature carried out with the aim of identifying the factors that influence the adoption of LA, as well as the existing strategies that facilitate such adoption in higher education institutions. The results show that factors for LA adoption are situated in multiple dimensions, including stakeholders at different levels, institutional and pedagogical processes, technical limitations and ethical considerations. This work contributes with a consolidated list of 14 critical factors to be considered to effectively adopt LA tools, addressing planning, strong leadership, collaboration and prioritizing senior management commitment, goal setting, cross-organizational design, educational process redesign, system integration and legacy system linkage. On the other hand, a variety of frameworks, models and approaches are distinguished in the literature to help the adoption of LA, however, none of them cover all the factors involved in such adoption. Therefore, we provide a compilation of strategies that have been used in the literature to reduce the gaps associated with the different factors described. Practitioner notes What is already known about this topic LA is a field of research that has had a lot of interest and a wide variety of tools have been developed. Still, it is criticized that they originate more from data availability than from the needs of students, teachers and decision makers. LA tools are mostly evaluated on their usability aspects and to a lesser extent on their usefulness to impact learning processes. The adoption processes of LA in higher education are oriented to specific aspects such as the relevance of the visualizations in the different contexts of application, but they do not address extensively other important aspects involved in such adoption. What this paper adds This article seeks to synthesize what has been investigated in the literature regarding the factors that affect the adoption of LA by higher education institutions. Describe the 14 critical factors identified from the literature to address adoption of multiple dimensions that include stakeholders at different levels, institutional contexts and ethical considerations. A compilation of strategies that have been used in the literature to reduce the gaps associated with the different factors are described, and the aspects or dimensions that are not addressed are highlighted. Implications for practice and/or policy The synthesis of LA adoption factors and the approach strategies present in the literature allow practitioners to focus their efforts on the key aspects to consider in their LA adoption processes. Future work could shift from a pure design perspective to strengthen an engineering perspective in the adoption practices. From the point of view of the policies associated with the adoption of LA in higher education institutions, it is concluded that it is necessary to approach the process from a comprehensive perspective considering all the dimensions involved.


Messaging platforms are applications, generally mediated by an app, desktop program or the web, mainly used for synchronous communication among users. As such, they have been widely adopted officially by higher education establishments, after little or no study of their impact and perception by the teachers. We think that the introduction of
these new tools and the opportunities and challenges they have needs to be studied carefully in order to adopt the model, as well as the tool, that is the most adequate for all parties involved. We already studied the perception of these tools by students, in this paper we examine the teachers' experiences and perceptions through a survey that we validated with peers, and what they think these tools should make or serve so that it enhances students learning and helps them achieve their learning objectives. The survey has been distributed among tertiary education teachers, both in universitary and other kind of tertiary establishments, based in Spain (mainly) and Spanish-speaking countries. We have focused on collecting teachers’ preferences and opinions on the introduction of messaging platforms in their day-to-day work, as well as other services attached to them, such as chatbots. What we intend with this survey is to understand their needs and to gather information about the various educational use cases where these tools could be valuable. In addition, an analysis of how and when teachers' opinions towards the use of these tools varies across gender, experience, and their discipline of specialization is presented. The key findings of this study highlight the factors that can contribute to the advancement of the adoption of messaging platforms and chatbots in higher education institutions to achieve the desired learning outcomes.


One of the most advanced reality technologies for education in recent years is augmented reality (AR). To create a fun learning atmosphere and to aid student learning, several subjects have begun incorporating modern technology into their teaching and learning procedures. In addition to being extensively tested and developed for typical students, AR has also been used successfully to help kids with learning disabilities (SLD). This study is focused on students with learning difficulties, looking at the changes in the usage of augmented reality (AR) technology in education over the previous few years, particularly in the area of physical education. Physical Education (PE) is frequently identified as one of the disciplines that is challenging for kids with learning disabilities to follow. This study makes use of a detailed analysis of an AR application in connection to this subject over the preceding five years because AR has the significant potential to be applied in the field of physical education. The development of this technology in physical education, the kind of AR technology employed, and the kinds of learning disability groups that the technology can help are demonstrated in a clear and understandable manner. The researcher’s perspectives and the chance to advance this study will be helped by this.


The TPACK framework has gained popularity in guiding research regarding the assessment and development of teachers' competencies to teach with technology. Since theoretically, the framework is about teachers' knowledge for teaching using technology, effective ways of assessing this TPACK have been a subject of interest among researchers. This paper is about a collaborative lesson design quasi-experiment study whose data collection was done using an observation rubric that was prepared and validated for this study. The study uses six video-recorded sessions to validate the
instrument and assesses the level of TPACK of 30 participants. The observation rubric is found suitable to assess mathematics teachers TPACK, but users may need to contextualize it depending on content and technology. Findings of the study also imply that more engaging collaborative professional development activities may be more effective in developing teachers’ TPACK. Furthermore, when planning such professional development, it is important to ensure that teachers have access to relevant technology.


This scoping review examines the effectiveness of online and blended learning in fostering higher-order thinking skills in higher education, focusing on creativity and critical thinking. The paper finds that whilst there is a growing body of research in this area, its scope and generalisability remain limited. Current evidence suggests that, for most students and contexts, in-person learning yields better or equivalent outcomes for higher-order thinking skills than fully online learning. However, blended and flipped learning show promise. In some cases, they may be more effective than in-person learning to develop higher-order skills. The review aims to be of use to higher education practitioners by synthesising, for the first time at such a scale, the diverse literature on what supports students to develop these skills online. This has been linked to active and interactive online learning, well-structured project-based learning, disciplined questioning, students labelling relevant dimensions of their thinking, and regular, quality instructor and peer feedback. The review calls for improved research design to understand the effectiveness of different modes of learning and address gaps in the literature, which include fostering creativity online and ensuring equitable online skills development across disciplines and teaching contexts. Policy implications include the need to integrate attention to higher-order thinking skills into professional learning, innovation funds, national networks and quality assurance to support effective online teaching of these skills across higher education systems.


This paper discusses the importance of definitions in the context of academic discussion, highlights the inconsistent terminology used to describe e-learning, and examines a range of different definitions of e-learning used by academic authors since 2011. Following an outline of the methodology, the paper identifies 15 unique definitions of e-learning in peer-reviewed papers published between January 2011 and December 2022. The 15 definitions are analysed for significant properties, and these properties are reviewed to assess whether they are essential components of e-learning. The paper then proposes a functional definition of e-learning, including all essential elements of e-learning and eliminating elements that may be present in some, but not all, instances of e-learning.

In Education 5.0, teaching with Information & Communication Technologies (ICT) is more than substituting old technologies like the blackboard with interactive boards. The use of technology is more of an enabler to add value and increase effectiveness to improve learning. Nevertheless, most teachers are still lacking on the know-how of technology in teaching–learning situations. Therefore, this study investigated the development of Technological Pedagogical Content Knowledge for twenty-first century learning skills (TPACK21cls) in the planned, delivered and experienced curriculums of a teaching programme for the Teaching of English as a Second Language in an Institute of Teacher Education (ITE) in Malaysia. The intersection of the Technological Pedagogical Content Knowledge framework is complemented with the Substitute, Augmentation, Modification and Redefinition (SAMR) Model to gauge the stages of ICT tasks created for communication, collaboration, critical thinking and creativity. Qualitative data methods include document analysis, interviews and reflections while data analysis was based on data reduction into themes through coding processes. The findings revealed that TPACK21cls was missing while Content Knowledge and Pedagogical Content Knowledge were emphasised in the planned curriculum. As for the developed curriculum, TPACK21cls was not explicitly delivered. Meanwhile the experienced curriculum displayed the participants possessing TPACK for communication at substitution stage. Additional findings reported were on upgrading ICT infrastructures, up-skilling lecturers’ knowledge on ICT and revising the pre-service curriculum. The findings have implications for the teaching and learning with ICT in schools and ITEs which would be able to review the curriculum of teacher education programs to address TPACK21cls capabilities.


The aim of this paper is two-fold: firstly, to provide an overview of emerging digital practices that support collaborative learning, competency development, and digital literacy for student-centered learning environments in higher education during the rapid digital transition caused by pandemic-related lockdowns across the world, and secondly, to analyze and discuss how systematic reviews of generalized themes and trends can be combined with contextualized experiences and the lessons learned from the Covid-19 crisis to inform the digital transformation of higher education, with a particular focus on bridging the gap between campus-based teaching and online learning and on the identification of the digital competencies that teachers and students must acquire during the continuing shift into a ‘new normal’ for post-pandemic educational practices. This study was motivated by questions and findings emerging from an early reactive case study conducted by three of this paper’s co-authors (Lyngdorf et al., 2021a). By reviewing the full texts of 18 articles, this study provides a systematic literature review which maps the general landscape of the online, hybrid, and blended digital practices applied in existing student-centered learning environments in higher education since the onset of the pandemic. Furthermore, this mapping is used to revisit data and findings from the earlier reactive study of emerging digital practices in a specific problem- and project-based learning (PBL) environment. This study’s findings
highlight critical factors and barriers related to emerging practices which support students’ interactions with teachers, content, and each other, as well as the emerging competencies that these practices will require. The paper concludes with a discussion of the main findings and their implications for further research and practice.


Abstract In addition to learning effectively and effectively in online learning communities (OLCs), students must be in a secure environment and privacy must be respected. The study aimed to identify privacy violations that university students encounter in OLCs, and identify recommendations and some strategies to implement to ensure privacy at the OLC. A qualitative research method was applied in the study. First, focus group interviews were conducted with a total of 108 students who participated actively in the OLC. After analysing the interview data, a privacy violations report (RPV-OLC) was prepared at the OLC. According to the RPV-OLC, a problem description for the Delphi technique was designed and 17 experts were identified for the interview. Delphi panels with experts were completed in 5 months. The content analysis process was used for the data obtained. Students said they encountered information sharing and access, access to information, system/course settings, resistance to negotiations, communication problems and lack of knowledge. On the other hand, experts suggest that different suggestions and strategies could be implemented to ensure privacy in the OLC, such as partial privacy, mutual trust, contextual privacy agreements, role-based or anonymous identity use, and privacy education. The study focused on defining the concept of privacy and student privacy violations in online learning environments and providing solutions for educators, students and system administrators. Practitioner notes What is already known about this topic Digital learning environments pose a threat to the privacy of students. The fact that privacy violations in the OLC can trigger concerns among students has a negative impact on learning processes. There is high interest at the moment in how to plan the most effective teaching in online learning environments?but privacy is being neglected. What this paper adds This article explains the privacy violations university students encounter at the OLC. This document contains guidelines on how to mitigate and prevent privacy violations in OLC. The results of the study also provide suggestions for privacy protection at the OLC. Implications for practice and/or policy It is important that the instructors who participate in the OLC are informed about the necessary measures, rules, principles, activities and follow-up measures to protect their personal privacy. If we can overcome students’ concerns about privacy violations at the OLC, we can create more comfortable learning spaces. The aim of learning should not only be to peak performance; the most important responsibility of educators or system administrators is to preserve each student’s private space, while at the same time achieving the best performance.


Universities have renewed interest in blended learning in preparation for post-COVID education. However, unsatisfactory social interactions hinder the quality of blended learning, despite its potential for flexible and personalized learning. In this situation, a sense of community would provide essential academic and social benefits. To develop
a sense of community among students, we need to further understand students’ and teachers’ perceptions concerning this subject by exploring their experiences in blended learning. Therefore, we investigated this for three blended courses using a qualitative case study approach. We conducted: (1) classroom observation; (2) document analysis of course content, assignments, and assessments; and (3) individual interviews with teachers (n = 3) and group interviews with students (n = 18). The results showed the main factors that appeared to contribute to sense of community: group learning activities within courses, non-academic and extracurricular activities across courses, and the campus as a physical place integrating academic and social life after COVID. Further, we identified two obstacles: students valued group learning but struggled to manage group dynamics, and despite teachers’ efforts to encourage learning autonomy, students viewed teachers as the ultimate authority in the learning process, which strained the student–teacher relationship. Additionally, this study revealed the limitations that digital tools have for promoting sense of community, as students questioned whether these tools have added value for supporting intricate and in-depth conversations. Finally, based on these findings, we provided practical recommendations for the future development of sense of community in blended learning.


Project-based learning (PJBL) has been increasingly promoted and extended to online environments to enhance the quality of higher education. However, PJBL involves complex processes requiring higher-order thinking skills, which may pose challenges to many students especially in online settings with little prompt support from teachers. The problem may compromise the learning of low-achieving students, who often have inadequate higher-order thinking skills. Visible thinking approaches have the potential to make higher-order thinking processes accessible to students. This study was conducted with 72 university students who engaged in visible thinking supported online PJBL of computer programming. A one-group pretest-posttest design was adopted to compare the learning outcomes among high-, medium- and low-achieving students. The results showed that compared to high and medium achievers, low-achieving students made the most progress in product quality and thinking skills (in particular process design skills). They performed almost as well as medium and high achievers in product quality and process design skills at the end of the study. They also gained more knowledge from the project than high achievers did. Moreover, compared to medium achievers, low achievers perceived the approach as more valuable, made more effort on the study, and felt more competent in completing the project. The findings reveal the promising effects of visualizing higher-order thinking processes in narrowing the achievement gap between high and low achievers, offering all students an equal chance to engage in effective learning with projects.


This study examines the influence of students’ individual attitude and social interactions on participation in collaborative and gamified online learning activities, as well as the
influence of participating in those activities on students' online class- and test-related emotions. Based on a sample of 301 first year Economics and Law university students and using the Partial Least Squares-Structural Equation Modelling approach, all the relationships among first-order and second-order constructs included in the model are validated. The results support all the hypotheses studied, confirming the positive relationship that both students' individual attitude and social interactions have on participation in collaborative and gamified online learning activities. The results also show that participating in those activities is positively related with class- and test-related emotions. The main contribution of the study is the validation of the effect of collaborative and gamified online learning on university students' emotional well-being through the analysis of their attitude and social interactions. Moreover, this is the first time in the specialised learning literature that students’ attitude is considered as a second-order construct operationalised by three factors: the perceived usefulness that this digital resource brings to the students, the entertainment that this digital resource brings to the students, and the predisposition to use this digital resource among all those available in online training. Our findings aim to shed light for educators when preparing and designing computer mediated and online teaching programs that seek to generate positive emotions as a motivation for students.


This paper examines the invisible barrier that can challenge teachers when teaching online, called the fourth wall. Using a presence framework derived from the literature, we explored how experienced teachers manage the absence of visual cues and identify the pedagogical practices they adopted as a response. Data from semi-structured interviews with 22 teachers experienced in online teaching was analysed for individual presence, place presence, and co-presence. Results indicate seven different types of individual presence, four different types of place presence, and three different types of co-presence. Overall, findings show that teachers discussed developing students' individual connections to the online lesson more often compared with developing co-presence (student-to-student engagement) with place presence being representative of the online learning space. Specific strategies that teachers used to support each presence are presented and implications are provided for how this affects the move to an increased use of blended and online learning in the schooling context.


In recent years, an increasing number of teachers and researchers have used virtual reality (VR) to enhance English as a foreign language (EFL) learning, but the learning effects they found varied. Because of these differences, we conducted a meta-analysis. This study aims to compare the effectiveness of VR-based EFL learning methods with traditional EFL learning methods, and to determine what factors led to these results. We searched for articles published from 2015 to 2021 using Web of Science, ERIC, and Google Scholar. A total of 23 randomized controlled trials (RCTs) or quasi-experimental studies were included, and the effect size (ES) was calculated. The results show that the VR-based EFL learning method is significantly better than the traditional EFL learning method and has a small positive effect (g = .445). We also coded the characteristics of
the samples to examine their moderating effect on the results. We found that educational levels, country/area, and EFL learning outcomes have significant differences that can explain the variance in ES among the samples. According to the analysis results, we also provide suggestions on which learning outcomes are most helpful, how to choose the best educational stages, learning materials, and type of VR to promote EFL learning performance, and directions for future research and practice.


Learning Science, Technology, Engineering, and Mathematics (STEM) subjects in an online medium can be difficult and tedious. Lengthy facts with technical terms, complex images, and explanations are among the reasons that make STEM subjects less desirable among the current generation and degrade the students’ learning experience. Students can be assisted with learning applications that are not only mobile but also integrated with features that are enjoyable to trigger students’ interest in STEM. Game elements and augmented reality (AR) are two technologies that are capable of improving students’ learning experience. However, there are limited guidelines for designing mobile learning applications that are based on game elements and AR. Moreover, the existing guidelines mostly focus on usability but not the overall learning experience. Therefore, this paper aims to design a model of a mobile learning application that integrates AR and game elements to improve the student learning experience. The model consists of three elements; content, pedagogy/technology, and interaction that was initially verified by the subject matter experts. A mobile application prototype called m-BioP was developed based on the model and tested heuristically. A complete version of m-BioP was evaluated in an experimental study with 30 respondents using the User Experience Questionnaire (UEQ). Respondents were biology students aged between 16 and 23 years that were recruited by purposive sampling. The results were positive on almost all features of m-BioP with values higher than 0.8 on the pragmatic and hedonic scale, thus approving the developed model. Based on the evaluation, the only aspect that requires improvement is the design of the videos. The model can be used by academicians and learning content creators as a guideline to design and develop mobile learning applications that are able to provide STEM students with a better learning experience.


As a teaching and learning medium, 360° videos offer new teaching-learning experiences. Through the possibility of immersion, individual 360° panoramic images, multi-perspective viewing options and interaction possibilities, they extend the advantages of conventional video technology. To understand the potential of using 360°
video technology for educational processes, a systematic literature review analyzed previous scientific articles (N = 44) about the interdisciplinary use of 360° videos according to PRISMA guidelines. In the systematic literature selection, particular emphasis was placed on the conceptual distinction between virtual reality and 360° videos. By the authors, 360° videos are understood as a specific video format that has characteristics of virtual reality but is to be distinguished from virtual reality by the necessary real recording situation without programmed virtual environments. The results show a use of 360° videos mainly for three teaching-learning purposes: presentation and observation of teaching-learning content, immersive and interactive theory–practice mediation, and external and self-reflection. Combined with the added value of conventional video technology and other immersive technology such as virtual reality, five added value categories for its use as a teaching–learning medium were identified: To increase learning motivation and interest, to learn in authentic and realistic learning scenarios, for immersive and interactive learning experiences, for multi-perspective observation opportunities and for individual learning. These consisted primarily of positive motivational effects for authentic or immersive learning experiences.


The goal of this research is to analyze the factors that mediate the success of the use of online learning support platforms, based on the perceptions of a focus group of university professors, with a qualitative methodological approach. The sample consisted of 11 mathematics professors who taught three subjects to 9240 incoming students, during seven semesters between 2018 and 2021. Through open coding, 17 factors were identified that mediate the success of the online learning support platform. Through axial coding, 5 categories were determined that summarize the relationships between the different factors, namely: obstacles, impediments that teachers must face when teaching; teacher contribution, factors that indicate the added value that teachers find in the classroom from the implementation of online training; student, reception given by students to the online training; reinforcement, factors related to the medium used to develop the online training; platform, factors related to the strategy itself and how to improve it. Finally, through selective coding, it was possible to integrate and redefine the central categories, obtaining as a result an implementation model of the online platform, which can explain and contribute to the success of other similar experiences at the university level.


Un ouvrage pour décortiquer une nouvelle manière d’enseigner, à distance, et distinguer ce qui relève du mythe et ce qui est fondé scientifiquement.


The purpose of this research is to analyse the evolution and trends of research into digital pedagogy in higher education through the application of bibliometric analysis and
systematic review of scientific output. For the bibliometric analysis, the built-in functions of WoS were used, including Analyze results and Citation report. The VOSviewer software was employed to construct bibliometric maps. The analysis focuses on studies about digitalisation, university education and education quality, three categories that are grouped around digital pedagogies and methodologies. The sample contains 242 scientific publications, including articles (65.7%), publications published in the United States (17.7%) and publications financed by the European Commission (3.71%). Barber, W., and Lewin, C., are the authors with the greatest impact. The scientific output forms three networks: the “social network” (2000–2010), the “digitalisation network” (2011–2015) and the “network of the expansion of digital pedagogy” (2016–2023). The most-mature research (2005–2009) concerns the integration of technologies in education. The research with the greatest impact (2020–2022) looks at digital pedagogy and its implementation during the situation created by COVID-19. This research shows that digital pedagogy has come a long way over the last twenty years, but it is at the same time a topical area today. The paper opens up future paths for research such as the development of more-flexible pedagogies that can be adapted to different pedagogical scenarios.


Sourcing information related to socio-scientific issues requires sophisticated literacies to read and evaluate conflicting accounts often signified by disagreement among experts, multiple solutions or misinformation. Much of the previous work exploring how young people approach conflicting information has tended to focus on students in the secondary and tertiary years, often taking an epistemic approach to analysis, rather than a literacies lens. At the heart of such endeavours, however, is the need for sophisticated reading skills accelerated by shifts to digital platforms to source information. Given the limited empirical studies in the field of literacy that articulate how middle school students approach sources of information, this study investigates 45 middle school students’ (13–14 years of age) self-reported strategies for investigating health risks associated with mobile phone use. We asked the students to imagine that a close friend was worried about the health risks of using their mobile phone and had asked them for advice. Students were then prompted to describe how they would search for information about the issue and how they would know if the information was reliable. Our analysis identified three dominant themes in the interview data, namely: (i) mistrust of the internet—people can be reliable sources; (ii) reliable sourcing requires consensus across sources; and (iii) criteria help to determine a reliable source. An interesting finding was the level of scepticism of the internet expressed by students. We draw on examples from the students’ interview dialogue to illustrate the themes and engage in discourse related to their approaches including implications for teaching in English classrooms.


Virtual reality has become a significant asset to diversify the existing toolkit supporting engineering education and training. The cognitive and behavioral advantages of virtual reality (VR) can help lecturers reduce entry barriers to concepts that students struggle
with. Computational fluid dynamics (CFD) simulations are imperative tools intensively utilized in the design and analysis of chemical engineering problems. Although CFD simulation tools can be directly applied in engineering education, they bring several challenges in the implementation and operation for both students and lecturers. In this study, we develop the “Virtual Garage” as a task-centered educational VR application with CFD simulations to tackle these challenges. The Virtual Garage is composed of a holistic immersive virtual reality experience to educate students with a real-life engineering problem solved by CFD simulation data. The prototype is tested by graduate students (n = 24) assessing usability, user experience, task load and simulator sickness via standardized questionnaires together with self-reported metrics and a semi-structured interview. Results show that the Virtual Garage is well-received by participants. We identify features that can further leverage the quality of the VR experience with CFD simulations. Implications are incorporated throughout the study to provide practical guidance for developers and practitioners.

Stumbriënė, D., Jevšikova, T., & Kontvainė, V. (2024). Key factors influencing teachers' motivation to transfer technology-enabled educational innovation. *Education and Information Technologies, 29*(2), 1697-1731. [https://doi.org/10.1007/s10639-023-11891-6](https://doi.org/10.1007/s10639-023-11891-6)

In response to the digital transformation in education, teachers are expected to develop new competencies. Although teachers gained valuable experience in digital technology use during the COVID-19 pandemic, research and practice show that primary school teachers need to be supported and trained for the new normal of innovative, advanced use and adoption of digital technologies in educational practice. This study aims to identify the key factors that influence teachers’ motivation to transfer technology-enabled educational innovation in primary education. The Learning Transfer System Inventory (LTSI) factors and the adoption factors of technology-enabled educational innovation have been conceptually mapped. The LTSI model has been empirically validated with data collected from 12.7% of Lithuanian primary school teachers. The structural equation modeling technique was utilized to analyze causal relationships of factors influencing teachers’ motivation to transfer technology-enabled educational innovation. The qualitative research method was used to provide a deeper understanding of key factors that influence motivation to transfer. The conducted analysis shows that motivation to transfer is significantly influenced by all five domains of factors: perceived value, personal characteristics, social practices, organizational and technology-enabled innovation factors. Motivation to transfer innovation varies according to teachers’ perceived digital technology integration skills, which underpin the importance of applying different roles and strategies based on the teachers’ skills. This study provides implications for designing effective professional development for in-service teachers and creating a suitable environment in schools for the adoption of innovation in post-COVID-19 education.


Although the successful implementation of the Learning Management System (LMS) in most of the universities in the Arab Gulf Countries (AGC), little consideration has been paid to exploring LMS usage. This paper provides a systematic review of the current literature focusing on the most critical factors influencing LMS usage in AGC. The extant literature was identified through six electronic databases from 2013 to 2023. Academic
articles were reviewed if they contained a relevant discussion of the factors influencing LMS acceptance and adoption conducted in AGC. Results from a systematic review of 34 studies showed that 15 studies were centred in Saudi Arabia. The results also, revealed that Technology Acceptance Model was the dominant model employed, and students were the main subject of studies. Moreover, the quantitative approach was the preferred design. Overall, forty-one factors were identified, and the results show that the following eight factors appear most frequently: Perceived Ease of Use, Perceived Usefulness, Social Influence, Performance Expectancy, Effort Expectancy, Facilitating Conditions, Self-efficacy, and Attitude. This review will be valuable for future research and helpful for higher education decision-makers who intend to use eLearning to overcome the challenges they face in using LMS effectively.


The use of technology to enhance classroom practices draws attention from numerous educational systems and scientific studies. Rwanda’s educational system prioritized ICT-integrated instructions in primary schools in order to enhance the provision of high-quality education from early years. Therefore, this study was undertaken at both public and private schools in Kigali City. It sought to find out the impact of Interactive Mathematics software (IM) on conceptual understanding and performance in lower and upper elementary mathematics learners. Designed as quasi-experimental, it involved 253 learners from Primary 2 and Primary 4, conveniently assigned to controls and experimental groups. A sample of learners’ test works was used to collect data before and after the treatment. Learners’ test scores were collected and analyzed using Excel and SPSS v.23 software. The results showed that P2 and P4 treatment groups’ mean scores differed significantly from each other. The effect was more noticeable at both levels in public schools than in private ones. Based on the significance of mean difference and performance on an item, there was no discernible difference in the impact of Interactive Mathematics aided teaching on lower and upper primary mathematics performance. The study’s conclusion included some recommendations for Rwanda Basic Education Board and called for additional, more thorough research on the qualitative facets of IM-supported teaching.


As block-based visual programming platform such as Scratch become more accessible and supportive to children’s programming learning, the demand on understanding a trajectory of children’s computational thinking development through programming from their early ages increases rapidly in recent years. To explore the developmental process of children’s computational thinking in twenty-first century, an experimental study was proposed to study the children’s acquisition of computational thinking (CT) concepts and skills through compulsory lessons in schools starting in the fourth grade. A computational thinking framework along with six units of programming lessons were developed as a part of the research, aiming to develop primary (or elementary) school students' computational problem-solving skills through a hybrid-based design of programming activities: combining unplugged (i.e., embodied cognitive activities without computing.
devices) and plugged (i.e., programming activities with computing devices) approach. Five primary schools participated in our main study, and a mixed method research was conducted with 400 fourth grade students (Male = 259; Female = 141) and 18 teachers involved in delivering our designed lessons. The findings in our study show that students achieved learning gains in basic computational thinking skills in solving programming problems under this hybrid-based learning approach. These findings can give insight for educators and researchers interested in incorporating computational thinking in primary education, which sets forth a research direction on the developmental aspects of computational thinking for children in the neo-Piagetian perspective.


Social media usage is indispensable for college students, but the connection between social media and learning has received little scientific investigation. By examining pre-service teachers’ attention to science, technology, engineering, and mathematics (STEM) teaching content and presentation in social media apps through WeChat, DingTalk, and TikTok, this study aimed to provide suggestions on using social media apps to promote pre-service teachers’ skill learning and teaching development and to understand the relationship between social media and learning. 383 valid surveys were distributed and gathered. The findings indicate that: 1) Social media apps have both beneficial and detrimental effects on education. 2) The degree of agreement differs on “Social media app is an excellent teaching tool” and “social media app has significant promise in boosting educational development”. The highest and lowest levels of agreement degrees were obtained for DingTalk and TikTok. The level of identification also affects how much pre-service teachers may pay attention to educational research and how frequently they study new materials in the future. 3) The degree to which pre-service teachers’ academic performance in professional learning is affected by their use of social media varies. These findings have implications for pre-service teachers. This study suggests that it is necessary to further investigate the teaching aid function of social media apps and how pre-service teachers can better utilize them to develop professional skills.


Second language (L2) writing plays an important role in improving the learners’ language skills of English as a Foreign Language (EFL) in terms of language expression and linguistic thinking. Therefore, improving writing skills is still a focus area for EFL learners. To enhance EFL learners’ writing ability and optimize their writing quality, an intelligent-based cognitive diagnostic feedback (I-CDF) strategy is proposed based on the Intelligent Writing Critique System (IWCS). IWCS can provide feedback on students’ English writing learning components, including lexical, syntactic, rhetorical expression, chapter structure, and discourse intention. Hence, the study intends to assess the effects of feedback strategies based on students’ writing scores, self-efficacy, epistemic network structure, and transferability. A quasi-experiment was conducted in two classes at a university in southeastern China, where students were randomly divided into two classes.
One (N = 32) was considered an experimental group conducted using the proposed I-CDF strategy, while the other (N = 30) was the control group using the score-based teacher corrective feedback (S-TCF) strategy. The writing experiment lasted for seven weeks. The students would be interviewed at the end of the writing learning activities. The results indicated that the I-CDF strategy improved students’ writing scores and self-efficacy. Furthermore, the epistemic network analysis showed that, compared to the control group, the I-CDF strategy encouraged the students to devote more energy to focus on high-level applications of writing skills such as rhetorical expression and sentence structure collation, optimizing the students’ writing epistemic network of the writing of the students. The interview revealed that the I-CDF strategy supported the experimental group students’ accurate understanding of writing, strengthening the logical structure of the writing. At the same time, the students in the experimental group were satisfied with the I-CDF strategy.


Abstract A lack of evidence bridging the chasm between professional learning practices and commonly used, publicly available resources such as YouTube videos, remains a long-term challenge in both research and practice. The study introduced a YouTube video club for female early childhood teachers in Hong Kong (N = 29) to view, analyse and discuss STEM teaching videos. The participants wrote reflections and discussed with peers to exchange views on teaching content and strategies. All participants completed pre- and post-intervention surveys reporting their teaching beliefs, and five participants from the experimental group were invited for individual interviews. The questionnaire survey data were analysed using statistical analysis, while the interview data were analysed through inductive thematic analysis. The study, which was pre-post quasi-experimental, showed that the video club enhanced teachers’ beliefs and attitudes towards professional practices in early childhood education. Qualitative analysis of teacher interviews revealed benefits and constraints of using YouTube videos for professional learning. The study transformed video clubs into a web-mediated mode using YouTube, Google Classroom and Zoom. The results have implications for the design and implementation of video clubs in teacher learning programmes. Practitioner notes What is already known about this topic As the largest and most popular video-sharing service, YouTube hosts a wide range of freely accessible video types that can be used for professional education in various disciplines. There are worldwide efforts to improve early childhood teachers' ability to teach STEM. Video recordings of classroom observations have been used in the context of video clubs since the 1990s to support teacher learning. What this paper adds We introduced the design of a YouTube video club focusing on STEM teaching, in which the participants were asked to view and analyse video excerpts, write reflection as guided by the facilitator and discuss with peers in groups to exchange views on the teaching content and strategies demonstrated in the video excerpts. We extended prior research on video clubs by transforming video clubs into a fully web-mediated mode using the technologies of YouTube, Google Classroom and Zoom. This design-based study evaluated the design of YouTube video club in terms of affording and constraining teachers' professional learning in STEM education. Implications for practice and/or policy Results of this study can inform the design of teacher learning programmes using YouTube videos. YouTube videos can be used in web-mediated video clubs to enhance teachers' professional beliefs, as well as
the pedagogical content knowledge in specific learning domains (eg, STEM). More enhancements should be made to optimize the design of YouTube video club.


Mobile devices have increased exponentially in the past decades and the rapid development of digital technology has provided rich soil for the growth of mobile learning (m-learning), which is a more convenient means of learning because of no limitations of space and time. Applying the stimulus-organism-response (S–O–R) framework, this study explores how learners experienced flow during m-learning and how their flow experience led to their continuance intentions for m-learning. With an online survey of 270 valid respondents, the model used in this study was validated by the partial least squares method. The results show that two key characteristics of m-learning applications are positively related to flow experience, of which concentration, in particular, rather than perceived enjoyment, plays an important role in continuance intentions. The S–O–R framework offers an overarching way to explore the influences of m-learning application characteristics (stimuli) on learners’ evaluations of their m-learning processes (organisms), which further influence their continuance intentions (responses).


Abstract Mental rotation is the ability to mentally rotate two-dimensional and three-dimensional objects in one’s mind. Previous studies have examined the relationship between mental rotation abilities and embodied cognition. However, conflicting findings underscore the necessity for further investigation. This study aims to investigate how different levels of embodiment in mental rotation training affect mental rotation training. Three versions of mental rotation training with different levels of embodiment (keyboard, touchpad and augmented reality) were developed for this study. A quasi-experimental study was conducted with a total of 125 university students to explore how different training versions affect participants’ training performances, perception of the usability of the training and mental rotation ability. The results suggest those who used the versions with higher levels of bodily engagement performed better than those who used the versions with lower levels of bodily engagement (p? 0.05).


With the rapid growth of education data in large-scale assessment, machine learning techniques are crucial to the interdisciplinary development of education and information. Although data mining tools are increasingly used to predict overall student performance, resilient students in the digital world remain unstudied. Our study aims to comprehensively identify key features in the classification of academically resilient students (ARS) and non-academically resilient students (NRS) in digital reading. With a sample of 11,496 disadvantaged students from seven high-performing Asian economies, data drawn from the Programme for International Student Assessment (PISA) 2018 were analyzed through Support Vector Machine (SVM). Results indicated that 20 key features were selected from 105 contextual features at the individual, home, and school levels,
which demonstrated a high predictive ability of the model. Personal experience, especially the use of metacognitive strategies in digital reading and reading enjoyment were predominant features. Interestingly, information and communication technology (ICT) resources and usage showed mixed effects on resilient students. This study provides significant implications for cultivating resilient students in online learning environments.


Abstract

Research has shown that even though standardized financial education has gained prevalence to promote financial literacy over the past decade, it has had little effect on personal financial planning. The present study used a randomized control trial to examine the effectiveness of a Python-based personalized financial projection on young working adults in Hong Kong, to examine if and how this approach improves their financial planning. Participants assigned to the experiment group received standardized financial education and Python-based financial projections, while those in the control group only received standardized financial education. The assessment based on the two-wave data showed that Python-based financial projection promoted future time perspectives, reduced temporal discounting, and improved financial planning via the full mediation of promoting financial attitudes. Although numerous applications for personal financial planning exist (such as Wallet, Walnut, Moneyfy, and Money View), our Python-based financial projection stands out as the pioneering solution tailored for the hands-on manipulation of programming code to effectively manage personal finances. Our findings suggest a new track to upgrade personalized financial projection and standardized financial education and contribute generously to the development of personal finance education. Practitioner notes What is already known about this topic Standardized financial education promotes objective financial knowledge. Standardized financial education has a limited effect on personal financial planning. Classical personalized financial projection promotes personal financial planning, but the effect is small. What this paper adds Introduction of a novel Python-based personalized financial projection by manipulating projection code. The evidence that Python-based personalized financial projection more strongly improves personal financial planning, compared to the classical personalized financial projection. The evidence why Python-based personalized financial projection can improve personal financial planning. Implications for practice and/or policy Facilitating engagement of young working adults with personalized finance planning through the use of a Python-based intervention. Integrating Python-based personalized financial projection into standardized financial education in the school setting. Using Python as the platform to design more topic-specific financial education module.


In 2018 the UK government launched a £50 million scheme to fund the expansion of existing grammar schools provided that they increase efforts to attract more pupils from socioeconomically disadvantaged backgrounds. This initiative assumed that grammar
school attendance boosts the educational attainment and the higher education progression rates of pupils judged to be of high ability. It is already well established that grammar school pupils’ higher average levels of educational attainment are due largely to their academic and social selectivity. The evidence in relation to higher education enrolment conditional on educational attainment, however, is more mixed. This paper sets out to update and improve on previous studies of the impact of grammar school attendance on higher education enrolment. Our analysis of data from the Next Steps longitudinal survey linked to National Pupil Database records finds that propensities to enrol in higher education generally, and at prestigious Russell Group universities specifically, are no better for grammar school pupils than for non-selective state school pupils with the same level of attainment at GCSE and A-level. This nil effect of grammar school attendance on progression to higher education net of the effects of educational attainment holds regardless of pupils’ socioeconomic background, suggesting that grammar schools are no better than non-selective state schools as facilitators of upward social mobility.

À l’issue de la phase principale de la première campagne MonMaster, 72 % des candidats de la plateforme ont reçu une proposition d’admission et 58 % en ont accepté une (part s’élevant à 63 % après recrutements complémentaires).

Doctoral advising serves a pivotal role in graduate education but is too often rooted in power inequities that have adverse impacts. In this narrative inquiry study, we examined how 28 doctoral students in STEM fields navigated power in their advising relationships through the context of their decision to switch advisors. We found that Ph.D. students encountered several forms of power in their advising relationships aligned with those proposed by Guerrero et al. (2020): resource-based power, enabling or disabling power, perceptual power, relational power, and power as prerogative. Our analysis illuminates how power is fueled by exo- and macro-level factors but is carried out on the meso- and micro-levels, often to the detriment of Ph.D. students. We also found that doctoral students exerted their own agency and power where possible, even in the face of severe power differentials and abuses. Our findings suggest that STEM departments engaged in doctoral education should create objective criteria for student feedback, offer more regular benchmarks and assessments for feedback, and decouple financial support from the advising relationship.

This paper looks at the national and international geographic mobility paths of young graduates in Italy and their educational and professional trajectories. By departing from the research fields of youth studies, mobility studies and higher education studies, we aim to highlight the multiple meanings and effects that mobility experiences may have in
structuring graduates' future projects and/or desires. On the other hand, we argue that their expectations for both their mobility experiences and careers are also shaped by family socialisation, considering furthermore that the building of embodied and scholastic cultural capitals is spatially differentiated depending on the places where they grow up. The empirical research is based on two rounds of semi-narrative interviews conducted with 51 Italian graduates between 2020 and 2021. For the analysis, we have outlined four types of mobility paths. For each type, we focus on how socio-structural and cultural variables influence the ways the interviewees framed their mobility and professional experiences, desires and projects, focusing furthermore on how the Covid-19 pandemic differently affected their objective possibilities and strategies of mobility between the first and second waves.


While considerable evidence has accumulated on state-funded merit-based scholarships, research on the effects of specific scholarship design choices has been thin, perhaps in part because cross-state comparisons are difficult. As one of the only states to enact major changes in the design of its merit-based scholarship program, Georgia provides a unique opportunity to explore the effects of these design choices. Using student-level observations for all high school graduates in Georgia over 9 years from 2008 to 2016, the paper uses difference-in-differences analysis and regression-discontinuity design to estimate the effects of a reduction in the level of HOPE scholarship funding, and the start of a new full-tuition scholarship, on student enrollment in Georgia colleges and universities. We find that the highest-achieving students were more likely to attend Georgia public higher-education institutions after the scholarship changes than before. Students who qualified for partial-tuition HOPE scholarships beginning in 2011 were less likely to attend Georgia public 4-year institutions than those who received full-tuition HOPE scholarships before 2011, though their enrollment increased relative to students ineligible for any merit aid. We conclude with discussion of implications for the design of merit-based scholarship programs.


This special issue looks for articles that address the question of the passage through higher education from the concept of complex trajectory (focused on delay, stop-out or change of modality, degree or institution), preferably following a longitudinal methodology, or focusing on how technology helps to monitor, control and support students in these processes, and that take equity issues into consideration. In short, we want to produce an issue that address the question of understanding complex trajectories and how higher education institutions approach them. We consider a trajectory to be complex when, beyond the diversity of curricular itineraries, it follows a different path and pace from that stipulated by the institution. In this way, among other possible routes, there are trajectories of delay, stop-out and change. The change can be of degree, of discipline, of higher education institution, or, particularly relevant to this issue, of modality (i.e., from face-to-face to hybrid or online education, or vice versa).


This paper interrogates and elaborates on the fabrication of teachers’ subjectivity who work in school contexts governed by neoliberal policies. Theoretically, the conceptual metaphor of bonsai pedagogy is proposed to understand teachers’ processes of subjectivation enacted by neoliberal discourses, policies, and practices. The article aims to understand the relationship between the processes of (de/re)-professionalisation and the subjective experience of malaise, suffering, and sickness lived by teachers in the exercise of their work. Bonsai pedagogy is offered as a complementary category of analysis and interpretation of these processes that is more sensitive to teachers’ subjectivity. The research is based on 35 narrative interviews with Chilean dissident schoolteachers who are members of teachers’ political organisations. I analyse three strategies used by the bonsai pedagogy: i) controlling and saturating teachers’ time; ii) managing and guiding teachers’ practices; and iii) obstructing teachers’ creativity. I discuss how the bonsai pedagogy reduces the capacity of teachers to unfold and construct their subjectivity in alternative ways. Since Chile has implemented neoliberal reforms in education longer than any other country, understanding how neoliberalism operates through and around Chilean teachers can contribute to furthering our knowledge of how teachers worldwide can resist and deal with neoliberalism.


This study aims to examine the key training factors that significantly impact the learning outcomes of trainees. A comprehensive framework is proposed to investigate the interrelationships among various training components, trainer performance, training usefulness, and their effects on metacognition and learning. Empirical testing of the model is conducted using the partial least squares structural equation modelling approach, analyzing data collected from 322 public servants in North India. The findings reveal that almost all the focal factors comprising a training programme, such as the usefulness of training, trainer performance and metacognition, positively influence trainees’ learning. While training agencies should consider all components of the training programme, the perceived usefulness, trainer performance and trainees’ metacognition are particularly influential factors in facilitating learning. Training components and trainer performance predict the usefulness of training. This study integrates all focal factors of a
training programme into a comprehensive framework using employee data, explaining a significant portion (45%–64%) of the variance in trainees' learning. These findings emphasize the importance of addressing these focal factors thoughtfully when designing and implementing effective training programmes.


The crisis of teacher shortages in Anglophone nation states can no longer be ignored as this long-term issue has been compounded by the pandemic. Growing evidence of the challenges of attracting and retaining a teaching workforce is now foregrounded in education policy internationally. This issue provides increased impetus for studying teacher motivations and principal dispositions particularly in relation to roles in hard-to-staff schools that tend to be in disadvantaged or rural communities in terms of how policies are received and enacted. This mixed methods study examined a teacher financial incentive (TFI) scheme aimed at facilitating the appointment of qualified teachers in hard-to-staff government schools in Victoria, Australia. Although evidence of TFI scheme’s effects and effectiveness as a policy solution to teacher shortages is limited, TFI schemes are widespread internationally. Our study shows that while the Victorian TFI scheme resulted in successful appointments for most participating schools, a financial incentive was only one among many other policy settings, personal and professional factors and other motivations informing teachers’ decisions to apply for a TFI position and the recruitment practices of principals.


Using a theoretical framework of policy assemblage, we analyse current primary mathematics teacher professional development in England, in the context of a transnational policy of mastery in mathematics influenced by East Asian practices. As well as the increased discourse of marketisation, and school and teacher autonomy, there has also been a paradoxical process of greater state influence over the content and form of professional learning. This paper maps the mathematics mastery market to show how marketisation and competition form a mirage that masks state-market assemblage. An analysis of these assemblages illuminates the state’s role in fostering a market whilst also operating as an actor in this market, in this case in mastery professional development. Within the mastery market, tensions arise between the phenomena of replication and isomorphism and differentiation of ‘offers’ that develop affinity groups and networks. Thus, we extend previous descriptions of the hierarchy, markets, and networks, and the roles of state funded actors within teacher professional development by identifying the importance of multiplicity of logics, assemblage as a process of labour, and the dynamic nature of relationships and activity. Resources to support teacher professional learning are mobilised in competitive processes with apparent choice hiding state direction.

We study the choice of acquiring STEM and non-STEM college education using variation induced by the proximity to universities offering different types of programs. We adopt a novel methodology allowing the identification of the distribution of response types and treatment effects in a multiple unordered discrete choice setting (Heckman and Pinto, 2018). The empirical analysis is based on confidential survey data for Italy, combined with administrative information about the founding dates of all Italian universities and faculties. We find that most compliers are women at the margin of choosing STEM education versus not going to college. We simulate the effects of expanding the supply of STEM education and discover that, in addition to substantial effects on employment, the gender disparity in STEM education could potentially decrease by up to 20%.


We study the choice of acquiring STEM college education using variation induced by the proximity to universities offering different types of programs. We adopt the methodology by Heckman and Pinto (2018) allowing the identification of the distribution of response types and treatment effects with multiple unordered choices. We combine survey data for Italy with historical information about the founding dates of all universities and faculties. We find that most compliers are women at the margin of choosing STEM education versus not going to college. Expanding the supply of STEM education could reduce the gender gap in STEM by 20%.


À la rentrée 2018, six collèges nîmois ont été re-sectorisés et près de 600 élèves ont été déplacés. Cinq ans plus tard, le bilan est mitigé selon les établissements.


Doctoral education in Europe has changed significantly in the last two to three decades. This transformation, visible in the structuring dimensions of doctoral education, appears to indicate a move to a more instrumental approach. This paper aims to determine the prevalence of an instrumental concept of doctoral education in Portuguese universities. It draws on the findings of a 2020 study that focused on how these institutions are adhering to this concept. The study relied on the analysis of the information disclosed by the institutional websites of 118 doctoral programmes, selected to be representative of
all the doctoral offer in the country. Findings suggest the existence of a hybrid concept of doctoral education among Portuguese universities, which is revealed by its association sometimes with a traditional concept, other times with an instrumental concept, or with a combination of both. Especially in these two last cases, the influence of academic capitalism and isomorphic pressures is evident.


This article offers new empirical evidence regarding the limits of the premises of educational privatisation policies. Educational markets rely on the assumption that private participation has the potential to boost school diversification and open new educational opportunities for students from disadvantaged backgrounds. Using a fresh empirical approach, we draw on the Chilean case to investigate this rationale, which remains a controversial issue in the global educational discussion regarding privatisation. We examine the assumption of diversification by analysing three aspects: the attributes used by private subsidised schools to position themselves in the educational market (‘Value Proposition’), the extent to which they embody these stated attributes and the alignment between them and parental preferences. Based on surveys and administrative records, our findings suggest that although schools display clear identities to position themselves in the educational market, there is also a mismatch between what some types of schools offer and what families receive. Our data also reveal a high level of social stratification between school types which cannot only be explained based on parental preferences or school admissions. We interpret the unfulfilled promise of diversification as a failure in the privatisation process. Based on these findings, we discuss the policy-related factors of incoherent and unequal diversification in the Chilean educational system.


trajectoires scolaires des étudiants en exploitant une réforme antérieure au plan « 1 jeune 1 solution ».

Résultats clés
- Un taux de recours variable à l’aide exceptionnelle
- En moyenne, les entreprises de moins de 250 salariés touchent 5 960 € par apprenti embauché contre 2 830 € pour celles de plus de 250.
- On observe cependant une large hétérogénéité parmi ces dernières : les entreprises de plus de 250 salariés qui sont loin d’atteindre les objectifs nécessaires en termes d’embauches de contrats d’insertion professionnelle recourent moins souvent à l’aide exceptionnelle que celles qui sont déjà proches de la cible à atteindre.

Une forte hausse de l’embauche d’apprentis
- La mise en place de l’aide exceptionnelle est concomitante avec une importante hausse du nombre d’apprentis embauchés par rapport à 2019 : le nombre d’apprentis embauchés augmente de plus de 40% pour atteindre 479 000.
- La part d’apprentis recrutés par rapport au nombre total d’embauches dans chaque entreprise double : entre 2016 et 2019, le recrutement d’apprentis représente en moyenne 1,7% des embauches totales, contre 3,3% en 2020.
- On peut également mesurer cette évolution par type d’entreprise, selon leurs pratiques antérieures en termes de recrutement d’apprentis. En 2020, les trois quarts des apprentis embauchés le sont par des entreprises ayant déjà recruté au moins un apprenti durant les années précédentes.
- Néanmoins l’année 2020 se démarque par une hausse significative du nombre d’entreprises qui embauchent un apprenti pour la première fois.
- Enfin, on peut noter que la hausse du nombre d’apprentis embauchés observée en 2020 est principalement tirée par des apprentis dont le niveau du diplôme préparé est supérieur au bac.

L’impact de l’aide exceptionnelle sur l’embauche d’apprentis
- Les auteurs montrent que les entreprises percevant en moyenne une aide plus élevée de l’État pour l’embauche d’apprentis recrutent effectivement un nombre d’apprentis plus important.
- En particulier, les entreprises de moins de 250 salariés perçoivent un montant d’aide moyen plus élevé que celles de plus de 250 salariés, qui doivent satisfaire des critères supplémentaires pour bénéficier de l’aide exceptionnelle.
- Ainsi, les entreprises légèrement au-dessus du seuil de 250 salariés embauchent 18% d’apprentis en moins par rapport aux entreprises légèrement en-dessous de ce seuil.
- Cette différence est principalement tirée par les structures pour lesquelles la cible d’embauches de contrats d’insertion professionnelle n’est pas encore atteinte : elles recourent moins souvent à l’aide exceptionnelle et embauchent ainsi un nombre plus limité d’apprentis que des structures comparables qui ne font pas face à ces contraintes.
- Les auteurs montrent par ailleurs que la hausse des embauches d’apprentis ne s’est pas faite au détriment de profils similaires sur le marché du travail : ils ne trouvent pas d’effet de substitution avec des personnes en contrat temporaire ou en stage.

Au total, l’aide exceptionnelle a bien un impact global positif sur l’embauche d’apprentis.
- Les auteurs estiment que 80 500 embauches d’apprentis en 2020 peuvent être attribuées à la mise en place de l’aide exceptionnelle, ce qui représente 56% de la hausse des embauches observée entre 2019 et 2020.
- Cette estimation chiffrée doit cependant être utilisée avec prudence dans la mesure où elle repose sur l’hypothèse que l’échantillon utilisé pour l’estimation est représentatif de l’ensemble des entreprises bénéficiant de l’aide exceptionnelle.
- L’impact de l’apprentissage sur la probabilité d’interruption de la formation
- Sur la période considérée, la probabilité de préparer un BTS par la voie de l’apprentissage plutôt que par la voie scolaire augmente de façon significative : elle passe de 22% en 2017 à 39% en 2021.
- Nous montrons que cette évolution fait suite à la libéralisation du marché de l’apprentissage en 2018, qui a permis de diminuer la distance moyenne au CFA le plus proche pour les élèves.
- La stratégie empirique mise en œuvre montre ensuite que pour les étudiants en BTS, la formation en apprentissage plutôt que par la voie scolaire diminue la probabilité d’interrompre la formation à la fin de la
première année de 19% l’année suivant la mise en place de la réforme. Les auteurs analysent également cet impact pour les étudiants en CAP, cependant les résultats sont difficilement interprétables dans la mesure où la diminution de la distance au CFA le plus proche est moins importante. Ils n’observent l’impact de la réforme qu’un an après sa mise en place : l’accès à des données plus récentes est susceptible de préciser ces premiers résultats.


Scholars have identified many factors that lead to changes in anti-immigrant sentiment. Less is known, however, about the effects of anti-immigrant sentiment on the academic experiences and outcomes of immigrant students. This manuscript examines the relationship between anti-immigrant sentiment and immigrants’ expectations to achieve a college degree and career success in Europe. Consistent with established literature on immigrant optimism, this study finds that immigrants generally have higher educational and occupational expectations than their nonimmigrant peers. However, these positive associations decrease in countries with higher levels of anti-immigrant sentiment. These patterns manifest for both first- and second-generation immigrants, indicating that the potential deleterious effects of anti-immigrant sentiment span generations of immigrants. These findings shed light on the out-of-family and out-of-school factors that shape the educational trajectories of immigrant youth and show that increases in anti-immigrant sentiment might bring about long-term damage to the success of immigrants in their host countries. They also suggest that school administrators and policymakers interested in immigrant success in the host countries should take anti-immigrant sentiment into account when devising approaches to aid immigrant incorporation.


The rationale for the principles of effective school governance in England, as set out in government regulations, has never been made explicit. This article addresses that issue and develops and proposes such principles. We argue that effective school governance secures the legitimacy of schools as institutions. Such institutional legitimacy is achieved through the institutionalization processes in which the institutional primary task is central. Effective governance is therefore concerned with overseeing and ensuring the processes of institutionalization. We identify two general principles that relate to ensuring the school’s legitimacy and ensuring that the school’s institutionalization processes enable it to be a legitimate institution. We also distinguish six specific principles that relate to: the school’s work on the institutional primary task, the resources required and deployed for work on the institutional primary task; the school’s compliance with the rules and regulations that apply to the institution; the school’s conformance to the norms expected of a school; the way the school operates on a day-to-day basis in relation to wider society’s expectations; calling the headteacher or principal (HT/P) to account for the functioning of the school; and ensuring the HT/P’s development. Our analysis is relevant to school governance in other countries.

Knowledge exchange (KE) is increasingly important in higher education internationally, yet relatively little attention has been paid to it as a pedagogic opportunity for students. This paper draws on 26 interviews with stakeholders within and outside HE to develop a model of student-led knowledge exchange as a guide for learning through KE. The model includes the following elements: Preconditions, Prior Knowledge, Planning and Place, Pedagogic Context and Product, and offers an analysis of different forms of KE which occur between individuals in a learning triad consisting of student, facilitator and external participant. The research foregrounds a social view of learning where valid knowledge comes from diverse participants in the exchange, including students themselves. Students act as a catalyst for multi-directional KE – a finding which challenges the implied hierarchies evident in much of the literature on this topic. The model is offered as a starting point for developing a pedagogy of KE in higher education.


The federal government and a number of nonprofit, non-governmental agencies have invested heavily in programs designed to provide research opportunities, financial support, and mentorship to undergraduates in science-related fields. These efforts are aimed at supporting students' matriculation in science majors and into science-related careers. This study used a quasi-experimental design to examine whether college students who participate in a federally sponsored intervention program develop significantly stronger science identities in their first year of college compared to their peers who do not participate in the intervention. Results suggest intervention participants develop significantly stronger science identities compared to their counterparts in the control group, but these benefits are somewhat mitigated after controls for mentoring enter the model.


We study how the admission of a student to an elite secondary school changes the schooling outcomes of younger cohorts in the student's school of origin. The context of the rapid establishment and expansion of a nationwide system of highly selective and free-of-charge secondary schools in Peru allows us to investigate information diffusion with low financial barriers. Using a sharp regression discontinuity design, our analysis shows that the admission of an older schoolmate increases the number of younger students who apply (by 16%) and are admitted (47%) to this elite school system. The effect is concentrated among students whose parents have low education levels. Moreover, admissions of older schoolmates to a selective school gives younger students the opportunity to learn about elite schools, but does not seem to encourage them to improve their learning achievement or provide an advantage in preparing the admission assessments. Our findings show that selective schools can have effects that go beyond
their own students and indicate that schoolmates can be an effective channel for increasing the demand from high-achieving, low-income students for high-quality education.


We analyse the creation of European university alliances as an effort to build learning networks between universities in light of newly perceived needs in Europe. The rationales for such alliance formation include cultural integration, grand societal challenges and reforms in the European innovation ecosystem. We consider how alliance formation may be instrumental in achieving closer cooperation and understand alliances as learning networks where universities can share know-how, define strategies and pursue moral reflection. How such learning may take place is illustrated with a case study of the “EuroTeQ Collider”, a joint educational programme by one of the European university alliances. The case illustrates how uneven experience with novel educational formats and stakeholder engagement creates opportunities for exchange and how formulating a common language for joint activities can make universities align their strategies and deliberation.


Student performance data is increasingly used to monitor and evaluate teachers. This study examines whether the turnover intentions – if teachers would change schools given the chance – of teachers in socioeconomically disadvantaged classrooms are moderated by teacher appraisal practices based on student academic performance data at the school system-level. Three-level hierarchical modelling in 46 education systems is conducted based on the Teaching and Learning International Survey (TALIS) from 2018. Results show that the effect of classroom socioeconomic composition on teacher turnover intentions increases as a function of performance-based teacher appraisal. However, this is only true when the appraisal is conducted by external authorities, and not so when conducted by the school management team. The models are then re-run by school consequences of appraisal such as dismissal, financial bonuses, or sanctions, and then by teacher characteristics, including gender, experience, and teaching subject. Experienced teachers in socioeconomically disadvantaged classrooms are more likely to change schools in school systems with more performance data-based teacher appraisal. These results underscore the potential pitfalls of performance data-based accountability systems for students in socioeconomically disadvantaged educational settings.


Cet ouvrage est consacré aux mutations des systèmes scolaires en Afrique entre les années 1940 et 1980 dans le contexte des décolonisations d’abord, puis celui des constructions nationales. Les auteurs s’attachent à rendre compte du vécu et des pratiques des acteurs en regard des politiques élaborées par les États et des contraintes de terrain (guerre d’indépendance, révolution post-indépendance, tensions
économiques et sociales). Les contributions témoignent du dynamisme d’une recherche en renouvellement qui s’ancre dans un champ historiographique déjà bien balisé. De même que l’école coloniale échappe au contrôle de son concepteur, l’école devenue rouage des constructions nationales peut prendre des chemins inattendus. L’ouvrage tente de dépasser la dialectique domination/résistance pour mettre au jour les négociations à l’œuvre dans la confrontation coloniale. Il analyse aussi, dans le prolongement des indépendances, les ambiguités des politiques et des pratiques scolaires nationales, les continuités et les ruptures avec les ex-métropoles.


Les établissements scolaires sont aujourd’hui enjoints de mettre en œuvre une démarche d’évaluation et de contractualisation afin de garantir leur implication dans une recherche de qualité au service de la réussite de tous les élèves... Pour que ce processus ne se réduise pas à une formalité administrative, il est essentiel qu’il engage tous les acteurs, leur permette d’analyser leurs pratiques, d’explorer ensemble de nouvelles perspectives et d’améliorer sur la durée le fonctionnement et la pédagogie de l’établissement. Il s’agit de conduire une autoévaluation la plus participative possible pour favoriser une évolution la plus constructive possible. Le présent ouvrage montre concrètement que cela est, tout à la fois, possible et efficace. Il présente la recherche-action menée sur plusieurs collèges, analyse les conditions qui permettent d’associer l’ensemble des personnels au travail collectif et propose une série d’outils dont pourront se saisir les professeurs et cadres éducatifs. On y trouvera, outre d’indispensables références théoriques, des témoignages concrets d’acteurs impliqués dans l’évaluation-évolution de leur établissement. On y verra comment se construisent de véritables compétences collectives, respectueuses des responsabilités spécifiques des différents protagonistes. On y découvrira comment une solidarité réciproque peut faire de chacun et chacune un véritable « ami critique » dans une dynamique qui permet de faire face aux difficultés et de surmonter les découragements. C’est ainsi que les établissements scolaires peuvent échapper, tout à la fois, à l’improvisation et au caporalisme et constituer – peut-être – des espaces-temps démocratiques au service d’une éducation toujours plus émancipatrice. Philippe Meirieu


Foucauldian critical studies are cornucopian in illustrating how policy as discourse normalizes and yields human beings into made subjects in modern societies. However, Foucault’s own slide from the ‘terminal stage of discourse’ pays little attention to the linguistic elements, and thus weakens the theory’s potency in explaining the reality. Specifically, when the production of desirable subjects implicates clear target/norm-setting, ambiguous expressions are persistent in policy documents. To explicate this contradiction, this article firstly traces back to the foundation of Foucault’s critical approach to policy analysis – socio-linguistic studies, to demonstrate the inevitable existence of ambiguity in language. It then continues such interdisciplinary efforts by combining research in public administration, politics and international relationship, to explore the positive effects of equivocalness in policy texts. Empirically based on China’s
regulation over transnational higher education, this study argues ambiguous expressions facilitate modern states, especially those fraught with conflicting discourses to mask the discursive conflict and leave negotiation room for innovative policy enactment. The vague norms of subject production are thus both inevitable and intentionally employed in policy developments.


The European Commission recently incentivized universities to establish alliances in order to institutionalise regional collaboration through the European Universities Initiative (EUI). Alliances are envisioned to maintain Europe’s global position and enhance regional integration. Their mission statements are ways of signalling identity and legitimacy and are used for strategic planning and performance frameworks. This study explores how 31 EUI alliances communicate their identity using insights from institutional theory and strategic balance. Findings reveal that EUI alliances anchor their identity within low risk and easily accepted areas of value to stakeholders and project homogenisation in regionally institutionalised areas. However, alliance missions also articulate in varying levels of detail a range of ambitions in claims, which demonstrate areas alliances chose to distinguish themselves. The findings provide insight into how alliances exert bounded agency within a regional initiative and highlight potentially competing tensions within the initiative.


This paper assesses how UK universities seek to maintain their global dominant position post-Brexit through comprehensive strategic partnerships with key European institutions as part of their internationalisation strategies. Drawing on 24 semi-structured interviews conducted from November 2017 to July 2018 in 12 UK universities vertically differentiated and spread along the highly hierarchised spectrum of British universities in all four nations, we aim to examine which types of universities are most inclined to form international comprehensive university-wide strategic partnerships, and how they identify their partners. The analysis is framed within Bourdieu’s theory of “economy of practices” which considers all university practices as economic practices that are ultimately tailored towards maximising either material or symbolic profit. Unlike in business and industry, where organisations traditionally compete to maximise profit, universities must both compete and collaborate with one another in order to improve (or maintain) their position in the field. UK universities will need to navigate the post-Brexit space they find themselves thrown into, and in the process will need to review international institutional links with both European Union (EU) based and non-EU universities. This paper will assess how UK universities seek to maintain their dominant position in the field through comprehensive strategic partnerships with key foreign institutions.

Purpose: Leadership for the implementation of an educational innovation in Singapore was examined by integrating distributed leadership with an ecological perspective of leadership and analysed using the third generation of cultural–historical activity theory. Research Method: The study adopted the naturalistic inquiry approach of a case study of a cluster of six elementary schools in the process of diffusing an educational innovation over one academic year. The research team observed six open classroom sessions and two review sessions at the cluster level. A total of two Ministry officers, one Master Teacher, 10 school leaders, 12 key personnel and 21 teachers were interviewed. Findings: The use of cultural–historical activity theory as an analytical lens provided insights into how different activity systems at the ministry, cluster, and school levels interact in providing leadership for the implementation of the innovation, the tools utilised, the rules/norms which enabled or constrained the innovation’s implementation, and the evolving nature of the leadership provided. The study affirms the value of incorporating an integrative perspective in the analysis of leadership and the value of cultural–historical activity theory in unpacking the distribution of leadership across interrelated activity systems, and in highlighting the temporal evolutionary nature of leadership.


Cet article s'intéresse à la mise en place d'une démarche d'analyse multiniveau qualitative, pour analyser les rapports entre deux mondes sociaux (Éducation nationale et éducation populaire) dans un dispositif de lutte contre le décrochage scolaire (atelier relais). Tout d'abord, en nous intéressant à la méthodologie mise en place dans la recherche, puis en cernant les avantages et inconvénients d'une telle démarche, nous montrons de quelle manière l'analyse multiniveau est nécessaire pour comprendre la complexité des rapports sociaux et leurs effets sur les acteurs et actrices institutionnel·les, organisationnel·les et opérationnel·les du dispositif.


This study explores how Norwegian school leaders develop their capacity for instructional leadership, a leadership style that is strongly related to school effectiveness and school improvement across a range of national school systems. The concept captures important aspects of Norwegian school leaders' task preferences. To gain further insight into the process of developing the capacity for instructional leadership, this study links instructional leadership to school leaders' core practices. The multidimensional concept of core practices views school leaders as goal oriented and actively involved in teachers' collaboration and professional development, observation, and supervision. Moreover, the concept covers school leaders' efforts to redesign and improve their schools' instructional programs. In this study, school leaders assessed instructional leadership related to three distinctive core practices: observation and supervision, collaborative
learning engagement, and time allocation for data use. Multiple regression analyses were conducted, and overall, the regression model, with all the predictors included as a set, was significant. 28.5% of the variance in school leader’s capacity for instructional leadership is explained by the three distinct factors. The results indicate that when school leaders adapt core practices of leadership to their work context, their capacity as instructional leaders increases. The findings and implications will be discussed.


This article explores future scenarios regarding the integration of European higher education (HE) in light of the European Universities Initiative which has been unfolding since 2017. Its aim is to understand potential development paths in light of the established intergovernmental Bologna Process, which has been diversified through international and supranational practices since its launch at the end of the 1990s. By way of European integration theories, we approach potential integration scenarios – a hitherto underutilized framework in HE studies. Our heuristic analysis of HE integration is based on secondary data; subsequently we construct and discuss four scenarios. Finally, we explore the implications of the scenarios from the perspective of the evaluation of the integration process of European HE.


Although the literature on assignment mechanisms emphasizes the importance of efficiency based on agents’ preferences, policymakers may want to achieve different goals. For instance, school districts may want to affect student learning outcomes but must take teacher welfare into account when assigning teachers to students in classrooms and schools. This paper studies both the potential efficiency and equity test-score gains from within-district reassignment of teachers to classrooms using novel data that allows us to observe decisions of both teachers and principals in the teacher internal transfer process, and test-scores of students from the observed assignments. We jointly model student achievement and teacher and school principal decisions to account for potential selection on test score gains and to predict teacher effectiveness in unobserved matches. Teachers, but not principals, are averse to assignment based on the teachers’ comparative advantage. Estimates from counterfactual assignments of teachers to classrooms imply that, under a constraint not to reduce any retained teacher’s welfare, average student test scores could rise by 7% of a standard deviation. Although both high and low achievers would experience average gains under this counterfactual, gains would be larger for high-achieving students.


TRIBUNE. Un collectif de chercheurs et d’experts du monde scolaire, comme François Dubet, Pierre Kahn ou Bruno Robbes, et le collectif Osons les territoires invitent, dans une
tribune au « Monde », à refonder l’école à partir des réalités locales plutôt que de chercher un consensus uniforme et vain.


Les sections de technicien supérieur (STS) accueillent 219 400 étudiants sous statut scolaire à la rentrée 2023, effectif en baisse de 3,7 % par rapport à la rentrée précédente, en lien avec la progression par ailleurs des formations en apprentissage.


Les classes préparatoires aux grandes écoles (CPGE) accueillent 82 400 étudiants à la rentrée 2023, un effectif qui repart à la hausse (+1,5 %) après deux années consécutives de baisse. La hausse concerne les effectifs en première année (+3,9 %), les effectifs des filières littéraires (+3,3 %) et économiques (+2,7 %), et les hommes (+2,8 %). Si le nombre de femmes reste globalement stable (-0.4 %), il baisse au sein de la filière scientifique (-1,6 %) bien qu’il y augmente de 2,1 % en 1ère année.


Teaching quality assurance has become a common concern and a common pursuit for institutions of higher learning around the world. This paper takes teaching quality as a governance issue in higher education, as different governance systems entail different approaches to quality assurance. Through a detailed examination of the Chinese system in teaching administration in comparison with the Canadian system, this study aims to provide insights on different approaches to teaching quality assurance in more centralised and decentralised governance structures. Based on the findings of this study, no winner can be declared between centralised and decentralised systems in the area of teaching quality assurance. Instead, the study points to different strengths in each system. With more local autonomy, the decentralised system better respects disciplinary uniqueness and academic freedom in teaching. With more national planning, the centralised system secures a system-wide threshold in teaching quality and an optimal long-term development.


University institutional policy is poorly understood. While policy is required by law for universities to accept funding and is revered for articulating values, mitigating risk, and guiding practice, policy is frequently considered absurd and resisted in practice. This is the policy-practice divide. To gain a better understanding of this divide and the nature
of the resistance, we asked policy actors to describe their experiences with policy development, implementation, enactment, and review. We asked: If policy is absurd, what is the nature of the relationship between policy and university management, and how do those who enact policy deal with this absurdity? We discovered that university management has an infinitely regressive self-fulfilling relationship with policy because they intentionally exclude the workforce from policy-making and see themselves as solely responsible for policy interpretation and implementation. However, when Kierkegaard’s concepts of absurdity, faith, hope, and doubt are applied to policy actors’ experiences, we see that resistance can be characterised positively as a ‘leap of faith’, where those who enact policy overcome their doubts and reinterpret it to achieve some semblance of good. This is an unintended consequence for managerialism, as deliberately creating a policy-practice divide solicits resistive ‘good’ practices from policy actors.


The European Union Framework Programme (EUFP) is the most institutionalised form of supranational thematic programming in the world and the centrepiece of European Union research policy. Since 1994, the EUFP has also funded collaborative research projects in the social sciences. Surprisingly, little attention has been paid to its genesis, development, and effects in shaping the development of European science, especially examined by discipline or multidisciplinary fields. The EUFP is thus analysed here through an instruments-as-institutions approach that conceptualises the EUFP as an institution. Content analysis of the official documents of each funding cycle (n = 5) and a sample of European-funded educational research projects (n = 122) was analysed in conducting this research. The results show incremental ideational change of the EUFP’s guiding ideas: from knowledge as an instrument to knowledge as a resource; within-the-EU to outside-the-EU internationalisation; and cooperation to an integration rationale of Europeanisation from the EUFP4 and EUFP5 (1994–2002) to the EUFP6 onwards (2002–2020). European-funded educational research contents are shaped by such representations of what is expected of European research. If the policy instrument steers European-funded educational research, ideas more than regulatory features significantly—though incrementally—change the direction of European social science.


We examine the mortality effects of a 1947 school reform in Japan, which extended compulsory schooling from primary to secondary school by as much as 3 years. The abolition of secondary school fees also indicates that those affected by the reform likely came from disadvantaged families who could have benefited the most from schooling. Even in this relatively favorable setting, we fail to find that the reform improved later-life mortality up to the age of 87 years, although it significantly increased years of schooling. This finding suggests limited health returns to schooling at the lower level of educational attainment.

Ontario education policy articulates an explicit commitment to equity and inclusion for increasingly diverse classrooms. Despite policy commitments, when equity and inclusion intersect with religion, enactments remain underwhelming. This paper draws on the voices of 30 Ontario public school educators, all of whom self-identify as Muslim, to share the ways they affect and have been affected in attempting to enact a responsive pedagogy for faith-centred learners. Through the use of dialogic portraits in two different school boards, the voices of Muslim educators express consistent sentiments of responsibility to advocate for basic religious accommodations while at the same time needing to tread carefully with anything to do with religion in order not to be marginalised by colleagues. Participants in this study reinforce the need for more robust conceptions of equity and inclusion that consider the complexities of the religious identities of learners and educators in public education.


The study investigates a tension between affirmative action scholars who hypothesize that affirmative action bans would increase underrepresented minority students’ STEM college completions and scholars who have empirically estimated declines. It also questions results that that find no existence of a STEM penalty (compared to non-STEM) caused by affirmative action bans and finds that a STEM penalty is likely, but varies from a very modest effect (using the Department of Homeland Security taxonomy) to a more substantial impact (using the National Science Foundation taxonomy). This study finds that many of the tensions between affirmative action scholars studying STEM are likely the product of model specification. It illustrates how the following have impacted the estimates: the period studied, the inclusion and exclusion of certain ban states, the measure of institutional selectivity, and most importantly, the taxonomy of STEM. Furthermore, this study builds upon prior studies by analyzing private schools and the shorter-term and longer-term impacts of the bans.


As it becomes more crucial to push the boundaries of science to develop new technologies and important global initiatives, internationalization can be instrumental in helping underdeveloped countries overcome challenges such as poverty, climate change, and educational inequalities. Higher education institutions have always faced challenges in the process of internationalization, which have occupied scholarly attention in recent decades, but little research has been conducted on the internationalization of higher education in less developed African countries. This qualitative study aims to shed light on the challenges of internationalization of higher education in low-income countries in East Africa. After reviewing the literature and interviewing academics, the obtained data were thematically analyzed. The results suggested 12 main challenges, which were classified into four major categories. The challenges include a lack of clear policies and guidelines; the inefficiency of the organizational structure of internationalization; financial, infrastructure, and equipment problems; weaknesses in scientific, skill, and language competences; cultural
differences; non-reciprocal relationships; and a brain drain. Finally, strategies for responding to these challenges with regard to the internal and external environments of higher education institutions were proposed. Among the internal strategies of higher education institutions are the development of clear policies and visions, planning for the development of human resources, and sustainable budgeting for internationalization programs. External strategies emphasize the development of national policies and laws based on contextual and environmental conditions, as well as interaction and participation in international meetings to expand communication and use the scientific and economic capacities of international agencies and institutions.


In Dobbs v. Jackson Women’s Health Organization (2022), the U.S. Supreme Court overturned decades of precedent regarding the federal right to an abortion for people who can carry pregnancies. This case has substantial significance for the education field, directly affecting school- and college-age marginalized students who can carry pregnancies. In this essay, I argue that Dobbs and subsequent policies have created a significant need for educational research to inform courts, public policy, and practice to improve social and educational structural support for marginalized students who can carry pregnancies in a post-Dobbs era. This need is because Dobbs and subsequent policies have significantly diminished reproductive justice, and reproductive justice is intricately tied to marginalized students’ ability to fully engage in their education. Timely educational research is critical to address the systemic inequities that Dobbs and related policies have exacerbated and reified.


Internationalization in higher education is of growing importance as institutions respond to globalization trends. Cross-border partnerships between institutions have existed for many years, but the number of networks with multiple institutions to further information exchange and build on resources have been increasing more recently. This case study examined one European institution and how it used and was involved in an international network. The research question guiding this study was: How do higher education administrators in a European institution successfully implement internationalization through an international network? Three key themes emerged from the data collected as related to how the institution is successful, the institution: (i) prioritizes the network; (ii) adapts to the network challenges; and (iii) establishes partnerships beyond the network. The findings from the study led to three recommendations for institutional practice: (i) develop a communication plan, including a mission statement; (ii) empower the secretariat to be the key facilitator; and (iii) encourage individualized strategies for each institution. Overall, this case study will help higher education administrators plan for best practices related to using networks to amplify internationalization strategies in their institutions.

This article presents the findings from an interview study with 12 subject teachers and special educators in three Swedish lower secondary schools. The purpose of the study was to explore how school professionals perceive and respond to dilemmas related to inclusive education that require prioritizations between conflicting values, principles or goals. Through the use of conceptual tools and theoretical notions of policy enactment, the article sheds light on how such dilemmas can be played out in practice. Four different dilemmas were discerned in the analysis: special vs. general education settings, external control vs. professional freedom, curricular demands vs. students’ needs and individual vs. group. The analysis illustrates how actors’ perceptions and responses to dilemmas can be framed by policy demands in different ways, but also by contextual factors and the actors’ roles and positions in their schools. In this way, the article provides a partly new understanding of such processes in relation to previous research. Moreover, it is argued in the article that the notion of dilemmas provides an educational dimension that can be an important addition in analyses of policy enactment.


Although all young people in England are entitled to a full-time, state-funded education suitable to their needs, every year some are without a school place and must be found one through local fair access protocols. This paper uses the enactment of fair access protocols in one local authority to examine the impacts of policy shifts to increase the power of self-governing schools and reduce the role of local authorities in ensuring local educational inclusion. Drawing on observations of two fair access panel meetings and a school’s preparations for these meetings, alongside Foucault’s theorisation of relationships between local practices and wider policy conditions, I argue that particular tactics are produced through fair access practices, which prioritise procedural fairness to schools and serve to categorise perceived risky young people. This interpretation of fairness arises out of a policy landscape of tensions, which requires schools to balance individual performance priorities alongside collective duties for inclusive and equitable education, and turns what should be an inclusive policy into another facet of the increasingly nuanced exclusionary architecture of English education. The findings are internationally relevant given global support for self-governing schools which is creating new issues for the educational inclusion of marginalised populations.


In Danish universities, like elsewhere, there is an increased concern for students’ mental health and well-being. In 2018 the Danish government implemented a new biannual national student survey that focuses on well-being as a new indicator in the performance-based funding model. In this article we explore the survey, which is similar to surveys from other national contexts, and discuss the possible effects on students and universities. We draw on a Foucauldian post-disciplinary conceptual framework that asks us to consider how the “psy-disciplines” play out in educational institutions and contexts. We show how the survey mobilises psychometrics based on positive psychology and argue that the survey, as a new form of governing at a distance, normalises a figure of the “positive” student, which may counteract the intention of addressing the lack of well-
being. Further it responsibilises universities for how students “feel” rather than what they learn, which constitutes a significant change.


Recent policy changes to the regulation of international schooling for Chinese nationals in China have seen restrictions on curriculum, admissions and ownership. While there is evidence of the impact of these changes at the institutional level, it is not clear how recent regulation has impacted the actors at the phenomenological level. In order to address this gap, we situate recent regulation within the concept of cosmopolitan nationalism, which highlights the interplay of local and global forces and places lived experience at the forefront of analysis. We also draw on qualitative survey and in-depth interview data with teachers from an international school in China that explored their understandings of international schooling. By analysing the teachers’ understandings of international schooling, we were able to gain an insight into the impact of regulation at the level of lived experience. Overall, we found little evidence that regulation had impacted the teachers’ beliefs about international schooling, suggesting either the normalisation of regulation or a lag between its implementation and internalisation. Our findings also suggested two main configurations of cosmopolitan nationalism held by the teachers. The first, which we refer to as ‘cosmopolitanism with national characteristics’, positions international schools as a more diverse and care-free alternative to domestic schooling. The second configuration of cosmopolitan nationalism, which we refer to as ‘nationalism with cosmopolitan characteristics’, positions the nation as the foundation and cosmopolitan-related aspects as peripheral.


We examine the potential to expand and diversify the production of university STEM degrees by shifting the margin of initial enrollment between community colleges and 4-year universities. Our analysis is based on statewide administrative microdata from the Missouri Department of Higher Education and Workforce Development covering enrollees in all public postsecondary institutions statewide. We find that the potential for shifting the enrollment margin to expand degree production in STEM fields is modest, even at an upper bound, because most community college students are not academically prepared for bachelor’s degree programs in STEM fields. We also find that shifting the enrollment margin is unlikely to improve racial/ethnic diversity among university STEM degree recipients. This is because community college students at the enrollment margin are less diverse than their peers who enter universities directly.

Currently, there is a national level debate on security-based school safety policies and practices, particularly in relation to the presence of police in schools. Decisions about school safety are discussed at the district level by administrators and board of education members who may not be aware of the importance of utilizing local data to ensure these decisions are data driven and beneficial to all the stakeholders they represent in diverse, urban districts. Research on security, policing, and social-emotional and school climate-based strategies are discussed, as is research on district-level decision-makers (boards of education and administrators) and decision making. This paper provides local school stakeholders, policy makers, and school safety researchers with a framework for collaborative work to ensure that evidence-based violence prevention programming and local data drive district-level decision making about school safety.


Interpreting and enacting curriculum in any school is a complex undertaking, even more so in special school contexts where teachers must develop and enact appropriate curriculum modifications and accommodations for small groups of students and individual students. In special education contexts, educational modifications are changes teachers make based on a standardised curriculum, in order to be able to support the individual learning of students with intellectual and other profound disabilities, in terms of personalising learning for each student. These modifications are derived from teachers’ curriculum (re)interpretations. Conversely, educational accommodations are the adjustments that teachers make in how they deliver the interpreted curriculum through individual learning episodes without changing the existent learning foci. This article presents a theorisation of how some special school educators interpret and reinterpret standardised curriculum to support the individual learning needs of students with moderate to profound disabilities through operationalising a theoretical framework of personalised learning. Operationalising personalised learning in special school contexts is theorised to be a collaged hermeneutical circle, where special education teachers work to (re)interpret curriculum, alongside the individual learning needs evidenced through teacher assessments and observations, and from student individual education plans. Within special school contexts, teachers approach the Australian Curriculum text as collaborative teams and engage in dialogue and planning about the curriculum to be taught and assessed. Thus, they aim to ensure that their students engage with the appropriate curriculum and have opportunities for learning on the same basis as students without their specific needs (i.e. students without disability). Unlike teachers in mainstream schooling contexts, teachers in special schools must (re)interpret curriculum that has not been explicitly developed for the unique learning needs of students with profound disability.


The purpose of this research is to shed light on the educational leadership practices regarding school support services at the municipal level in Iceland from the point of view of actors from both municipal and school levels. Furthermore to explain how those views are shaped by the structural arrangements and human resources of the services,
population density and geographical location. Leaders of municipal educational support services, preschool principals and compulsory school principals responded to a questionnaire about practices regarding school support services. A framework of desirable leadership practices was used as an analytical tool to measure this leadership. The findings revealed that leadership practices regarding school support services match poorly with the leadership framework. Human resources are important elements of the leadership practices regarding the school support services, but the services’ structural arrangements, municipal population density and geographical location are less so. It is suggested that it is necessary to focus on improvements in leadership practices in general, regarding the school support services. For that purpose, more engagement is needed in the development of professional capacity, and a focus on creating a shared understanding between the services and school principals.


Curriculum, as a policy and way of moving through educational experience, is entwined with an ongoing history of invasion in Australia and similar invader-colonial contexts. As a result of this, the conceptual foundations of curriculum in Australia reproduce colonial epistemologies as normative modes of knowing and consideration. One way of seeing how this is possible and easily reproduced is through a consideration of how renderings and representations of “place” – the complex entanglements of lands, histories, and identity/ies – mediate both how (a) invasion can be normalised as a historical, geographic, and political “placial” reality, and (b) students and teachers might experience education in and of place. Indeed, “place” is a central guiding concept in official curriculum policy just as much as place is an experienced curriculum both within the school and in the broader world. In this respect, this paper looks to unpack how the concept of place is represented in curriculum policy and the attendant assumptions and implicit discourses that this (re)produces about the experiences of people in/of invaded place. Through a look at the coming revision to the Humanities and Social Science’s learning area of the Australian Curriculum, I look to how the curriculum as policy frames place as synonymous with invader place epistemically and how this mediates what students can know and themselves feel about the embodied experience of learning about/in/of place.


While considerable evidence has accumulated on state-funded merit-based scholarships, research on the effects of specific scholarship design choices has been thin, perhaps in part because cross-state comparisons are difficult. As one of the only states to enact major changes in the design of its merit-based scholarship program, Georgia provides a unique opportunity to explore the effects of these design choices. Using student-level observations for all high school graduates in Georgia over 9 years from 2008 to 2016, the paper uses difference-in-differences analysis and regression-discontinuity design to estimate the effects of a reduction in the level of HOPE scholarship funding, and the start of a new full-tuition scholarship, on student enrollment in Georgia colleges and universities. We find that the highest-achieving students were more likely to attend Georgia public higher-education institutions after the scholarship changes than before. Students who qualified for partial-tuition HOPE scholarships beginning in 2011 were less
likely to attend Georgia public 4-year institutions than those who received full-tuition HOPE scholarships before 2011, though their enrollment increased relative to students ineligible for any merit aid. We conclude with discussion of implications for the design of merit-based scholarship programs.


The European University Initiative (EUI) – launched by the European Commission in 2018 has been received with considerable interest from higher education institutions in Europe with hundreds of institutions forming new alliances. While the EUI-initiative in many ways is a continuation of a long history of collaboration across national borders in Europe, the initiative also contains novel elements – not least with respect to the institutional commitments the new alliances are based on. This paper offers new insights into the alliance formation process, and the profiles of European university alliances. Based on a series of qualitative interviews with key persons at alliance level, our findings demonstrate quite complex alliance formation processes where both collective and individual networks of institutions were activated, and where different path-dependencies shaped the membership of the alliances.


This study shows that civilians’ behavior can be severely affected by territorial control by an insurgent group, and that these effects can persist after the government regains control and the occupation ends. I consider a framework of civilian behavior under insurgent rule, where civilians have the option to cooperate with, or resist, rules imposed by insurgents. I exploit the temporary occupation of territory in Nigeria by Boko Haram, an insurgent group with a strong anti-educational stance, as a quasi-experiment. Behavior is measured through school participation among children. Using individual-level panel data, I compare children exposed to the insurgency with children exposed to both the insurgency and occupation. The main results show (i) an immediate, negative effect on school participation, especially for those sharing a social identity with the insurgents, exposed to violent rule enforcement, and facing social pressure to conform, (ii) these negative effects persist in the long-run for the first and second group only. The effects cannot be explained by well-documented mechanisms linking conflict to lower school participation, demonstrating the need to account for occupation, and not solely violence, when considering the impact of insurgencies on civilians.


This study was conducted to gauge the nature and level of organizational legitimacy of private higher education institutions (PHEIs) in Ethiopia through the perspectives of regulators involved in accrediting and auditing private institutions. The study adopted a mixed-methods approach, particularly the explanatory sequential design, and used a questionnaire, documentary evidence, and interview as principal means of data
collection. One hundred and twenty-one regulators were involved in the survey and ten regulators participated in the in-depth interview. The findings revealed that both the overall rating of PHEIs and the various categories of legitimacy identified as procedural, consequential, structural, personal, and linkage received average ratings by regulators. This denotes a threshold level of acceptance suggesting the need for a more substantial legitimacy level that the Ethiopian private higher education sector should attain if it seeks to earn heightened credibility and active support from stakeholders. Conclusions and implications of the study at the nexus of theory, policy, and practice are discussed.


The present study examines how Singapore school leadership is influenced by different cultural values. It employed a systematic review of 72 studies on Singapore school leadership published 2000–2021. Results showed that collectivistic values engendered moral leadership responsibilities while power distance and other Asian values eventuated in the nuanced implementation of distributed leadership. Four values characterizing Singapore society also shaped school leadership. First, meritocratic principles informed how school leaders allocated educational resources and opportunities in schools. Second, future-oriented school leaders focused on preparing students for 21st-century work. Third, the emphasis on achieving systems-level coherence culminated in ecological leadership across the Singapore education system. Fourth, strategically pragmatic Singapore school leaders implemented various leadership models to address complex educational expectations and needs. The confluence of different cultural values resulted in school leaders adopting a meta-strategic leadership perspective in Singapore. The study contributes to scholarship by providing an up-to-date, comprehensive review of Singapore school leadership, encompassing different forms of leadership enacted by all levels of school leaders, that is influenced by different cultural values. It also shows that different values influencing school leadership are not necessarily congruent, thereby pointing the way forward for researchers to examine sources of tension within school leadership.


This paper studies the effect of class-size reduction on students’ academic outcomes with a special focus on its heterogeneity based on classmates’ characteristics. We estimate the causal effects of class-size reduction on students’ mathematics and language test scores, controlling student-teacher fixed effects and applying the predicted class size with a cap as an instrument for the actual class size. Using rich panel data on Japanese primary school students, we find that the average effect of class size reduction is positive and robust for math test scores and that classes with high-ability classmates benefit even more from class size reduction. We find that the effect of class size reduction depends positively on the ability of the student with the lowest rank in a class. In addition, we find that classes with a high share of female students benefit more from class size reduction. Our findings provide strong support for the theoretical framework of Lazear (2001).


Critical pedagogues advocate a constructivist approach to learning emphasising the self-directed construction of knowledge from the learners' experiences while also expecting students to develop an explicit critique of the social order. However, the use of a constructivist approach for the pursuit of explicit ideological goals leaves educators with a dilemma: what happens when students' reflections don't lead them to the anti-oppressive conclusions teachers desire? Using comparative historical archival methods and oral history interviews, this study interrogates how teachers and students navigated this paradox in the Berkeley Experimental Schools Project (1968–1975), a public educational programme that sought to actualise the goals of both the Free School and Black Power movements. This study sheds light on this dilemma with particular clarity because the Free Schools represent one of the U.S.' most radical experiments in constructivist pedagogy, and the Black Power movement one of our most heightened efforts to challenge systemic oppression. In demonstrating that in Berkeley, it was easier to build self-directed inquiry on a foundation of explicit critique than to build anti-racism on a foundation of free inquiry, this study elucidates tensions at the heart of critical pedagogy, social justice education, and curriculum theory.


The gap between students' formal, school-based learning and informal, social learning has been widely acknowledged. To overcome this gap, academic service-learning (AS-L) pedagogy involves deliberate efforts to interconnect formal and informal learning by enhancing students' transitions across multiple authentic settings and fostering their participation in various social roles. The aim of this study was to examine how AS-L is practiced among Finnish primary and secondary schools, what kind of stakeholder networks are involved, what the experienced outcomes are, and which factors enable the AS-L pedagogy to be embedded into the Finnish formal school context. The data consisted of semi-structured educator interviews describing nine cases of implementing AS-L practices in diverse Finnish school settings. Empirically driven, thematic data-analysis generated an overall description of the AS-L pedagogies examined. The findings confirm that AS-L pedagogy fulfilled the curricular aims, assisted in meeting the learning objectives and affirmed the fundamental role of external stakeholders in AS-L pedagogy. However, results also revealed challenges related to schools' operational infrastructures, lesson frameworks, and teacher collaboration hindering the interdisciplinary implementation of AS-L pedagogy, preventing synergies with subject-specific learning contents, and limiting stakeholder networks. Innovative teacher activity, in turn, was identified as a success factor in applying AS-L pedagogy. The results indicate that interconnecting formal and informal learning requires schools' systemic change, and furthermore, legitimising teacher's transformative efforts fosters development and implementation of novel pedagogical practices.

Ces dernières décennies ont été marquées par une cadence soutenue du nombre de changements ausein de l’organisation universitaire publique française. Déjà marquée par une diversité d’acteurs et dereprésentations, regroupée sous le nom de « pluralisme », l’université se retrouve confrontée à denouveaux défis en matière de pilotage, ajoutant de la complexité à son fonctionnement. De plus, lesprérogatives managériales actuelles imposent une utilisation significative des outils de contrôle.Face aux difficultés dont fait état la littérature, dans le déploiement d’outils de contrôle au sein d’organisations pluralistes, ce travail de recherche s’intéresse à la question de l’appropriation de cesoutils par les acteurs universitaires.Cette étude s’appuie sur le cadre théorique des Économies de la Grandeur de Boltanski et Thévenot(1991), qui nous offre la possibilité de caractériser l’université publique française au travers dedifférents « mondes », synonymes de registres de valeurs multiples. Dans chacun de ces mondes,différents types d’appropriation des outils de contrôle sont identifiés et nous analysons la manière dont ces appropriations peuvent être à l’origine de tensions, mais aussi de compromis entre les mondescaractérisant l’université.Cette recherche se fonde sur une série d’entretiens individuels, semi-directifs, au sein d’une universitépublique française, pluridisciplinaire avec santé, de l’Est de la France. L’ambition de cette étude est decontribuer à la littérature scientifique sur le pluralisme universitaire, en abordant la question de l’appropriation des outils de contrôle.


Existing research on the education of refugee children has been conducted in countries with a longstanding tradition of refugee integration. The aim of this study was to gain insight into the integration process of refugee children in Croatian schools. Croatia is a small EU country with limited experience in refugee integration. The phenomenological approach was used to examine the experiences and perspectives of the relevant actors. Interviews and focus group discussions were conducted with refugee children (N = 15), their parents (N = 5), classmates (N = 50), and school staff (N = 54) from six elementary schools in Zagreb. Data analyses suggested three general needs: educational, language, and social, each of them connected to more specific needs, challenges, and suggestions. The results of the study are discussed within the Schachner et al. (2017) framework of immigrant adolescents’ acculturation.


Hermeneutical religious positions among Muslim educators vary in flexibility and openness to critical thought. Those within a school community may disagree on how Islam should be interpreted and practiced. In the light of this, who determines which expressions of the faith are acceptable in particular locations, and how? And what messages do these processes send to students? Based on 18 months of ethnographic research at a K-12 Islamic school in the midwestern United States, this paper describes conflict-ridden instances in which school faculty subtly communicated interpretive norms through
implication or example. These demonstrate select ways that distinct approaches to Islam were constructed and contested within the community.

Cette thèse se penche sur l’éducation des filles et des femmes en Tanzanie avant et après l’indépendance vis-à-vis de la Grande-Bretagne, obtenue en 1961, puis après l’adoption du socialisme en 1967. Elle revisite ainsi les dynamiques de l’éducation coloniale et comble un vide historiographique sur l’éducation féminine en Afrique postcoloniale. Alors que ces quatre décennies sont tout à la fois un moment d’essor exceptionnel de l’offre éducative, de construction nationale et de reconfiguration de la place sociale, économique et politique des femme, cette recherche analyse comment les dynamiques éducatives ont fabriqué des rôles spécifiques pour les femmes dans la nation en construction. Pour ce faire, elle s’appuie sur une appréhension large du fait éducatif : scalarisation et programmes pour adultes, mais aussi mouvements de jeunesse, éducation coranique, ou encore formations professionnelles. Une approche intersectionnelle permet d’interroger comment le genre croise la classe sociale, l’âge, les catégorisations raciales et la religion pour définir les rapports des femmes aux institutions éducatives et à la nation. Sont analysés aussi bien les politiques éducatives, les débats publics, les contenus enseignés et les relations pédagogiques que les vécus de l’école et les parcours des instruites. Ce faisant, on croise de vastes pans de la société tanzanienne, toute entière en prise avec la construction nationale qui se joue à partir de ce projet collectif et de multiples expériences individuelles.

The political, social, and institutional environments in which contemporary universities operate have changed rather dramatically over the past two decades in ways that threaten the resilience of the academic core, both in its ability to map knowledge comprehensively and also to maintain a balance between the branches of the humanities, social sciences, and natural sciences. This paper traces historical changes (2003–2019) in the academic core of two “flagship” research-intensive universities located in Northern Europe. The results show that some branches of the academic core are undergoing dynamic processes of program churn that make them resilient. Furthermore, the data show that this resilience is enabled in large part by bridging different branches of knowledge by establishing what we term interbranch programs. In addition to the abovementioned findings, the paper links ongoing discussions regarding change in HE systems and institutions to the literature on organizational resilience, and it advances insights for a possible future theory of how adaptation plays out in the academic core over time.

The relevance of the published research on the actualization of interdisciplinary integration at mathematics lessons is due to the need for conceptual clarification of what is included in the concept of an academic discipline, and, consequently, interdisciplinary
integration. Currently, there is no uniformly consistent interdisciplinary terminology, moreover, interdisciplinary boundaries are often difficult to overcome. In pedagogical practice, intersubject is only rhetorically praised, but its practical implementation is often very difficult. This publication aims at studying the role and potential of the actualization of interdisciplinary integration at mathematics lessons. Mathematics is widely recognized as central to human development. However, there are not enough research concerning teaching mathematics in various contexts of educational systems. The object of the study is interdisciplinary integration at mathematics lessons within the framework of holistic learning concepts. Consideration of interdisciplinary integration at mathematics lessons gives researchers the key to education of the XXI century. Nevertheless, few studies are published concerning the proposed object that can serve as a basis for practice in the actualization of interdisciplinary integration at mathematics lessons. Qualitative critical phenomenology was used as a research methodology, since the logic of the actualization of interdisciplinary integration at mathematics lessons reflects a system of historically determined values transmitted by institutionalized models of behaviour, thinking and speech. The application of critical phenomenology allowed us to come to an understanding of how the social and pedagogical aspects of the actualization of interdisciplinary integration at mathematics lessons affect the ways in which students construct reality. Critical phenomenology has made it possible to identify various approaches to the study of the actualization of interdisciplinary integration at mathematics lessons, to study the impact of social interactions in the construction of interdisciplinary discourse by students, the possible impact that interdisciplinary discourse can have on learning. Since the research was of a qualitative nature, it was inevitably influenced by the interpretative methodological paradigm, which recognizes that individual life experience is formed by context, and ideas about knowledge are socially constructed.

Educational research shows a growing interest in ‘affect as pedagogy’, a concept grounded in feminist studies. This article positions its inquiry at the crossroads of feminist scholarship and the Deleuzian-Guattarian concept of affect. It presents a post-qualitative inquiry that “experiments with” an agentic assemblage of 76 public schools in Brazil, 78 qualitative survey responses, 12 teachers’ interviews, and fieldwork observations. The result is a collective narrative organized as a Voice without Organ (VwO), which shows interlocking elements of challenging educational scenarios and a teaching practice traversed by affect. The VwO answers the question of how affect becomes pedagogy, describing events that can be characterized as embodied history, affective labor, and the capacity to be affected. This pedagogy shows the capacity to affect, by creating affirmative desires that materialize in alternative narratives for the students’ futures. Affect as future-making pedagogy then, becomes a means of working against exclusion and social injustice.


Teachers of English as an Additional Language learners in high schools have long navigated the seemingly intransigent deficit thinking about their learners' capacity to engage fully with the intended or required curriculum. These learners are frequently constructed as the problem, as if the curriculum exists in a vacuum. This gives rise to the need to explore how deficit thinking about students, as core actors in the web of curriculum relations, may be challenged through the curriculum work of specialist English language teachers. In this paper, I use critical discourse analysis to explore how the pervasive deficit discourse can be differently construed through language use in two dimensions: power (social hierarchy or low-high) and solidarity (social distance, close-far). Three teachers were interviewed, and their lessons were observed to explore how social relations with diverse learners are rendered in the teachers' language. Findings show that by adopting a more nuanced stance towards their learners, many of whom are refugee-background and have interrupted schooling, the teachers speak back to deficit views, offering alternative ways of positioning diverse learners in relation to required curriculum. Images of curriculum as transmission are disrupted, presenting it rather as complex entanglement with social relations.


Antoine, C., Drijvers, P., Csapodi, C., Palmér, H., Gosztonyi, K., & Kónya, E. (2023, juillet). *Collaborative working group between schoolteachers and researchers on the teaching of attributes and measurement in elementary school*. Consulté à l'adresse [https://hal.science/hal-04410779](https://hal.science/hal-04410779)

Le champ de la recherche en pédagogie universitaire est récent du point de vue historique. Des thématiques de recherches existantes relativement à d'autres ordres d'enseignement n'ont pas été étudiées dans l'enseignement supérieur, comme l'existence et les fonctions de rituels. Nous voulons développer ces travaux dans le cadre de la pédagogie universitaire en nous posant le même type de questions et en montrant les différences ou les similitudes avec les résultats déjà existants dans l’enseignement primaire et secondaire. Nous nous posons les questions : existe-t-il des rituels dans l’enseignement supérieur ? Si oui, quels sont les différents types de rituels ? Quelles sont les fonctions de ces rituels ? À travers une enquête par questionnaire auprès de 456 enseignants du supérieur, nous tentons d’apporter différentes réponses à ces questions, en particulier la prégnance forte de rituels d’installation, de communication, de régulation et d’aide au travail de l’étudiant.


Data from PISA and TIMSS have recently fuelled the debate on the efficacy of Inquiry-Based Science Teaching (IBST). Some analyses of these data show that the effects of different scientific activities related to IBST carried out with students vary according to the frequency of their implementation. Extending this research, the present study focuses on several scientific activities (Conception, Problem, Hypothesis, Model, Manipulation, Discussion-IBST, Interaction), some of which have not been considered previously. It investigates the extent to which these activities are implemented in teachers’ practices and their relationships with student learning. The study is based on self-reported practices of primary school teachers in France (98) and data on their students (2250) measuring their scientific knowledge, inquiry skills, views of the nature of science (NOS) and attitudes towards science. Findings show that teachers' practices are diverse, with some teachers implementing scientific activities frequently and others rarely. However, no profile of teaching practices could be associated with high or low levels of student learning. The only scientific activity for which converging positive relationships with student learning were found was modelling. This finding calls for further studies to explore the relationships of the different modelling subpractices with student learning.


As part of a joint European-Israeli project for developing modernised curricula on migrants’ lives (DEMO), academic courses were adapted to meet the needs of a population served by a Palestinian teacher-education college in Northern Israel. Arab minority students, in many cases descendants of displaced people, attended two courses within the English (39 students), Early Childhood (20 students), and Science (20 students) departments brought the voice of students and interviewees into the classroom. Inspired by culture-based pedagogy, the courses guaranteed safe spaces for students to share lived experiences of marginalisation and family displacement. The research question, What happens when offering culturally-based learning spaces for
student-teachers and inviting them to reflect on lived experiences?, and participatory methods allowed students to reflect on their daily lives. Data analysis highlighted cognitive, emotional and behavioural themes that illuminated experiences and feelings of marginalisation, silencing, female’s suppression, religious extremism, privilege, memory, and dis-belonging bringing oral testimonies of students’ displaced ancestors to the public sphere.


COVID-19 drastically disrupted teaching and learning worldwide and across all educational levels. Technology took on a central role in redefining education under these exceptional circumstances and frequently revealed challenges related to both infrastructure and to teachers' and learners' technological skills and readiness. This study aimed to investigate whether the experience of emergency remote education significantly impacted preservice teachers' knowledge and beliefs for their future teaching with technology. We investigated three cohorts of preservice teachers (pre-lockdown, n = 179; during lockdown, n = 48; post-lockdown, n = 228) and explored differences in their self-reported technological pedagogical content knowledge (TPACK) and their technological beliefs. Findings showed positive effects in the post-lockdown cohort, reflected in higher levels of technological knowledge (TK) and technological pedagogical content knowledge (TPCK) compared to the pre-lockdown cohort. In addition, unique positive effects on content knowledge (CK) and pedagogical content knowledge (PCK) were found in the post-lockdown cohort among preservice teachers with prior teaching experiences. No effects of either cohort or experience emerged for preservice teachers' technological beliefs. These findings indicate that, despite the challenges related to COVID-19 lockdowns, preservice teachers not only appear to have maintained positive beliefs towards technology but may have even been able to draw benefits from the experience of lockdown. These findings and the positive effects associated with teaching experience are discussed with regard to their implication for teacher education.


Typically, leadership is identified as a key to constructing high-quality early childhood education services and creating provisions to promote children’s successful outcomes. However, leadership does not occur in isolation. Organisational management scholars point out that success in organisations is mostly reliant on effective followers. Despite a long tradition of attention to the value of followership in organisational management literature, little attention is given to followership in early childhood education literature. This article reviews conceptualisations of followership from a broad body of literature from organisational management and higher education studies, and a small number of studies in early childhood education literature that mentioned followership. This small body of early childhood education literature is critiqued in connection with the broader body of literature. The analysis reveals three key themes concerning followership in early childhood education literature: the dominance of leader-centric ideas; a lack of
conceptual clarity about the role and practices of followership; and early childhood educators' qualifications typically determine who follows and who leads. This review contributes to increased understandings of the potential value of followership theories and practices in early childhood education.


Pre-service teachers need to experience authentic arts activities to confidently impart the quality arts engagement that young learners deserve. Most importantly, these experiences should contribute to shaping emerging teacher identities. We sought to understand the student experience of online early childhood pre-service in their arts courses, and what they need to become competent and confident teachers of the arts. Using data from 51 responses to a 24-question qualitative survey distributed across three Australian universities, we engaged in the methodological process of qualitative bricolage to present a story constellation offering important insights for online teacher-educators in the arts.


Cette thèse porte sur la professionnalisation des acteurs du travail social du point de vue de la formation initiale et continue. Dans ce contexte, nous nous intéressons particulièrement à la façon dont l’altérité influe sur la manière dont les acteurs du secteur s’impliquent professionnellement. Les origines de ce questionnement s’ancrent dans un partenariat de recherche avec des acteurs de la formation. Ils s’interrogent sur les améliorations qu’ils pourraient mettre en œuvre dans les dispositifs de formation actuels qu’ils proposent à leurs publics. La question de la formation des travailleurs sociaux amène à interroger les problématiques que peut rencontrer le secteur, générées notamment par les transformations des modalités d’accompagnement des publics et les besoins et attentes des formés et des employeurs. Ces différentes transformations peuvent alors (re) mettre en question des dynamiques de sens pour les acteurs du travail social, érigé comme le fil rouge de cette recherche. Interroger le sens amène alors à considérer l’altérité comme facteur déterminant du sens. Dans l’objectif d’aborder ce questionnement, nous mobilisons le modèle de l’implication professionnelle de Mias (1998) : Sens/Repères/Sentiment de contrôle et les formes d’altérité intérieure, extérieure et épistémologique développées par Briançon (2019). Afin de réaliser notre étude, nous avons organisé cette thèse en deux parties. La première partie de la thèse est dédiée à la dimension heuristique de la recherche. La deuxième partie s’attache à mettre à l’épreuve les résultats produits, par la mise en œuvre d’une démarche praxéologique en mobilisant la méthode du théâtre-forum. En termes de recueils de données, nous avons réalisé des questionnaires destinés à des directeurs et directrices d’établissement et à des professionnels exerçant dans les secteurs sociaux, médico-sociaux et sanitaires. Aussi, dans le cadre de focus groups, nous avons interrogé différents acteurs : des étudiants éducateurs spécialisés, moniteurs éducateurs et accompagnants éducatifs et sociaux, des professionnels intérimaires et des formateurs. Cette recherche met en évidence que le sens de l’implication professionnelle pour ces trois types d’acteurs (étudiants,
professionnels intérimaires et formateurs) est caractérisé en fonction des formes d’altérité extérieure, intérieure et épistémologique. Cette caractérisation offre l’opportunité d’identifier alors la nature actuelle de l’implication professionnelle de ces acteurs. Aussi, la perspective praxéologique de cette thèse met en avant que la méthode du théâtre-forum, mobilisée dans le contexte d’un dispositif de formation, peut être considérée comme une opportunité de mise au travail des questions d’altérité et d’implication professionnelle chez les étudiants en travail social.


Writing is a fundamental skill linked closely with academic achievement, day-to-day communication, formal negotiations, and more. However, due to their lack of contextual experience, learning to write has been a demanding and complex cognitive process for most learners. As a result, learners struggle to exhibit positive learning behaviours and cognitive engagement in writing, let alone embrace deep and autonomous learning. To solve these problems, in the present study, a spherical video-based virtual reality (SVVR) learning environment is developed to provide students with a contextual learning experience. Moreover, a peer feedback strategy is used to guide students in deep learning in writing. A quasi-experimental study was conducted to verify the effectiveness of the proposed approach. A total of 79 students from one primary school in southeast China were recruited. The students were assigned to either the experimental group (EG) exposed to the peer-feedback-based SVVR (PF-SVVR) approach or the control group (CG) exposed to the conventional SVVR (C-SVVR) approach. The results show that PF-SVVR had more positive effects than C-SVVR in terms of students’ writing performance, cognitive engagement and autonomous learning tendency. In addition, the PF-SVVR approach was found to be more beneficial for triggering deep learning in writing than the C-SVVR approach. This study further found that students in the PF-SVVR group tended to exhibit less disorderly behaviours than those in the C-SVVR group. Our study contributes to the prior literature by exploring the educational potential of the PF approach in the context of SVVR-enabled writing learning. Practitioner notes What is already known about this topic Peer feedback approach provides opportunities for writing learners to regulate their longer-term cognitive and behavioural competencies. Spherical video-based virtual reality (SVVR) not only provides an authentic experiential learning context for learners, but it also significantly reduces the cost and the need for the high-tech capabilities of traditional VR. What this paper adds A peer feedback-based SVVR approach is proposed to promote students in learning to write. It was found that students’ quality of learning to write can be improved by applying the PF-SVVR approach in writing courses. Implications for practice and/or policy It is worth promoting the application of the peer feedback strategy and SVVR in school settings. The PF-SVVR approach is useful for promoting young writing learners’ cognitive engagement, autonomous learning tendency and deep learning. Further investigations on the effects of employing the PF-SVVR approach in writing, with anonymous strategies in the process of giving or receiving peer feedback, are expected.

Primary school teachers in England are responsible for the statutory assessment of writing, using a set of criteria. The aim of this research was to analyse the responses of teachers to the criteria at the expected standard. An elicitation exercise with 10 primary school teachers was conducted, where teachers talked through their interpretations of the criteria. Qualitative, inductive coding was undertaken to provide a rich and deep understanding of teachers’ understandings of the assessment criteria. The perceptions of teachers are shown to be varied and complex. Definitions of the criteria were diverse, and fundamentally different concepts of writing were identified, which points to sources of misunderstanding. Limitations of the assessment criteria themselves are also highlighted, which caused disagreement among the teachers. The findings show evidence of threats to the validity and reliability of the assessment and its use as an accountability measure because of the lack of confidence in inferences drawn from the use of the criteria in the assessment of writing.


L’acculturation à l’université est une condition essentielle dans le processus de devenir étudiant à l’université (Coulon, 1997). Afin de faciliter cette acculturation, les étudiant•es sont invités à rédiger un rapport d’étonnement au cours de leur premier semestre d’étude en BUT GEA à l’IUT de Sceaux. Dans la lignée des travaux de Thievenaz (2017), nous faisons l’hypothèse que l’étonnement raconté permet d’accéder aux moments marquants soulignés par l’étudiant.e, moments qui peuvent être associés à des tournants ou ruptures dans son processus d’acculturation à l’université. Quelle est la nature et la diversité des situations d’étonnement/ expériences déconcertantes déclarées, dans les rapports d’étonnement des primo-entrant•es ? Quelle est la perception des étudiant•es de cette activité de rédaction d’un rapport d’étonnement ?


Critique of citizenship education has suggested citizenship should be reconceived, not as a status, but as something that people continuously do: citizenship as practice. This article draws on a two-year ethnographic study of citizenship practices in a Scottish primary school examining how citizenship curriculum was distributed across children’s experience of the school day, the ways belonging was constructed in different spaces and time frames and how civic participation was identified in pupils’ own terms. The article’s close discourse analysis examines moments when children’s decision-making reveals the connections made between citizenship curriculum and viable citizenship identities in practice. This micro analysis of the semi-formal space of the school reveals children’s understanding of group cooperation that remain opaque in the more formal setting of the classroom. The findings suggest that educators would do well to attune further to children’s informal decision making processes and curricular practices that would better support them.

Pratiques et activités : perspectives actuelles en éducation. Une entrée stimulante dans ce que font les sujets en éducation, à travers une réflexion autour de deux termes fréquemment utilisés en sciences de l’éducation : « pratique » et « activité ».


As anti-oppressive pedagogies gain increasing prominence in teacher education, there is a need to examine how preservice teachers understand and implement anti-oppressive frameworks. The role of the university supervisor is uniquely well-positioned to allow for insight into preservice teacher pedagogical practices; however, this role is grossly understudied. This study explores how the university supervisor fosters White preservice teachers’ theoretical and historical understandings of oppression, as well as the supervisor’s role in the negotiation between preservice teacher identity and implementations of anti-oppressive pedagogies. This study utilizes data from preservice teachers’ observations and reflections, and positions the university supervisor as an autoethnographic educator-researcher in order to understand the White supervisor’s own anti-oppressive practices. Drawing on Critical Whiteness Studies informed by intersectionality, we present two vignettes that illuminate the interplay between identity, anti-oppressive teaching, and the university supervisor. This research brings a new and pertinent lens to the field of education.


Positive and negative leadership styles may influence classroom norms and be related to the school and psychological adjustment of children in general, and victims in particular. This study tested the relation between leadership styles and children’s adjustment, and the moderating effects of leadership on the association between self-reported victimization and school and psychological adjustment (self-esteem, social anxiety, and depressive symptoms); and it tested for potential gender differences. Classrooms were classified into those with only positive leaders, only negative leaders, both positive and negative leaders, and without leaders. The sample contained 8748 children (Mage = 10.05, SD = 1.22; 51.2% girls) from 392 classrooms, in grades three to six, in 98 Dutch schools. Multilevel analysis revealed that, in general, children in negative leader classrooms experienced lower school well-being than children in other classrooms. In positive leader classrooms, male and female victims had lower school well-being. For psychological well-being, female victims had lower self-esteem and more
depressive symptoms in positive leader classrooms. Male and female victims in negative leader classrooms did not suffer from additional maladjustment. These results demonstrate that negative leadership styles are related to lower school well-being of all children, whereas victimization in classrooms with positive leaders is negatively related to male and female victims’ school well-being and girls’ psychological adjustment (depressive symptoms); this is in line with the ‘healthy context paradox’.


Since the launch of the RESODDE-ESEC master’s degree at the Faculty of Education at the University of Montpellier, an active pedagogical format based on the principles of “educations for” has been initiated. What better way to grasp the complexity of transition issues than by mobilising students around tutored projects on real purchases orders? The aim of this paper is to share the implemented process, the raised issues, the methodological principles as well as the effects observed on the stakeholders. Two voices, Émilie, M2 student, and Alexis, pedagogical coordinator, explain the many interests that territories offer for the implementation of this pedagogical format, which nevertheless requires us to question the design of degree models, disciplinary articulation and the ability to facilitate learners’ groups by focusing on the evolving issues shared with the stakeholders.


On pense encore souvent que, si l’on peut donner des cours de peinture ou de composition musicale, l’écriture ne s’enseigne pas. Or apprendre à développer un style apporte beaucoup aux élèves.


Au cœur d’enjeux éducatifs aussi bien scientifiques que citoyens, construit complexe, susceptible de recevoir diverses définitions, l’esprit critique dans l’enseignement des sciences fait l’objet de différentes lignes de recherche empiriques et d’approches plus théoriques dont les six articles publiés dans ce dossier portent la trace. L’objectif du présent article est d’en proposer une mise en perspective, d’abord en dressant un panorama succinct des différentes lignes de recherche qui prennent l’esprit critique dans l’enseignement scientifique comme objet de recherche, puis en repérant leur
positionnement concernant différents points identifiés comme des difficultés ou des points d’attention dans la littérature. Les questions soulevées par ce dossier à la fois sur l’élaboration d’une éducation à l’esprit critique des élèves et sur la formation des enseignants sont évoquées en conclusion.


L’intelligence émotionnelle (IE) se définit comme la capacité à identifier, comprendre, exprimer, réguler et utiliser ses émotions et celles des autres. Principalement développée dans le monde de l’entreprise, l’IE n’a pas encore été beaucoup investiguée en contexte scolaire dans lequel elle s’opérationnalise sous le terme de compétences émotionnelles (CE). Pourtant, à l’école, les interactions multiples entre l’enseignant et les élèves impliquent une dimension émotionnelle omniprésente. Dès lors, l’objectif principal de cette thèse est d’étudier les déterminants et les effets des CE et de vérifier les effets d’un programme de développement de ces CE auprès des enseignants. Pour atteindre cet objectif, trois études ont été réalisées. L’étude 1, menée auprès de 9858 enseignants du premier et du second degré, met en évidence les effets des facteurs socio-démographiques et professionnels sur les CE des enseignants et détermine leurs liens avec la motivation, le style motivationnel, le sentiment d’efficacité personnelle, la santé mentale et la pratique d’une activité physique (AP). Dans l’étude 2, conduite auprès de 16 enseignants et 354 élèves, les relations entre les CE des enseignants et celles des élèves sont examinées au cours d’un trimestre. Enfin, l’étude 3 s’appuie sur une revue systématique pour construire un programme de développement des CE à destination des enseignants dont l’improvisation théâtrale constitue l’élément central et dont l’efficience a été contrôlée par une mesure de l’AP. Les résultats de nos études ont révélé que 1) les CE des enseignants dépendent du sexe, de l’âge, de l’expérience professionnelle et de la pratique d’une AP ; 2) les enseignants avec des CE élevées sont plus motivés de manière autonome, plus motivants auprès de leurs élèves, ont un meilleur sentiment d’efficacité personnelle dans leur travail et une meilleure santé mentale ; 3) les CE des élèves ne sont pas affectées par celles de leur enseignant, mais elles sont liées à leur réussite scolaire et leur perception du style motivationnel de leur professeur ; 4) le programme de développement des CE des enseignants améliore les versants intra et interpersonnel de leurs capacités à gérer les émotions et favorise la pratique d’une AP. Ces résultats mettent en évidence les effets positifs que peuvent avoir les CE sur de nombreux aspects de la vie des enseignants et sur la scolarité des élèves. Par ailleurs, développer les CE en associant apports théoriques et improvisation théâtrale constitue une nouvelle piste professionnelle prometteuse dans le cadre des contenus et des modalités de formation initiale et continue des professeurs et des autres acteurs du système éducatif.

Gíslason, I., Drijvers, P., Csapodi, C., Palmér, H., Gosztonyi, K., & Kónya, E. (2023, juillet). *What can mathematics teacher-students learn from dialogue with AI?* Consulté à l’adresse [https://hal.science/hal-04393047](https://hal.science/hal-04393047)

In immersive block models students learn over shorter teaching periods and with fewer concurrent units than in typical semester or trimester models. A core aim of many such innovations is to enhance students’ learning outcomes; however, there are few investigations of student satisfaction at scale in immersive block models. This paper reports on an exploratory study of results from an institution-wide student feedback survey administered at an Australian public university that has introduced a 6-week immersive block model across the institution. Two strands of analysis were undertaken. Strand 1 (N = 4,157) compared satisfaction ratings across units delivered in the immersive block model in 2021 with ratings from the trimester model in 2019. Strand 2 (N = 1,925) explored the relative strengths of correlations between individual survey items and overall unit and overall teaching satisfaction in the immersive block model. The research found that overall, five of seven unit satisfaction indicators and all six teaching indicators improved to a statistically significant degree in the immersive block model. While student perceptions of workload appeared to be most susceptible to negative change, the correlation between workload and overall unit satisfaction was relatively weak compared to other unit indicators, suggesting that students have some tolerance for reduced satisfaction with workload. Meanwhile, the data suggest that students’ overall satisfaction with their units in the immersive block model appears most strongly tied to their satisfaction with teaching. Overall satisfaction with teaching appears most strongly associated with academics presenting content in a clear manner while showing concern for students’ learning.


International concerns about the educational equity of ethnic minorities have continued to highlight teachers' abilities to be culturally responsive. How do teachers manage cultural diversity through their pedagogical practices in the absence of relevant teacher training? The answer to this question is essential as it may help move our understanding of diversity education forward in societies where ethnic diversity is not necessarily the norm. Drawing from observational data in a Hong Kong multiethnic secondary school, this paper explores two teachers' pedagogies. I interpreted the data using Bernstein’s sociology of pedagogy to identify the nature of the class activities and instructional patterns about teacher control and pacing. These pedagogical practices, I suggest, emerged from power relations that reveal teachers’ efforts in recognising their students’ ethnic diversity while negotiating academic expectations on the students to excel in Hong Kong’s competitive examination system.


While most research has focussed on the experiences and consequences of ethnic discrimination for students, little is known about how teachers respond to ethnic discrimination. Teachers’ responses are important as they may affect the outcomes of ethnic discrimination for students. Additionally, many studies have shown that teachers find it difficult to respond or talk about these issues but we know very little about how they act or address these challenges. Using a qualitative sample of 48 teachers, 23 students and four headteachers, this study explores (1) how secondary school teachers respond to ethnic discrimination and (2) what might explain variability in their responses. We found...
that teachers vary in their responses to incidents of ethnic discrimination between students (or incidents in which the teacher was a third party) in comparison with accusations of ethnic discrimination (or incidents in which the teacher was a main protagonist). When teachers responded to incidents of ethnic discrimination, they generally treat it as a learning opportunity and expect students to be 'calm', ‘open-minded’, ‘reflective’, ‘respectful’ and ‘communicative’. However, when teachers become the centre of the debate and are accused of discriminatory behaviour, they do not apply these criteria but deny or downplay the allegations. Differences in teachers’ responses were related to background characteristics (years of teaching experience, school context, ethnic background, subject of teaching), role perceptions, basic needs for teaching, perceptions of students and a fear of being perceived as a racist.


This article presents findings from a self-research study based primarily on verbal and written feedback from the students. The aim was to examine comprehensive academic discussion of my experiences developing Freirean dialogic teaching. A brief review of the principles of critical pedagogy and a definition of dialogic teaching according to Freire is offered and a dialogic lesson is described along with a discussion of the difficulties and challenges faced. The approach was effective and found to be essential in the academy, especially in teacher-training although the work would need to be adapted to the needs and constraints of each population group.


Holistic and ecological approaches to mental health support have been identified by many as best-practice approaches for creating and sustaining well-being. Those who experience mental health challenges including, for example, Borderline Personality Disorder (BPD), often struggle to find adequate, sustainable and ongoing care from clinical settings, and recent research shows that additional strategies such as peer support programs, arts approaches, and holistic school-based collaboration work effectively. More generally, the mainstream population continues to suffer from outdated, overly medicalised and frequently inaccurate notions of the experience of poor mental health and the effective support of those who suffer, and peer- and school-integrated approaches go some way toward better education about mental ill-health. This article uses a creative ecologies model (Harris, 2016) to help schools implement student- and family-led support programs for students experiencing mental health challenges in school settings.


The closing of schools world-wide in March 2020 due to the COVID-19 pandemic resulted in a rapid and unexpected shift from predominantly in-person teaching to online teaching practices. As teacher educators in the field of educational technology, we wondered about the preparedness of teachers for making the transition to fully online
environments. Through an internationally distributed survey consisting of predominantly open-ended questions, we captured teachers’ perceptions of this transition. We aimed to inform our practice and that of other teacher educators about the strengths and weaknesses of professional development designed to develop teachers’ digital competence. In this paper, we present data from Norwegian (n = 574) and US (n = 239) teachers related to their elaborations on readiness. We qualitatively examined data for evidence of extent of preparedness and alignment to the pedagogical, ethical, attitudinal, and technical dimensions of digital competence. Findings indicated themes related to extent of preparedness, trends in preparation, focus on digital tools, teacher agency without autonomy, collaboration/networks, and challenges for work and learning lives. Findings informed implications and recommendations for the professional development of teachers’ digital competence at the teacher education, K-12 schools, and school policy/leadership levels.


The curriculum work of teachers is understood and conceptualised in different ways. A prevalent view is that teachers are an integral part of a system of transmission and their work with curriculum essentially a technical exercise. Some form of this view seems to be assumed by policymakers, parents and at least some teachers. However, when this same work is considered from the perspective of interpretation theory or ‘hermeneutics’, a contrasting picture emerges. Rather than positioning teachers as relays of explicit information, interpretation theory alerts us to the complexities and uncertainties inherent in the reading, appreciation and application of texts. On this view, meaning is not stable but transformed through interpretation, and the process itself has no definite end point. Interpretation theory thus undermines major assumptions of the technical-transmission understanding of curriculum work. In this paper, the potential contribution of this body of theory to illuminating curriculum work is explored. Noting that hermeneutics is a vast area of study, a selection of concepts will be made that demonstrates some of these insights. The exploration will yield both critical and generative contributions to curriculum theory. The way hermeneutics undermines the transmission view of teachers’ curriculum work will become clear, and at the same time, the inherent creativity of curriculum interpretation becomes an inescapable feature of teacher expertise that could be celebrated rather than neglected, denied or repressed. A hermeneutic analysis of curriculum work thus has implications for what teachers know and do and for their role in contemporary society.


L’objet de cette étude est d’observer les effets de la musique sur la performance sportive et la motivation des élèves de collège et lycée. Les tests sont réalisés en course (400 m chronométré) avec 3 classes (4e, 3e et 1e). Trois variables ont été testées dans cette étude, à savoir une course avec une musique qui a été donnée à tous les élèves, une
course où chaque élève a choisi sa musique et une course sans musique. Chaque élève fera donc 3 courses et testera les 3 variables dans un ordre défini par son groupe. Cette étude vise à connaître les appétences liées à la musique des élèves, à réaliser une prise de performance sur les 3 courses avec analyse des ressentis musculaires, d’efforts, de chaleur et de respiration pour vérifier l’implication dans l’effort. Pour finir, les élèves répondront à un questionnaire pour témoigner de leurs préférences (Quelle course ont-ils préférée ? Est-ce que la musique les a motivés à courir ?)


Background In times of accelerating changes, teachers who proactively engage in activities towards school improvement and innovation are increasingly needed. Still, studies on factors that affect teachers’ proactive behaviour are rare. Aims Integrating previous research on proactive behaviour within the Job Demand–Resources (JD-R) Model, this paper investigates how job characteristics (time pressure, bureaucratic structures, participative climate, personal initiative of the team) and aspects of teachers’ professional competence (self-efficacy, self-regulation skills and knowledge) contribute to and interact with their proactive behaviour. Sample A total of 130 German secondary school teachers (M(SD)age = 44.05 (11.36), 65% female) participated in this study. Methods We employed a full two-wave panel design, with measurement points 5 months apart. The data were analysed with (moderated) single indicator modelling and a cross-lagged panel model. Results While teachers’ self-efficacy in implementing change and self-regulation skills predicted their concurrent proactive behaviour, job characteristics and teachers’ knowledge had no such cross-sectional effects. In addition, we found an interaction effect of time pressure and teachers’ self-efficacy on proactive behaviour. Including the second measurement point, data indicated no cross-lagged effects of the job and personal factors on proactive behaviour. However, cross-lagged analysis revealed that teachers’ proactive behaviour predicted their later self-efficacy in implementing change and the time pressure they perceive. Conclusions Examining both cross-sectional and longitudinal effects, this study highlights the importance of measurements over time when analysing factors that influence teachers’ proactive behaviour: While aspects of professional competence appear to be trainable concurrent resources, time pressure can limit their effect. Finally, cross-lagged effects of teachers’ proactive behaviour on their later self-efficacy and time pressure appear as influential in the long run.


Discussion of learner autonomy has often been led by educationalists and policy makers. How do learners interpret the notion? This question, as well as addressing how students’ understandings compared to those of their instructors’ were the questions that the research sought to answer. The research undertook to explore the notion of the autonomous learner as understood by 115 students and 49 instructors at a select French higher education engineering school. Data was collected using open-ended questions and analysed using triangulation to reduce systemic bias via multiple qualitative data
analysis methods. Four themes emerged from the analysis. Analyses pointed to similarities and to differences in the ways students and instructors understood the meaning of learner autonomy. Divergent perspectives that students and instructors had revealed that students were more concerned with their ability to compose their curricular programme and choose means to attain objectives. Instructors, on the other hand, were concerned with students’ course subject ownership. Recommendations to bridge understandings and help form a shared vision of goals when speaking of learner autonomy are presented.


This article builds on the findings of a critical systematic review that aimed to explore understandings and applications of inclusive pedagogies in the secondary school. Inclusive pedagogies are often conceptualised as both a set of strategies that aim to ensure access to learning for all students, and as value principles that reflect particular views on inclusion; this is why they tend to be approached in diverse ways. We were particularly interested in secondary school as the focus on particular curricular areas and subjects, additional pressures for teachers and students derived from assessment and exams, and fewer opportunities for collaboration between teachers as a result of the compartmentalisation of the curriculum can make the implementation of inclusive pedagogies more challenging than at primary level. Six databases were searched for literature published exploring inclusive pedagogies in the context of secondary school. We found that inclusive pedagogies were often filtered through the lenses of particular subjects and were associated with other approaches with similar philosophies, such as differentiation and student-centred learning; that student perceptions of inclusive pedagogies are still little explored; and that tensions associated with inclusion were only acknowledged to some extent. Based on the findings, we argue for a refined way of understanding inclusive pedagogies in the secondary school context, one that acknowledges the unique characteristics, challenges and tensions at this school level. The review findings also affirm the ‘messiness’ of the inclusion literature and raise questions as to the relevance and usefulness of systematic reviews in exploring this fragmented topic.


This paper analyses faculty experiences tackling global knowledge asymmetries by examining the decolonisation of higher education in Africa in the aftermath of the 2015 ‘Rhodes Must Fall’ student uprising. An overview of the literature reveals a rich debate on defining ‘decolonisation’, starting from a critique of Eurocentrism to propositions of alternate epistemologies. These debates are dominated by the Global North and South Africa and their experiences of curriculum reform. Our focus is on the experiences of political scientists in Botswana, Ghana, Kenya, and Zimbabwe. These countries share the same Anglophone political science traditions but represent different political trajectories that constitute a significant condition for the discipline. The 26 political scientists we interviewed acted toward increasing local content and perspectives in their teaching, as promoted in the official strategies of the universities. They noted that what was
happening in lecture halls was most important. The academic decolonisation debate appeared overambitious or even as patronising to them in their own political context. National politics affected the thematic focus of the discipline both as far as research topics and students' employment opportunities were concerned. Although university bureaucracies were slow to respond to proposed curricula changes, new programmes were approved if there was a market-based demand for them. International programs tended to be approved fastest. Political economy of higher education plays a role: dependency on foreign funding, limited national resources to conduct research and produce publications vis-à-vis international competition, and national quality assurance standards appeared to be most critical constraints for decolonising the curriculum.


This conceptual and theoretical paper seeks to analyze the dynamics and consequences of psychologization and therapization, key mechanisms of the therapeutic turn in education. In particular, it focuses, on how the pathologization of social problems occasions individualization and the production of self-reliant and inward-looking subjects trained to maximize human capital according to the tenets of neoliberalism. Second, it explains the principles of a critical approach to education that is informed by the concept of intersectionality. It shows how this concept might be helpful in interrogating and addressing structurally embedded inequalities and injustices. Informed by the insights of Kimberlé Williams Crenshaw, this approach engenders a contextualized and nuanced analysis of social forces, social identities, and ideological instruments through which power and disadvantage are expressed and legitimiz​ed. To further illustrate its importance, insurgent citizenship education, a concept drawn from the experiences of a Philippine school for displaced indigenous groups will be discussed.

Ludviksen Jønsletten, I.-M., Drijvers, P., Csapodi, C., Palmér, H., Gosztonyi, K., & Kónya, E. (2023, juillet). Teacher and student perspectives on teacher actions in one-to-one tutoring. Consulté à l’adresse https://hal.science/hal-04393061


This systematic review reports evidence on practices and programmes that enhance successful primary-secondary school transition and participation for Indigenous students in Australia. A thematic analysis found three sets of practices: the school context; bridging practices; and Aboriginal and Torres Strait Islander students cultural recognition. Two
narratives thread through the practices: centrality of relationships; and the entangled nature of Indigenous culture, Aboriginal and Torres Strait Islander student’s identity and successful transition and participation in high school. Attending to relationships with students, their families, communities and local Elders supports cultural identity, belonging and improves participation in high school. Future research, program development and implementation should acknowledge students’ unique needs and collaborate with students, their families and community. School staff ought to acknowledge the colonised context of education in Australia and increase the use of decolonising practices to support Aboriginal and Torres Strait Islander students to transition to and participate in high school.


Ontario education policy articulates an explicit commitment to equity and inclusion for increasingly diverse classrooms. Despite policy commitments, when equity and inclusion intersect with religion, enactments remain underwhelming. This paper draws on the voices of 30 Ontario public school educators, all of whom self-identify as Muslim, to share the ways they affect and have been affected in attempting to enact a responsive pedagogy for faith-centred learners. Through the use of dialogic portraits in two different school boards, the voices of Muslim educators express consistent sentiments of responsibility to advocate for basic religious accommodations while at the same time needing to tread carefully with anything to do with religion in order to not be marginalised by colleagues. Participants in this study reinforce the need for more robust conceptions of equity and inclusion that consider the complexities of the religious identities of learners and educators in public education.


Messaging platforms are applications, generally mediated by an app, desktop program or the web, mainly used for synchronous communication among users. As such, they have been widely adopted officially by higher education establishments, after little or no study of their impact and perception by the teachers. We think that the introduction of these new tools and the opportunities and challenges they have needs to be studied carefully in order to adopt the model, as well as the tool, that is the most adequate for all parties involved. We already studied the perception of these tools by students, in this paper we examine the teachers’ experiences and perceptions through a survey that we validated with peers, and what they think these tools should make or serve so that it enhances students learning and helps them achieve their learning objectives. The survey has been distributed among tertiary education teachers, both in university and other kind of tertiary establishments, based in Spain (mainly) and Spanish-speaking countries. We have focused on collecting teachers’ preferences and opinions on the introduction of messaging platforms in their day-to-day work, as well as other services attached to them, such as chatbots. What we intend with this survey is to understand their needs and to gather information about the various educational use cases where these tools could be valuable. In addition, an analysis of how and when teachers’ opinions towards the use of these tools varies across gender, experience, and their discipline of specialization.
is presented. The key findings of this study highlight the factors that can contribute to the advancement of the adoption of messaging platforms and chatbots in higher education institutions to achieve the desired learning outcomes.


«Développer l’esprit critique des élèves», notamment en cours de sciences, est un objectif fort des programmes officiels actuels. Mais comment penser l’enseignement de «l’esprit critique» dans une démarche didactique ? Pour rendre cette notion opératoire dans le contexte scolaire, nous proposons dans cet article de considérer l’esprit critique au sens d’une pratique normée de l’argumentation. Nous proposons ainsi d’étendre les concepts de pratiques de référence et de représentations spontanées pour outiller une réflexion didactique sur l’enseignement de l’argumentation critique sur des questions socioscientifiques (QSS). Dans cette perspective, d’une part, nous dégageons à partir de la littérature des normes épistémiques de référence caractérisant la pratique de l’argumentation sur des QSS. D’autre part, nous identifions dans l’argumentation des élèves des normes qu’ils construisent spontanément sur la base de leurs représentations de ce que doit être l’argumentation. Nous explorons le pouvoir heuristique de cette approche à travers une étude de cas portant sur un débat d’élèves au lycée sur une QSS. Les résultats obtenus montrent la coexistence dans l’argumentation des élèves de diverses normes spontanées, dont certaines correspondent à des normes de référence. L’interaction de ces normes spontanées et de référence met en évidence une pluralité de représentations de l’argumentation donnant des pistes pour penser une didactique de l’argumentation sur des QSS.


Research exploring the influences of cultural experiences, future imaginations and aspirations on the formation of pedagogy among immigrant Early Childhood (EC) educators remains scarce. This collaborative autoethnography (CAE) is about the first author’s pedagogical journey. Educated and trained in India as an EC educator, the stories shared in this paper offer insights into how the first author navigated and negotiated her understandings of pedagogies from padhana, a more traditional Indian focused pedagogy to ‘Western’ play-based pedagogy. Using photo-elicitation techniques from visual images as data and Appadurai’s theoretical framework on cultural global flows, the changes and continuities of conceptions of pedagogy influenced by cultural experiences, future imaginations and aspirations are explored. The iterative process supported by CAE helped redefine understandings about pedagogies, teacher identity and EC education.


With global trends focussed on standardisation of curriculum and increased teacher accountability, it has become commonplace for curriculum to be viewed simplistically as a product. While all teachers engage in forms of classroom curriculum-making,
questions remain as to what this looks like within an educational landscape that continues to portray teaching as a purely technical activity. This paper explores two Australian early career primary teachers’ experiences of curriculum-making, drawing attention to the enabling and constraining conditions which shape such experiences. We consider the impact of these enabled and constrained experiences on early career teachers’ aspirations and ongoing development as knowledge-led curriculum-makers. We contend that such constrained experiences limit opportunities for early career teachers to develop professional identities as knowledge-led curriculum-makers and continue to reinforce unhelpful representations of teachers as ‘technicians’.


This paper examines the invisible barrier that can challenge teachers when teaching online, called the fourth wall. Using a presence framework derived from the literature, we explored how experienced teachers manage the absence of visual cues and identify the pedagogical practices they adopted as a response. Data from semi-structured interviews with 22 teachers experienced in online teaching was analysed for individual presence, place presence, and co-presence. Results indicate seven different types of individual presence, four different types of place presence, and three different types of co-presence. Overall, findings show that teachers discussed developing students’ individual connections to the online lesson more often compared with developing co-presence (student-to-student engagement) with place presence being representative of the online learning space. Specific strategies that teachers used to support each presence are presented and implications are provided for how this affects the move to an increased use of blended and online learning in the schooling context.


Cet ouvrage est né d’une rencontre. D’un côté, l’équipe enseignante d’une école élémentaire située dans un quartier populaire du nord de Paris. À sa tête, une directrice expérimentée qui met en œuvre un projet s’inspirant de pédagogies actives. De l’autre, une équipe de chercheurs désireuse d’étudier des pratiques d’écoles « différentes ». La recherche en collaboration s’est déroulée pendant quatre années. Elle visait à co-produire des savoirs pratiques et scientifiques, à partir de l’étude des pratiques de l’école. Les quatre axes choisis ont porté sur : des pratiques de coopération entre élèves ; un regard didactique et pédagogique sur des pratiques de français ; les relations enseignants/élèves et entre élèves ; le travail en équipe des enseignants. L’ouvrage montre une recherche en collaboration en train de se faire. Il investigue différents aspects des pratiques enseignantes : la situation d’enseignement/apprentissage en croisant les regards pédagogiques et didactiques sur des pratiques de français et des pratiques coopératives ; la gestion des conflits enseignants/élèves et entre élèves ; enfin et surtout, le travail en équipe, ses fonctionnements, ses effets sur les pratiques et la
formation des enseignants. Il développe ainsi, au plan théorique et à travers des exemples, la notion d’équipe enseignante apprenante.


Ben-Peretz’s (1975) concept of intended curriculum describes a version of curriculum that ‘official’ curriculum developers create to provide a detailed guide to what teachers are required to teach in schools. While some curricula are intended to guide learning, others give a more definitive regulation of what must be taught. Either way, they are a product of curriculum developers writing government policy that defines what is considered essential for students to know. The teacher then undertakes the technical task of interpreting these policy texts to discern how they will introduce the content to their students. Once the teacher receives the curriculum text, they begin a translation process. While the curriculum developer has a vision of how teachers will interpret the curriculum, the teacher’s translation of the curriculum text is filtered through the teachers’ understanding of the subject matter. This notion of ‘curriculum potential’ represents the culmination of the teacher’s subject matter knowledge acquired throughout their education and career which serves as the reference point for curriculum interpretation. This article describes the process of curriculum interpretation used by primary teachers during the implementation of Australian curriculum reform. The study examined the interpretation process from the intended curriculum to the planned curriculum to the enacted curriculum used by the teachers and the influences impacting upon these processes. The analysis of the teachers’ interpretations was demonstrated through a process for curriculum mapping developed for this study. This work will present the teachers’ pathways to curriculum enactment as a hermeneutic interpretation of curriculum, revealing the teachers’ curriculum potential. While frequently descriptions of curriculum potential focus on subject matter knowledge, analysis of primary teacher curriculum interpretation necessitates a broader definition. The paper concludes that the primary teachers’ interpretation process is drawn from a wider curriculum potential that intersects their knowledge of subject matter and knowledge of their students.


Un ouvrage pour décortiquer une nouvelle manière d’enseigner, à distance, et distinguer ce qui relève du mythe et ce qui est fondé scientifiquement.


The purpose of this research is to analyse the evolution and trends of research into digital pedagogy in higher education through the application of bibliometric analysis and systematic review of scientific output. For the bibliometric analysis, the built-in functions of WoS were used, including Analyze results and Citation report. The VOSviewer software was employed to construct bibliometric maps. The analysis focuses on studies about digitalisation, university education and education quality, three categories that are grouped around digital pedagogies and methodologies. The sample contains 242 scientific publications, including articles (65.7%), publications published in the United States (17.7%) and publications financed by the European Commission (3.71%). Barber,
W., and Lewin, C., are the authors with the greatest impact. The scientific output forms three networks: the “social network” (2000–2010), the “digitalisation network” (2011–2015) and the “network of the expansion of digital pedagogy” (2016–2023). The most-mature research (2005–2009) concerns the integration of technologies in education. The research with the greatest impact (2020–2022) looks at digital pedagogy and its implementation during the situation created by COVID-19. This research shows that digital pedagogy has come a long way over the last twenty years, but it is at the same time a topical area today. The paper opens up future paths for research such as the development of more-flexible pedagogies that can be adapted to different pedagogical scenarios.


This study draws on Gloria Ladson-Billings' theory of culturally relevant pedagogy to explore how faculty at a private, Catholic, low-income serving, secondary school translated this theory into practice. Through a three-part action research methodology, the authors sought to answer two primary questions: How indicative are annual plans of culturally relevant pedagogy? How is culturally relevant pedagogy reflected in instructional practice? The data revealed faculty were not uniformly aware of the meaning or implications of culture nor culturally relevant pedagogy and incorporated such fractured knowledge into their annual plans to a limited degree, if at all. When those practices took place, they were often precipitated by student requests and linked directly with specific events in students' lives in or outside the school environment. Additionally, faculty did not express a strong association between school-wide initiatives that were meant to be culturally relevant and the pedagogical work conducted in their classes. Further, Faculty of Color exhibited a greater level of critical consciousness and enumerated significantly more examples of cultural work than White faculty. Recommendations are made for additional research as well as targeted professional development, changes in staff learning practices, and fairer distributions of cultural work across faculty.


Serving over 1.1 million students in more than 1,800 public schools, the New York City Department of Education is the largest school district in the nation. When individuals graduate from college with a bachelor’s degree in teacher education the New York City Department of Education assign a school-based mentor for one year. The case study examined how a novice special education teacher described his reflective experiences and progress, or lack thereof. The central research question was, “What were the differences, challenges, and successes between novice teachers' first-year experiences and their third-year mentoring experiences?” Data collection included an individual interview. Data analysis was analyzing themes by manual coding. The findings were a lack of resources and exemplary administrative support. Still, often too late, lack of available materials, qualified mentor-teacher role, impractical standard planning time, meaningful observations, and good work ethics are qualities of mentors and initial dissatisfaction without a mentor. These results can inform school districts what happens when mentors are not assigned and develop improved mentoring programs for new
special education teachers. A limitation of this study was one novice teacher was interviewed, and the findings were not generalized to other novice special education teachers. However, the implication was that new teachers, especially special education teachers, need mentors in the first year of teaching and beyond. Social change may include improved mentoring programs for school districts to ensure that novice special education teachers remain in the teaching profession.


A growing body of literature suggests that ‘intercultural education’ is an important tool for transformative learning about oneself and the other. Yet little is known about the challenges and opportunities of intercultural education in practice, particularly in light of an increasing focus in Western education policy on testing and standardisation. This article uses ethnographic and focus group research in an ethnically diverse secondary school in East London to empirically explore the opportunities and challenges of intercultural education in practice. It highlights similarities between the concept of intercultural education and Martin Buber’s theory of the ‘I–Thou’ encounter, suggesting that this dialogical relation has the potential to transform stereotypes and develop personhood. The research findings show how teachers at the East London secondary school employed dialogical techniques to encourage critical perspectives among their students and to cultivate their trust, a key element of I–Thou encounter. The findings also, however, draw attention to the deleterious impact of the marketised education paradigm on the dialogical relation, demonstrating how a policy focus on attainment and the narrow national curriculum limit opportunities for dialogue in the classroom and erode trust between teacher and student. The article argues that there is a clear and urgent imperative for change within the Western education system if Buber’s dialogical pedagogy is to bear fruit and transformative learning is to take place.

Stumbriénè, D., Jevsikova, T., & Kontvainè, V. (2024). *Key factors influencing teachers’ motivation to transfer technology-enabled educational innovation.* Education and Information Technologies, 29(2), 1697-1731. [https://doi.org/10.1007/s10639-023-11891-6](https://doi.org/10.1007/s10639-023-11891-6)

In response to the digital transformation in education, teachers are expected to develop new competencies. Although teachers gained valuable experience in digital technology use during the COVID-19 pandemic, research and practice show that primary school teachers need to be supported and trained for the new normal of innovative, advanced use and adoption of digital technologies in educational practice. This study aims to identify the key factors that influence teachers’ motivation to transfer technology-enabled educational innovation in primary education. The Learning Transfer System Inventory (LTSI) factors and the adoption factors of technology-enabled educational innovation have been conceptually mapped. The LTSI model has been empirically validated with data collected from 12.7% of Lithuanian primary school teachers. The structural equation modeling technique was utilized to analyze causal relationships of factors influencing teachers’ motivation to transfer technology-enabled educational innovation. The qualitative research method was used to provide a deeper understanding of key factors that influence motivation to transfer. The conducted analysis shows that motivation to transfer is significantly influenced by all five domains of factors: perceived value, personal characteristics, social practices, organizational and technology-enabled innovation factors. Motivation to transfer innovation varies
according to teachers' perceived digital technology integration skills, which underpin the importance of applying different roles and strategies based on the teachers' skills. This study provides implications for designing effective professional development for in-service teachers and creating a suitable environment in schools for the adoption of innovation in post-COVID-19 education.

Svendsen, M. W. H., Drijvers, P., Csapodi, C., Palmér, H., Gosztonyi, K., & Kónya, E. (2023, juillet). Investigating performativity in evaluation approaches in STEM education with a focus on mathematics: A methodological design. Consulté à l'adresse https://hal.science/hal-04420552


The aim of this study was to explore how English language teachers construct and enact their teacher identities. The data was collected through semi-structured interviews with four in-service English language teachers at Turkish public schools. The findings revealed certain identity stabilizers: the fascination with subject and the job, caring for students and the relationships with students and former teachers. Although the teachers took two distinctive pathways—the meant to be route and the higher education route—the job experiences of those taking the same route to teaching were quite different. Varying levels of exersion of teacher agency to attain alignment between imagined and actual identities and rare opportunities for legitimate participation and job socialization were effective in the actualization of personal and professional values distinctively. The findings enhance our understanding of how teacher identity is contextually and relationally constructed and offer implications for teacher education and sustainable identity-oriented professional learning.


Research has shown that gender role attitudes develop during adolescence; however, the relevant predictors remain a matter of debate. In adolescence, the school environment gains in importance. Thus, the present study investigates how students' and especially teachers' culture and composition predict the development of gender role attitudes in young adolescents. The study addresses this question using a sample of 7360 Flemish students (44.8% girls), who were surveyed three times after entering secondary education between 2012 (Mage = 13.14, SD = 0.56) and 2014. Latent change models reveal that boys' initial gender role attitudes are associated with the students' gender role culture; however, boys with more traditional gender role attitudes do not develop in an even more traditional direction at the beginning of secondary education. In contexts with a more privileged student SES composition, boys develop less traditional attitudes, while a traditional gender role culture among teachers supports the development of more traditional gender role attitudes among boys. Girls with more traditional gender role attitudes find themselves within student contexts with a more traditional culture. However, the development does not vary with the students' gender role culture. Overall, boys seem more susceptible to students' cultural and compositional characteristics.

The Culturally Nourishing Schooling (CNS) project is focused on whole-of-learning community efforts that aim to improve the educational experiences and achievements of Aboriginal and Torres Strait Islander learners. The project supports school-based professional learning strategies, broad school or system-level initiatives and deep engagement with local community, including students and their families. One of the professional learning strategies in the project is a 2-day intensive curriculum-focused workshop, which ran for the first time in 2021 within urban, regional, and remote school settings across New South Wales, Australia. The first day of the curriculum workshop introduces teachers and local Cultural Mentors to three analytic frameworks that they utilise to appraise curriculum resources available in the public domain. The curriculum resources appraised are all examples of curriculum designed to support educators with embedding an Indigenous knowledges focused National Cross-Curriculum Priority into their curriculum. On the second day of the workshop, teachers are tasked with appraising and revising a curriculum unit of work that they or colleagues have planned for the upcoming teaching semester. The curriculum workshop culminates with the revised teaching and learning resources being presented to the full group of workshop participants, and subsequently each teacher is asked to write a reflection about the curriculum work that they have engaged in. For this paper, data analysis draws on ‘three sensibilities’ that invite enacting a form of onto-epistemic heterogeneity. These sensibilities are multiplicity, horizontality and dialogicality. This analytic undertaking simultaneously explores the entanglements, and grapples with the possibilities, of re-imagining curriculum and related pedagogical practices that seek to ‘delink from the colonial matrices of power’.


Wall, K., Hanna, A., McCrorie, K., Quirke, W., Lauder-Scott, N., Sims, R., & Ross, L. (2024). ‘Learning about research was confusing until we started creating our own questions and research’: Enacting student voice through a ‘Students as Enquirers’ project. *The Curriculum Journal, 35*(1), 137-140. https://doi.org/10.1002/curj.237


Survey research among Australian teachers revealed that teachers experience tensions between student well-being concerns and the demands of academic performance and improvement agendas. Qualitative findings revealed teachers view student-teacher relationships as imperative to student well-being and academic development. However, in a time of metrics-based education systems and pre-packaged programmes, a focus on strengthening teacher-student relationships is somewhat incongruent with current content-delivery trends and funding priorities. Teachers promoted a concept of holistic education that accorded with socio-ecological models of living and learning. These findings point to a need to better understand how to best resource student-teacher relationships for productive learning.

Social media usage is indispensable for college students, but the connection between social media and learning has received little scientific investigation. By examining pre-service teachers’ attention to science, technology, engineering, and mathematics (STEM) teaching content and presentation in social media apps through WeChat, DingTalk, and TikTok, this study aimed to provide suggestions on using social media apps to promote pre-service teachers’ skill learning and teaching development and to understand the relationship between social media and learning. 383 valid surveys were distributed and gathered. The findings indicate that: 1) Social media apps have both beneficial and detrimental effects on education. 2) The degree of agreement differs on “Social media app is an excellent teaching tool” and “social media app has significant promise in boosting educational development”. The highest and lowest levels of agreement degrees were obtained for DingTalk and TikTok. The level of identification also affects how much pre-service teachers may pay attention to educational research and how frequently they study new materials in the future. 3) The degree to which pre-service teachers’ academic performance in professional learning is affected by their use of social media varies. These findings have implications for pre-service teachers. This study suggests that it is necessary to further investigate the teaching aid function of social media apps and how pre-service teachers can better utilize them to develop professional skills.


Abstract A lack of evidence bridging the chasm between professional learning practices and commonly used, publicly available resources such as YouTube videos, remains a long-term challenge in both research and practice. The study introduced a YouTube video club for female early childhood teachers in Hong Kong (N=29) to view, analyse and discuss STEM teaching videos. The participants wrote reflections and discussed with peers to exchange views on teaching content and strategies. All participants completed pre- and post-intervention surveys reporting their teaching beliefs, and five participants from the experimental group were invited for individual interviews. The questionnaire survey data were analysed using statistical analysis, while the interview data were analysed through inductive thematic analysis. The study, which was pre-post quasi-experimental, showed that the video club enhanced teachers’ beliefs and attitudes towards professional practices in early childhood education. Qualitative analysis of teacher interviews revealed benefits and constraints of using YouTube videos for professional learning. The study transformed video clubs into a web-mediated mode using YouTube, Google Classroom and Zoom. The results have implications for the design and implementation of video clubs in teacher learning programmes. Practitioner notes What is already known about this topic As the largest and most popular video-sharing service, YouTube hosts a wide range of freely accessible video types that can be used for professional education in various disciplines. There are worldwide efforts to improve early childhood teachers’ ability to teach STEM. Video recordings of classroom observations have been used in the context of video clubs since the 1990s to support
teacher learning. What this paper adds We introduced the design of a YouTube video club focusing on STEM teaching, in which the participants were asked to view and analyse video excerpts, write reflection as guided by the facilitator and discuss with peers in groups to exchange views on the teaching content and strategies demonstrated in the video excerpts. We extended prior research on video clubs by transforming video clubs into a fully web-mediated mode using the technologies of YouTube, Google Classroom and Zoom. This design-based study evaluated the design of YouTube video club in terms of affording and constraining teachers’ professional learning in STEM education. Implications for practice and/or policy Results of this study can inform the design of teacher learning programmes using YouTube videos. YouTube videos can be used in web-mediated video clubs to enhance teachers’ professional beliefs, as well as the pedagogical content knowledge in specific learning domains (eg, STEM). More enhancements should be made to optimize the design of YouTube video club.


We study the choice of acquiring STEM and non-STEM college education using variation induced by the proximity to universities offering different types of programs. We adopt a novel methodology allowing the identification of the distribution of response types and treatment effects in a multiple unordered discrete choice setting (Heckman and Pinto, 2018). The empirical analysis is based on confidential survey data for Italy, combined with administrative information about the founding dates of all Italian universities and faculties. We find that most compliers are women at the margin of choosing STEM education versus not going to college. We simulate the effects of expanding the supply of STEM education and discover that, in addition to substantial effects on employment, the gender disparity in STEM education could potentially decrease by up to 20%.


We study the choice of acquiring STEM college education using variation induced by the proximity to universities offering different types of programs. We adopt the methodology by Heckman and Pinto (2018) allowing the identification of the distribution of response types and treatment effects with multiple unordered choices. We combine survey data for Italy with historical information about the founding dates of all universities and faculties. We find that most compliers are women at the margin of choosing STEM education versus not going to college. Expanding the supply of STEM education could reduce the gender gap in STEM by 20%.

This paper explores how students participating in a co-curricular scholarship programme in a large Australian university develop their employability. It seeks to add to recent literature regarding different approaches to graduate employability through examining how participating students’ capital acquisition is shaped by and internalised within the structure and culture of the scholarship. The paper also offers an example of how comprehensive and integrated co-curricular scholarship programmes can facilitate graduate employability. It suggests that despite curricular intentions to promote comprehensive and processual approaches to employability, students’ employability internalisations are influenced by possessive and positional messages and cultural cues within the scholarship programme. These insights serve as important considerations for higher education institutions seeking to instigate or improve their employability curricula.


Livelihood assets which are considered and recognised for their life-supporting role contribute significantly and basically to the standard of living of people. These contributions as deemed more meaningful are considered necessary to farmers whenever an opportunity exists to diversify their investment. This study looked at how the benefits from increase in farmers’ rice yield contribute to farmers ability to acquire livelihood assets to enhance their standard of living. A sample size of 265 from a population of 880 farmers trained by Japan International Cooperation Agency on sustainable rainfed low-land rice production technology was used. The objective was to establish how proceeds from rice sale influenced the acquisition of livelihood assets by farmers to support their standard of living. Using spearman rho correlation, it was found that a strong positive correlation exists between increase rice output and livelihood assets acquisition. It is recommended that the technology should be disseminated nationwide specially in low-land rice farming areas so that all farmers in the country could benefit.


Les économistes Florence Lesfresne et Thomas Couppié, du Centre d’études et de recherches sur les qualifications, décryptent, dans un entretien au « Monde », les évolutions récentes auxquelles sont confrontés les diplômés du supérieur au moment de décrocher leur premier emploi.


La mondialisation d’accès aux savoirs questionne l’ensemble des formations initiales et continues dans le domaine des professions médicales. À ce titre, ce travail de thèse propose d’explorer la mise en place du concept d’universitarisation de la formation initiale des masseurs kinésithérapeutes (MK) français, et plus précisément sur les modalités de la construction identitaire professionnelle d’acteurs du soin à la personne. La
formation académique sera examinée pour mesurer l’impact réel de ce concept d’universitarisation sur la création de l’identité professionnelle de ces nouveaux professionnels de santé. Depuis 2015, un nouveau partenariat entre l’université, les conseils régionaux et les instituts de formation en massokinésithérapie officialise l’entrée de cette formation professionnelle au sein de l’université. L’universitarisation de cette formation initiale nous questionne sur les attendus de ce nouveau partenariat. L’universitarisation officialise un changement d’approche pédagogique pour ces étudiants et l’ensemble des équipes pédagogiques. Notre travail de recherche repose sur cette question principale : Le défi de cette universitarisation sur l’identité des futurs MK correspond-elle à celle attendue par l’université ? Pour répondre à cette question, une analyse historique présente le métier de masseur kinésithérapeute et sa formation initiale depuis son origine le 30 avril 1946 jusqu’à nos jours. Ce nouveau métier est le regroupement de deux corps professionnels différents. La fin du XIXe siècle a fait entrer le monde où tout est possible. Le massage, la gymnastique et ce que l’on appellera plus tard, la massokinésithérapie vont prendre un essor considérable. Ils vont occuper les places laissées par les médecins. La professionnalisation de ce corps de métiers a débuté dès son origine puis par une succession de quatre réformes, en 2015 elle la complète par son universitarisation. Ce changement positionne l’apprenant sur une posture réflexive et d’autonomie. L’étudiant est l’auteur de sa formation. La construction identitaire professionnelle issue lors de ce parcours complètera les représentations informelles retrouvées sur l’ensemble des étudiants. La méthodologie s’appuie sur la démarche hypothético-déductible, tout en tenant compte du modèle de « la double transaction ». Un questionnaire, sept entretiens semi-dirigés et une revue de l’état de l’art précisent le cadre théorique. La construction du matériel de recherche repose sur un panel représentatif des différents acteurs de cette formation initiale. Quarante entretiens semi-dirigés appuieront nos propos. Il est mis en avant que notre démarche de recherche fait ressortir trois grandes lignes exploitées pour notre problématique. Une nouvelle identité universito-professionnelle est mise en avant. Elle positionne les apprenants dans une posture d’étudiants universitaires, réflexifs, partiellement autonomes.


This paper sets out original findings from analyses of the English National Pupil Database of Key Stage 1 (KS1) attainment, to examine educational outcomes of children with Special Educational Needs and Disabilities (SEND). The schooling of these children has been entirely within the context of the current SEND system, defined by the 2014–2015 policy of the Children and Families Act and Code of Practice. With a strong focus on children’s needs and outcomes, the policy intends to achieve high educational outcomes for children with SEND. Our new results show, however, that children with SEND are one of the most disadvantaged groups in education, and they are far less likely to meet expected learning standards than their peers at KS1. For instance, about 44%, 31% and 23% of children with SEND met the standards in phonics, reading and writing, respectively, compared to 88%, 83% and 78% of children with no SEND. Further, our spatial analysis shows for the first time that this disadvantage displays large spatial variability across Local Authorities: there is a postcode lottery in the education of children with
SEND. The new findings provide strong evidence that the new SEND policy is failing many children with SEND, and that this performance varies markedly across space. This adds further weight and evidence to a growing recognition, even from government, that the SEND system needs to change, and that the ambitious aims of the transformation of education and care for children with SEND in 2014 and 2015 are not being realised.


One in three students suffers from at least one common mental disorder highlighting the high prevalence of health issues in higher education. At the same time, every third student drops out of university without achieving their degrees. Nevertheless, connections between health and students’ dropout behavior have hardly been investigated. Grounding on value-expectation theory, this article argues that the students’ health-related quality of life (HRQoL) alters the impact of their self-assessed success probability in graduating on their dropout intentions. To examine the research question, data from the LAST project, which surveyed a German undergraduate student population over a period of four semesters (N = 7,169), were used applying fixed effects regressions, and interaction effects. Analyses uncover that the students’ mental health status is in fact linked to their intentions to drop out of university. Furthermore, an interaction effect of mental HRQoL and success probability could be confirmed. The findings suggest that universities should adopt better health promotion policies that bring together both individual health needs and higher education’s interest in successful graduates.


Si l’échec scolaire est une réalité de longue date, sa prise en considération est assez récente. Retour sur l’histoire d’une notion qui interroge les liens entre la société et son école.


The increased use of digital technology in higher education requires university students to be digitally proficient. The main objective of this study is to examine the extent to which university students’ proficiency in various digital competences could be helpful towards their learning performance. This study adopted DigComp 2.2 to design a data collection instrument for an online questionnaire survey and conducted data analysis on the valid 314 responses using partial least squares structural equation modelling (PLS-SEM). The findings indicate that, with the exception of safety, the digital competence areas of information and data literacy, communication and collaboration, digital content creation, and problem solving were significant to student learning performance. The findings also revealed that students’ current semester had no significant moderating effect on the relationships between their proficiency in digital competence areas and learning performance, with the exception of a relationship between information and data literacy and learning performance, as well as a relationship between problem solving and learning performance, between respondents in semesters 3 and 4, and
between respondents in semesters 5 and 6, respectively. The findings contribute to a better understanding of DigComp 2.2's applicability in higher education and can be used by educational institutions and educators to design learning activities and formative assessments that can help students improve their digital competence proficiency.


Background When mathematical knowledge is expressed in general language, it is called verbalized mathematics. Previous studies on verbalized mathematics typically paid attention to mathematical vocabulary or educational practice. However, these studies did not exclude the role of symbolic mathematics ability, and almost no research has focused on verbalized mathematical principles. Aims This study is aimed to investigate whether verbalized mathematics ability independently predicts mathematics achievement. The current study hypothesized that verbalized mathematics ability supports mathematics achievement independent of general language, related cognitive abilities and even symbolic mathematical ability. Sample A sample of 241 undergraduates (136 males, 105 females, mean age = 21.95, SD = 2.38) in Beijing, China. Methods A total of 12 tests were used, including a verbalized arithmetic principle test, a mathematics achievement test, and tests on general language (sentence completion test), symbolic mathematical ability (including symbolic arithmetic principles test, simple arithmetic computation and complex arithmetic computation), approximate number sense ability (numerosity comparison test) and several related cognitive covariates (including the non-verbal matrix reasoning, the syllogism reasoning, mental rotation, figure matching and choice reaction time). Results Results showed that the processing of verbalized arithmetic principles displayed a significant role in mathematics achievement after controlling for general language, related cognitive abilities, approximate number sense ability and symbolic mathematics ability. Conclusions The results suggest that verbalized mathematics ability was an independent predictor and provided empirical evidence supporting the verbalized mathematics role on achievement as an independent component in three-component mathematics model.


Over 80,000 children in England were being looked after in Local Authority care in 2020 and a further 40,000 people were defined as ‘care leavers’. Although a significant body of research highlights the prevalence of educational low achievement in the care experienced population, official government figures show that around 13% of care experienced pupils progress to higher education by the age of 19. In a climate of ‘widening participation’ in which universities encourage inclusion and student diversity, this research invited students with a care background to discuss their experiences of settling into university life. Data was collected using in-depth interviews with 42 students from four universities and an online survey completed by 192 students in 29 universities in England and Wales. Findings revealed that although care experienced students overcome significant challenges to progress to higher education, over half considered dropping out. Others reported feeling isolated and inadequately supported, both financially and pastorally, by their institution. This paper uses a lens of resilience to
consider the environmental factors that impact upon student transitions, and concludes that universities must act to balance inequalities in order to appropriately welcome and appreciate care leavers for the skills and experience they bring.


Objective The study explored the prospective relations between depression and approach-avoidance achievement goals of undergraduate students in China. Methods 2473 full-time undergraduates reported their depression and achievement goals annually from the freshman to the senior year. Data were analysed using descriptive statistics, correlation analysis and cross-lagged models. Results Students’ achievement goals decreased gradually during the first 3 years but rose in the fourth year, and the avoidance goals appeared to be less prevalent than the approach goals over time. Depression was negatively associated with approach goals, whereas positively correlated with avoidance goals. Depression in the freshman and sophomore years resulted in more avoidance goals 1 year later, and the depressive problems in the junior year predicted the decline of approach goals in the senior year. Conclusions The present study highlighted the deleterious effects of depression on the achievement goals of college students.


Large-scale international achievement studies such as PISA have been widely used to study how educational inequality compares across countries. Yet the various different biases that may affect these estimates are often not considered or are poorly understood. In this paper we draw upon the total survey error framework to provide a case study of the potential biases affecting estimates of the socio-economic achievement gaps using PISA data from Germany. The results illustrate how procedural and measurement errors have a substantial impact upon estimates of socio-economic achievement gradients in Germany, including how it compares with other countries. This leads us to conclude that estimates of socio-economic achievement gaps using the PISA data for Germany do not seem to be particularly robust. More generally, we argue that better articulation and reporting of such challenges with comparing socio-economic achievement gaps using large-scale international assessment data such as PISA are needed.


This paper investigates the relationship between music qualification choice and academic performance in secondary education in England at Key Stage 4 (KS4; usually at ages 15 and 16). We analysed data from 2257 pupils at 18 educational settings in a city in the southeast of England. Two regression analyses with clustered errors modelled KS4 music qualification choice and GCSE academic achievement in English, Mathematics and other English Baccalaureate subjects, while controlling for a range of demographic, academic and socio-economic variables. Choice of music as a subject
at KS4 was positively associated with the total volume of KS4 qualifications entered for examination and was also predicted by coming from an affluent neighbourhood. Furthermore, this choice of music at KS4 was associated with greater academic performance on English Baccalaureate subjects above and beyond other significant predictors (gender, language, prior academic achievement, total volume of KS4 qualifications and neighbourhood socio-economic status; local Cohen’s $f^2 = 0.09$). These results point to moderate but significant additive effect of studying music at KS4 in relation to performance on core GCSE subjects. We also found that schools with KS4 music qualification choice greater than the national average were higher in overall academic attainment, in the proportion of pupils attending extra-curricular instrumental lessons, and in our composite measure of school’s engagement with a local music education hub. The results are interpreted in light of sociological theories of education in an attempt to better understand the underlying systemic factors affecting youth music engagement.


This paper examines the effects of daily exercise time on the academic performance of junior high school students in China, with an attempt to figure out the most appropriate daily exercise time for students from the perspective of improving students’ test scores. By dividing the daily exercise time into five sections to construct a categorical variable in a linear regression model as well as using another model to draw intuitive figures, I find that spending both too little and too much time on physical activity every day would have adverse impacts on students’ academic performance, with differences existing in the impacts by gender, grade, city scale, and location type of the school. The findings of this paper carry implications for research, school health and education policy and physical and general education practice. The results also provide recommendations for students, parents and teachers.


This systematic review reports evidence on practices and programmes that enhance successful primary-secondary school transition and participation for Indigenous students in Australia. A thematic analysis found three sets of practices: the school context; bridging practices; and Aboriginal and Torres Strait Islander students cultural recognition. Two narratives thread through the practices: centrality of relationships; and the entangled nature of Indigenous culture, Aboriginal and Torres Strait Islander student’s identity and successful transition and participation in high school. Attending to relationships with students, their families, communities and local Elders supports cultural identity, belonging and improves participation in high school. Future research, program development and implementation should acknowledge students’ unique needs and collaborate with students, their families and community. School staff ought to acknowledge the colonised context of education in Australia and increase the use of decolonising practices to support Aboriginal and Torres Strait Islander students to transition to and participate in high school.

Project-based learning (PjBL) has been increasingly promoted and extended to online environments to enhance the quality of higher education. However, PjBL involves complex processes requiring higher-order thinking skills, which may pose challenges to many students especially in online settings with little prompt support from teachers. The problem may compromise the learning of low-achieving students, who often have inadequate higher-order thinking skills. Visible thinking approaches have the potential to make higher-order thinking processes accessible to students. This study was conducted with 72 university students who engaged in visible thinking supported online PjBL of computer programming. A one-group pretest-posttest design was adopted to compare the learning outcomes among high-, medium- and low-achieving students. The results showed that compared to high and medium achievers, low-achieving students made the most progress in product quality and thinking skills (in particular process design skills). They performed almost as well as medium and high achievers in product quality and process design skills at the end of the study. They also gained more knowledge from the project than high achievers did. Moreover, compared to medium achievers, low achievers perceived the approach as more valuable, made more effort on the study, and felt more competent in completing the project. The findings reveal the promising effects of visualizing higher-order thinking processes in narrowing the achievement gap between high and low achievers, offering all students an equal chance to engage in effective learning with projects.


PhD (non-)completion rates have been considered important criteria with which to evaluate the effectiveness of doctoral programmes and of universities’ performance. To date, there has been a lack of qualitative studies on the voices and experiences of funded international students who discontinue doctoral research degrees. This paper uses qualitative methods and six themes of a life course perspective to uncover the ‘hidden’ experience of international Vietnamese students who dropped out of funded doctoral programmes in social sciences and humanities. Its findings suggest that linked/independent lives and the timing of live themes helped to understand reasons for international doctoral students to drop out, which underline their engagement with research networks, academic identity and familial responsibilities. Meanwhile, the consequences of dropout illustrate the intersections of five themes: linked/independent lives, development risk and projects, the timing of lives/interplay of human lives and historical times, and diversity in life courses. The five themes capture diverse life trajectories and forms of agency developed by PhD non-completers while negotiating social pressures and institutional politics in their home institution as well as their perceptions of well-being and life priorities. Their life trajectories and forms of agency are gendered and culturally specific, with female non-completers being more active in searching for and building back their ‘agentic orientations’ through learning new skills, entering motherhood or leaving academic institutions. These findings are useful for reflecting on the current supporting structures, especially mental health support, for international doctoral students and supervisor training.

Background Learning is a self-regulated loop where learning strategies and achievements are interrelated. In reading, although some studies have explored the relationship between different learning strategies (memorization, elaboration and control) and reading achievement, little is known about how they interact over time. Even though the longitudinal relationship was revealed in some studies, most of the evidence was based on the whole population, regardless of gender differences. Aims This study was designed to examine the longitudinal relationship between memorization, elaboration, control strategies and reading achievement, as well as the gender difference in the longitudinal relationship. Sample The sample consisted of 3878 Chinese students (2025 boys, 1853 girls) who were surveyed in Grade 4 and Grade 6. Methods A cross-lagged model was conducted to examine the longitudinal relationship between memorization, elaboration, control strategies and reading achievement while controlling for gender, age and parents’ educational levels. Multigroup cross-lagged models were conducted to examine gender differences in the longitudinal relationship between these variables. Results Memorization and elaboration strategies were reciprocally related. Both predicted subsequent control strategies, but not vice versa. Only memorization strategies positively predicted subsequent reading achievement, while prior reading achievement positively predicted the subsequent three strategies. The effects of prior reading achievement on subsequent learning strategies were stronger for boys. Conclusions Memorization strategies play a prominent role in promoting deeper strategies and reading achievement in Chinese primary schools, which might relate to culture and developmental stages. Higher achievement or positive feedback from learning results might be motivation for using different strategies, especially for boys.


We analyze the effectiveness of monetary incentives and/or feedback in order to improve students’ calibration of academic performance. A randomized field experiment is implemented in which undergraduate students enrolled in a Microeconomics course are offered the possibility to judge their academic performance immediately before (prediction) and after (postdiction) completing each of the three exam-multiple choice tests of their continuous evaluation. Potential (actual) miscalibration in each test is calculated as the difference between the predicted (post-dicted) grade and the actual grade. The treatment variables are monetary incentives and individual feedback since they may potentially affect students’ judgment accuracy. Different treatments allow for the analysis of the effect of one of the variables alone or the joint effect of introducing the two variables. The main result is that potential and actual miscalibration are independent of the treatment variables. Our data analysis controls for confounding factors like students’ cognitive ability, academic record, risk attitudes and personality traits. Our data reflect that students’ potential miscalibration is significantly reduced in subsequent tests to the first, only in the treatment where individual feedback as well as monetary incentives are provided.

Inspired by complex system theory, this study adopts a multilevel piecewise regression model to examine the relationship between homework time and the development of students in different grades using a large-scale testing database in China. The results indicate that the relationship between homework time and students' performance is positive when homework time is less than the cut-off values and becomes negative when homework time is greater than the cut-off values. For different dependent variables, the cut-off values of homework time differ but are all within a range (1–1.2 h for grade 4 and 1.7–2 h for grade 8). The reasons for the difference in cut-off values among students in different grades are discussed.


Career adaptability, essential for high school students' career development, is closely associated with academic achievement. However, it is still unclear whether there exist multiple subgroups among Chinese high school students that exhibit distinct combinations of the career adaptability dimensions and whether these subgroups display significant differences in academic achievement. Using latent profile analysis, this study identified career adaptability profiles in Chinese high school students and examined their effects on academic achievement through a longitudinal design. Chinese high school students (Wave 1: \(N = 1783\), 42.9% boys, \(M_{age} = 15.17\), \(SD = 0.86\); Wave 2: \(N = 1395\), 42.9% boys, 82.4% science students, \(M_{age} = 16.19\), \(SD = 0.88\)) completed a packet of measures on two occasions at eight-month intervals. Career adaptability was assessed at Wave 1, and academic achievement was assessed at Wave 2. Five distinct career adaptability profiles were identified: (1) Low control and confidence; (2) Below average; (3) Control dominant and low confidence; (4) Above average; (5) High. Profiles of career adaptability displayed significant differences in academic achievement. High, Above average, and Control dominant and low confidence students' achievements were significantly higher than Low control and confidence students. These findings indicate that students with an overall high level of career adaptability or more robust career control are more likely to achieve higher academic achievement. In addition, level (average scores of all dimensions across different profiles) and shape (distinct forms displayed by the specific combination of dimensions) effects exist in the influence of career adaptability profiles on academic achievement. This highlights the dynamic and diverse nature of adolescent career development within the Chinese high school context.


Increasing mental health issues, such as emotional problems, pose a threat for the academic performance of undergraduate students. We propose a route connecting emotional problems and academic performance through executive functioning skills (EFS). Despite the abundance of research on the topic of EFS, there is a significant gap in understanding this route, specifically among a population of undergraduate students. The aim of this study was to examine whether EFS mediated the association between emotional problems and academic performance among undergraduate students. Cross-sectional data (n = 2,531) was used from a survey among Dutch undergraduate students from a large variety of faculties at a university of applied sciences. We assessed emotional problems using the Depression Anxiety Stress Scale-21, five EFS (cognitive inhibition, task initiation, sustained attention, planning, time management), and academic performance (study delay; yes/no). Mediation analyses were performed, using the Hayes PROCESS macro, adjusted for gender. We found that cognitive inhibition, task initiation, sustained attention, planning, and time management mediated the association between emotional problems and academic performance. Regarding separate EFS, no large differences were found. The data suggests that improving all EFS in undergraduates experiencing emotional problems could be a fruitful strategy for preventing academic delays.


Background Mathematics homework is highly prevalent in East Asia. Teachers and parents expect mathematics homework to improve students’ performance; however, studies have not clearly defined the effectiveness of the assignment of different amounts of homework. Aims This study analyses the differential effect of homework amount on various facets of Chinese students’ mathematics achievement using a longitudinal design. It aims, thereby, to contribute to the existing knowledge of homework effectiveness and mathematics learning and to provide insights for student development. Sample The sample included 2383 grade 9 students from a mid-sized city with a moderate level of economic and educational development in central China. Methods We administered a student-reported questionnaire, collected school reports of mathematics achievements to track retrospective longitudinal variations in mathematics over half a year and analysed the differential effectiveness of homework on mathematics achievement at four hierarchical cognitive levels with Hierarchical Linear Model. Results The results indicated that assigning more homework at the class level could enhance students’ mathematics achievement at a low cognitive level, although this effectiveness tended to disappear when the set homework time reached about 1.5–2 h. We did not find evidence that assigning more homework enhances students’ mathematics achievement at higher cognitive levels. Conclusions Overall, this study provides evidence on the effectiveness of homework and offers implications for educational practice and future research.

Critique of citizenship education has suggested citizenship should be reconceived, not as a status, but as something that people continuously do: citizenship as practice. This article draws on a two-year ethnographic study of citizenship practices in a Scottish primary school examining how citizenship curriculum was distributed across children’s experience of the school day, the ways belonging was constructed in different spaces and time frames and how civic participation was identified in pupils’ own terms. The article’s close discourse analysis examines moments when children’s decision-making reveals the connections made between citizenship curriculum and viable citizenship identities in practice. This micro analysis of the semi-formal space of the school reveals children’s understanding of group cooperation that remain opaque in the more formal setting of the classroom. The findings suggest that educators would do well to attune further to children’s informal decision making processes and curricular practices that would better support them.


Although research illustrates that community-based organizations (CBOs) offer critical support to the education of historically marginalized youth, less is known about CBOs’ role in developing youth’s critical civic praxis toward social justice. In this case study, we analyzed semi-structured interviews with youth who participated in a college preparation and social justice-focused CBO during high school in an urban community where many of them experienced profound disparities. The purpose of this study was to explore the role that CBOs play in shaping youth’s critical civic praxis during and post high school. The study findings suggest that CBOs can significantly influence youth’s commitment to social justice far beyond K-12 schooling, instilling community values such as reciprocity that reposition the pursuit of higher education as a form of social justice. We offer implications for CBOs who serve historically marginalized youth, whose commitment to improving educational opportunities include social justice for youth and their surrounding communities.


L’objectif de ce Cahier est de jeter les bases d’une sociologie de l’éducation au changement climatique et de faire apparaître la pertinence d’une telle approche. Pour ce faire, nous discutons le récit paradoxal sur l’urgence climatique selon lequel nos sociétés ne réagissent pas alors même qu’elles entendent l’alerte. Notre hypothèse est que ce récit, devenu lieu commun tant il est répandu, cadre inadéquatement la manière dont l’éducation (informelle) au changement climatique est pensée et conduite actuellement. Nous montrons que ce récit est contredit par ce que les études d’opinion existantes nous apprennent sur l’information du public à ce sujet, et sur le lien entre la connaissance et l’action individuelle ou collective. Nous synthétisons également ce que nous apprennent les recherches en sciences sociales sur les obstacles à l’engagement public et à la transformation profonde de la société.


Despite the important role of peers in the social process of classroom citizenship, the peer influence related to moral disengagement, social goals, and a sense of peer community remain unclear. To this end, it was examined to what extent youth become similar to their friends in moral disengagement, social goals, and a sense of peer community. Participants were 283 South Korean third to sixth graders (Mage = 9.60 years, SD = 0.97; 51.6% girls) who completed an online survey for moral disengagement, social goals, the sense of peer community and friendship network across the beginning (Time 1) and end (Time 2) of the school semester (September to December). Longitudinal social network analyses indicated that youth became more similar to their friends concerning moral disengagement and a sense of peer community, but did not select friends based on these aspects. The strength of these influence effects varied in terms of different levels of these aspects. Specifically, youth were more likely to become similar to their friends at lower levels of moral disengagement. Youth tended to be similar to the friends’ level of sense of peer community. This tendency was relatively strong at the lowest and the highest levels of a sense of peer community. Future research should address the role of friendship in shaping classroom citizenship and the importance of classroom daily teaching practice in youth citizenship development.


This article reflects on recent calls for universities to deepen their commitments to sustainability in the face of climate change. It suggests that because climate change is a “wicked problem” that is hyper-complex, lacks clear solutions, and affects multiple communities in different ways, universities are unlikely to achieve consensus around a single approach to sustainability. The article reviews emerging critiques of existing university sustainability efforts, including critiques of greenwashing, climate colonialism, and (techno)solutionism. It also offers a social cartography of three different approaches to sustainability: mainstream sustainability, critical sustainability, and beyond sustainability. Rather than advocate for one particular approach, the article suggests that if universities are to maintain their relevance in the context of wicked problems like climate change, they will need to foster spaces for critically informed, complexity-based, and socially and ecologically accountable conversations about the role of higher education institutions in pluralizing possible futures on a shared, living planet.