



European
Commission



European Expert Network
on Economics of Education

The latest research trends in the field of economics of education: July-December 2023

EENEE Coordination team

Please cite this publication as:

EENEE (2023). 'The latest research trends in the field of economics of education: July-December 2023', *EENEE report*.

ABOUT EENEE

EENEE is an advisory network of experts working on economics of education and training. The establishment of the network was initiated by the European Commission's Directorate-General for Education and Culture and is funded by the Erasmus+ Programme. PPMi is responsible for the coordination of the EENEE network. More information on EENEE and its deliverables can be found on the network's website www.eenee.eu. For any inquiries, please contact us at: eenee@ppmi.lt.

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Important themes and issues for future European Commission's work on the economics of education

This document provides a summary of important themes and issues to inspire future European Commission's work in the field of economics of education and training. The summary highlights specific focus areas covered by recently published research and foresight studies (between July and December 2023) and are relevant to the European Commission's programme 2023¹ and the Directorate General for Education, Youth, Sport, And Culture (DG EAC) Strategic Plan² 2020-2024. Reviewed Journals are presented in the table below.

This summary of the most relevant articles from top-ranked journals includes the following major topics:

- Factors influencing student academic achievement
- Digital education ecosystems
- Effectiveness of interactive teaching/learning strategies: (cooperative) flipped classroom
- Labour market outcomes and human capital
- Significance of (early life) socioeconomic background
- Consequences of Covid-19 pandemic
- Teachers' characteristics and competences

TABLE 1. REVIEWED JOURNALS

JOURNAL	ISSUES IN THE PERIOD	PUBLICATION COUNT
Quarterly Journal of Economics	2	0
Journal of Political Economy	6	1
Journal of Finance	3	0
Econometrica	3	0
Review of Economic Studies	3	1
Journal of Labour Economics	3	6
Journal of the European Economic Association	3	1
Review of Educational Research	3	5
Journal of Economic Growth	2	0
Journal of Human Resources	3	12
Internet and Higher Education	1	1
Journal of Development Economics	3	3
Education Finance and Policy	3	4
Economics of Education Review	3	15
Journal of Human Capital	2	3
Education Next	2	3
International Journal of Educational Research	3	15
Education Economics	2	6
Citizenship, Social and Economics Education	1	1
Economies	6	1

¹ European Commission Work Programme 2023 .

² Strategic Plan 2020-2024 Directorate General for Education, Youth, Sport, And Culture

International Journal of Education Economics and Development	1	1
OECD	n/a	2
JRC	n/a	3
World bank	n/a	1
UNESCO	n/a	6
Total	58	91

While tracking research trends in the most prominent academic journals and recent foresight studies (see Table 1), **we observed seven themes** relevant to the highlighted priorities and broader context of the economics of education and training. The following table also covers specific topics, providing a quick oversight of key research themes developed in the academic journals that have an economic aspect of education (see Table 2).

The report is structured according to the themes indicated in the table. Several articles on each theme are then discussed to give a broader understanding of the issues covered in each theme. Even though some of the studies present evidence from the non-EU countries, may also reflect some of the EU challenges and priorities.

TABLE 2. THE MAIN THEMES DISCOVERED IN THE JOURNALS

THEMES	ARTICLES
Factors influencing student academic achievement	<ul style="list-style-type: none"> – <i>Effectiveness of the High Performing Schools programme in the Netherlands</i> – <i>The impact of area level mental health interventions on outcomes for secondary school pupils</i> – <i>The promise of using study-together groups to promote engagement and performance in online courses: Experimental evidence on academic and non-cognitive outcomes</i> – <i>Understanding the effects over time of multigrading on child achievement</i> – <i>How informal mentoring by teachers, counselors, and coaches supports students' long-run academic success</i> – <i>The promise of using study-together groups to promote engagement and performance in online courses: Experimental evidence on academic and non-cognitive outcomes</i> – <i>Preferred field of study and academic performance</i>
Digital education ecosystems	<ul style="list-style-type: none"> – <i>OECD Digital Education Outlook (2023)</i> – <i>On the Futures of Technology in Education: Emerging Trends and Policy Implications (Joint Research Center)</i> – <i>Artificial Intelligence in education. Uses and impacts introduced to teachers in Bosnia and Herzegovina (UNESCO)</i> – <i>Conversational agents in higher education- a scoping review</i>
Effectiveness of interactive teaching/learning strategies: (cooperative) flipped classroom	<ul style="list-style-type: none"> – <i>The impact of flipped classroom teaching on college English language learning: A meta-analysis</i> – <i>Cooperative-flipped classroom under online modality: Enhancing students' mathematics achievement and critical thinking attitude</i>
Labour market outcomes and human capital	<ul style="list-style-type: none"> – <i>The Consequences of Letter Grades for Labor Market Outcomes and Student Behaviour</i> – <i>University peers and career prospects: The impact of university ties on early labour market outcomes</i> – <i>The Effects of After-School Programs on Maternal Employment</i> – <i>The effect of decreased general training on skills and dropout - Evidence from a vocational school reform in Hungary</i> – <i>Longer schooling with grade retention: The effects of increasing the school leaving age on dropping out and labour market success</i> – <i>The effect of automation technology on workers' training participation</i> – <i>High skilled workplaces, technological change and employment</i>
Significance of (early life) socioeconomic background	<ul style="list-style-type: none"> – <i>Towards a more inclusive social Europe: early-life conditions and educational attainment, European Commission (Joint Research Center)</i> – <i>The rising influence of family background on early school performance</i> – <i>Understanding the Effect of Parental Education and Financial Resources on the Intergenerational Transmission of Income</i>

	<ul style="list-style-type: none"> - <i>Risk Factors of Being a Youth Not in Education, Employment or Training (NEET)</i> - Being resilient to close the gap: Is it enough?
Consequences of Covid-19 pandemic	<ul style="list-style-type: none"> - <i>Decline in educational performance only partly attributable to the COVID-19 pandemic (OECD)</i> - <i>The heterogeneity of Covid-19 learning loss across Italian primary and middle schools</i> - <i>Uncovering heterogeneity in achievement during the Covid-19 pandemic: Math grades trajectories and their predictors in middle school (Lithuania)</i> - <i>The novel liquid learning system and the online gap in academic performance</i> - <i>Feedback practices at school in home confinement at primary level during the Covid 19-pandemic</i>
Teachers' characteristics and competences	<ul style="list-style-type: none"> - <i>A Meta-Analytic Review of how Teacher Characteristics and Competencies Affect Students' Academic Achievement</i> - <i>Do teachers' college majors affect students' academic achievement in the sciences?</i> - <i>Teaching strategy specialization and student achievement</i> - <i>Fostering teachers' intercultural and democratic competences for a more inclusive society (Joint Research Center)</i> - <i>Teachers' continuous development as a catalyst for inclusive education (UNESCO)</i> - <i>The promotion of self-regulation of children's behaviour, an unresolved issue in initial teacher education in Catalonia (Spain)</i> - <i>Teacher Leadership and Teacher Wellbeing</i> - <i>Biodiversity education and awareness among the youth: a UNESCO MasterClass for teachers and educators</i>

1.1. Factors influencing student achievement

A number of studies published in the second semester of 2023 continued assessing impact of different factors on student achievements. For instance, recent study by Orhan AGIRDAG and Daniel MUIJS (2023) examined the **effectiveness of a specific school leadership development programme in the Netherlands** called the High Performing Schools (HPS) programme. The analyses indicated that schools that participated in the HPS programme **outperformed** comparison schools (in math and writing in particular). Moderate to large gains in achievement were found, equivalent to six to eight months of additional learning progress.

Another paper by Sarah Cattan, Suzet Tanya Lereya, Yeosun Yoon, Ruth Gilbert and Jessica Deighton (2023) provided the first robust evaluation of the impacts on **school outcomes of 6-year funding programme (HeadStart) for area-level mental health interventions** for adolescents in England. Researchers showed that the funding did not affect students' absenteeism or academic attainment, but it **prevented around 800 students** (c. 10% of students typically excluded yearly) **from being excluded in its first year**. According to them, **sustained funding** for intervention may be a **necessary but not sufficient condition** to maintain programme effectiveness over time.

Case study of **Italy** by Gian Paolo Barbetta, Patrick Chuard-Keller, Giuseppe Sorrenti and Gilberto Turati (2023) examined the **effect of attending a multigrade class** in Grade 2 **on students' academic achievement** in Grades 2, 5, and 8, respectively. Researchers showed that **multigrading has a positive** (16 percent of a standard deviation) **short-term effect on academic achievements**. However, this **effect diminishes over time** and becomes negative (-10 percent of a standard deviation) if students spend several years in a multigrade class. Analysis also indicated the **fundamental role of teachers** in the multigrade class.

A group of researchers from the US – Matthew A. Kraft, Alexander J. Bolves and Noelle M. Hurd (2023) documented a largely unrecognized pathway through which schools promoted human capital development – by fostering **informal mentoring relationships between students and their teachers, counselors, and coaches**. Results showed consistent

and meaningful **positive effects on student attainment**, with a conservative estimate of a 9.4 percentage point **increase in college attendance**. Effects were largest for students of **lower socioeconomic status**. It is worth noticing that even though the research was conducted in the US, the correlation between increased student attainment and the informal mentorships could also be insightful for the European context.

As a response to the digital reality researchers and practitioners of online education have consistently emphasized the **importance of facilitating peer interaction and mutual support which could lead to the improvement of learning outcomes**. Findings of Xuehan Zhou, Qiujie Li, Di Xu, Amanda Holton and Brian K. Sato (2023) indicated that students who were offered a study-together group (in the online environment) reported a **higher sense of belonging** than those who were not. Additionally, students with lower academic preparation and lower baseline motivation demonstrated **improved academic performance** as a result of this intervention, while students who preferred passive interaction reported **increased motivation**. However, for students with higher baseline motivation and those who preferred active interaction, the intervention appeared to negatively influence their time management. Since the report focuses on the online learning, its outcomes and evidences are useful at the global (including European) level.

Another example focused on the **correlation between preferred field of study and academic performance**. Study conducted in **Germany** by Francesco Berlingieri, André Diegmann and Maresa Sprietsma (2023) provides evidence that **students who are not enrolled in their preferred field of study are more likely to change their field, delay graduation and drop out of university**. The estimated impact on dropout is particularly strong among students of **low socio-economic status** and is likely to be driven by lower effort and motivation.

1.2. Digital education ecosystems

OECD Digital Education Outlook (2023) focuses on the importance of **coherent digital education systems** including system-level management tools, digital tools for teaching and learning, digital competences and physical infrastructure. Data shows that these systems still remain to be established in the majority of OECD countries. OECD research also looked into the **access, use and governance of digital technologies** as well as **data in education**. Supporting the development and improvement of digital education tools, resources and research on the effective uses of digital education were discussed as important dimensions of a strong digital ecosystem and governance in education.

The future of technology in education has also been at the centre of the discussions within the European Commission. The JRC report 'On the futures of technology in education: emerging trends and policy implications' identified **technological innovations with high potential to influence**, in the medium and long term, **pedagogical practices and the delivery of education at large**. The report analysed key developments such as new **connectivity infrastructures, immersive technologies, digital credentials, data or generative Artificial Intelligence (AI)** taking into consideration the way students learn and develop new knowledge, attitudes and skills. According to them, in the age of generative AI, core skills such as writing, mathematics, communication, and knowledge about the world, need to be rethought. As a result of the emerging AI and its impact to education, UNESCO invested **in webinars/workshops for teachers on the uses and impacts of AI in classrooms and how to adopt a human-centred approach**. Such workshop has been organised to teachers in Bosnia and Herzegovina in 2023.

A comprehensive overview of research on **using chatbots in HE**, including advantages, and challenges has been conducted by Daniela S.M. Pereira, Filipe Falcão, Lilian Costa, Brian S. Lunn, José Miguel Pêgo and Patrício Costa (2023). According to the experts, with AI's advancing technology, pedagogical changes are occurring, and chatbots are becoming more intertwined in our daily lives as well as **play a particularly significant role in the digital transformation of education**. Research demonstrated versatility and **promising aspects of this type of support system for university education**.

1.3. Effectiveness of interactive teaching/learning strategies: (cooperative) flipped classroom

Study by Aohua Ni, Alan C.K. Cheung and Jieping Shi (2023) examined the **effects of the flipped classroom (FTC)** on college students' **English learning outcomes**. The results showed a **positive, moderate impact**. According to the researchers, availability of review, use of a learning management system, and the constructivist instructional model were significantly related to the effectiveness of FTC. Overall integrating technological, pedagogical, and content knowledge in the design of flipped English classes was approved to be of great importance.

Findings from another article on cooperative-flipped classroom (2023) demonstrated how **teachers' teaching methods and high school students' attitudes** toward critical thinking **affect students' ability to do mathematical tasks**. Significant differences were manifested in the pre-test and post-test results of mathematics achievement of the CFC group as well as in the post-test result of CFC and the pure online groups. Analysis also revealed **self-paced and technology-aided teaching materials** contributed to student **ability to learn independently** and examine their **self-regulative learning process**, which was a result of inverting the classroom. Additionally, in a mathematics classroom, **cooperative learning techniques** proved to be an excellent complement to flipped learning.

1.4. Labour market outcomes and human capital

A bunch of studies conducted in different countries illustrate how education impacts labour market outcomes. Study by Brandon Joel Tan (2023) revealed that **receiving a better grade** in a single class **results in USD 32 greater monthly earnings after graduation**, a 1.4% increase. Additionally, expert found that marginal students who receive a worse grade take significantly easier courses and earn lower grades in future semesters.

Another study by Virág Ilyés and Anna Sebők (2023) aimed to provide empirical evidence (using Hungarian administrative data) that **former university ties strongly influence the labour market outcomes** of individuals, even early in their careers. Significant robust results suggested that individuals were **more likely to get hired** by given firms **if their former peers worked there** (mainly connections from bachelor's studies). Study also showed that graduates with links have **better labour market outcomes after hiring**: they earn higher wages, obtain better and more prestigious positions, and stay longer at their new firm.

However, some mixed-up outcomes have been found in the research of specific educational programmes and/or reforms and their influence to improving labour market results for the students. Research by Fabian T. Dehos and Marie Paul evaluated the **effects of a massive expansion of after-school programmes (ASPs) on maternal employment in West Germany**, where full-time employment rates are relatively low. The results suggested that

increasing ASP availability **had hardly any effect on the working hours and employment probability of mothers** with primary school children.

In Hungary researchers Zoltán Hermann and Dániel Horn (2022) studied a unique education **reform that decreased the length of secondary-level vocational education from 4 to 3 years**, reducing the time spent on general subjects while keeping the time spent on vocational training. Findings showed mixed labour market consequences – **students' general skills have dropped** considerably, but the **probability of dropout has decreased**, and the **probability of getting a secondary qualification has increased**.

Similarly, data showed that **increasing the compulsory school leaving age from 16 to 18 in Hungary did not decrease the probability of dropping out of secondary school**, either on average or among the most at-risk group of Roma ethnic minority students. Due to grade retentions, **marginal students** were older than their peers and **couldn't have reached the final grade of secondary school by age 18 to earn a degree**. The reform also **did not affect the probability of employment, hours worked, wages and the probability of working in low-skilled occupations** at ages 20 and 25. According to the expert Anna Adamecz, in education systems that allow grade retention, **compulsory education should have the explicit goal of keeping students in school until they earn a secondary degree**, rather than just until a certain age.

Based on the research by Manuel Souto-Otero, Phillip Brown and Simon Freebody (2023), **skills development** is a central strategy for individuals to **succeed in** an increasingly global and digitalised **labour market**. Researchers explored the **importance of the company characteristics in sheltering workers from unemployment when technological change occurs** in their firm. The results suggested that 'high-skilled' workplaces **do not protect workers against automation**. Also, findings underlined the relevance of social relations in the analysis of the future of work, and questioned accounts that focus exclusively on skills and educational reform to protect workers and create inclusive labour markets.

Similar tendency has been identified by Pascal Heß, Simon Janssen and Ute Leber (2023). Scientists found that **workers** who were **exposed to substitution by automation** were 15 percentage points **less likely to participate in training** than those who are not exposed to it. According to the authors, the automation training gap is particularly pronounced for **medium-skilled and male workers**, and is largely driven by the **lack of ICT training and training for soft skills** (less financial and nonfinancial training support from the firms).

1.5. Significance of (early life) socioeconomic background

As stated in the article published by the European Commission's Joint Research Centre (2023), parents' education, nursery, and home environment greatly impact tertiary education completion. Researchers emphasize the importance of levelling the playing field among the European countries (still large differences) as the **environment** during the **early years strongly influence educational or employment opportunities** later in life. Data showed that **parent's educational level** and **pre-school attendance** in particular play prominent role on academic achievements.

Research in **Norway** (2023) **displayed the rising impact of family background on early school performance**. Simen Markussen and Knut Røed showed that the expansion of universal childcare and, more recently, the increased teacher-pupil ratio in compulsory

school, have disproportionately benefited lower class offspring. The **rising influence of parents' earnings rank** can partly be explained by a **strengthened intragenerational association between earnings rank and education among parents**, as educational achievement has an inheritable component. According to the researchers, yet a considerable unexplained rise in the influence of family background remains, consistent with evidence pointing toward **increased parental involvement in children's lives**, plausibly in response to higher returns to education.

Another study in **Sweden** by Aiday Sikhova (2023) explored the effect of parental education and financial resources on the intergenerational transmission of income. Utilizing two reforms and administrative data from Sweden, author finds that parents' financial resources amount to about 25% of the effect of parental education on children's income. Additionally, researcher shows that parents' financial resources matter less for sons. Overall, the findings suggest a comparatively modest **impact of parental financial resources on children's income**.

Education and family-related variables have a crucial influence on the youth vulnerable in education, employment and training. Research by Hamed Rahmani and Wim Groot indicated that **family socioeconomic resources** matter more than others factors for **youths' transitions to work and education**. The most critical indicators were education level, work experience and skill, physical and mental health, marital status, poverty and social inequalities, living situation, parents' income, education, and job status.

Research on **whether the educational resilience is enough to earn the same wages** compared to those from advantaged socioeconomic backgrounds has been conducted by Iván Vicente, José M. Pastor and Ángel Soler (2023). The research used multilevel hybrid models with data taken from the EU-SILC database for the EU-28 countries. Results showed that **'resilients'**, on average, **could not achieve the same hourly wage** (faced glass ceiling) **as more advantaged individuals**. In other words, analysis demonstrated limitations of educational resilience and its effect during adulthood.

1.6. Consequences of Covid-19 pandemic

The **heterogenous consequences** of Covid-19 pandemic – learning loss, decline in achievements – were frequently explored by the researchers. In the first large-scale study with data on how the pandemic has affected student performance and well-being, OECD emphasized that **decline in educational performance can only partially be attributed to the COVID-19 pandemic**, with falling scores in reading, science and maths already apparent prior to 2018.

Study by Alice Bertolotti, Marta Cannistrà, Mara Soncin and Tommaso Agasisti investigated the **heterogeneous impact of school closures during Covid-19 pandemic in Italy** on academic performance. The findings confirmed that **learning loss** has been considerable although **heterogeneity across disciplines and grades** existed – higher in English in grade 5, and in mathematics and reading in grade 8. Behind the substantial differences observed across schools certain mechanisms such as **teachers' ability in using digital tools** and **evaluating their students** or **leadership role exerted by school principals** have also been researched.

Research in **Lithuania** (2023) showed a slight normative **decline in middle school students' math achievement**. It is worth mentioning that a few distinct subgroups have demonstrated either a steep decline or a slow to a rapid increase in their math grades, while almost one-third consistently underperformed in math. Thus, the findings revealed **substantial heterogeneity in students' results during the pandemic**.

The innovative educational strategy known as the *liquid learning system* allowing students attend classes either online or face-to-face was at the centre of another research in **Spain** (2023). This particular system was implemented for the first time at a private European university in 2020 **as a reaction to the Covid-19 pandemic**. Using instrumental variables to control for self-selection bias, researchers showed a **significant gap in the form of lower grades for online students**. Quantile regressions revealed that those in the lower tail of the grade distribution are the **most adversely affected**.

Another article by Ingvill Krogstad Svanes, Harald Eriksen and Tuva Bjørkvold (2023) showed that the digital context of the Covid-19 pandemic **changed the feedback practices in Norwegian primary schools**. According to the researchers, oral feedback through classroom conversation was challenged, and the **distinction between oral and written feedback changed as written feedback was less formalized** through immediate chatting and text messages. The **mutual aspect of feedback** was enhanced through **students' and parents' feedback** about teaching and organizing. Since the teachers were worried about the students' academic and social situation, the relational aspect in feedback was also visible.

1.7. Teachers' characteristics and competences

A number of studies looked into teachers' characteristics and their importance to student achievements (academic, behavioural, etc.) as well as other crucial aspects for the successful implementation of pedagogical practices. Meta-analytical review has been conducted (2023) on the **relationship between teacher characteristics and competences** and the **academic performance of secondary school students**. The results showed that **teachers' characteristics** and competences explain **9.2% of the differences in students' performance**. According to the authors, the overall effect could be considered as moderate, however, a closer examination of specific teacher characteristics and competences revealed some larger effect sizes. This was the case of **teachers' reflective attitude, their professional development, and teaching self-efficacy**.

Another research by Atsushi Inoue and Ryuichini Tanaka (2023) also confirmed the correlation between teachers and their student achievements. Authors found that **teachers improve students' achievement in subfields of natural sciences**. **Teaching practices** explained about half of the effect, mostly accounted for **by teachers' preparation for teaching science topics**. Study on the teaching strategy specialization and student achievement (2023), however, did not show similar results. Research provided robust evidence that **specialization in the use of innovative teaching practices does not lead to better academic performance** and may even be harmful to some competencies.

European Commission's Joint Research Centre has also highlighted the necessity to **foster teachers' intercultural and democratic competences for a more inclusive society**. The highlighted components to develop teachers' competences were:

- Developing a common understanding of what intercultural and democratic competences are;
- Supportive policies and effective initial and continuous education for teachers (UNESCO also emphasizes³ the importance of teachers' continuous development as a catalyst for inclusive education);
- Supportive pedagogical and assessment tools; and

³ <https://www.unesco.org/en/articles/teachers-continuous-development-catalyst-inclusive-education>

- Adopting a whole school approach involving the whole education community.

Teaching competences that can help teachers to **promote self-regulation of behaviour (SRB) among children** were investigated in **Catalonia** (Spain, 2023). Study explored which specific competences of 923 teaching plans of the five public Catalan universities would contribute to preparing student teachers to foster children's SRB. According to the researchers, the **most present competences** in the teaching plans were **pedagogical, inclusive, teacher reflection and collaboration**. Among the **least present were communication and classroom management**, although they seem to be the **most essential for promoting children's SRB**. In addition to this, **student teachers did not feel that they had the key competences** for managing behaviour in the classroom, although there were differences between universities and degrees. As a result of all these findings study suggested the necessity to **enhance active role of student teachers in children's SRB during initial teacher education**, even in the attention to diversity specialisation and in the dual system programme.

According to Norma Ghamrawi, Hiba Naccache and Tarek Shal (2023), teachers' wellbeing and leadership are pivotal for effective education. Therefore, researchers examined the **interplay between teacher leadership and teacher wellbeing**. Findings showed that **optimal wellbeing**, encompassing positive physical, emotional, and cognitive states, **equips teachers to engage in effective leadership practices**, foster collaborations, and contribute actively to improved teaching and learning. Conversely, **compromised wellbeing**, stemming from heightened stress, burnout, or dissatisfaction, **hinders effective leadership**, dampening motivation, creativity, and problem-solving abilities.

Since teachers can immensely contribute to shaping youth understanding and resilience towards biodiversity conservation and preservation, OECD (2023) emphasized the necessity to equip them with the right knowledge and pedagogical tools. In other words, develop **teachers' competences in environmental topics**, increase their **capability to address youth concerns** and find new ways to **make biodiversity education tangible for young students**.

Bibliography

Aiday Sikhova. (2023) Understanding the Effect of Parental Education and Financial Resources on the Intergenerational Transmission of Income, *Journal of Labour Economics*, Volume 41, <https://www.journals.uchicago.edu/doi/10.1086/720390>

Alice Bertolotti, Marta Cannistrà, Mara Soncin, Tommaso Agasisti. (2023) The heterogeneity of Covid-19 learning loss across Italian primary and middle schools, *Economics of Education Review*, Volume 95, <https://doi.org/10.1016/j.econedurev.2023.102435>

Andrea Jardí, Cristina Petreñas, Elena Cano, Laura Pons-Seguí. (2023) The promotion of self-regulation of children's behaviour, an unresolved issue in initial teacher education in Catalonia (Spain), *International Journal of Educational Research*, Volume 122, <https://doi.org/10.1016/j.ijer.2023.102263>

Anna Adamecz. (2023) Longer schooling with grade retention: The effects of increasing the school leaving age on dropping out and labour market success, *Economics of Education Review*, Volume 97, <https://doi.org/10.1016/j.econedurev.2023.102487>

Aohua Ni, Alan C.K. Cheung, Jieping Shi. (2023) The impact of flipped classroom teaching on college English language learning: A meta-analysis, *International Journal of Educational Research*, Volume 121, <https://doi.org/10.1016/j.ijer.2023.102230>

Atsushi Inoue, Ryuichi Tanaka. (2023) Do teachers' college majors affect students' academic achievement in the sciences? A cross-subfields analysis with student-teacher fixed effects, *Education Economics*, Volume 31, <https://doi.org/10.1080/09645292.2022.2119549>

Berlingieri, F., Casabianca, E., Colagrossi, M., D`hombres, B., Kovacic, M., Mauri, C., Nurminen, M., Schnepf, S.V. and Stepanova, E.. (2023) Towards a more inclusive social Europe: early-life conditions and educational attainment, European Commission, Ispra, JRC134845

Brandon Joel Tan. (2023) The Consequences of Letter Grades for Labor Market Outcomes and Student Behavior, *Journal of Labor Economics*, Volume 41, <https://www.journals.uchicago.edu/doi/10.1086/719994>

Carlo P. Cortez, Aileen Mae F. Osenar - Rosqueta, Maricar S. Prudente. (2023) Cooperative-flipped classroom under online modality: Enhancing students' mathematics achievement and critical thinking attitude, *International Journal of Educational Research*, Volume 120, <https://doi.org/10.1016/j.ijer.2023.102213>

Daniela S.M. Pereira, Filipe Falcão, Lilian Costa, Brian S. Lunn, José Miguel Pêgo, Patrício Costa. (2023) Here's to the future: Conversational agents in higher education- a scoping review, *International Journal of Educational Research*, Volume 122, <https://doi.org/10.1016/j.ijer.2023.102233>

Esther López-Martín, Belén Gutiérrez-de-Rozas, Ana María González-Benito, Eva Expósito-Casas. (2023) Why Do Teachers Matter? A Meta-Analytic Review of how Teacher

Characteristics and Competencies Affect Students' Academic Achievement, *International Journal of Educational Research*, Volume 120, <https://doi.org/10.1016/j.ijer.2023.102199>

European Commission. Joint Research Centre. (2023) Fostering teachers' intercultural and democratic competences for a more inclusive society, https://joint-research-centre.ec.europa.eu/jrc-news-and-updates/fostering-teachers-intercultural-and-democratic-competences-more-inclusive-society-2023-12-14_en

European Commission. JRC Publications Repository. (2023) On the Futures of Technology in Education: Emerging Trends and Policy Implications. <https://publications.jrc.ec.europa.eu/repository/handle/JRC134308>

Fabian T. Dehos and Marie Paul. (2023) The Effects of After-School Programs on Maternal Employment, *Journal of Human Resources*, 58 (5), DOI: <https://doi.org/10.3368/jhr.58.5.0120-10651R1>

Francesco Berlingieri, André Diegmann, Maresa Sprietsma. (2023) Preferred field of study and academic performance, *Economics of Education Review*, Volume 95, <https://doi.org/10.1016/j.econedurev.2023.102409>

Gian Paolo Barbetta, Patrick Chuard-Keller, Giuseppe Sorrenti, Gilberto Turati. (2023) Good or bad? Understanding the effects over time of multigrading on child achievement, *Economics of Education Review*, Volume 96, <https://doi.org/10.1016/j.econedurev.2023.102442>

Hamed Rahmani, Wim Groot. (2023) Risk Factors of Being a Youth Not in Education, Employment or Training (NEET): A Scoping Review, *International Journal of Educational Research*, Volume 120, <https://doi.org/10.1016/j.ijer.2023.102198>

<https://www.unesco.org/en/articles/teachers-continuous-development-catalyst-inclusive-education>

Ingvill Krogstad Svanes, Harald Eriksen, Tuva Bjørkvold. (2023) Feedback practices at school in home confinement at primary level during the Covid 19-pandemic, *International Journal of Educational Research*, Volume 121, <https://doi.org/10.1016/j.ijer.2023.102235>

Iván Vicente, José M. Pastor, Ángel Soler. (2023) Being resilient to close the gap: Is it enough? *International Journal of Educational Research*, Volume 120, <https://doi.org/10.1016/j.ijer.2023.102200>

Manuel Souto-Otero, Phillip Brown, Simon Freebody. (2023) High skilled workplaces, technological change and employment: Can educational reform do it? *International Journal of Educational Research*, Volume 122, <https://doi.org/10.1016/j.ijer.2023.102265>

María Gil-Izquierdo, Jose M. Cordero, Víctor Cristóbal. (2023) Teaching strategy specialization and student achievement, *Education Economics*, Volume 31, <https://doi.org/10.1080/09645292.2023.2169252>

Matthew A. Kraft, Alexander J. Bolves, Noelle M. Hurd. (2023) How informal mentoring by teachers, counselors, and coaches supports students' long-run academic success, *Economics of Education Review*, Volume 95, <https://doi.org/10.1016/j.econedurev.2023.102411>

Norma Ghamrawi, Hiba Naccache, Tarek Shal. (2023) Teacher Leadership and Teacher Wellbeing: Any Relationship? International Journal of Educational Research, Volume 122, <https://doi.org/10.1016/j.ijer.2023.102261>

Norma Ghamrawi, Hiba Naccache, Tarek Shal. (2023) Teacher Leadership and Teacher Wellbeing: Any Relationship? International Journal of Educational Research, Volume 122, <https://doi.org/10.1016/j.ijer.2023.102261>

OECD (2023). Decline in educational performance only partly attributable to the COVID-19 pandemic. <https://www.oecd.org/newsroom/decline-in-educational-performance-only-partly-attributable-to-the-covid-19-pandemic.htm#:~:text=Overall%2C%20on%20average%2C%20the%20PISA,15%20score%20points%20in%20maths>

OECD (2023). Digital Education Outlook. Towards an Effective Digital Education Ecosystem. <https://www.oecd.org/education/oecd-digital-education-outlook-7fbfff45-en.htm>

Orhan AGIRDAG, Daniel MUIJS. (2023) School leadership development and academic achievement: Effectiveness of the High Performing Schools programme, International Journal of Educational Research, Volume 122, <https://doi.org/10.1016/j.ijer.2023.102248>

Pascal Heß, Simon Janssen, Ute Leber. (2023) The effect of automation technology on workers' training participation, Economics of Education Review, Volume 96, <https://doi.org/10.1016/j.econedurev.2023.102438>

Rasa Erentaitė, Rimantas Vosylis, Berita Simonaitienė, Eglė Melnikė, Daiva Sevalneva. (2023) Uncovering heterogeneity in achievement during the Covid-19 pandemic: Math grades trajectories and their predictors in middle school, International Journal of Educational Research, Volume 121, <https://doi.org/10.1016/j.ijer.2023.102231>

Rodrigo Alegría, Pablo Cárabe, Alejandro Chahoud, Ainara González de San Román. (2023)

Sarah Cattan, Suzet Tanya Lereya, Yeosun Yoon, Ruth Gilbert, Jessica Deighton. (2023) The impact of area level mental health interventions on outcomes for secondary school pupils: Evidence from the HeadStart programme in England, Economics of Education Review, Volume 96, <https://doi.org/10.1016/j.econedurev.2023.102425>

Simen Markussen, Knut Røed. (2023) The rising influence of family background on early school performance, Economics of Education Review, Volume 97, <https://doi.org/10.1016/j.econedurev.2023.102491>

The novel liquid learning system and the online gap in academic performance, Education Economics, Volume 31, <https://doi.org/10.1080/09645292.2022.2113860>

UNESCO. (2023) Artificial Intelligence in education. Uses and impacts introduced to teachers in Bosnia and Herzegovina, <https://www.unesco.org/en/articles/artificial-intelligence-education-uses-and-impacts-introduced-teachers-bosnia-and-herzegovina>

UNESCO. (2023) Biodiversity education and awareness among the youth: a UNESCO MasterClass for teachers and educators, <https://www.unesco.org/en/articles/biodiversity-education-and-awareness-among-youth-unesco-masterclass-teachers-and-educators>

UNESCO. (2023) Teachers' continuous development as a catalyst for inclusive education,

Virág Ilyés, Anna Sebők. (2023) University peers and career prospects: The impact of university ties on early labor market outcomes, *Economics of Education Review*, Volume 96, <https://doi.org/10.1016/j.econedurev.2023.102456>

Xuehan Zhou, Qiujie Li, Di Xu, Amanda Holton, Brian K. Sato. (2023) The promise of using study-together groups to promote engagement and performance in online courses: Experimental evidence on academic and non-cognitive outcomes, *The Internet and Higher Education*, Volume 59, <https://doi.org/10.1016/j.iheduc.2023.100922>

Zoltán Hermann, Dániel Horn. (2023) The effect of decreased general training on skills and dropout - Evidence from a vocational school reform in Hungary, *Education Economics*, Volume 31, <https://doi.org/10.1080/09645292.2022.2160432>

