



## OPEN ACCESS

EDITED AND REVIEWED BY  
Terrell Lamont Strayhorn,  
Virginia Union University, United States

\*CORRESPONDENCE  
Sandra Fernandes  
✉ sandraf@upt.pt

RECEIVED 10 November 2023  
ACCEPTED 05 February 2024  
PUBLISHED 19 February 2024

CITATION  
Fernandes S, Abelha M, Alves AC and Ferreira  
Oliveira AT (2024) Editorial: Pedagogic  
innovation and student learning in higher  
education: perceptions, practices and  
challenges. *Front. Educ.* 9:1336214.  
doi: 10.3389/educ.2024.1336214

COPYRIGHT  
© 2024 Fernandes, Abelha, Alves and Ferreira  
Oliveira. This is an open-access article  
distributed under the terms of the [Creative  
Commons Attribution License \(CC BY\)](#). The  
use, distribution or reproduction in other  
forums is permitted, provided the original  
author(s) and the copyright owner(s) are  
credited and that the original publication in  
this journal is cited, in accordance with  
accepted academic practice. No use,  
distribution or reproduction is permitted  
which does not comply with these terms.

# Editorial: Pedagogic innovation and student learning in higher education: perceptions, practices and challenges

Sandra Fernandes<sup>1,2\*</sup>, Marta Abelha<sup>3</sup>, Anabela Carvalho Alves<sup>4</sup>  
and Ana Teresa Ferreira Oliveira<sup>5</sup>

<sup>1</sup>I2P Portugalense Institute of Psychology, Portugalense University, Porto, Portugal, <sup>2</sup>CIEC - Research Centre on Child Studies, University of Minho, Braga, Portugal, <sup>3</sup>Laboratório de Educação a Distância e eLearning, LE@D, Universidade Aberta, Porto, Portugal, <sup>4</sup>Algoritmi Center, School of Engineering, University of Minho, Guimaraes, Portugal, <sup>5</sup>Center for Research and Development in Agrifood systems and sustainability (CISAS), Escola Superior de Tecnologia e Gestão, Instituto Politécnico de Viana do Castelo, Viana do Castelo, Portugal

## KEYWORDS

higher education, pedagogic innovation, teaching and learning, active learning and teaching methodologies, project-based learning (PBL), challenge based learning (CBL), collaborative learning, teacher professional development

## Editorial on the Research Topic

[Pedagogic innovation and student learning in higher education: perceptions, practices and challenges](#)

## 1 Introduction

Within the constantly evolving set of challenges faced by Higher Education institutions, pedagogic innovation has been at the heart of the discussion on the quality of Education. Teaching, learning, and assessment methods have significantly changed in the recent years, which has led to a transformation in the role of students and teachers, giving the former a more active role in the construction of his/her own learning process and the latter the responsibility of creating the adequate learning environment.

This Research Topic on “*Pedagogic innovation and student learning in higher education: perceptions, practices, and challenges*” compiles research and practice concerning pedagogic innovation and student learning in higher education, giving special attention to the perceptions, practices and challenges of all those involved in the process—students, teachers, employers, and other stakeholders.

This Editorial describes the key ideas and objectives of the 22 articles accepted for publication in this Research Topic. Due to the variety of article types (14 *Original Research*, 2 *Curriculum, Instruction and Pedagogy*, 2 *Systematic Reviews*, 1 *Perspective*, 1 *Methods*, 1 *Opinion*, and 1 *Study Protocol*) included in the Research Topic, it offers a diverse array of insights and perspectives. While each article has its unique focus, it is possible to identify three main common themes that emerged from articles included in this Research Topic. They are: (1) Innovative Pedagogical Approaches; (2) Student Learning and Development; and (3) Teaching and Faculty Perspectives.

A brief description of the contribution of each study for the development knowledge in this Research Topic is provided below.

## 2 Innovative pedagogical approaches

Innovation in pedagogy is central to the evolution of higher education. A significant number of the articles in this Research Topic concentrate on innovative pedagogical approaches. These approaches not only aim to enhance the quality of education but also to adapt to the changing needs and expectations of students in a constantly evolving world.

- **Collaborative online international learning (COIL)** is a recurring theme across several articles. COIL is a pedagogical approach that promotes global collaboration and cross-cultural learning by connecting students from different parts of the world in online educational experiences. The article “*Integrating COIL in teacher training: an estimation of learners’ motivational attitudes*” (Quintana-Ordorika et al.) examines the integration of COIL in teacher training programs. It delves into the motivational attitudes of learners engaged in such cross-cultural educational endeavors. The articles “*Getting to the CoRe of COIL*” (Borger) and “*Fostering distance education: lessons from a United States-England partnered collaborative online international learning (COIL) approach*” (Ingram et al.) are also included in the discussion of this topic. The exploration of COIL as an innovative approach in higher education aligns with the broader trend of internationalization in universities, as it offers students the opportunity to engage with diverse perspectives and experiences.
- **Problem and project based learning (PBL)**, a well-known and widely practiced pedagogical approach, is also prominently featured. PBL engages students in active learning and problem-solving, with an emphasis on self-directed inquiry. The article “*Reflecting on twenty-one years of running full PBL programs*” (Oliveira) reflects on over two decades of running full PBL programs. This enduring commitment to PBL signifies its lasting impact on higher education. The article “*The use of corpora in translation into the second language: a project-based approach*” (Mohammed) also uses a project-based approach for teaching and learning translation studies in higher education. The use of corpora in translating into a second language is analyzed, offering valuable insights for language educators.
- **Challenge based learning (CBL)** is another educational approach that centers on addressing real-world problems or complex, authentic challenges as a means of learning. The article “*An inter-university CBL course and its reception by the student body: reflections and lessons learned (in times of COVID-19)*” (De Stefani and Han) discusses, in the midst of the COVID-19 pandemic, how seven European universities, part of the Arqus Alliance, adapted to constraints by implementing trans-European challenge-based learning (CBL) projects focused on climate change-related risks. They propose eight characteristics of CBL and evaluate them with student data. The study aims to identify factors that influence “strategic CBL,” for the benefit of both teachers and students.

The articles “*Critical appraisal of medical literature in undergraduate and postgraduate medical students*” (Mlika et al.) and “*Implementing the montessori approach in an undergraduate marketing course: a case study*”

(Murray et al.) further underscore the innovation in pedagogy by discussing the implementation of Montessori principles in an undergraduate marketing course and the co-creation of a Massive Open Online Course (MOOC). The Montessori approach, renowned in early childhood education, is applied to higher education to create a novel learning environment. The MOOC, on the other hand, is a modern innovation that represents the changing landscape of higher education delivery. The article “*Co-creation of a massive open online course: an exploration of the motives and motive fulfillment of a faculty member and student co-instructors*” (Bressler et al.) also investigates the co-creation of a Massive Open Online Course (MOOC) by both faculty members and students. It offers insights into the motives and experiences of those involved, providing a deeper understanding of the dynamics of online education.

These themes collectively emphasize the ongoing commitment to pioneering teaching and learning methods in higher education. The world is changing rapidly, and education must adapt to prepare students for the challenges and opportunities they will encounter in the future.

## 3 Student learning and development

The heart of any educational institution lies in the learning and development of its students. Several articles in this Research Topic are dedicated to understanding how students learn, the factors that influence their learning, and the outcomes they achieve. It is essential for educators and institutions to continually assess and improve their practices to optimize student learning experiences.

The article “*Students’ learning approaches as a factor of academic achievement at selected public universities: a cross-sectional study*” (Negash et al.) the relationship between students’ learning approaches and their academic achievement is examined. Understanding how students approach their learning can inform pedagogical strategies to enhance their success. It is a reflection of the ongoing commitment to data-driven approaches to improve educational outcomes.

The article “*A systematic review of the outcomes, level, facilitators, and barriers to deep self-reflection in public health higher education: meta-analysis and meta-synthesis*” (Lim et al.) takes a deep dive into self-reflection in public health education. Self-reflection is a fundamental aspect of education, particularly in fields like public health. This article provides a systematic review and meta-analysis of the outcomes, levels, facilitators, and barriers to deep self-reflection. It highlights the importance of fostering this skill, particularly in fields where ethical decision-making and critical thinking are paramount.

In the context of economics education, the article “*Addressing study skills, learning theory and critical thinking skills in principles of economics courses*” (Howard and Sarbaum) addresses the strategies employed to enhance study skills, apply learning theory, and foster critical thinking. These skills are essential for students pursuing economics and related fields. The article illustrates how innovation in teaching is tailored to the specific requirements of different academic disciplines.

The article “*Bridging generation gaps through service-learning in higher education: a systematic review*” (Aláez et al.) explores the role of service-learning in bridging generational gaps and fostering community engagement. It emphasizes the transformative potential of service-learning in higher education, where students not only gain knowledge but also become active contributors to their communities.

The article “*The generic skills learning systematic: evaluating university students’ learning after complex problem-solving*” (van Ravenswaaij et al.) evaluates university students’ learning experiences following complex problem-solving, providing insights into how students acquire and apply these vital skills.

Music education is known for its rigorous demands. The article “*Tools for teachers to support music students in managing and coping with their workload in higher education*” (Jääskeläinen and López-Íñiguez) offers tools and strategies for teachers to support music students in managing their workload and coping with the challenges of higher education.

Language plays a crucial role in mathematics education. The article “*The use of language in solving inverse algebraic functions problems*” (Méndez-Balbuena et al.) investigates the use of language in solving inverse algebraic functions problems, highlighting the importance of clear communication in mathematical concepts.

The article “*Stakeholder’s perspectives of the 21st century skills*” (Mahmud and Wong) explores stakeholder perspectives on the development of 21st-century skills. It sheds light on the evolving requirements of the modern workforce and the role of higher education in preparing students for these challenges.

Student learning and development are at the core of every educational institution. These articles underscore the importance of addressing individual learning styles and needs, fostering critical thinking and ethical decision-making, and preparing students to be active and engaged citizens in the world.

## 4 Teaching and faculty perspectives

The success of innovative pedagogical approaches and student learning and development also relies heavily on the perspectives, attitudes, and practices of faculty members and teachers. In several articles, we gain insights into how educators perceive and address the challenges and opportunities presented by pedagogic innovation.

The article “*University and challenge of citizenship education. Professors’ conceptions in training*” (Pérez-Rodríguez et al.) addresses the challenge of citizenship education in higher institutions and explores how university professors conceive and tackle the challenges of teaching citizenship. It provides a crucial faculty perspective on a topic that is gaining increasing importance in today’s world.

The article “*Big steps, little change: a case study in French university teachers’ cognitions in the context of pedagogical innovation*” (Lami et al.) is particularly interesting as it takes a closer look at French university teachers’ cognitions in the context of pedagogical innovation. This case study highlights the cognitive processes of educators when confronted with pedagogical change, shedding light on both the barriers and opportunities that educators face when implementing innovative teaching methods.

The article “*Characteristics of an effective university professor from students’ perspective: are the qualities changing?*” (Nushi et al.) investigates the qualities of an effective university professor from the perspective of students. It seeks to determine whether the qualities expected from professors are evolving in response to the changing landscape of higher education. This faculty-student dynamic is essential in delivering quality education.

The article “*Using digital, universal and intercultural didactics to improve higher education – A project protocol for a Norwegian interactive and collaborative improvement study concerning master’s level courses in “Theory of science, research methods and research ethics”*” (Areskoug Josefsson et al.) introduces a collaborative improvement study in Norway that focuses on using digital, universal, and intercultural didactics to enhance master’s level courses. This protocol illustrates the proactive approach of faculties and institutions in fostering a learning environment that responds to the evolving needs of students.

Language educators often face unique challenges. The opinion article “*Langupreneurship: what L2 teachers need to know*” (Mazandarani) emphasizes what second language (L2) teachers need to know to empower their students in a globalized world.

These articles collectively showcase the importance of faculty perspectives and their role in driving innovation in pedagogy. While faculty are often at the forefront of implementing new teaching methods, understanding their experiences and attitudes is crucial for fostering a culture of continuous improvement in higher education.

## 5 Conclusion

This Research Topic, with 22 accepted articles, provides a comprehensive overview of the core aspects on Innovative Pedagogical Approaches, Student Learning and Development, and Teaching and Faculty Perspectives. As we continue to adapt and innovate in higher education, it is vital to embrace the diversity of experiences and insights that these contributions offer. By learning from each other and sharing best practice, we can collectively enrich the educational experience of students and foster a culture of continuous improvement and innovation in higher education.

## Author contributions

SF: Conceptualization, Investigation, Methodology, Supervision, Validation, Writing – original draft, Writing – review & editing, Project administration. MA: Conceptualization, Investigation, Methodology, Validation, Writing – original draft. AA: Conceptualization, Investigation, Methodology, Validation, Writing – original draft. AF: Conceptualization, Investigation, Methodology, Validation, Writing – original draft.

## Funding

The author(s) declare that no financial support was received for the research, authorship, and/or publication of this article.

## Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

The author(s) declared that they were an editorial board member of Frontiers, at the time of submission. This had no impact on the peer review process and the final decision.

## Publisher's note

All claims expressed in this article are solely those of the authors and do not necessarily represent those of their affiliated organizations, or those of the publisher, the editors and the reviewers. Any product that may be evaluated in this article, or claim that may be made by its manufacturer, is not guaranteed or endorsed by the publisher.