

Interdisciplinary project-based learning: the impact of co-teaching on students' achievement

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1. INTRODUCTION

Since 2021 the University of Macerata (Italy) has applied a formal recognition of co-teaching practices as a means of innovation which promotes a focus on interdisciplinarity in both didactics and research. The department of Education, Cultural Heritage and Tourism has widely embraced such practice, mostly in its degrees addressed to the training of teachers/educators; the present study reports, specifically, a multiple-case design [1, 2] based on the socio-pedagogical curriculum of the three-year degree course in “Education Science” (first-cycle degree).

The above mentioned curriculum aims at training professionals able to act in different educational contexts (formal, informal, non-formal) which cover a variety of work areas (school, day care, rehabilitation centers, youth centers, migrant and refugee services, etc.) that often require educators to tackle complex challenges. Reaching an interdisciplinary competence is, then, of paramount relevance in terms of employability, since the variability and the multifaceted characteristic of social work calls for a systemic approach and educators needs to adopt a holistic perspective in building their professional identity. An interdisciplinary co-teaching practice may emphasize the interconnectedness of the curriculum core concepts, providing both an effective framework, at theoretical level, and a practical tool box for addressing the needs of the direct beneficiaries (individuals, groups, organizations) whom educators are focusing on. As underlined by Repko [3], being able to “think and act effectively on complex problems” includes the ability to overcome the so-called ‘silo perspective’, namely a tendency to see the world through the lens of a specific discipline.

2. BACKGROUND

Interdisciplinary competence is an academic goal that can be hardly acquired without a systemic vision of the curriculum; in this direction the Quality Assurance Group, within the degree course “Education Science”, has activated periodicals meetings to offer the opportunity to all faculties to share their courses’ syllabi and identify mutual lines of connections that can help students deeply comprehend core concepts and take a critical stand on disciplinary limitations. Having the chance to describe, explain and compare objectives, contents, strategies and evaluation methods is a first step for professors to embrace each other perspective, but communicating across disciplines implies also learning each other language, research methodology and didactical approach and co-teaching may represent a step forward to handle a successful interdisciplinary collaboration and teamwork.

Co-teaching is a widely investigated practice in the interdisciplinary literature and refers to two or more trainers (teachers/educators/professors) who share the design and implementation of their teaching activity with reference to a whole course or a part of it [4, 5].

3. RESEARCH METHODOLOGY

The present study reports the experience of a project-based learning (PjBL) co-taught workshop, a teaching/learning unit developed across different courses in the socio-pedagogical curriculum. Each experimentation (Table 1) was conducted by the same team of two professors with the integration, in A.Y. 2023-2024, of a third colleague of a discipline (Interaction Design) of the second-cycle degree course.

Table 1. Synthesis of the interdisciplinary PJBL 4-year multiple case-study.

Academic year	Involved disciplines	PJBL outputs
2020-2021 2021-2022	Intercultural Pedagogy, Instructional Technology, General Didactics	Multimedia teaching plan
2022-2023	Intercultural Pedagogy, Instructional Technology, General Pedagogy	Video learning unit
2023-2024	Intercultural Pedagogy, Instructional Technology, Interaction Design	360-degree virtual tour

PjBL was, here, used to activate a learning process in which students, working in small groups, were fully engaged in authentic projects and in the development of a final output which should reifies the interdisciplinary objective of the workshop. PjBL studies show a positive impact on students' academic achievement both in terms of self-efficacy [6] and cognitive and behavioral outcomes [7]. Students' perspectives, perceptions and reflections were collected through observations, reflection papers and open discussions as a set of qualitative data and analyzed as a multiple-case of four different cohorts with the aim of eliciting students' experience in terms of acquired skills within group projects and related PjBL outputs with the mediation of a joint interdisciplinary support of their professors.

4. RESULTS AND CONCLUSIONS

The multiple-case analysis has shown how a co-taught workshop within an interdisciplinary project-based learning (PjBL) task helped students develop soft skills (e.g., communication, collaboration, negotiation) useful to reach a deeper interdisciplinary vision of their projects. Moreover the study highlights the impact of co-teaching practices on challenges in the use of the PjBL approach at university level.

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