Research Article

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Comparative Study of Group Work Perceptions: Reluctance and Productivity in Undergraduates and Master's Degree Students

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Abstract

This study compares the attitudes toward group work between first-year undergraduate students and master's degree students, examining whether their perspectives evolve through their academic journey. Drawing on cooperative learning theories from scholars such as Johnson and Johnson (1997) [1] and Panitz (1998) [2], the research investigates the reluctance of undergraduates to engage in group work. It explores how master's students perceive its productivity and impact on their studies. Data were collected from 117 undergraduate students from Computer Engineering, Robotics, and Computational Mathematics programs and 50 master's students specialising in Literature, and Language Teaching. Results indicate that while 68.85% of undergraduates view group work positively, 98% of master's students have a favourable outlook, with only 2% offering negative feedback. The findings suggest that experience and academic maturity enhance students' perceptions of the effectiveness and productivity of collaborative learning practices, being more adept at navigating cooperative tasks and recognizing their benefits in both academic and professional settings.

Keywords: group work, cooperative learning, undergraduate and master's students.

Theoretical Introduction

During the 1980s, increasing scholarly attention to group-based learning marked the onset of sustained research into cooperative learning by educators, researchers, and practitioners. Fathman and Kessler (1993) [3] define cooperative learning as a deliberately structured group activity that ensures the active engagement of all participants, allowing for shared information exchange and individual evaluation based on each member's contributions. Millis (1996) [4] identified several fundamental characteristics of cooperative learning designed to promote consensus and collective benefit. These features include collaboration on a shared task, small group work involving two to five members, and the cultivation of cooperative and prosocial behaviors to achieve shared learning goals. This model also requires interdependence, along with individual accountability and assessment of students. Williams and Burden (1999) [5] underscored the numerous advantages of cooperative learning, noting that it enhances experiential learning, facilitates goal achievement, and increases motivation by fostering strong interpersonal bonds and a commitment to group success. Similarly, Johnson and Johnson (1997) [1] highlighted the importance of cooperative practices in education, emphasizing their role in preparing individuals for societal roles. They argue that the development of cooperative skills is fundamental to forming stable relationships in various life domains, including family, career, and community life, and that technical expertise is incomplete if individuals cannot apply it cooperatively. Johnson, Johnson, and Holubec (1999) [6] differentiated between three forms of learning: cooperative, competitive, and individualistic. Cooperative learning emphasizes group collaboration and mutual assistance and can be applied across disciplines, incorporating both individual and group assessments. In contrast, competitive and individualistic learning prioritize independent work and comparing outcomes with peers, which may sometimes impede the success of others.

Panitz (1998) [2] proposed that collaborative learning is grounded in constructivist pedagogy, where knowledge is actively constructed through interaction with concepts. This model emphasizes the interpersonal dynamics between students and between students and educators, promoting a consensus-driven, interactive approach in which all participants share authority and responsibility. Walters (2000) [7] outlined four models of cooperative learning—Jigsaw, Student Team Learning, Learning Together, and Group Investigation—each designed to foster collective responsibility and interdependence. Suárez (2008) [8] characterized effective cooperative learning teams as those requiring positive interdependence, individual and collective accountability, active participation, internal organization, and self-assessment. Ovalles (2007) [9] similarly emphasized positive interdependence, individual responsibility, supportive interactions, social skill development, and group processing as essential components for successful collaborative work. In this line, Lucero (2003) [10] highlighted the significance of active listening in collaborative learning, contending that it enhances engagement with peers' ideas and concerns. Lucero regarded collaborative learning as a holistic approach that not only improves academic performance but also promotes personal and social development. Echazarreta et al. (2009) [11] expanded on this, arguing that collaborative learning shifts the responsibility for learning onto students, positioning them as active agents in the knowledge construction process.

Cano (2011) [12] synthesized previous theories to define cooperative learning as a structured instructional strategy involving small group collaboration under specific conditions, requiring constructive interdependence, face-to-face interaction, social skill development, teacher oversight, and both individual and group assessment. Fernández-Rio et al. (2017) [13] outlined three approaches to cooperative learning: conceptual, focusing on theoretical and practical frameworks; curricular, emphasizing the development of discipline-specific materials; and structural, aimed at organizing the learning environment to enhance student interaction. Davidson (2021) [14] described cooperative learning as group work designed to ensure equal participation and individual accountability. Bruffee (1995, 1999) [15,16], Oxford (1997) [17], and Sharan and Sharan (2021) [18] emphasized that while the objectives of cooperative learning may vary, the approach consistently seeks to structure group interactions to promote equitable participation. Guerra (2008) [19] distinguished between cooperative and collaborative learning, noting that cooperative learning focuses on generating new ideas through peer contributions, particularly benefiting students who may face difficulties. In contrast, collaborative learning prioritizes the individual's role in idea creation. Cooperative learning often involves a more prominent role for the teacher, who guides the process and assigns specific roles, whereas collaborative learning requires more extensive preparation for working with heterogeneous groups, considering factors such as responsibility, motivation, and preparedness. Guerra also highlighted the importance of students' contributions to the collective success of collaborative activities, where the integration of individual knowledge and experiences fosters group progress. Such activities can encompass performances, storytelling, research projects, and collaborative publications.

The advent of Information and Communication Technologies (ICT) has significantly transformed education, integrating with traditional methods and expanding the potential for collaborative learning (Valverde, 2011; Area Moreira, 2010) [20]. García-Valcárcel et al. (2012) [21] argued that ICT supports new learning approaches, enhancing student relationships, motivation, interpersonal skills, and problem-solving abilities—skills essential for successful collaborative learning. The development of cooperative learning frameworks has been significantly influenced by foundational theorists, including Johnson and Johnson (1999), Aronson (1978) [22], Kagan (1980s) [23], and Sharan (2014) [24], whose contributions have shaped the evolution of cooperative learning theory. Although cooperative learning is often equated with group work in educational settings, it is important to recognize that not all group work adheres to cooperative learning principles [25,26]. As collaboration becomes increasingly central to pedagogy, the cultivation of teamwork and interpersonal skills remains a crucial educational objective [27,28,29]. According to theories of social interdependence, notably those advanced by Johnson and Johnson (2017a, 2017b) [30,31], the organization of interdependence plays a pivotal role in shaping individual interactions and outcomes in learning contexts. Mendo et al. (2021) [32] identified the benefits of cooperative learning, including increased engagement, skill development, and positive behavioral changes. Sudirman et al. (2023) [33] further emphasized the democratic principles inherent in collaborative learning, highlighting its potential to cultivate global competencies in students.

This study examines the perceptions and attitudes of two distinct groups of students—first-year university students in technical disciplines and master's students specializing in language education—toward cooperative learning. Specifically, the research seeks to determine whether first-year students exhibit reluctance toward group-based learning and to explore whether master's students have adapted to and benefited from cooperative learning practices throughout their academic careers. By comparing these two groups, the study will assess the extent to which cooperative learning enhances productivity, engagement, and academic outcomes, as well as its influence on social and interpersonal skill development.

Method
Subjects
The study focuses on two distinct groups of participants. The first group consists of 50 students enrolled in the SAP405 course: Teaching Innovation and Introduction to Educational Research, part of the master's program in Secondary Education, Baccalaureate, Vocational Training, and Language Teaching. These students specialize in Language, Literature, and Language Teaching, with concentrations in English, Catalan, and Spanish. The second group comprises first-year university students enrolled in the English language course within Computer Engineering, Robotics, and Computational Mathematics degree programs. Data were collected from 117 individuals, whose insights and perspectives contributed to the study's findings. The purpose of conducting this comparative study is, on the one hand, to determine whether first-year university students are reluctant to work in groups or not, and, on the other hand, to observe whether master's students, after their time in university, have become accustomed to working in groups, if they have found it productive, or if it has helped them in their studies.

Material and instruments
To gather student input, we utilized the Mentimeter application in both groups, specifically employing its collaborative wall feature to present a question to the participants. The query focused on their experiences with group work.

Results
We present the results obtained from both the undergraduate and master's programs, followed by a comparison and explanation of the findings.

In this analysis, we have synthesized students' main perspectives and feelings regarding their experiences with collaborative work. The percentages presented reflect the distribution of opinions on this experience. A notable 68.85% of the responses were positive, indicating that most students expressed good views on collaborative work, likely highlighting benefits such as teamwork, knowledge acquisition, and skill development. Around 15.57% of the feedback was neutral, suggesting that these students neither strongly endorsed nor criticized their collaborative experiences. Approximately 11.48% of students reported negative opinions, which may reflect concerns about unequal participation, communication difficulties, time management challenges, or uncooperative group members. In conclusion, the data indicates that most students had positive experiences with collaborative work, while a smaller portion held neutral or negative views. These percentages offer a clear summary of the overall distribution of student experiences.

Opinions	Number of Responses	Percentage
Positive	84	68,85%
Neutral	19	15,57%
Negative	14	11,48%

Table 1: Responses and percentages classified in positive, neutral, and negative (degree students)

Table 2 presents the distribution of opinions regarding group work among master's degree students, with responses categorized as positive, neutral, or negative. The data indicate that an overwhelming majority of students (98%) expressed positive views on group work, with 49 out of 50 participants providing good feedback. Only one student (2%) reported a negative experience, and no neutral responses were recorded (0%).

This distribution suggests a strong overall satisfaction with group work in the context of the course. The absence of neutral responses indicates that students' experiences were largely polarized, with the vast majority benefiting from the collaborative environment. The minimal percentage of negative feedback highlights that while the collaborative approach was successful for most, there may still be individual cases where group dynamics or other factors led to less positive experiences. This overwhelmingly positive response suggests that group work was perceived as an effective pedagogical tool by nearly all participants in the study.

Opinions	Number of Responses	Percentage
Positive	49	98%
Neutral	0	0%
Negative	2	2%

Table 2: Responses and percentages classified in positive, neutral, and negative in working in groups (master's degree students)

The data presented in Tables 1 and 2 reveal a notable contrast in the perceptions of group work between degree students and master's degree students. In Table 1, which reflects the opinions of degree students, 68.85% of participants responded positively, while 15.57% expressed neutral opinions, and 11.48% provided negative feedback. These figures suggest a more diverse range of experiences and a less overwhelming view of group work among this cohort. While most degree students view group work positively, a significant proportion either remain indifferent (neutral) or have negative experiences. In contrast, Table 2 shows that 98% of master's degree students expressed positive views, with only 2% indicating a negative experience, and no neutral responses. This data demonstrates a much more consistent and overwhelmingly positive attitude towards group work among master's degree students, indicating near-universal satisfaction with the collaborative process in this cohort.

The comparative bar chart above illustrates the differences in opinions between degree students and master's degree students. The chart highlights three categories of responses: positive, neutral, and negative.
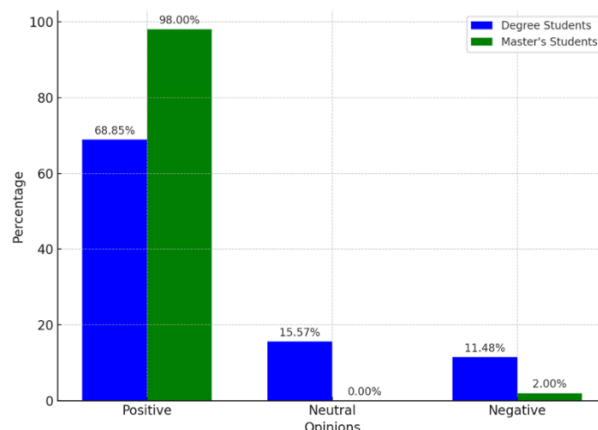

Figure 1: Differences in percentages between degree students and master's degree students

This visual emphasizes the more positive attitudes of master's students, particularly toward group work, compared to the broader range of opinions among degree students.

The differences between these two groups may be explained by various factors. Master's degree students, with more academic and potentially professional experience, may have developed better collaborative skills or a more constructive attitude toward group work, contributing to their overwhelmingly positive feedback. The specific context of the master's program, particularly its focus on teaching innovation and research, may also promote more effective group dynamics. On the other hand, the degree students' more mixed responses may reflect a lack of experience with group work or challenges in managing group dynamics at an earlier stage in their academic development. The higher percentage of neutral (15.57%) and negative (11.48%) responses in this group suggest that while group work can be effective for many, a considerable number of students either did not find it particularly beneficial or faced obstacles in collaborative environments.

In summary, while both groups show a majority positive response, master's degree students exhibit a significantly more consistent view of group work compared to the more varied and less enthusiastic responses of degree students.

The comparative analysis of opinions between degree and master's students highlights significant discrepancies in their perceptions of group work, shaped by differences in educational stages and experiences. Research supports the notion that group work perceptions vary based on academic level. According to Johnson, Johnson, and Smith (2014) [34], collaborative learning in higher education fosters positive interdependence, individual accountability, and improved social skills. However, the level of positive outcomes often correlates with students' maturity and academic experience. In undergraduate programs, where students may be new to academic collaboration, the variance in opinions may reflect a lack of exposure to effective group dynamics, which is further complicated by differing levels of preparedness and motivation among peers (Burdett, 2003) [35]. In contrast, master's students, who are typically more experienced and professionally oriented, often perceive group work as an opportunity for skill-building and networking, resulting in more positive evaluations. The data, with 98% of

master's students expressing positive opinions, underscores how advanced academic programs are more successful in cultivating positive group work experiences by emphasizing real-world applications and aligning collaborative tasks with professional goals.

The higher levels of neutral and negative responses among degree students can also be explained through the lens of group work literature. Research by Laal and Ghodsi (2012) [36] emphasizes that while group work has the potential to enhance learning, it often presents challenges, especially in undergraduate settings, where students might lack the interpersonal and conflict-resolution skills necessary for effective collaboration. Degree students may face difficulties such as unequal contribution from group members, scheduling conflicts, and unclear division of labour, all of which contribute to feelings of frustration and disengagement (Oakley et al., 2004) [37]. These challenges could explain the 15.57% of neutral and 11.48% of negative responses from degree students in the data. Unlike master's students, who are typically more equipped to manage these challenges due to their academic and professional experience, degree students may view group work as an obligation rather than an enriching learning opportunity. This underscores the need for educators to provide more structured guidance and support in group work assignments at the undergraduate level, helping students develop the skills necessary to navigate collaborative tasks successfully.

In contrast, master's students, with their overwhelmingly positive responses to group work, reflect a better experience that aligns with findings in the literature. Master's programs often incorporate group work that is more structured, relevant, and aligned with real-world applications, contributing to students' positive perceptions. According to Wageman, Gardner, and Mortensen (2012) [38], well-designed group work in higher education can lead to enhanced learning outcomes, professional development, and increased satisfaction, particularly when tasks are goal-oriented and tied to career preparation. Master's students, who have typically developed greater interpersonal and communication skills through previous academic and professional experiences, are likely better equipped to handle the complexities of group work, resulting in fewer negative experiences. The absence of neutral responses and the minimal negative feedback (2%) from master's students in the data suggests that they have more definitive and positive opinions about group work, possibly due to the increased relevance and professional applicability of these tasks. This finding reinforces the value of tailoring group work activities to the specific developmental stage of students, ensuring that assignments are designed to promote not only academic learning but also professional skill-building in a way that resonates with students' goals and experiences.

Discussion

The Social Interdependence Theory [30,31] emphasizes the role of interdependence in shaping individuals' behaviors and attitudes within group settings. According to Johnson and Johnson, when individuals perceive positive interdependence—where the success of one member is tied to the success of others—they are more likely to engage in cooperative behaviors.

The more consistent satisfaction of master's students in group work, compared to degree students, can be attributed to their higher levels of experience with collaborative environments, allowing them to navigate and leverage interdependence more effectively. Degree students, on the other hand, may struggle due to a lack of familiarity with cooperative frameworks, which may explain the more mixed responses in their attitudes toward group work.

Constructivist Learning Theory [2]: Cooperative learning is rooted in constructivist pedagogy, which posits that knowledge is actively constructed through interaction and collaboration. Master's students, having had more academic exposure and professional experiences, are likely more proficient in engaging with peers in a manner that fosters deeper learning through group interactions. On the other hand, degree students might still be developing the interpersonal and reflective skills necessary for successful group collaboration, leading to varied satisfaction levels. Vygotsky's concept of the "Zone of Proximal Development" also suggests that learning in groups helps individuals perform tasks they could not accomplish independently, a process master's students may find more rewarding due to their developed social and cognitive skills. In this line, cooperative Learning Models (Johnson, Johnson, & Holubec, 1999; Walters, 2000) [6,7], such as Jigsaw or Learning Together, highlight structured group work and interdependence as key factors in student success. The higher satisfaction among master's students may stem from their experience with these structured models, having internalized the necessary social skills, individual accountability, and positive interdependence required for effective teamwork. Degree students, being less experienced, may not yet fully grasp the benefits of such models or might struggle with the structured demands of group work, leading to less favorable outcomes.

The Experiential Learning Theory [39, 5] posits that learning is a process where knowledge is created through experience transformation. Master's students, having been exposed to more group work overtime, likely benefit from an experiential learning cycle that has allowed them to refine their group collaboration skills, leading to higher satisfaction levels. Degree students, with less experience in collaborative learning, may still be in the early stages of this cycle, contributing to the more varied attitudes towards group work. Finally, the Self-Determination Theory [40] emphasizes that individuals are more motivated when their needs for competence, autonomy, and relatedness are met. Master's students, with their more extensive academic and professional experiences, may find group work more motivating because it aligns with their developed competencies and collaborative skills. Degree students, by contrast, may feel less competent in group work, leading to less engagement and satisfaction.

Conclusion

The differences between degree (undergraduate) and master's students are evident in various areas, including academic development, professional experience, and personal maturity. Degree students typically have a foundational understanding of their field, as they are still building critical thinking and research skills through a broader curriculum. Master's students, by

contrast, possess more in-depth, specialized knowledge, often engaging in advanced theoretical work and research. Their prior professional experience further enhances their approach to academic tasks, providing them with practical skills and a stronger understanding of how to navigate group dynamics. This experience often results in smoother collaborations and more consistent satisfaction with group work, as master's students are more comfortable with leadership, delegation, and teamwork.

In contrast, degree students often face more challenges in group work due to their still-developing communication and teamwork skills. Their limited professional exposure may result in difficulties balancing roles within the team and managing expectations. Additionally, their motivation can vary widely, with some focused-on career exploration and others on degree completion without a clear trajectory. Master's students, however, tend to be more goal-oriented and driven by specific career or academic ambitions, which enhances their engagement with collaborative projects. This combination of experience, confidence, and clarity of purpose often leads to more effective time management and higher levels of satisfaction among master's students in comparison to their undergraduate counterparts.

In conclusion, the data in this specific research reveal a distinction in attitudes towards group work between degree and master's degree students. While both groups show the most positive responses, master's students demonstrate a significantly higher and more consistent satisfaction, with 98% expressing positive views. In contrast, degree students present a more diverse range of opinions, with 68.85% responding positively but a notable proportion offering neutral or negative feedback. These differences may stem from varying levels of academic and professional experience, with master's students being more adept at navigating group dynamics, while degree students may encounter more challenges in collaborative settings.

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