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Service based learning: Knowledge management in Accounting and Finance at UNIMINUTO

Aprendizaje basado en servicio: Gestión del conocimiento en Contaduría y Finanzas en UNIMINUTO

Aprendizagem baseada em serviços: Gestão do conhecimento em Contabilidade e Finanzas na UNIMINUTO

Abstract

Introduction: this article aims to demonstrate how the implementation of learning tools enables students to transition from theory to practice, thus facilitating guidance for micro-entrepreneurs in their formalization process. **Objective:** to implement Service-Based Learning (SBL) at UNIMINUTO through the formalization process of Colombian microenterprises. **Method:** a mixed approach with a descriptive method was used. Forty-three selected companies were analyzed, where questionnaires and semi-structured interviews were applied to collect quantitative and qualitative data, allowing a comprehensive understanding of the business situation. **Results:** relevant information was gathered regarding business history, creation and updating of the Single Tax Registry (RUT), fiscal book, and business marketing. **Conclusion:** by implementing the classroom project, it is observed how students manage to explain the behavior of consumers and producers, as well as the dynamics of their relationships in the market. At the same time, skills within the business environment are developed and adopted for application in business management. Finally, students acquired the ability to make informed decisions based on micro-business knowledge.

Keywords: Service-Based Learning (SBL), active learning, accounting, higher education, finance

Resumen

Introducción: el presente artículo pretende demostrar como la implementación de herramientas de aprendizaje permite al estudiante transitar de la teoría a la práctica, facilitando así la orientación a microempresarios en su proceso de formalización. **Objetivo:** implementar el Aprendizaje Basado en Servicio (ABS) en UNIMINUTO mediante el proceso de formalización de microempresas colombianas.

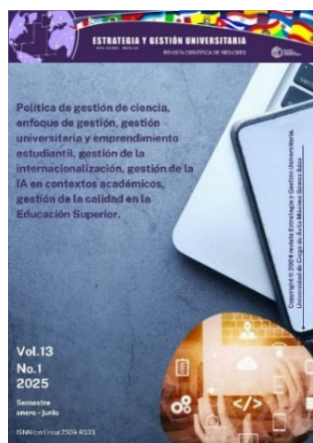
Método: se utilizó un enfoque mixto con un método descriptivo, se analizaron 43 empresas seleccionadas, en las cuales se aplicaron cuestionarios y entrevistas semiestructuradas para recolectar datos cuantitativos y cualitativos, lo cual permite una comprensión integral de la situación empresarial. **Resultados:** se recopiló información relevante de la historia empresarial, creación y actualización del Registro Único Tributario (RUT), libro fiscal y marketing empresarial. **Conclusión:** al implementar el proyecto de aula, se observa como los estudiantes consiguen explicar el comportamiento de consumidores y productores, así como la dinámica de sus relaciones en el mercado. De manera conjunta, se desarrollan habilidades dentro del entorno empresarial y las adoptan para aplicarlas en la gestión empresarial. Finalmente, los estudiantes adquirieron la capacidad de tomar decisiones informadas basadas en el conocimiento microempresarial.

Palabras clave: Aprendizaje Basado en Servicio ABS, aprendizaje activo, contabilidad, educación superior, finanzas

Resumo

Introdução: este artigo tem como objetivo demonstrar como a implementação de ferramentas de aprendizagem permite que os estudantes transitem da teoria para a prática, facilitando assim a orientação aos microempreendedores no processo de formalização. **Objetivo:** implementar a Aprendizagem Baseada em Serviço (ABS) na UNIMINUTO através do processo de formalização de microempresas colombianas. **Método:** foi utilizada uma abordagem mista com um método descritivo. Foram analisadas 43 empresas selecionadas, nas quais foram aplicados questionários e entrevistas semiestructuradas para a coleta de dados quantitativos e qualitativos, permitindo uma compreensão integral da situação empresarial. **Resultados:** foram coletadas informações relevantes sobre a história empresarial, criação e atualização do Registro Único Tributário (RUT), livro fiscal e marketing empresarial. **Conclusão:** ao implementar o projeto em sala de aula, observa-se como os estudantes conseguem explicar o comportamento dos consumidores e produtores, bem como a dinâmica de suas relações no mercado. Paralelamente, desenvolvem-se habilidades no ambiente empresarial e os alunos as adotam para aplicá-las na gestão empresarial. Finalmente, os estudantes adquiriram a capacidade de tomar decisões informadas com base no conhecimento sobre microempresas.

Palavras-chave: ABS Service Based Learning, aprendizagem ativa, contabilidade, ensino superior, finanças



Introduction

In recent decades, higher education institutions have constantly sought innovative pedagogical methodologies that integrate theory with practice and facilitate the acquisition of relevant competencies for the job market. One such methodology is Service-Based Learning (SBL), which has gained traction as an effective strategy for linking academic learning with community service and the business sector. This methodology enriches the teaching-learning process and promotes social responsibility and civic engagement among students (Morillo-Flores et al., 2023; Cardeno Portela et al., 2023; López González, 2023; Gómez Miranda, 2023).

SBL is defined as a pedagogical strategy that combines academic learning with community and/or business service, allowing students to apply the knowledge acquired in the classroom in real-world contexts while simultaneously contributing to the well-being of the community or an organization (Mayor Paredes, 2018). In the fields of Public Accounting and Financial Administration, SBL offers an ideal platform for students to develop technical competencies and soft skills that are essential for their professional training (Montoya del Corte & Farías Martínez, 2018; Cruz-Pérez & Cordero-Díaz, 2022). This is achieved through the integration of curricular content while interacting with microenterprises that require administrative, accounting, and financial analysis and strengthening.

The implementation of SBL in the course on Fundamentals of Economics and Microeconomics at the Corporación Universitaria Minuto de Dios - UNIMINUTO aims not only to enhance the understanding of economic and financial concepts but also to strengthen the relationship between the university and the business sector. The primary objective of this classroom project initiative is to apply SBL as an active methodological strategy that impacts the quality of educational processes and the institutional image through practical experience and collaboration with companies.

The university-business linkage is crucial in the training of future professionals in Public Accounting and Financial Administration. By participating in SBL projects, students have the opportunity to confront real problems and collaborate with microentrepreneurs from various economic sectors, enriching their learning and empowering them for their future professions (Ganga-Contreras et al., 2021; Román-Acosta et al., 2023). This collaboration benefits both students and companies, which receive fresh ideas and innovative solutions from young talents (Ruiz Larraguivel, 2022; García & Román-Acosta, 2024).

The SBL approach allows students to apply economic and financial theories in practical situations, facilitating better comprehension and retention of knowledge. It also fosters the development of problem-solving skills, teamwork, and communication, which are fundamental in the professional realm (Zepeda Hurtado et al., 2022). Preliminary results from the classroom project indicate that students participating in SBL activities exhibit greater motivation and commitment to their learning. Furthermore, feedback from companies has been positive, highlighting the significant contributions of students in solving real problems (Osorio-Novela et al., 2022).

Knowledge management in Public Accounting and Financial Administration

benefits from the implementation of SBL, as it allows for effective transfer of theoretical knowledge to practice. This methodology facilitates the creation of a dynamic and adaptive learning environment where students can directly experience the challenges and opportunities of the business environment (Escorcía Guzmán & Barros Arrieta, 2020). By integrating academic learning with service, SBL contributes to the formation of well-rounded professionals who are better prepared to face the challenges of the job market (Luna et al., 2023).

SBL enhances the university's image by demonstrating its commitment to training competent and socially responsible professionals. Collaboration with local businesses and the resolution of real problems benefit both students and companies, as well as strengthen the institutional reputation and its connection with the community (Torres et al., 2018). This integrative and practical approach is essential for maintaining the relevance and quality of educational programs in a constantly changing economic and financial environment (García et al., 2021).

SBL combines community service with academic learning, promoting civic responsibility and the development of competencies. Applied in disciplines such as Public Accounting and Financial Administration, it fosters a comprehensive education that responds to the needs of the labor market and the society. Implementing SBL in education is an innovative approach that develops practical and relevant skills, preparing future professionals to face real challenges and contribute to community well-being.

SBL is defined as an educational strategy that integrates community service with the academic curriculum. In this case, its application in the course on Fundamentals of Economics and Microeconomics provides a practical and relevant learning experience (Jacoby, 2017). According to Bringle & Hatcher (2020), SBL is based on principles such as reciprocity, critical reflection, and collaboration between the community and educational institutions. The implementation of SBL in the training of public accountants and financial administrators enables students to apply their theoretical knowledge in real contexts, enhancing their understanding and practical skills (Guthrie & Parker, 2020). Recent studies have shown that students participating in SBL projects demonstrate greater problem-solving abilities and adaptability to diverse situations (D'Santiago García, 2022).

In the study of accounting and financial management, SBL contributes to the development of key competencies for financial analysis, strategic decision-making, and project management (Madsen, 2021). Interaction with the community and the application of knowledge in real environments allow students to develop leadership skills and effective communication (Johnson, 2020; Medina & Ponce Pastor, 2024).

SBL projects benefit both students and the communities in which they are implemented. Educational institutions strengthen their ties with the community and enhance their reputation and social relevance (Díaz-Colón & Ereú-Ledezma, 2024; Brown & Barber, 2020). Consequently, community organizations receive valuable support for project development and the resolution of specific problems (García Puentes et al., 2019).

Effective implementation of SBL requires careful planning and the

integration of curricular components with service activities (Santos-Pastor et al., 2021). It is crucial for educational institutions to design projects that are relevant both to the academic curriculum and the needs of the community (Booth & Green, 2022).

Evaluation in SBL should consider both student learning and community impact. This includes measuring acquired competencies, critical reflection by students on their experiences, and assessing community benefits (Eyler & Giles, 2019). Qualitative and quantitative evaluation methodologies are essential for comprehensive analysis (Hernández-Sampieri & Mendoza, 2020).

Among the challenges of implementing SBL are coordination among multiple stakeholders, curricular integration, and project sustainability (Ruiz-Corbella & García-Gutiérrez, 2020; Nina Arratia, 2022). However, these difficulties present opportunities to innovate in teaching and strengthen collaboration between academia and society (Hidayat et al., 2021).

Numerous case studies have documented best practices in implementing SBL. For instance, programs at North American universities have shown how SBL can significantly enhance students' professional preparation (Furco & Norvell, 2019). Documenting these cases provides replicable and adaptable models for different educational contexts (Pawlowski, 2018; López et al., 2023; Moronta Diaz, 2024).

Technologies such as artificial intelligence, augmented reality, and the development of Information and Communication Technologies (ICTs) play a crucial role in the modern implementation of SBL. They facilitate communication, project management, and evaluation. Digital platforms allow students and teachers to coordinate effectively and track projects in real time (Bringle & Clayton, 2020; Sosa-Abreu, 2024).

Therefore, the SBL methodology can be adapted to address specific business management issues and develop critical and creative skills in students. The teacher's role is crucial in this process, as they must create a conducive environment, motivate students, and provide guidance and support as they solve business management problems.

Finally, the objective of this study is to implement Service-Based Learning (SBL) as a binding methodological strategy between the university and businesses in the training of future professionals in Public Accounting and Financial Administration. The study focuses on answering the question: How does the implementation of Service-Based Learning (SBL) as a methodological strategy linking the university and businesses influence the training of Public Accountants and Financial Administrators? This approach seeks to improve student training and strengthen university-business collaboration, while also promoting a more practical and relevant education (Silva Quiroz & Maturana Castillo, 2017).

Methods and materials

This research was developed using a descriptive methodological approach with a mixed design, combining qualitative and quantitative techniques that allowed

for a comprehensive understanding of the Service-Based Learning (SBL) experience in the context of accounting and financial education. This approach was chosen to characterize both the perceptions of students and the outcomes of fieldwork conducted with local microenterprises, facilitating a deep analysis of the economic and social dynamics of the regional environment.

Forty-three students, from the Public Accounting and Financial Administration programs in semesters II and III at UNIMINUTO, participated in the study. A non-probabilistic convenience sampling method was employed, considering voluntary participation and the availability of students and microenterprises in the process of assistance and data collection. This sampling method enabled the involvement of all students enrolled in the courses on Fundamentals of Economics and Microeconomics, ensuring a transversal application of curriculum content in a real context.

The methodological strategy was articulated through a classroom plan titled “Legalízate con UNIMINUTO,” aimed at fostering students’ understanding of the processes of business legalization and formalization as key factors for economic and social development. The exercise involved selecting a local microenterprise, preferably in the process of formalization or recently formalized, to construct a socioeconomic characterization, analyze its historical evolution in the market, and propose strengthening strategies based on the findings obtained.

The selection of microenterprises was carried out based on criteria defined by the students and validated by the instructors: accessibility, willingness to participate, diversity of economic sectors, and relevance of the case for the training exercise. The selected microenterprises included production units in commerce, manufacturing, services, and agri-industry, reflecting the business diversity of the regional environment.

For data collection, instruments were designed and validated with the assistance of expert instructors in economics, accounting, and research methods. The instruments included three main techniques: structured surveys, semi-structured interviews, and document analysis. The surveys contained closed questions regarding the history of the microenterprise, its organizational structure, economic situation, and formalization processes. Interviews, conducted with owners or managers, allowed for the exploration of perceptions, motivations, barriers, and opportunities from a qualitative perspective. Finally, document analysis included reviewing commercial registration, accounting records, sales reports, financial statements, and other documents provided by the microenterprises.

Fieldwork was conducted in four sequential phases. In the first phase, students, organized in groups, applied the instruments to representatives of the microenterprises. Ethical application of each technique was ensured through the use of informed consent forms and confidentiality agreements, respecting the privacy of the data collected.

In the second phase, the information collected was analyzed. For quantitative data, descriptive analysis was performed using basic statistics (absolute and relative frequency, as well as measures of central tendency), which allowed for

characterizing the socioeconomic conditions of the enterprises. Qualitative analysis was conducted through categorization and coding of responses, facilitating the identification of patterns and recurring themes related to issues of formalization, financial management, and market access, among others. Additionally, a historical analysis traced the evolution of the microenterprises from their inception to the time of study.

The third phase involved students formulating strategies based on the findings obtained. This exercise included identifying strengths, opportunities, weaknesses, and threats, followed by proposing actions aimed at organizational strengthening, marketing, training, access to financing, and consolidation of the formalization process. Critical evaluation of the viability of the proposed strategies was promoted, considering the particular context of each enterprise and the available resources.

Subsequently, in the fourth phase, the results of the work were consolidated into a structured academic report. This document included the following components: introduction and objectives of the study, description of the microenterprise, methodology used, socioeconomic analysis, historical evolution, identified issues, improvement strategies, and final recommendations. The reports were reviewed by the instructors and presented in academic socialization sessions.

To conclude the process, an institutional event was organized where students shared their experiences, reflections, and proposals with the academic community and representatives of the microenterprises. This socialization activity validated the learnings achieved, strengthened the university-business relationship, and promoted the appropriation of knowledge in real contexts. Additionally, impressions and testimonials from both students and microentrepreneurs were collected, generating valuable input for future research and curricular adjustments.

In summary, the methodology employed in this research allowed for the integration of academic knowledge with real-world issues, strengthened the professional competencies of students, and contributed to improvement processes in local microenterprises, fostering the consolidation of innovative pedagogical strategies in the field of Accounting and Finance.

Results and discussion

The research revealed significant findings that highlight the positive impact of the program on the formalization of the participating microenterprises. Table 1 shows the distribution of 43 students and 43 microentrepreneurs from the 15 municipalities studied.

Table 1

Distribution of students and microentrepreneurs

Municipalities	Students	Microentrepreneurs
Girardot	13	13
Viotá	1	1
Melgar	8	8
Chaparral	2	2
Icononzo	1	1
Ricaurte	1	1
Cunday	1	1
Flandes	1	1
Anapoima	1	1
Mesitas del Colegio	1	1
Tena	1	1
Apulo	1	1
La Mesa	8	8
Ibagué	1	1
Cachipay	2	2

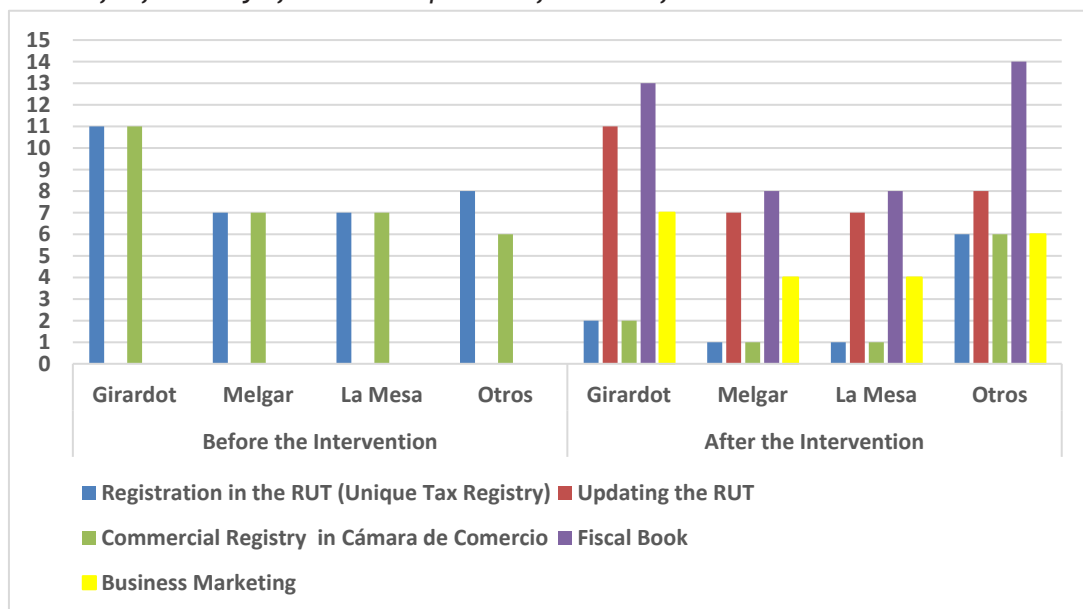
Source: Authors' own elaboration.

The previous table shows the distribution of the analyzed microenterprises across different municipalities, where it can be observed that the municipality of Girardot has a participation rate of 30.23%, followed by Melgar and La Mesa, each contributing 18.60%. Thus, these three municipalities account for 67.43% of the total.

During the characterization of the studied enterprises, the level of informality was evaluated, as validated in Figure 1.

Figure 1

Level of informality of microenterprises before and after intervention



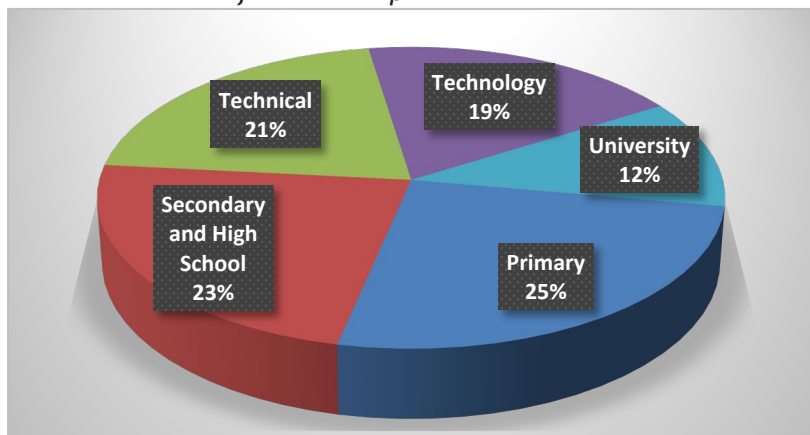
Source: Authors' own elaboration.

Figure 1 illustrates the level of informality before and after the intervention in the observed enterprises. Five variables were considered: creation of the RUT, RUT updates, commercial registration, tax books, and business marketing; where it was shown that significant changes were achieved in the intervened microenterprises, improving the various evaluated variables.

Similarly, when verifying the educational level of the entrepreneurs, a distribution across different academic levels was observed, as shown in Figure 2.

Figure 2

Educational level of microentrepreneurs



Source: Authors' own elaboration.

In Figure 2, the results of the analysis of the educational level of the microentrepreneurs from the 43 selected enterprises reveal a diversity in academic training, with a majority of 25% having primary education, followed by 23% with secondary and middle education. This disparity in educational levels significantly impacts business formalization. Microentrepreneurs with lower educational levels, such as primary and secondary, often face greater challenges in the formalization process due to a lack of technical and administrative knowledge necessary to meet legal and fiscal requirements. According to Arnold (2022), education plays a crucial role in entrepreneurs' ability to understand and manage formalization, resulting in lower formalization rates among those with lower educational attainment.

On the other hand, 21% of microentrepreneurs have technical training, 19% have technological training, and 12% hold university degrees, showing a greater propensity to formalize their businesses. These higher educational levels provide deeper knowledge in specific areas of business management and facilitate access to resources and networks essential for business growth and expansion. Higher education, in particular, is associated with a greater capacity to implement sustainable growth strategies and access external financing.

This group of microentrepreneurs is more likely to adopt advanced technologies and innovative management practices, increasing their competitiveness in the market. As highlighted by Torres-Medina & Márquez (2021), advanced

academic training provides the necessary tools for entrepreneurs to make informed decisions, leading to more sustained business growth and a positive impact on the local economy.

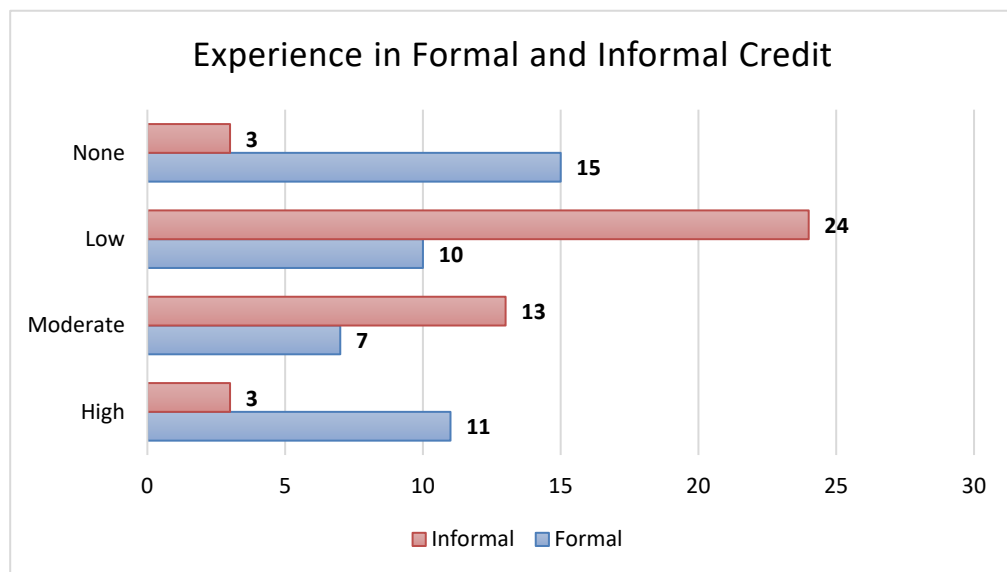
To define the knowledge and experience of microentrepreneurs regarding debt systems, four levels were considered:

- None: No experience with credits.
- Low: Limited experience with credits.
- Moderate: Experience with credits corresponds to the needs of the business.
- High: Constant indebtedness, meaning they regularly request credits to leverage their activities.

These levels are contrasted with the characteristics of business formality or informality, as can be seen in Figure 3.

Figure 3

Experience level of analyzed microentrepreneurs in formal and informal credit



Source: Authors' own elaboration.

Figure 3 indicates that a significant number of the analyzed microenterprises have little to no experience in using formal credit (25 enterprises), which limits their capacity to finance strategic investments, such as technology adoption or operational expansion, negatively affecting their profitability and growth. Dependency on informal credit sources, while less prevalent, also poses challenges, as this type of financing typically involves high costs and unfavorable conditions that can compromise financial sustainability and competitiveness. According to Cruz and

Cordero (2022), lack of access to formal credit not only restricts microenterprises' ability to position themselves in the market but also exposes them to greater financial risks and limits their long-term development.

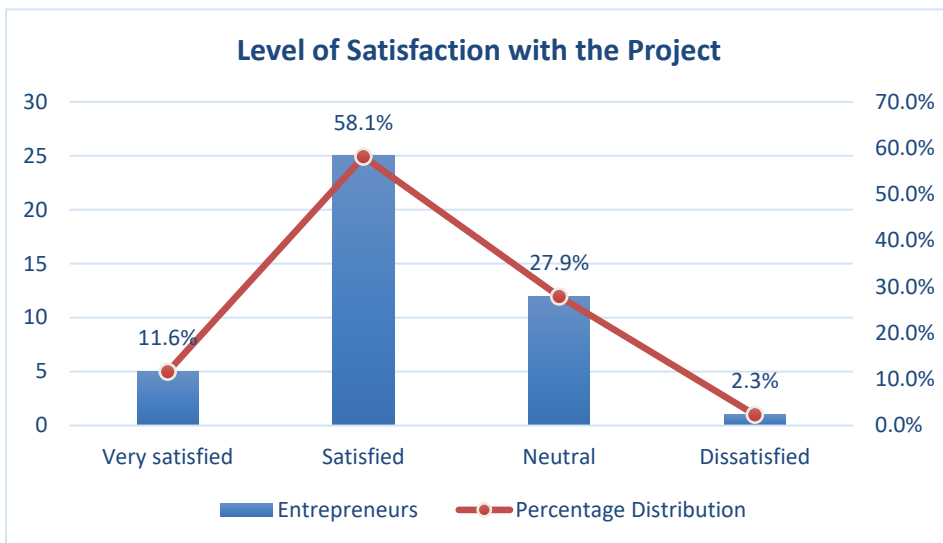
Hernández Avella (2021) highlights that the new Simple Taxation Regime in Colombia is a key tool for promoting business formalization, leading to a positive social impact by facilitating access to financial resources and improving the competitiveness of microenterprises.

Comparatively, enterprises with high experience in formal credit are better positioned to implement effective growth strategies, as they can access financing under more favorable conditions. This enables them to improve profitability and enhance market competitiveness by responding better to opportunities and challenges. As noted by García-Gutiérrez et al. (2021), access to formal credit is crucial for developing sustainable expansion strategies and improving business positioning in highly competitive sectors, underscoring the importance of promoting this type of financing among microenterprises.

Considering the need to identify whether the microentrepreneurs felt pleased with accompaniment process, it allows for an evaluation of their satisfaction level with the process, which is summarized in Figure 4.

Figure 4

Satisfaction level with the classroom project “Legalízate con UNIMINUTO”



Source: Authors' own elaboration.

Figure 4 shows the satisfaction levels of the 43 microentrepreneurs with the classroom project “Legalízate con UNIMINUTO,” reflecting a positive impact, with 30 microentrepreneurs declaring themselves satisfied or very satisfied, representing 69.8% of the microentrepreneurs. This high level of satisfaction indicates that students effectively applied their theoretical knowledge in a real-world setting, enhancing their professional performance and providing concrete solutions that

benefit the participating microenterprises. According to García et al. (2021), the practical application of learning in real contexts is crucial for students to develop essential competencies that better prepare them for job market challenges and strengthen their professional profiles.

This finding aligns with the views of Torres-Medina & Márquez (2021), who argue that the formalization of MSMEs in Colombia is essential to overcoming the barriers imposed by informality, such as limited access to financing and broader markets. The results of the project suggest that strengthening the university-business relationship can be an effective vehicle for promoting formalization and, consequently, the sustainable growth of microenterprises.

Moreover, the satisfaction reported by microentrepreneurs demonstrates the added value that the project “Legalízate con UNIMINUTO” contributes to business development, aiding in the formalization and strengthening of microenterprises. The positive perception from microentrepreneurs underscores the project’s effectiveness in terms of tangible outcomes and reinforces the university-business relationship. This collaboration allows businesses to receive support in key areas for their growth while the university fulfills its mission of training competent professionals committed to their social and economic environment. As Cruz & Cordero (2022) point out, ongoing interaction between academia and the business sector is essential for driving sustainable development that benefits both students and business communities.

Conclusions

Students successfully applied the theoretical content of the course in a relevant manner, developing technical competencies in economic analysis and tax regulation, as well as soft skills such as leadership, assertive communication, and collaborative work. These practical experiences translate into a greater ability to solve business problems, make informed decisions, and understand the dynamic environments in which microenterprises operate. Furthermore, direct interaction with entrepreneurs enhanced the ethical sense and social responsibility of future professionals.

The project “Legalízate con UNIMINUTO” established a significant connection between academia and the productive environment, evidenced by the high satisfaction levels reported by microentrepreneurs, with over 69% expressing satisfaction or high satisfaction with the intervention. This result validates the SBL methodology as a tool for positively impacting business development and training competent professionals committed to their surroundings.

Additionally, it was observed that microenterprises with experience in formal credit processes exhibited better conditions for market projection, reinforcing the importance of advancing towards formalization. Overall, the results demonstrate that SBL, beyond its pedagogical value, serves as an effective knowledge management strategy capable of generating significant transformations in both professional training and the strengthening of the local business ecosystem.

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Declaration of author responsibility

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