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Early labor insertion in Latin America: A perspective from business sector needs

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Abstract: This study analyzes the labor needs of companies in the Aburrá Valley, Colombia, and the skills required for recent graduates to enter the labor market successfully. The study aims to provide objective data for improving graduate outcomes. Employing an empirical mixed methods approach, the study administered questionnaires to companies to identify their expectations and needs regarding graduate competencies. Additionally, focus groups were conducted with higher education institutions to understand their perspective on student preparation. The study found that companies prioritize training graduates in soft skills, technology, data analysis, languages, and adaptability. Nonetheless, there is a significant deficit in proficiency regarding adaptation to change, office tool management, information analysis, and organizational trends. Additionally, there is a tendency for companies

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to overlook the necessity of continuous training for interns, which could bolster their professional skills. The study emphasizes the necessity for universities to revise the skill sets of graduates within their programs and harmonize them with pertinent job requirements. It is suggested that enhanced cooperation between universities and companies can foster early job placements, tackle curriculum concerns, and establish frameworks for fostering employability. Taken together, this study offers a unique and innovative solution for bridging the divide between academia and industry. The implications include heightened potential for employment among recent graduates and an overall economic boost for the Aburrá Valley region.

Subjects: Social Skills; Study of Higher Education; Study Skills

Keywords: job skills; employability; labor insertion; graduates; Colombia; soft skills; data analysis

1. Introduction

Globalization and technological development require highly trained employees. Presently, universities and higher education institutions (HEIs) are challenged with preparing their program professionals to adapt to the ever-changing business environment (Panagiotis Arsenis & Petropoulou, 2021). In accordance with Mello et al. (2021), successful job placement for graduates from various institutions is dependent on a specific set of accomplishments, comprehension and personal qualities, factors which increase their likelihood of securing employment and carrying out their chosen occupations with proficiency.

As stated by López-Varela et al. (2021), institutions are under increasing pressure to teach students a wide range of competencies, including communication skills, teamwork, and leadership, that go beyond subject-specific knowledge to enhance their employability. According to Md Isa et al. (2020), the main issue faced by HEI graduates is the lack of skills needed for early labor insertion, making it challenging to secure a job. According to Maldonado et al. (2018), professionals looking to enter the labor market face growing competition due to the increasing number of students in higher education. This creates pedagogical challenges, specifically in regards to the programs and indicators that measure the curriculum versus practical exercises.

For businesses and the industrial sector, succeeding in an increasingly competitive global market requires qualified personnel who continuously learn, grow, and adapt to changing technologies (Rufai et al., 2015). As a result, collaboration between universities and businesses is the key to enhancing education for employability programs. Similarly, there is often uncertainty and a lack of communication and connection between the two parties, hindering them from bridging the gap between the needs of the business sector and the abilities promoted by universities (Pardo-Garcia & Barac, 2020).

1.1. Knowledge gap, study aims and significance

According to the Colombian Ministry of Labor (2021), the country's employment levels remain discouraging despite efforts to increase them. Comparing March 2021 figures to those from the first quarter of 2020, there has already been a decrease of around 5% in the percentage of employability. During the 2014–2020 analysis period, the unemployment rate in Medellín and the Aburrá Valley peaked at 25.2% (Alcaldía de Medellín, 2020). These figures also stem from the COVID-19 pandemic, which has impeded labor market entry and employability for citizens. The economic repercussions are just beginning to surface, and the outcomes are difficult to foresee. Yanza-Chávez et al. (2020) found that companies faced liquidity and sustainability concerns, including employee retention issues that led to job loss.

The early labor market entry of recent college graduates is currently a topic of significant interest in both the global economy and academic circles (Fatima Warraich & Ameen, 2011; Misra & Khurana, 2017; Yende & Mugovhani, 2021), warranting further exploration. However, a majority of research studies have narrowly focused on graduates' perceptions (Cabrera Jiménez, 2020), while few corporations have identified their specific skills and professional competency needs (Yanza-Chávez et al., 2020). Furthermore, these studies aid in identifying and promoting mechanisms and strategies that enhance the employability experience for graduates by linking universities and businesses (Ricardo Cabrera et al., 2021). It is noteworthy that such challenges are more acute in developing countries with regard to inequality, necessitating a longer time to embrace globalization (Goldberg & Pavcnik, 2007).

Based on the above, this study seeks to diagnose the Aburrá Valley's business sector in terms of labor insertion requirements for professionals. This will facilitate identification of potential strategies for linking the perceptions of universities and the expectations of companies regarding necessary skills. Two instruments have been designed for this purpose: a self-administered questionnaire for companies to complete, and a focus group in which Higher Education Institutions of the Aburrá Valley will participate.

The article is structured as follows: The methodology outlines the design and construction of the gathering techniques employed for diagnosing early labor insertion in the context of the Aburrá Valley business sector's needs. The results section presents the findings of both quantitative and qualitative analyses conducted on the collected information. Subsequently, a discussion of the literature's results ensues. Finally, the study concludes with a section featuring some reflections and recommendations.

2. Materials and methods

To conduct information collection and diagnosis, a mixed methodology was employed, incorporating the use of a self-administered questionnaire (quantitative) for company completion, and a qualitative focus group with the participation of Higher Education Institutions from the Aburrá Valley.

2.1. Sampling strategy

For this study, we employed non-probabilistic sampling to ensure a diverse and appropriate representation of companies in the Aburrá Valley. Our selection criteria comprised a range of company sizes, from small to large organizations. Furthermore, we sought to develop a more comprehensive understanding of labor dynamics by reflecting the economic sector's diversity present in the region within our sample. Finally, we selected companies from diverse locations within the Aburrá Valley to capture the potential variations and unique characteristics of each region. This methodology allows us to achieve a comprehensive and representative perspective of the relationship between educational institutions and the business sector in the area.

2.2. Design of self-administered questionnaire for business sector (convened by the University-Business-State Committee—UBSC)

The questionnaire comprises eight questions primarily derived from researched literature on labor integration and business perspective. The initial three questions entail company characterization by inquiring regarding the respondent's position, as well as the type and size of the organization. On the other hand, Question 4 is a multiple choice question with multiple answers that aims to explore the most commonly used mechanisms for labor market insertion among students and/or future professionals, highlighting the University-Business relationship. As for question 5, a multiple-choice survey was conducted to determine the skills and competencies required by companies in the labor market. The survey listed approximately 30 competencies and skills proposed by two recent labor market studies. Question 6 aimed to measure how companies determine the hiring of recent graduates in their first job

Table 1. Questions factor “selection criteria”

	Affirmations	1	2	3	4	5	6
8.1	Average grades of individuals						
8.2	Participation of the individual in the activities of the university campus						
8.3	Individual recommendations from university sources						
8.4	Individual recommendations from non-university sources						
8.5	The performance of the individual in the job interview with our company						
8.6	Knowledge of the lifestyle of future professionals						
8.7	The age of graduates						

Source: authors

based on their profiles, training, or degree. Question 7 posed an open inquiry to companies regarding their identification of expectations and needs for the labor insertion processes in Medellín.

Subsequently, Question 8 presented 21 statements on a Likert-type scale measuring the level of importance of six dimensions in hiring graduates. The scale values are: Very important (1), Important (2), Moderately important (3), Of little importance (4), Unimportant (5), and DK/NA (6).

The questions comprising the “Selection Criteria” factor were obtained from a study conducted by Lewis et al. (1983) wherein 500 companies in the United States were surveyed to determine the crucial aspects that recruiters consider when hiring a graduate (refer to Table 1).

The second factor is “University-Business Linkage” with which it is intended to know if the existence of a previous relationship between academia and the productive sector influences the hiring of graduates in the city of Medellín. The questions of this dimension were taken from the study by Ishengoma and Vaaland (2016), who proved that university-industry linkage activities can stimulate the probability of employability of Tanzanian professionals (Table 2). The third factor “Weaknesses associated with the labor insertion process” seeks to evaluate the perception that companies have about the importance of the weaknesses associated with the labor insertion process. These questions were developed as a proposal that tries to answer another of the key questions of this research and are some problematic situations of the employability process that do not allow it to develop successfully. (see Table 3) Finally, the survey concluded with four open-ended questions to gather opinions and expectations of companies regarding the labor insertion process.

- Does your company have specific employment programs for recent graduates? If so, could you tell us what those are?
- As a company, what strategies to improve labor insertion would you recommend implementing overall with Higher Education Institutions?
- From the experience of your company, what training gaps do you see in the new professionals of the city when they start their careers?
- From the experience of your company, how would you assess the performance of professionals recently graduated from Medellín? How could such performance be improved?

Table 2. Questions factor “University-business linkage”

	Affirmations	1	2	3	4	5	6
8.8	Direct communication of the company with the University						
8.9	The existence of a Unit at the University responsible for employability						
8.10	Short courses for small business and entrepreneurs taught by the University						
8.11	Practical industry support to students during their master's thesis						
8.12	Industry assistance to modernize and develop curriculum and university programs						
8.13	Seminars and conferences jointly organized by department and industry						
8.14	Collaborative training and educational activities (between the University and Business)						
8.15	Collaborative research activities (between the University and Business)						
8.16	Collaborative consulting activities (between the University and Business)						

Source: authors

Table 3. “Weaknesses associated with the labor insertion process”

	Affirmations	1	2	3	4	5	6
8.17	Low standards of performance by professionals hired in their first job						
8.18	Low standards of performance by professionals in the development of practicing						
8.19	Applications for positions (profiles) do not coincide with the training levels of graduates (doctorate, master or professional)						
8.20	Training gaps are observed in the professional						
8.21	considerable differences between the profiles or positions of the company (requirements of the market) with the hired professionals (career skills)						

Source: authors

2.3. Focus group design for participating higher education institutions

To conduct a focus group with managers of Higher Education Institutions aimed at diagnosing the requirements and significant practices of HEIs in terms of labor insertion, as well as investigating their strategies for interacting with the business sector of the city, the design of the group was based on an analysis of reviewed literature and University-created questions in a questionnaire. The final guide for the focus group contained 14 questions, as presented in Table 4.

2.4. Research hypothesis

Higher education institutions in the Aburrá Valley are presented with a considerable obstacle regarding the preparation of their students for the current labor market. While academic efforts have been made, there is an increasing concern that these institutions are not efficiently aligning the skills and competencies they impart with the demands and expectations of the business sector. The mismatch between graduates' skills and companies' needs has created difficulties for many recent graduates attempting to enter the workforce. This highlights the need for regular reviews and modifications of academic programs to ensure their alignment with the demands of the business environment (Maldonado et al., 2018).

Table 4. “Focus group guide: labor insertion and business interaction in HEIs”

1.	What does the concept of job placement refer to?
2.	What criteria do you think are considered by companies to select graduates to hire?
3.	Do you consider that the professional insertion of university students is an indicator of university quality?
4.	From your experience in labor insertion processes, mention the mechanisms used by your institution aimed at improving labor insertion for students and/or future professionals.
5.	As a strategy to improve insertion, do you consider it important that the student has had complementary training during the university career to be hired?
6.	What gaps do you observe in the University-Business relationship that you believe may negatively influence the labor insertion of graduates?
7.	Do you consider it pertinent that HEIs have a feedback and follow-up system for recent graduates that guarantees knowing their current situation?
8.	What kind of indicators do you think to measure the efficacy in the University-Business articulation in the search for a better labor insertion of recent graduates?
9.	What strategies would you formulate so that students can have a greater knowledge of the market in their training area?
10.	What training gaps do you observe in the professionals of the city of Medellin when they start their working life?
11.	Do you think that there are evident differences between the profiles or positions of companies (labor market demands) with the skills offered to students by HEIs?
12.	Based on your experience, what professional skills do you think the city's current job market demands? In your opinion, what kind of skills (technical or soft) have more influence on the labor insertion of recent graduates of the city of Medellín?
13.	How do you imagine the skills required by the labor market in 10 years
14.	Any other comments you want to add?

Source: authors

H1: Higher education institutions in the Aburrá Valley are not aligning the skills taught with the demands of the business sector sufficiently, causing a mismatch in the job placement of recent graduates.

The relationship between the universities and the business sector in the Aburrá Valley appears to suffer from inadequate communication and collaboration, impeding the development of effective partnerships. This detachment results in the institutions having limited awareness of the demands and expectations of the business environment, ultimately impacting students' training and employability. Graduates frequently encounter a shortfall of specific proficiencies sought by companies when seeking employment. This situation highlights the necessity of establishing stronger and collaborative communication channels between universities and companies to ensure that academic training aligns with market demands (Pardo-Garcia & Barac, 2020).

H2: Insufficient communication and collaboration between universities and the business sector in the Aburrá Valley are affecting the preparation and employability of recent graduates.

In the Aburrá Valley, companies have noticed a concerning trend among recent graduates. These individuals tend to overestimate their skills and competencies, which may not align with the companies' objective evaluations during selection processes. Consequently, such overestimation can impact hiring decisions as companies may doubt the authenticity and accuracy of a candidate's claims about their skills. This mismatch between graduates' self-assessments and employers' expectations could necessitate additional and ongoing training for new hires to address identified skills gaps. Consequently, university education's significance is underscored as

it should not only equip students with technical and theoretical competencies but should also nurture their self-awareness and authenticity (Yanza- Chávez et al., 2020).

H3: Companies in the Aburrá Valley perceive that recent graduates tend to overestimate their skills, leading to a significant impact on their hiring decisions and the continuous training given to their new employees.

3. Results

The following section presents the results obtained in the implementation of the self-administered questionnaire to the business sector and the focus group carried out to the HEIs of the Aburrá Valley.

3.1. Analysis of survey results applied to the business sector

To identify the expectations and needs of labor demand in the city of Medellín, 28 participants were surveyed, including human resources managers (18%), analysts, coordinators, directors, and specialists. The survey primarily targeted individuals who had developed experiences and knowledge within large and medium-sized companies (79%). Manufacturing companies have the highest participation at 43%, followed by service providers at 29%. Table 5 contains further information.

The most commonly utilized labor insertion methods for students and/or future professionals that demonstrate a University-Business connection are as follows: six-month work placements (33%), one-year work placements (25%), and research projects (25%). The least utilized methods are extension projects (4%) and internships (13%).

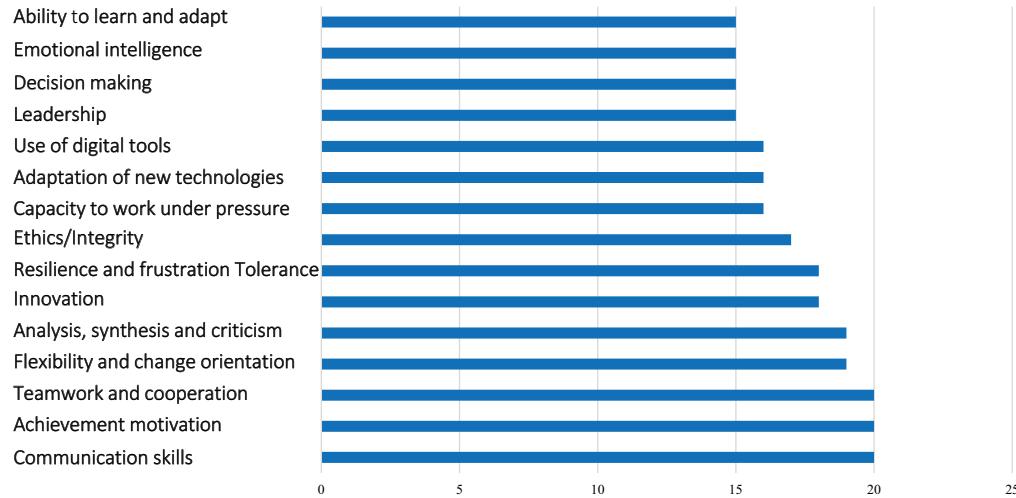
Additionally, companies in the labor market prioritize competencies and skills related to effective communication, teamwork, analytical thinking, adaptability, ability to work under pressure,

Table 5. Companies' general information

Job title	Percentage	Business type	Percentage
Human Resources Analyst	14%	Commerce	18%
Continuous Improvement Analyst	4%	Education	4%
Human Resources Manager	11%	Foundation - Consultant and operator of Social and Environmental processes for the regeneration of sustainable territories.	4%
Human Resources Director	11%		
Human Resources specialist	11%	Manufacturing	43%
Human Resources Director	18%	Manufacturing & retail	4%
Human Resources Director	14%	Services	29%
Human Resources Shared Services Leader	4%		
Intern	4%	Company size	Percentage
Pragma	4%	Big	79%
Human resources Professional	4%	Medium	18%
Psychologist	4%	Micro	4%

Source: The authors based on the results of the survey

Figure 1. Competencies and/or skills that the market values most.



decision-making, and capacity for learning as personal skills. It is also important to note that companies highly value competencies in digital tools (refer to Figure 1).

Furthermore, according to the survey data, a majority (43%) of the participating companies hired an estimated 25% of graduates who secured their first job directly related to their respective degrees.

Through an exploratory study, certain company needs in the process of labor insertion within the city of Medellín were identified. These needs begin with the students, as they are expected to receive training on soft skills, computer and technological tools, data analysis, languages, and other skills enabling them to more easily adapt to dynamic environments. Similarly, the companies express their desire to recruit students who are passionate about personal and professional development, indicating a need for transformation in university curriculums.

Table 6 highlights selection criteria used by employers, with average graduate qualifications being important to 46% of respondents; however, most do not consider it a major factor. The involvement in extracurricular activities indicates importance for 46% of companies. However, similar to qualifications, the vast majority do not view it as important. This is because companies prioritize the development of soft skills in students. Conversely, the individual recommendations from universities generate slightly more significance.

As far as individual recommendations from non-university sources are concerned, companies find them either interesting or moderately interesting. Although they hold great importance for students during their training process, companies are indifferent towards them and do not consider the university from which the student graduated to be significant. Instead, a graduate's performance during a job interview with the company is highly relevant for them (71%).

In the University-Business link that has an influence on labor insertion, it is crucial for companies to have direct communication with the University and for there to be a Unit in charge of employability to streamline processes. The University also offers short courses for small businesses and entrepreneurs.

Industry support for modernizing and developing curricula and university programs is a crucial consideration for companies. Thus, collaborative training, educational activities, research, and consulting between businesses and universities are essential for successful labor integration.

Table 6. Selection criteria, university-business linkage and weaknesses associated with the process of labor insertion by employers

Employee selection criteria	Very important	Important	Moderately important	Of little importance	Unimportant	NK/NR
Grade point average of graduates	0%	46%	18%	21%	18%	0%
Individual participation in extracurricular activities	7%	43%	25%		4%	0%
Individual recommendations from university sources	7%	43%	36%	11%	4%	0%
Individual recommendations from non-university sources	4%	43%	25%	21%	7%	0%
The University from which they graduate	7%	21%	39%	21%	11%	0%
The performance of the graduate in the job interview with our company	71%	25%	4%	0%	0%	0%
The age of graduates	0%	25%	14%	18%	43%	0%
University-Business linkage that influences labor insertion						
That the company has a direct communication with the University	64%	29%	7%	0%	0%	0%
The existence of a Unit at the University responsible for employability	46%	39%	15%	0%	0%	0%
short courses for small businesses and entrepreneurs taught by the University	18%	43%	14%	18%	7%	0%

(Continued)

Table 6. (Continued)

	Very important	Important	moderately important	Of little importance	unimportant	NK/ NR
Industry assistance to modernize and develop curricula and university programs	54%	36%	7%	4%	0%	0%
Collaborative training and educational activities (between the University and Business)	36%	57%	7%	0%	0%	0%
Collaborative research activities (between the University and Business)	46%	39%	14%	0%	0%	0%
Collaborative consulting activities (between the University and Business)	46%	39%	11%	4%	0%	0%
Weaknesses associated with the labor insertion process						
Low levels of performance by professionals hired in their first job	43%	46%	4%	4%	0%	4%
Low levels of performance by professionals in the development of practice	57%	32%	7%	4%	0%	0%
Applications for positions (profiles) do not coincide with the training of graduates (focus of their careers)	18%	61%	11%	7%	4%	0%
Notable differences between the profiles of companies (labor market requirements) and the profile of the professionals hired (career skills)	29%	57%	11%	4%	0%	0%

Source: authors

The study identified weaknesses in the labor insertion process, revealing that low levels of performance characterize both newly hired professionals and those already practicing. These findings are significant, as companies believe that universities and HEIs must intensify their efforts to enhance students' soft skills in order to prevent resistance to change.

Similarly, it should be noted that 61% of companies consider it important for applicants to match their training with the positions they apply for. This is due to the significant differences between the labor market demands of different companies and the career skills of contracted professionals. It is imperative that profiles of candidates coincide with the specific demands of each company.

Some businesses have employed tactics to enhance labor integration and propose enacting them jointly with Higher Education Institutions (refer to Figure 2). These strategies aim to foster collaboration and effective communication among students. One proposed approach involves students generating value propositions, justifying how processes can be optimized based on their particular areas of knowledge. To achieve this goal, early collaboration among students is key—identifying those who have the potential to perform well in companies and securing sponsorships during the teaching stage. Teachers and company representatives can work together to facilitate this process and ensure successful implementation.

Additionally, companies have identified gaps in training for new professionals in the city when they enter the workforce. These gaps are typically related to adapting to changes, managing office tools (particularly Excel), and analyzing information. It is essential to enhance training from Higher Education Institutions in new organizational trends (such as innovation, agility, digital transformation, new capabilities, etc.) and emphasize soft skills. Figure 3 illustrates these findings.

Finally, based on the companies' experience, the evaluation of the performance of professionals who have recently graduated from Medellín is considered. It is possible to improve the training of professionals by providing additional courses that complement their current training. Although practitioners generally show an interest in their training, they tend to comply with the program's requirements and have career aspirations that may not align with their current organization or related fields such as studies or entrepreneurship. Unfortunately, most professionals do not possess the skills required by the market upon leaving the university. To address this concern,

Figure 2. Strategies to improve labor insertion with EI.

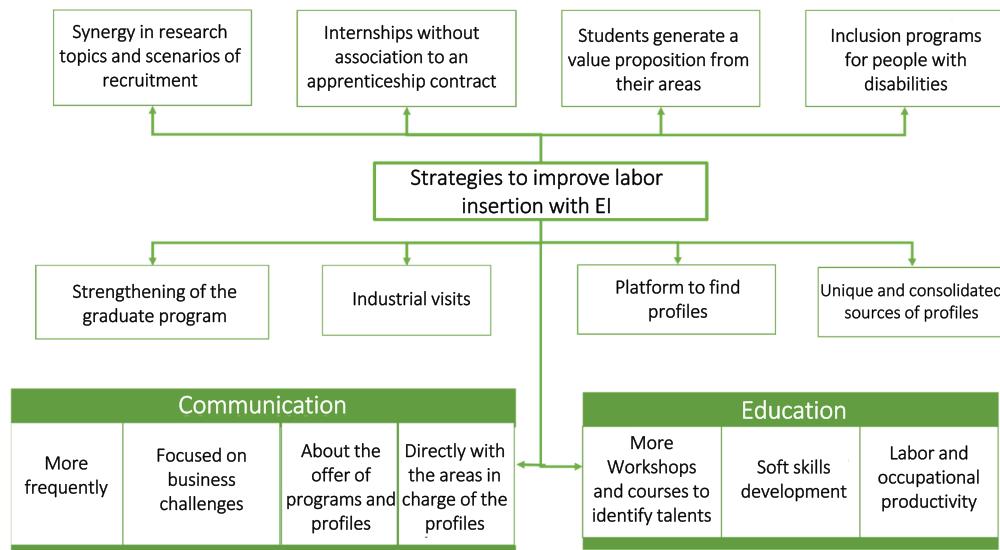


Figure 3. Training gaps that are observed in the new professionals of the city when they start their working life.



universities can create spaces for entrepreneurial individuals to develop competencies required by various sectors in the 21st-century industry. As shown in Figure 4.

3.2. Analysis of results of the focus group carried out to the HEIs of the Aburrá Valley

A focus group was conducted to diagnose the workforce needs of the business sector in the Aburrá Valley regarding labor insertion. The following summarises the main results obtained.

Professional insertion is an indicator of the quality of institutions. It involves several factors, including how companies value their employees, the level of job satisfaction, and the level of occupation for students, employees, and entrepreneurs. In addition to the quality indicator, there is also a vital employability indicator that plays a role in both institutional and program accreditation processes.

This indicator is related to the demand that students and graduates have from different sectors of the industry and training areas, helping to identify program and institutional potentials and options. Such enhancement should, therefore, be clear and strengthened.

The identification of lines related to employability and entrepreneurship can be discerned from Figure 5, which provides an overview of the main assessments of the mechanisms for improving the labor insertion process. The different institutions propose several mechanisms, emphasizing the need to bolster the skill set of applicants before entering the productive sector. It is proposed to identify student profiles to determine their strengths and weaknesses for the purpose of linking these profiles to the most suitable companies. Additionally, an overview of the organizational structures of various companies is provided to better understand their needs and characteristics and to facilitate matching them with the appropriate student profiles.

Figure 4. Ways to improve the performance of professionals.

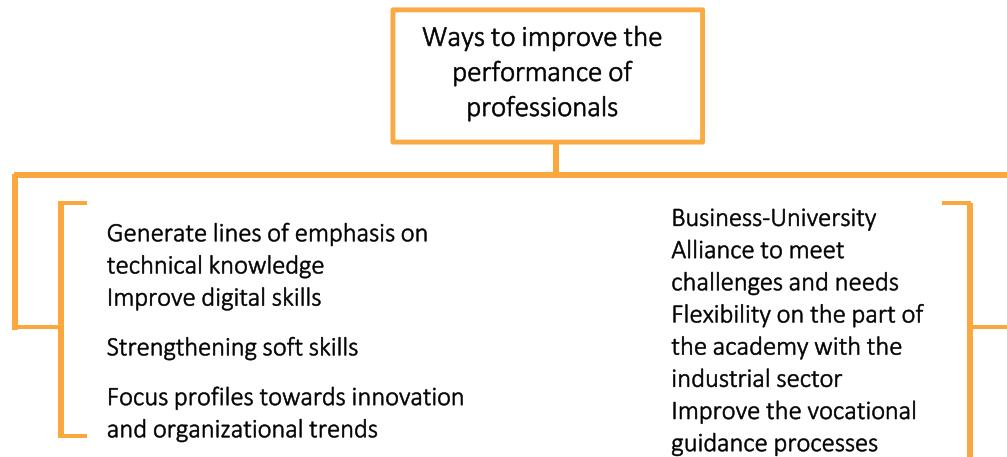
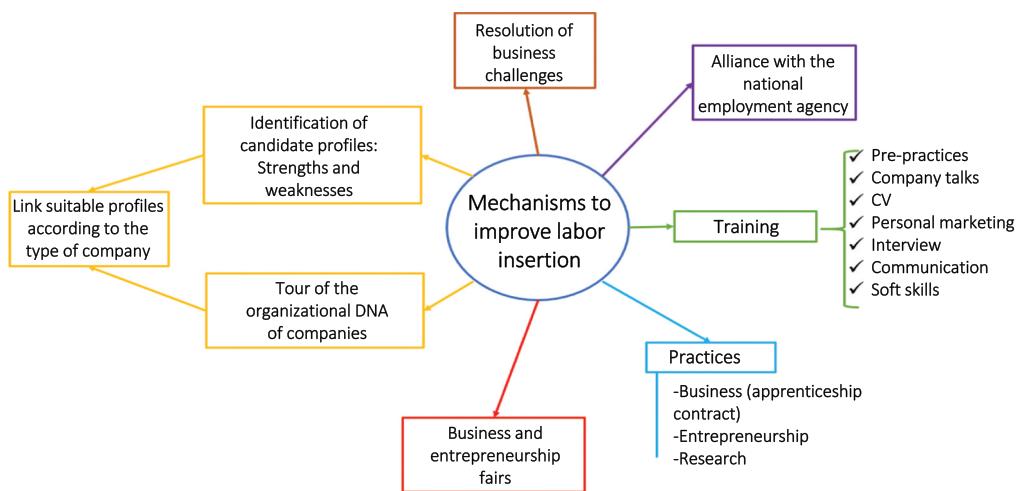


Figure 5. Mental map on the mechanisms to improve labor insertion.



However, many institutions employ a common mechanism that focuses on labor preparation through training courses, seminars, and conferences covering topics like personal marketing, curriculum development, job interviewing, resilience, adaptability, communication tools, and other necessary soft skills. This pre-practice preparation facilitates a better experience during the application process and in subsequent work practices.

Internships are a crucial means of applying professional knowledge and gaining initial work experience post-graduation. Various types of internships are available, including those that involve learning contracts linking companies and institutions, as well as internships in entrepreneurship and research. This diversity provides students with options that cater to their respective skills and preferences. Additionally, business and entrepreneurship fairs provide a direct approach for applicants and companies, as well as entrepreneurs and potential business partners.

Alumni programs are emphasized to assist graduates who are still seeking opportunities, forming partnerships with databases such as the National Employment Agency to keep graduates informed of potential job openings. Among other forms of interaction with companies, an emphasis is placed on resolving business challenges. This allows students to gain a deeper understanding of companies and their needs, while also providing companies with opportunities to learn about potential new collaborators through their profiles.

Figure 6 illustrates the primary findings concerning the gaps in the relationship between universities and businesses that may negatively impact job placements for graduates. The objective differences between these entities are evident through their respective institutional work to identify the factors contributing to these gaps. Companies may discontinue intern training due to a lack of understanding regarding its benefits and opportunities within their respective specialties resulting in limited progress in their processes.

This confusion stems from the lack of clarity surrounding training and its distinctions and inadequate knowledge of associated compensation and time commitments for technical, technological, and professional training. The lack of clarity regarding companies' innovation and research needs makes it challenging to customize training.

Furthermore, companies often undervalue practitioners' skills and fail to recognize their potential, leading to demotivation and wasted time during student matching. This issue stems from a lack of knowledge and organization that also negatively impacts the quality and relevance of the

Figure 6. Mental map on gaps in the University-business relationship.

Gaps in the University-Business relationship	Lack of clarity in the differentiation between technical, technological and professional training
	Little knowledge about the value of fees according to training
	Lack of articulation between the real needs of companies in terms of innovation and research
	Companies are unaware of the benefits of having an intern in their processes
	The companies do not continue with the trainee training process
	Lack of relevance between the functions delegated by the companies
	Absence in the evaluation of business performance to interns and graduates
	The academic periods sometimes do not coincide with the times delegated by the companies for the practices

relationship. Additionally, the company's lack of participation in evaluating interns and graduates renders effective monitoring of their professional growth impossible. The text also discusses issues pertaining to the absence of coordination between company internship timelines and academic schedules of educational institutions.

4. Discussion and conclusions

4.1. Discussion

Based on the findings, 6-month and one-year work placements, along with research projects, were the most frequently used methods for connecting students with industry. However, internships were the least utilized, which contradicts the results presented by Pereira et al. (2020). Their study found that internships were the most commonly used method and that they were important in enhancing professionals' employability, as well as being an effective means of collaboration between universities and companies.

In today's job market, companies place high value on "soft skills," including communication, teamwork, analytical abilities, resilience, the capacity to work under pressure, decision-making skills, and learning aptitude. Additionally, proficiency in digital tools is increasingly emphasized. This is also in line with the findings of the study by Okoye and Nkanu (2020), which identified information and communication technology skills and problem-solving skills as crucial competencies in the job market.

At the University of Magdalena in Santa Marta, Colombia, we aimed to analyze the innovative culture present in University-Business partnerships at the Department of Magdalena. Our findings revealed a strong emphasis on teamwork within the university. Additionally, 61.54% of surveyed students showed complete agreement that collaboration between individuals at the university results in achieving common goals and integrated teamwork to enable active collaborations (Cohen-Granados et al., 2020).

Likewise, the Industrial Engineering Program at Francisco de Paula Santander University in Cúcuta, Colombia engages in multidisciplinary collaborations with companies through various activities such as planning, solution searching, research, and collaborative work. These practices align with industrial standards and promote shared goals. This approach promotes the application

of knowledge gained from professional training, teamwork, and the development of a critical attitude, among other elements that contribute to a comprehensive future professional training. The adoption of Project-Based Learning in professional practices has proven to be effective in acquiring knowledge and developing skills, according to Laguado et al. (2019).

When considering hiring a graduate, the company evaluates their performance in interviews, average qualifications, individual recommendations from university sources, and the employability unit within the university, as demonstrated by Pineda's et al. (2020) research. Subjective evaluations are avoided, technical abbreviations are clearly explained, and a formal register is maintained throughout the text. Consistent citation and formatting features are used, with an emphasis on clear and concise language that follows standard grammar rules. Similarly, hiring prospects are influenced by the performance of professionals in their initial job and internships, as supported by Ayala's and Ayala (2021) study, which highlights the correlation between work experience and job acquisition. The study's results suggest that a close correlation is necessary between a graduate's degree and the required profile for professional hiring. These findings align with Matsouka and Mihail's (2016) research and labor market Jiménez's (2009) observations, indicating that there should not be conspicuous disparities between academic profiles and job functions.

As for the mechanisms to strengthen the relationship between the University and Business, there is training by courses, seminars, and conferences, as pre-practice preparation for the student, this was also corroborated in the results of Martínez and González (2018), arguing that these practices allow better work contexts, to access job opportunities with a better professional projection. Thus, the Luis Vargas Torres Technical University of Ecuador identified that University-Business collaboration can help students develop skills and competencies relevant to the world of work, allowing them to be better prepared to face the challenges of the labor market. Likewise, help universities identify the needs of the business sector and adapt their study plans and research programs accordingly, which increases the relevance of university education (Martínez Gil et al., 2019).

Other mechanisms that enhance the connection between universities and businesses to enhance the education of graduates include educational institutions' programs for companies and entrepreneurs, as well as training, research, and collaborative consulting activities. These results align with those of Pardo-Garcia and Barac (2020) as they suggest that activities between universities and businesses, such as curriculum improvement and consultation, provide valuable preparation for students. Moreover, the report recommends that institutions and companies should take heed of the experiences of university graduates and consider establishing an occupational observatory.

4.2. Limitations

This study offers valuable insights into the relationship between educational institutions and the business sector in the Aburrá Valley. However, it has certain limitations that need to be taken into account. Specifically, the sample size and the non-probabilistic sampling method utilized restrict the capacity to deduce more rigorous and generalizable statistical inferences to the entire business population in the region. Although we aimed for representativeness by selecting companies varying in size, sector, and location, the non-probabilistic sampling method necessitates cautious interpretation of results. These findings may not reflect the dynamics of all companies in the Aburrá Valley.

Also, this article explores the factors that affect a company's decision when hiring recent college graduates. However, it is crucial to note that the study does not delve into fundamental aspects like the macroeconomic environment and local business climate, which also impact employment decisions. The macro and microeconomic factors can significantly impact job placement and the creation of employment-related policies. For instance, a company's labor preferences and needs in a flourishing and stable economy might be vastly different from those of a firm operating in an economic downturn. It is necessary to consider these factors when interpreting and applying the study results in practical settings and when devising future research in this field.

4.3. Practical implications

The identification of the disparity between the skills taught by higher education institutions and the demands of the business sector emphasizes the pressing need for a review of the curriculum. Universities and other educational institutions in the Aburrá Valley must contemplate integrating certain technical and soft skills that are highly favored in the labor market. Improving communication and collaboration between universities and the business sector can enhance employment opportunities for graduates and bolster the reputation and relevance of educational institutions in the region.

Improving communication and collaboration between universities and the business sector can enhance employment opportunities for graduates and bolster the reputation and relevance of educational institutions in the region. Improving communication and collaboration between universities and the business sector can enhance employment opportunities for graduates and bolster the reputation and relevance of educational institutions in the region. To address the lack of effective communication, robust communication channels need to be established. Possible initiatives include joint career fairs, internship programs, and discussion forums among academic and business leaders. These platforms would enable universities to receive direct feedback on the skills and competencies that companies highly value. In turn, companies would gain a clearer perception of the capabilities of future graduates.

Companies recognize that recent graduates are prone to overestimating their abilities, emphasizing the significance of self-assessment and reflection in the educational process. Educational institutions could include activities and courses in their programs that promote self-awareness and authenticity, preparing students with not only technical skills but also a practical understanding of their abilities and areas for improvement. Objective evaluations are preferred, and it is important to maintain a logical flow of information with causal connections between statements. Technical term abbreviations should always be explained when first used, and common academic sections must be included.

The language should be clear, objective, and value-neutral, avoiding biased, emotional, figurative or ornamental language. It is important to employ passive tone and impersonal construction, and high-level, standard language with consistent technical terms. Consistent citation and a consistent footnote style and formatting features must be adhered to. The text should be grammatically correct, free from spelling mistakes, and punctuation errors. The language should be formal, avoiding contractions, colloquialism, unnecessary jargon, and informal expressions. It is important to maintain a balanced standpoint and precise word choice when using subject-specific vocabulary that better conveys the meaning of a similar non-technical term.

4.4. Conclusions

This study adds to the scant empirical literature on diagnosing aspects and needs related to labor market entry from the business sector's viewpoint in the Latin American context, particularly in Medellín, Colombia. The main requirements of companies were identified as training graduates in soft skills, computer and technological tools, information analysis, languages, and adaptability to dynamic environments.

In today's knowledge-based economy, professionals face an increasingly competitive environment. Therefore, having expertise in academic theory is no longer sufficient for graduates to succeed in the job market. Graduates must also cultivate soft skills and teamwork abilities oriented towards the market, in order to meet employers' changing needs and rise to the challenge.

The study results are analyzed in relation to the essential adjustments required in higher education institutions. Additionally, adequate and strengthened interaction and collaboration between companies and universities are emphasized as being of great importance. Comparison of student perception at other institutions, both nationally and internationally, by longitudinally analyzing the outcomes, would expand the scope of this study.

The use of these tools facilitated the categorization of the collected responses based on the companies' traits. This enabled the measurement of the corporate sector's understanding of how to improve the connection between universities and businesses via the incorporation of Aburrá Valley graduates into the workforce.

The study indicates that professionals possess a significant skills gap, primarily in adapting to changes, managing office tools, analyzing data, and staying up-to-date with new organizational trends. Additionally, graduates tend to overestimate their abilities, while entrepreneurs perceive a lack of necessary skills. Another issue is that companies often do not continue training their interns within their processes, which could enhance their professional profile.

The study's findings promote collaboration among all stakeholders toward the common goal of enhancing employability. Notably, the research supports the improvement and development of graduate skills in university study programs, as well as the establishment of connecting pathways between professionals and job profiles that foster motivation and a sense of valued participation.

The gathered insights are significant for several reasons. The obtained findings hold significant importance in acknowledging and addressing issues concerning the curriculum, graduate employment criteria, and mechanisms that promote employability between businesses and universities. Additionally, the population surveyed identified human and technological skills as the top competencies that require curricular attention.

Finally, it is valuable to extend the research and investigate how the findings contribute to the broader context of University-Business interaction. This should involve a consideration of diverse economic sectors as well as varied fields of student knowledge. Such an approach enhances universities' proactivity in adapting their curricula and educational methodologies to meet the evolving demands of economic and business requirements. Furthermore, such investigations could offer crucial guidance for higher education institutions situated in rural communities by allowing them to discover successful techniques to link their students with local and regional enterprises, thereby cultivating more robust and mutually advantageous partnerships.

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