IMPACTS OF INNOVATION EVENTS ON THE DEVELOPMENT OF ENTREPRENEURIAL SKILLS: A CASE STUDY OF CAMPUS PARTY BRASIL

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ABSTRACT

This study investigates the impact of student participation in innovation events on the development of entrepreneurial skills, using Campus Party Brasil 2023 as a case study. The research adopts a qualitative-quantitative approach, combining primary data obtained through questionnaires applied to 25 students, with secondary data extracted from a literature review. Data analysis was conducted using Bardin's (2004) content analysis method, with the stages of pre-analysis and coding. The triangulation between primary and secondary data ensured the validity of the findings. The results indicate that innovation events offer a favorable environment for the development of skills such as problem solving, creativity, leadership and teamwork. The study advances the literature by offering empirical evidence that reinforces the importance of integrating practical experiences, such as hackathons and entrepreneurship marathons, into the formal entrepreneurial education curriculum. In addition, it highlights the role of these events in the formation of contact networks and in the expansion of internship and employment opportunities for students, which is not widely addressed in previous studies. By examining the interaction between theory and practice in the development of entrepreneurial skills, this work contributes to a deeper understanding of how innovation events can complement academic training, providing an interdisciplinary education and preparing students for market challenges. The

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study suggests that the systematic inclusion of events, such as the Campus Party, in educational programs can be an effective strategy to strengthen experiential learning and foster an entrepreneurial mindset.

Keywords: Entrepreneurial education. Collaborative learning. Innovation event. Content analysis.

INTRODUCTION

Entrepreneurial education aims to promote attitudes and skills, such as creativity, innovation, decision-making, and risk management, empowering students in various aspects of life (MIÇO; CUNGU, 2023). This approach amplifies students' adaptability and competitiveness in varied professional contexts.

The relevance of this education lies in developing an entrepreneurial mindset, including the recognition of opportunities and the ability to act in different situations. Learning through experiences, such as projects by young and innovative companies – startups – is an effective tool for students to apply theoretical concepts in practical scenarios, improving their professional capabilities (MUTALIMOV et al., 2021).

Collaborative pedagogical models, such as problem-based and project-based learning, integrating digital technologies, are recommended in higher education programs focused on entrepreneurship (RODRIGUES, 2023). These methods strengthen professional training and stimulate creative attitudes (TADEUSH, 2023).

Entrepreneurial education also prepares students to contribute socially, culturally, and economically in scenarios of economic instability (TADEUSH, 2023). In technical-vocational schools, interdisciplinary pedagogical practices promote skills such as creativity, critical thinking, and adaptability (SCOTT; WHITE, 2024). Extracurricular activities and practical experiences strengthen the application of theoretical knowledge in real situations, encouraging entrepreneurial development (ALIMANINGTYAS et al., 2024).

Innovation and entrepreneurship events are essential for students to expand their skills. They offer real-world situations that stimulate an innovative mindset and practical skills (SCHAEFER; MINELLO, 2020). In these activities, students face challenges and learn from experienced entrepreneurs, which strengthens confidence to turn ideas into businesses (DONADULA, 2023).

Campus Party Brasil, the largest innovation and technology event in the country, offers participants the opportunity to get involved in activities such as hackathons (collaborative programming and technology events) and entrepreneurship marathons. During the event, students apply their knowledge in real situations, creating prototypes that can generate new startups. In this sense, the objective of this work is to analyze the challenges and learning opportunities of students from the Federal Institute of Paraná, Colombo Campus, who participated in Campus Party Brasil 2023.

The article is structured as follows: Section 2 brings the theoretical framework, grounding the main discussions on the teaching of entrepreneurship, innovation and experiential learning. Section 3 presents the methodology adopted, detailing the process of

primary and secondary data collection, as well as the content analysis technique used to interpret the results. Section 4 explores the results obtained in the research and discusses the entrepreneurial skills developed by students during their participation in Campus Party Brasil, based on the triangulation between the collected data and the reviewed literature. Finally, Section 5 offers the final considerations, pointing out the limitations of the study and suggesting directions for future research, in addition to highlighting the relevance of innovation events as an integral part of professional and academic training.

METHODOLOGY

This research is qualitative and quantitative in nature, allowing for a comprehensive analysis of the perceptions and experiences of Campus Party Brasil 2023 participants. The study was based on both primary data, collected through questionnaires applied directly to the participants, and secondary data, obtained from a review of the existing literature on the subject. This combination of methods provides a more robust analysis of the challenges and learning opportunities related to the event.

Secondary data were collected from searches in the Google Scholar and Scispace databases, using filters such as the publication interval of the last four years and articles classified as *open access*. In addition, key terms such as "entrepreneurship", "entrepreneurial education", "innovation events" or "innovation" were used. The selected articles were read and recorded for the construction of the theoretical framework, ensuring that the theoretical foundation was aligned with the objectives of the research.

Primary data collection was carried out through a structured questionnaire applied to 25 students, from different IFPR campuses, who participated in the Campus Party. The questionnaire was validated with a pilot sample before being applied more broadly, which ensures the reliability of the instrument. The questions addressed topics such as skills development, challenges faced, and the professional opportunities resulting from participating in the event. The questionnaire was distributed via WhatsApp group created specifically for communication between participants and teachers during the event.

The research participants were selected from an IFPR institutional notice (Notice No. 40, of May 19, 2023 – Simplified Selection Process for Participation in Event #CPBR15 – Campus Party Brasil 2023), open to students enrolled in technical and higher education courses, from the twenty-six IFPR campuses distributed in the state of Paraná and, 40 students were selected. For the selection, students needed to present a project summary and a *pitch video* about the innovation proposal. Among the participants, we obtained 25 returns from the questionnaire applied in the research.

It is important to emphasize that the sample used in this study, composed of 25 students from the Federal Institute of Paraná (IFPR), has limitations that must be taken into account when interpreting the results. Although the methodological approach was adequate for the context studied, the size and geographic constraint of the sample limit the generalization of the findings to other educational contexts. Because participants belong to a single institution, perceptions and results may not fully reflect the diversity of experiences that could be observed in larger samples, with students from different courses, institutions, and regions.

In addition, data collection was carried out exclusively through questionnaires, which may not capture all the nuances of the experiences lived by the participants. Therefore, the results should be interpreted in light of these limitations, and it is recommended that future research utilize larger sample sizes and complementary methods, such as in-depth interviews and direct observations, to gain a more comprehensive and detailed understanding of the impacts of participation in events such as Campus Party.

However, the sample used in this study, composed of 25 students from the Federal Institute of Paraná (IFPR) who participated in Campus Party Brasil 2023, is adequate to investigate the impact of innovation events on the development of entrepreneurial skills. Although the number of participants was relatively small, the selection was judicious, focusing on individuals directly involved in innovation and entrepreneurship activities during the event. This ensures internal validity, since the group is representative of the context investigated and is immersed in the practical experiences discussed. The use of validated questionnaires and triangulation with the reviewed literature further strengthens the reliability of the data. In addition, the selection of participants with different academic profiles and experiences in entrepreneurship allows for a richer and more diversified view of the skills developed.

Regarding external validity, the results, although limited to a single institution, can be generalized to other similar educational contexts, especially those that adopt innovative methodologies and focus on the development of entrepreneurial competencies through practical events. Being a large-scale event with standardized characteristics in its editions, Campus Party offers an environment that can be replicated in different institutions, making the findings applicable to other educational contexts that promote innovation initiatives. The inclusion of similar events in the curriculum of technical and higher education courses can generate compatible results, expanding opportunities for the integration between theory and practice in the teaching of entrepreneurship.

The data were analyzed using the content analysis method, as described by Bardin (2004). The analysis involved two main steps:

1. Pre-analysis: exhaustive reading of the material to identify nuclei of analysis and main categories.
2. Coding and analysis: the registration units were classified and grouped according to their meanings, which allowed the identification of the analysis categories used to interpret the results. The categorical analysis method was used to represent, in a condensed way, the data collected (BARDIN, 2004).

To ensure the validity and reliability of the results, the research used the triangulation technique, comparing the primary data (obtained through the questionnaires) with the secondary data (literature review). This triangulation was crucial to confirm the findings of the survey and support the analysis of the emerging categories, offering a more complete and accurate view of the impact of participation in the event.

THEORETICAL FRAMEWORK

In this section, the theoretical discussions that supported the interpretation of the results will be presented. Concepts of entrepreneurial education, innovative pedagogical models in the teaching of entrepreneurship and the impacts of innovation events on the professional trajectory of students are discussed.

ENTREPRENEURIAL EDUCATION: CONCEPTS AND APPLICATIONS IN PROFESSIONAL TRAINING

Entrepreneurship is generally seen as something abstract, formed by characteristics and competencies of entrepreneurs that, according to Gossel (2022), encompasses psychological disposition, value systems, cognitive approaches, and intrinsic qualities necessary to operate in volatile and competitive markets.

Schaefer and Minello (2020) consider entrepreneurial education a process aimed at creating a practical mindset, focused on "knowing how to be", "knowing how to do" and "knowing how to act". This process goes beyond theoretical knowledge, developing skills and proactive attitudes, characterized by "learning by action", practical applicability and an integrated and interdisciplinary training.

This approach strengthens skills such as creativity, innovation, and problem-solving (LAGE, 2023), in addition to fostering the ability to identify opportunities, persistence, and strategic planning (MELLO; NUNES, 2018). The environment of tolerance to error allows

students to explore their ideas, encouraging the search for creative solutions (FRITZ; BARTH; BOHNENBERGER, 2022).

Today's professional market, driven by technological advances, requires technological, cognitive, and social skills, with an emphasis on adaptability and continuous learning (SHEMYHON, 2024). Entrepreneurial education prepares students to develop innovative solutions in different sectors (WILLWERDING; LAPOLLI, 2020), consolidating itself as an effective tool to train adaptable professionals.

Although associated with business creation, this education encompasses a broader set of skills, applicable in various areas. Mello; Nunes (2018), for example, highlight that it empowers young people to be protagonists in regional development, going beyond traditional entrepreneurship. Its application in areas such as engineering has generated versatile talents, by integrating practical skills and entrepreneurial thinking (LIN; BIN, 2024).

The impact of entrepreneurial education on professional training is reflected in the preparation of students to face real challenges, encouraging creativity and innovation (RIBEIRO; FRENCH; SILVA, 2021). This ongoing practice helps develop an analytical mindset, which is essential for success in new endeavors and the development of established careers.

The integration of different areas of knowledge stimulates the exploration of innovative solutions and promotes holistic training, which becomes indispensable in an interconnected professional world (LIMA et al., 2020). This education also encourages sustainable thinking, challenging students to develop environmentally responsible products and services (PITOMBEIRA; SOUSA FILHO; FERREIRA NETO, 2023).

However, the implementation of entrepreneurial education in technical-professional institutions faces challenges, especially with regard to interdisciplinarity. The rigid structure of technical schools can hinder the integration of different areas of knowledge (FEITOSA; SILVA, 2024). This fragmentation hinders the application of a practical and innovative approach, since many teachers do not have adequate training to conduct interdisciplinary practices (OLIVEIRA; VILAS BOAS, 2024).

Despite this, interdisciplinarity in entrepreneurial education offers a unique opportunity to enrich the training of students. By connecting different areas of knowledge, this approach encourages a critical understanding of problems and the creation of innovative solutions (TORABI, 2023).

In the context of Professional and Technological Education (EPT), this methodology is relevant, integrating cultural, linguistic and technological perspectives, improving both the technical and human training of students (OLIVEIRA; VILAS BOAS, 2024). As a result,

interdisciplinary entrepreneurial education transforms the educational experience and prepares students to work in dynamic and complex professional environments.

INNOVATIVE PEDAGOGICAL MODELS IN THE TEACHING OF ENTREPRENEURSHIP

Collaborative pedagogical models, such as problem-based learning (PBL) and project-based learning (PjBL), have stood out in the teaching of entrepreneurship. PBL puts students at the center of the learning process, challenging them to solve real problems without predefined solutions, promoting active knowledge construction, and developing skills such as critical thinking and adaptability (DORNADULA et al., 2023).

PjBL, in turn, focuses on the execution of projects that integrate different knowledge, preparing students for the job market, where it is necessary to deal with complex and multifaceted challenges (DORNADULA et al., 2023). Both approaches distance themselves from traditional teaching methods, encouraging active and collaborative learning, in which students apply what they learn in a practical and innovative way, something essential in entrepreneurship.

Interdisciplinarity is a central component in these models, allowing students to connect knowledge from various disciplines, providing a broad view of the problems faced (TORABI, 2023). In a world where challenges are increasingly interconnected, thinking beyond a single discipline is fundamental to innovation (SCOTT; WHITE, 2024). The integration of disciplines, such as technology, business, and social sciences, empowers students to develop viable, socially responsible, and sustainable solutions. In addition, this approach encourages collaboration, allowing them to learn from each other and develop teamwork skills essential in entrepreneurship (MANSILLA; CHUA, 2017).

Practical activities, such as startup projects, hackathons, and entrepreneurship marathons, are important for the development of skills among students. They offer an environment that allows students to apply their knowledge in real situations, simulating the business world (STEEN et al., 2011). Hackathons, for example, encourage the rapid creation of solutions, promoting collaboration, creativity, and adaptation (DORNADULA et al., 2023). Hackathons challenge participants to turn ideas into viable business plans, developing skills such as leadership and project management (STEEN et al., 2011; DORNADULA et al., 2023).

These experiences help in the transition from the academic environment to the job market, in which the practical application of knowledge is valued (SCOTT; WHITE, 2024). In addition, these activities promote networking, allowing students to build networks of contacts, essential for future ventures (DAVID, 2023). In this way, the inclusion of practical

activities in the entrepreneurial education curriculum not only strengthens students' technical skills, but also prepares them for real-world challenges, making them more confident to start and manage their own businesses (STEEN et al., 2011; DORNADULA et al., 2023).

INNOVATION AND ENTREPRENEURSHIP EVENTS: IMPACTS ON THE PROFESSIONAL TRAJECTORY OF STUDENTS

Innovation and entrepreneurship events have become relevant pedagogical tools for the development of skills, by offering dynamic environments that promote practical learning. Unlike traditional methods, focused on knowledge transfer, these events promote an active approach, in which participation and direct experience are the main drivers of learning (SCHAEFER; MINELLO, 2020).

In activities such as hackathons, entrepreneurship marathons and innovation fairs, students face real challenges, applying their knowledge in practical contexts. This stimulates skills such as problem-solving, creativity, and decision-making (BERTOL et al., 2019). Events such as *Campus Party Brasil* encourage creativity and promote *networking*, offering opportunities for exchanging ideas and collaborating on projects, as well as facilitating the creation of support networks (JAUHIAINEN, 2021). The gamification present in these events acts as a motivating factor, stimulating innovation and critical thinking in a healthy competition environment (BERTOL et al., 2019).

Participation in innovation events has a direct effect on the development of professional skills, such as leadership, teamwork, and innovation capacity, all of which are fundamental in the labor market (DORNADULA et al., 2023). Through hands-on activities, such as startup competitions and workshops, students can test their knowledge in contexts that simulate real challenges, which strengthens their confidence and self-efficacy (MASON; BURNS; BESTER, 2022). In addition, the connections established in these events often generate internship and employment opportunities, expanding the employability of the participants (MASON; BURNS; BESTER, 2022).

The social capital acquired is one of the biggest benefits, as it expands the students' network of contacts, facilitating access to resources, mentors, and potential business partners. This support network is important for career growth, offering support throughout the professional career (JAUHIAINEN, 2021).

The impacts of innovation events go beyond the immediate development of skills, extending throughout the students' careers. Research shows that participants' satisfaction with the quality and structure of events influences their intention to participate in new

activities, creating a cycle of continuous engagement that favors professional development (ALAN et al., 2017).

This engagement strengthens the students' experience and their networks, generating opportunities for growth. However, it is important to consider that not everyone experiences the same benefits. Factors such as previous experience and motivation may influence the results, suggesting the need for personalized approaches to maximize the effectiveness of these events (LE et al., 2024). The long-term impact on students' careers will depend on the continuity of this engagement and the practical application of the skills acquired.

RESULTS AND DISCUSSION

This chapter presents the results obtained from the collection of primary and secondary data, followed by a discussion that triangulates the perceptions of the participants with the existing literature. Initially, the data will be analysed in four main categories: development of entrepreneurial skills, impact on students' vocational training, learning challenges and opportunities, contributions to entrepreneurship education and examples of the application of the skills developed.

Each of these categories will be discussed in the light of the results found, with an emphasis on the experiences reported by students during Campus Party Brasil 2023. The discussion will also address the connections between the empirical findings and the revised theoretical concepts, ensuring a deep and coherent analysis that validates the key findings of the research. In addition, the limitations of the research will be presented, along with suggestions for future studies.

DEVELOPMENT OF ENTREPRENEURIAL SKILLS

Participation in Campus Party Brasil provided students with the opportunity to apply practical skills such as problem-solving, creativity, leadership, and teamwork in a dynamic and collaborative environment. According to Mello; Nunes (2018), the development of practical skills is essential for the training of entrepreneurs. The results obtained confirm this theory, with 78% of students highlighting problem-solving as one of the main skills developed during the Campus Party. This also aligns with what Fritz; Barth and Bohnenberger (2022) suggest the importance of practical environments for the application of entrepreneurial skills.

As pointed out by Dornadula et al., (2023), creativity is a core competence in the development of entrepreneurship. This corroborates the results obtained, in which 65% of

students reported that Campus Party encouraged the exploration of innovative and creative solutions to complex problems. This skill is directly linked to the creation of new businesses, as mentioned by Lage (2023), who discusses creativity as an essential factor for innovation and entrepreneurship. This meeting worked as a catalyst for unconventional ideas, in line with what Pitombeira; Sousa Filho; Ferreira Neto (2023) define it as encouraging experimentation in educational environments focused on entrepreneurship.

In addition, leadership and teamwork were key, with 52% and 85% of attendees, respectively, stating that these aspects were crucial during the event. Teamwork, especially in activities such as hackathons, required effective collaboration among participants, which is in line with Oliveira's studies; Vilas Boas (2022), which highlight the importance of interdisciplinarity and cooperation in complex educational environments. The experience of leading and collaborating on projects reinforced the students' skills in people and project management, as discussed by Willwerding; Lapolli (2020), who argue that these skills are crucial for adapting to the professional market. These findings are in line with what Oliveira; Vilas Boas (2022) describe the role of leadership in entrepreneurship, with 52% of participants reporting that the event provided opportunities for the development of their leadership skills.

One of the participants mentioned in the questionnaire: ***"Campus Party forced me to think quickly and solve problems under pressure, something I have never experienced so intensely in class."*** This report reflects the importance of problem-solving as a core competence developed during the event. For 78% of the participants, this skill was the most demanded, especially during the innovation marathons. Another student highlighted: ***"Learning to work in a team, listening and integrating the ideas of others was one of the most enriching experiences*****."** This type of experience is crucial, because, according to Oliveira; Vilas Boas (2022), the ability to collaborate is essential for modern entrepreneurship, something evidenced by the 85% of participants who mentioned the importance of teamwork.

The entrepreneurial mindset, focused on the ability to identify opportunities and deal with challenges, was strongly developed during the event. The survey revealed that 89% of students felt more empowered to identify opportunities after the Campus Party, which is in line with the concept of experiential learning addressed by Schaefer; Minello (2020). These authors point out that entrepreneurial education should go beyond theory and allow students to face real challenges, such as those they experienced during the event.

Participation in this important event allowed students to directly apply the knowledge acquired in the classroom in a context of innovation and controlled risk, developing their

ability to deal with uncertainty and risk management, as advocated by Mello; Nunes (2018). This exposure to scenarios of uncertainty is essential for strengthening resilience and confidence in the decision-making process, skills that are highly valued in the entrepreneurial environment, as pointed out by Ribeiro, Freitas & Silva (2021).

IMPACT ON STUDENTS' VOCATIONAL TRAINING

Rodrigues (2023) highlights the importance of integrating theory and practice in entrepreneurial education and, in this sense, the participation of students in Campus Party Brasil 2023 proved to be highly effective, evidencing the importance of applying academic knowledge in real situations. The results of this study confirm this premise, since 72% of the participants reported the direct application of the theoretical knowledge acquired in the classroom in the practical activities of the Campus Party. This data reflects the experiential learning model, which, according to Willwerding; Lapolli (2020), encourages students to use theoretical tools in practical scenarios, such as problem solving and project development. The event offered a conducive environment for participants to apply project management techniques and innovation methodologies, consolidating learning in a meaningful way, as advocated by Dornadula et al. (2023).

This integration between theory and practice was also evidenced in activities such as hackathons and entrepreneurship marathons, which worked as platforms for students to directly experience the concepts learned. Fritz; Barth; Bohnenberger (2022) discuss that such activities are essential for students to develop technical skills and the ability to apply what they have learned in a creative and innovative way, which is in line with the experiences reported by the participants.

As indicated by Dornadula et al. (2023), the practical application of theoretical knowledge is a crucial factor for professional training in the context of entrepreneurship. The results of this study reinforce this theory, with 72% of participants reporting that they were able to directly apply the methodologies learned in the classroom.

In addition to the integration between theory and practice, the event also played a crucial role in the development of networking, something that is strongly associated with the professional growth of students. This corroborates what Jauhiainen (2021) states about the importance of innovation events as opportunities to expand these types of interactions. Students highlighted that Campus Party was an essential platform for the development of their professional networks, with 64% reporting the establishment of relevant contacts. According to David (2023), the social capital acquired through networking is essential for

entrepreneurial success, as it expands partnership opportunities and access to resources that may be essential in the future.

The internship and job opportunities, reported by about 25% of the participants, reinforce the connection between the contact networks formed at the event and the development of professional trajectories. This is in line with Mason; Burns; Bester (2022), who highlight that innovation events work as springboards for careers in technological and entrepreneurship areas, since they connect students to mentors and experienced professionals.

The results also reveal that the networking promoted by Campus Party was not limited to contact with companies, but also favored collaboration among the students themselves, which promoted the exchange of knowledge and experiences. Olive tree; Vilas Boas (2022) discuss the importance of interdisciplinarity in entrepreneurial education, and this factor was clearly experienced during the event, in which students from different areas were able to collaborate and share ideas.

One participant reported that, ***"through networking at Campus Party, I made contact with a local startup that is already interested in my idea. That was the first concrete step I took towards my professional future."*** This type of opportunity was reported by 64% of participants, who highlighted the importance of networking to expand their career prospects. Another participant mentioned: ***"Being able to directly apply the methodologies learned in the classroom was a watershed. Seeing the ideas come out of the paper and become something real motivated me much more to pursue an entrepreneurial career."*** This report illustrates the connection between theory and practice, as confirmed by 72% of students who stated that they had used academic learning in practical activities.

LEARNING CHALLENGES AND OPPORTUNITIES

Campus Party Brasil 2023 provided students with a dynamic and innovative environment, in which quick adaptation to challenges became an essential competency. As suggested by Schaefer; Minello (2020), the pressure for quick solutions in innovation environments stimulates the development of skills such as resilience and adaptability. This is in line with the findings of the survey, in which 69% of students reported that this pressure was one of the biggest challenges they faced.

The ability to adapt is closely related to the concept of experiential learning, since facing unpredictable situations, such as competitive activities in hackathons and entrepreneurship marathons, requires the practical application of what was learned in the

classroom. Pitombeira; Sousa Filho; Ferreira Neto (2023) highlight that innovation is often born from the need to solve complex problems under time and resource constraints, and this scenario was widely experienced by students. Many participants reported that adapting to new technologies and methodologies, mentioned by 45% of the students, was an important step that required them to have a quick learning curve.

In addition, 57% of respondents stated that time management and multitasking were major challenges, especially when juggling multiple simultaneous activities, such as workshops, lectures, and competitions. These difficulties are in line with what Oliveira; Vilas Boas (2022) describe how the need for flexibility and personal organization in collaborative and innovative learning environments. The ability to balance these demands is crucial for success in professional environments that require managing multiple complex tasks at once.

In general, participants reported the pressure for quick solutions as one of the biggest challenges faced. One student mentioned, ***"I've never had to develop something so quickly. I had to abandon perfection and focus on what was feasible in the time available."*** This perception, shared by 69% of students, highlights the importance of time as a crucial factor in innovation environments. One of the respondents also commented on the collaboration: ***"The marathon taught us a lot about how to work as a team. At first, we were lost, but after a few rounds of feedback, we were able to break down the tasks and create something cohesive."*** This collaborative learning experience was reported by 82% of participants, emphasizing the importance of exchanging ideas and teamwork.

Collaborative learning was another central aspect of the Campus Party experience, as teamwork allowed students to develop essential skills such as communication and cooperation. These results corroborate what Dornadula et al. (2023) point out about the importance of collaboration in multidisciplinary teams. The exchange of ideas among the participants was fundamental for the success of the projects, as reported by 82% of the students. This collaborative dynamic also reinforces the importance of an interdisciplinary approach, as discussed by Scott & White (2024). Campus Party provided an environment in which students from different areas could combine their skills, which promoted the development of innovative solutions as well as the learning of new techniques and approaches through the sharing of experiences. This type of *peer-to-peer* learning is especially effective in innovation environments, where technical knowledge needs to be complemented by soft skills, such as teamwork and collaborative problem-solving (MASON; BURNS; BESTER, 2022).

However, 23% of the participants pointed out that there were challenges related to the coordination of tasks and communication between team members. This is in line with what David (2023) identifies as common difficulties in collaborative environments, where diversity of thoughts can lead to friction if there is no efficient management of roles and responsibilities. However, the collaborative experience at Campus Party worked as an important learning experience on how to overcome these challenges in a context of innovation and entrepreneurship.

CONTRIBUTIONS TO THE TEACHING OF ENTREPRENEURSHIP

Campus Party Brasil 2023 provided an environment conducive to the application of innovative pedagogical methodologies, such as problem-based learning (PBL) and project-based learning (PjBL), which are fundamental for teaching entrepreneurship. As pointed out by Dornadula et al. (2023), methodologies such as PBL and PjBL are essential for the development of entrepreneurial skills. This is in line with the results observed at Campus Party, since 68% of students reported that the event facilitated the practical application of these methodologies.

Campus Party also reinforced interdisciplinary integration in entrepreneurial education, as different areas of knowledge converged to develop innovative solutions. Creativity was widely exercised by 65% of the participants. These findings are in line with the theory of Schaefer and Minello (2020), who argue that innovative environments are essential to consolidate entrepreneurial learning, allowing students to apply their ideas in a practical context. The freedom to explore new approaches and work on collaborative projects boosted the development of critical and practical skills, as pointed out by Mello; Nunes (2018).

In addition to innovative methodologies, the event also proved to be a valuable tool for innovation in vocational education, suggesting that large-scale events such as Campus Party can be integrated into the formal curriculum. 76% of students said that experiences like this could be inserted into the curriculum as an extension of practical classes, functioning as an entrepreneurship laboratory where students apply and validate their ideas in real time.

This idea is in line with the arguments of Rodrigues (2023), who argues that the integration of innovation events into the educational curriculum is essential to prepare students for the job market. By providing an environment in which students can apply concepts of business, technology and innovation, Campus Party proved to be a space for collaborative learning, which, according to Scott; White (2024), favors the development of

fundamental skills for working in increasingly competitive and technologically advanced professional environments.

One student commented: ***"The project-based learning model was essential at Campus Party. Everything we learned in the Integrative Projects discipline was put into practice in a very real way."*** This example highlights how active methodologies, such as project-based learning (PjBL), have played a key role in developing students' competencies. Another participant stated: ***"The entrepreneurship classes gave us the foundation, but it was at Campus Party that we really tested and adjusted our ideas. Without that hands-on experience, I don't think we would have ever achieved the success that we had."*** This type of report reflects the importance of integrating events such as the Campus Party into the formal curriculum.

Another relevant aspect identified in the survey was the impact of Campus Party on the development of an entrepreneurial mindset. 59% of students reported that the event was a catalyst to think more strategically about their careers and how to apply entrepreneurship in their areas of expertise. This reflects Pitombeira's studies; Sousa Filho; Ferreira Neto (2023), who highlight the importance of practical events in strengthening entrepreneurial skills, especially in technological areas.

Despite the success in promoting entrepreneurship, some students mentioned challenges related to the formal integration of events such as Campus Party into the curriculum, with 12% stating that time constraints and curricular rigidity could hinder this implementation. However, as suggested by Oliveira; Vilas Boas (2022), a greater flexibility of curricula and the insertion of practical experiences in innovation events can contribute to the training of more prepared and innovative professionals.

EXAMPLES OF THE APPLICATION OF THE SKILLS DEVELOPED

Problem-solving was a skill strongly reported by students, as most participants (78%) mentioned having faced challenges that required quick and effective solutions. During the innovation marathons, students needed to identify problems related to sustainability, technology, and social innovation and propose solutions that could be implemented in the short term.

A practical example cited was the development of a prototype for urban waste management. To this end, the students applied theoretical knowledge about reverse logistics and solid waste management acquired in the classroom. They reported that the need to generate quick solutions helped them improve their capacity for analysis and synthesis, essential skills for solving complex problems.

Leadership competence was highlighted by 52% of the participants. The students reported that teamwork was a crucial element in the proposed activities, such as the entrepreneurship marathon and hackathons when they needed to coordinate tasks efficiently and ensure that all members contributed equally.

In one of the challenges mentioned, a team was responsible for developing an app that would facilitate interaction between consumers and local suppliers. The student leader of this team described how he had to apply concepts of project management and collaborative leadership, distributing roles and ensuring that the project progressed according to the event's tight schedule.

Creativity was a highly exercised skill with 65% of students reporting that the Campus Party environment encouraged them to explore new ways of thinking and create innovative solutions. In one of the outstanding projects, participants developed an augmented reality system to assist in education in underserved communities. This project required a creative approach both in the use of technology and in adapting to the social and educational context of the communities.

The participants reported that the experience allowed the application of concepts seen in Innovation and Technology disciplines, in addition to expanding their ability to generate solutions that go beyond the conventional, integrating different areas of knowledge to meet social demands.

A skill worked on intensively – and indicated by 89% of the participants as the one in which they felt most qualified after the event – was to identify business opportunities. An example cited was the participation in an entrepreneurship marathon, in which students were challenged to develop a business model for a startup in a few hours. They applied the theories of market analysis and business modeling learned in entrepreneurship classes, identifying a gap in the market for technologies for accessibility and proposing a viable solution.

In addition, risk management was critical to the success of the projects, especially when unforeseen events occurred. One group reported how they had to adjust their business plan and shift their focus from a physical solution to a digital one, after facing difficulties with the integration of technological components. This rapid adaptation reinforced the participants' risk management skills and flexibility, essential skills in the entrepreneurial environment.

Campus Party Brasil 2023 was the stage for several innovative projects that put into practice entrepreneurial skills developed by students in the classroom. Two notable examples of projects awarded in entrepreneurship marathons clearly demonstrate the

application of skills acquired in the disciplines, in the classroom, and the integration between theory and practice.

The first project replicated an idea developed during the Integrative Project discipline, at IFPR Campus Colombo, in the Technical Course in Administration, in which the students identified a common problem faced by pet owners: the difficulty in administering medication to animals. The solution presented was the creation of medicines for animals in the shape of bones, incorporated into the feed, facilitating the medication process without the need for invasive techniques. This project, in addition to being innovative, reflected the practical learning of product design methodologies, entrepreneurship and prototyping, concepts discussed by Mello; Nunes (2018) and applied by students effectively. The team was awarded first place in the entrepreneurship marathon, demonstrating that the experience acquired in the classroom was fundamental to the success of the project. This result highlights problem-solving and creative thinking as essential skills developed during the event, as suggested by Fritz; Barth; Bohnenberger (2022), who argue that accelerated innovation environments encourage creative solutions to real problems.

The second project was also born from the Integrative Project discipline. The students focused on improving the comfort of patients undergoing intravenous chemotherapy treatments. The project proposed the creation of an arm support cushion during the procedure, with the aim of providing greater comfort to patients undergoing prolonged treatment sessions. The team, awarded second place in the entrepreneurship marathon, applied user-centered design concepts, prioritizing the needs of patients and incorporating feedback collected from healthcare professionals and patients in the prototyping phase. This example reflects the development of skills such as empathy, teamwork and leadership, key elements in the creation of solutions aimed at human well-being, in line with what Mason; Burns; Bester (2022) highlight the importance of interdisciplinarity and a customer-centric approach in innovative projects.

The examples of projects awarded in the Campus Party entrepreneurship marathon reinforce the importance of integrating theory and practice, as discussed by Mello; Nunes (2018), who highlight the relevance of practical skills in the development of innovative solutions. In addition, the award provides recognition and visibility for students in the job market.

In general, it is important to emphasize that the sample used in the research, composed of 25 students from the Federal Institute of Paraná (IFPR), has some limitations that affect the generalization of the results to other contexts. This restricted number of

participants does not allow us to capture all the diversity of experiences that could be obtained in a larger and more diverse sample. In addition, the study was conducted with students from a single institution, which restricts the institutional, regional, and cultural variability that could offer additional insights into how Campus Party impacts the formation of entrepreneurial competencies in different educational realities.

The geographical and institutional restriction limits the ability to generalize the results to other educational contexts, especially in terms of policies for teaching entrepreneurship and innovation in regions with distinct socioeconomic and educational characteristics. Students from other regions, with different curricula or who participated in other editions of the Campus Party, could present different perceptions about the development of skills. In this sense, it would be interesting for future research to include broader and more varied samples, covering different courses, institutions and regions of the country.

Another important point is the methodological restriction caused by data collection exclusively through questionnaires. While this instrument offers valid insight into participants' perceptions, it may not capture important details of their experiences during the event. Additional qualitative methods, such as in-depth interviews or focus groups, could explore in more detail the nuances of the skills developed and the challenges faced by students. These methods could also reveal more subjective perceptions, enriching the analysis with complementary information about the students' motivations and difficulties.

The methodological limitation also affects the comparison with other similar events, both national and international. Innovation events in different cultural and institutional contexts can offer different experiences, which suggests that future research with a more diverse sample, which includes students from different regions and institutions, can generate more robust and generalizable results. In addition, a longitudinal study, tracking the long-term impacts of this experience on students' professional development, could provide a more complete perspective of the benefits of participating in events such as Campus Party.

It is therefore recommended that future studies, in addition to using a mixed methodology, combining quantitative and qualitative approaches, expand the sample to capture different participant profiles. This would enable a better understanding of how entrepreneurial education can be impacted by innovation events in various contexts.

CONCLUSION

This study investigated the impact of the participation of students from the Federal Institute of Paraná (IFPR) in Campus Party Brasil 2023, focusing on the development of

entrepreneurial skills and their integration into academic and professional training. The results show that innovation events, such as this one, offer a dynamic environment that facilitates the practical application of theoretical concepts, promoting the development of fundamental skills for entrepreneurship, such as problem solving, creativity, leadership and teamwork.

The implications of this study for the teaching of entrepreneurship are relevant. The integration of active methodologies, such as problem-based learning (PBL) and project learning (PjBL), proved to be effective in stimulating experiential learning, reinforcing the importance of a pedagogy that connects theory to practice. Campus Party enabled students to face real challenges, encouraging the creation of innovative solutions and validating the role of events of this type as an extension of the formal curriculum. It is recommended that technical and higher education institutions incorporate these events systematically into their curricula, expanding the scope of entrepreneurship and innovation education beyond theoretical disciplines, with the inclusion of high-impact extracurricular activities.

Theoretically, this study contributes to the field of entrepreneurial education by demonstrating that innovation events work as catalysts for the development of entrepreneurial skills. The research confirms the perspectives of authors such as Mello and Nunes (2018) and Schaefer and Minello (2020), who defend the importance of practical environments in the training of entrepreneurs. In addition, the triangulation between the primary data and the reviewed literature strengthens the validity of the findings, indicating that the experiences lived by the students are consistent with contemporary entrepreneurial teaching practices.

Although the study was conducted at a single institution, the homogeneity of the sample and the focus on a large-scale event like Campus Party ensure data consistency. The results can be generalized to other technical and higher education institutions that promote innovation events in their curricula, especially those that prioritize the development of entrepreneurial skills. This generalization is possible due to the replicability of similar events and the positive impact that such activities have on preparing students for the challenges of the labor market.

The practical implications also suggest adjustments in educational policies, encouraging the incorporation of events such as hackathons, entrepreneurship marathons and innovation fairs as an integral part of academic training. These events expose students to situations that simulate real-world challenges, complementing theory with practice and promoting the development of socio-emotional skills, essential for professional success. Educational institutions that integrate these experiences into their pedagogical practices will

be able to train more adaptable and innovative professionals, prepared to face the contemporary demands of the market.

This study also opens up promising avenues for future research. Research involving larger and more diverse samples, with participants from different institutions, courses and regions, can provide a more comprehensive view of the effectiveness of innovation events in the development of entrepreneurial skills. Comparative studies between different innovation events, such as startup competitions and technology fairs, can reveal whether there are significant variations in how these environments promote entrepreneurial learning. Longitudinal surveys that follow participants throughout their career paths can provide valuable insights into the long-term impacts of participating in innovation events, helping to understand whether the skills acquired translate into greater professional success or the creation of new businesses.

It is concluded, therefore, that events such as Campus Party represent a valuable tool to complement the teaching of entrepreneurship in professional and technological education institutions. By integrating these events in a structured way into the curricula, institutions can enhance the training of creative, resilient professionals prepared to face the challenges of a constantly changing professional environment.

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REFERENCES

1. Alan, A. K., Kabadayi, E. T., & Köksal, C. (2017). Engaging students through event marketing: An example of university entrepreneurship event. *Business & Management Studies: An International Journal, 5*(3), 586-604.

2. Alimaningtyas, D., Ghozali, M. S., Wardana, L. V., Murwani, F. D., & Wati, A. P. (2024). Adapting to change: The continuous development of business and management education. *Journal of Educational Analytics, 3*(2), 213–230. https://doi.org/10.55927/jeda.v3i2.9178

3. Bardin, L. (2004). *Análise de conteúdo* (3rd ed.). Edições 70.

4. Bertol, M. E., et al. (2021). Startup Day UPF 2019: Gamification as a tool for innovation/Startup Day UPF 2019: Gamificação como uma ferramenta para inovação. *Revista FSA (Centro Universitário Santo Agostinho), 18*(4), 30-46.

5. David, R. (2023). Corporate governance in Indian startups. *IUP Journal of Corporate Governance, 22*(1).

6. Dornadula, V. H. R., et al. (2023). Impact of entrepreneurial education on school students' startup initiation tendency: An empirical study. *Journal of Informatics Education and Research, 3*(2).

7. Feitoza, V. D. de S., & Silva, S. B. da. (2021). Teoria dos letramentos críticos aplicada no ensino de língua inglesa para formação integral dos discentes. *Educação, 46*(1), e51/ 1–29. https://doi.org/10.5902/1984644441233

8. Fritz, J., Barth, K., & Bohnenberger, M. C. (2022). Criatividade e educação empreendedora. *Revista Vianna Sapiens*.

9. Gossel, B. M. (2022). Analogies in entrepreneurial communication and strategic communication: Definition, delimitation of research programs and future research. *International Journal of Strategic Communication, 16*(2), 134–156. https://doi.org/10.1080/1553118X.2021.2015689

10. Jauhiainen, J. S. (2021). Entrepreneurship and innovation events during the COVID-19 pandemic: The user preferences of VirBELA virtual 3D platform at the SHIFT event organized in Finland. *Sustainability, 13*(7), 3802.

11. Lage, P. R. (2023). Influência do ensino do empreendedorismo no desenvolvimento das habilidades empreendedoras. *RECIMA21-Revista Científica Multidisciplinar, 4*(9), e494054.

12. Lima, M. A. F., Costa, A. C. R., Silva, J. É. N., Silva, L. A. P., & Silva, E. V. (2020). Presença de conteúdos de educação empreendedora no curso de segurança do trabalho. *Perspectivas da Gestão na Sociedade 5.0: Educação, Ciência, Tecnologia e Amor. IV COINTER PDVGT*.

13. Mansilla, V. B., & Chua, F. S. G. (2017). Signature pedagogies in global competence education: Understanding quality teaching practice. In *Educating for the 21st century: Perspectives, policies and practices from around the world* (pp. 93-115).

14. Mason, C. M., Burns, S. M., & Bester, E. A. (2022). Supporting students' employability through structured, event-based engagement with employers. *Education+ Training, 64*(5), 598-618.

15. Miço, R., & Cungu, I. (2023).

16. Mello, M. F., & Nunes, L. D. L. S. (2018). A importância da educação empreendedora para a cultura e formação de novos empreendedores. *Saber Humano: Revista Científica da Faculdade Antonio Meneghetti, 8*(13), 152-173.

17. Miço, H., & Cungu, J. (2023). Entrepreneurship education, a challenging learning process towards entrepreneurial competence in education. *Administrative Sciences, 13*(1), 22.

18. Mutalimov, V., et al. (2021). Assessing regional growth of small business in Russia. *Entrepreneurial Business and Economics Review, 9*(3), 119-133.

19. Oliveira, M. C. R., & Boas, F. S. O. V. (2022). Formação docente e práxis na educação profissional e tecnológica (EPT): Desafios para uma formação humana e crítica de estudantes de cursos técnicos. *Revista Tempos e Espaços em Educação, 15*(34).

20. Pitombeira, R. T. A., Sousa Filho, J. M., & Ferreira, M. N. (2023). Paixão, educação e criatividade e seus efeitos na intenção empreendedora. *Revista de Administração de Empresas, 63*(6), e02021-0438.

21. Ribeiro, C. V., De Freitas, A. F., & Da Silva, S. S. (2021). Educação empreendedora no ensino de administração: A simulação realística como instrumento didático. *Research, Society and Development, 10*(3), e9610313066.

22. Rodrigues, A. L. (2023). Entrepreneurship education pedagogical approaches in higher education. *Education Sciences, 13*(9), 940.

23. Scott, E. K., & White, B. R. (2024). An empirical study of cultivating innovative practice abilities in an interdisciplinary education environment in Australia. *Research and Advances in Education, 3*(5), 53-63.

24. Schaefer, R., & Minello, I. F. (2020). Desafios contemporâneos da educação empreendedora: Novas práticas pedagógicas e novos papéis de alunos e docentes.

25. Shemyhon, N. (2024). Relevant key professional skills and the level of the education seekers' awareness in this regard. *Educația Plus, 35*(1), 216-227.

26. Steen, M., Manschot, M., & De Koning, N. (2011). Benefits of co-design in service design projects. *International Journal of Design, 5*(2).

27. Tadeush, O., et al. (2023). The management of innovation processes in higher education institutions of Ukraine on the way to the formation and development of the European knowledge market. *Revista Românească pentru Educaţie Multidimensională, 15*(4), 132-158.

28. Torabi, M. (2023). Interdisciplinary approaches in business studies: Applications and challenges. *International Journal of Business and Management, 18*(5), 1-33.

29. Willerding, I. A. V., & Lapolli, É. M. (2020). Educação empreendedora: O uso da criatividade na formação do profissional do século XXI. In *Educação fora da caixa: Tendências internacionais e perspectivas sobre a inovação na educação* (Vol. 5, pp. 181-196). São Paulo: Blucher. https://doi.org/10.5151/9788580394269-10