Innovation and Use of New Teaching Technologies in Undergraduate Learning and Empowerment for the Labour Market

https://doi.org/10.3991/ijet.v15i20.16073

Daniel Beserra do Nascimento, Max Leandro de Araújo Brito ((S)), Géssica Fabiely Fonseca, Olívia Morais de Medeiros Neta, Cibelle Amorim Martins, Mabel Simone de Araújo Bezerra Guardia, Maria Valéria Pereira de Araújo, Eliana Costa Guerra Federal University of Rio Grande do Norte, Natal, Brazil

maxlabrito@gmail.com

Ricardo Luiz Perez Teixeira, Ricardo Shitsuka, Priscilla Chantal Duarte Silva Federal University of Itajubá, Itabira, Brazil

> Alex Paubel Junger Cruzeiro do Sul University, São Paulo, Brazil

Abstract—The present study aims to investigate the perspective of students in the business course on innovation and the use of new teaching technologies in undergraduate learning and empowerment for the labour market in a city in northeastern Brazil. The methodology study is qualitative, conducted through a questionnaire tech-nique with open questions with students from a higher education institution, graduates of the business course and others who have already completed and are looking for space in the labour market. The results obtained in the present study suggest a greater participation of the university in the articulation of its trained professionals with the local companies, serving as a support platform and in this way enabling some monitoring of these graduates at the entrance of the local market, through networks of contacts that bring together companies of recent graduates. The conclusion of the study is that there is a complex situation, that despite the difficulties imposed by the economic crisis and lack of local opportunities, the chance of getting a job is better for those who, in fact, absorb as much of the knowledge that the course offers and get their diploma.

Keywords—Profession, business, university.

1 Introduction

Academic influence in the labour market is an important concern for students and higher education institutions [1]. In the case of small cities in northeastern Brazil, many jobs are dependent on public initiative [2], as private resources are few or insuf-

ficient [3], due to various factors such as water scarcity [4], few industries [5] and very competitive retail [6] for being one of the alternatives for income generation.

The search for stability, good jobs and salaries, several young people enter a college to finally reach the dreamed profession [1]. However, in cities like the one surveyed, this dream has become frustrated and many enter the informal market. Those who are leaving the college have little (sometimes none) experience in the intended area, falling behind in the race for a job. The economic crisis and rising unemployment further complicate the situation [2].

In the last decades, the labour market in Brazil has been undergoing great transformations [7]. However, the informality that persists is a problem that has generated several discussions, but little is studied about the determinants of informality employment. The problem seems to us to be not only local, despite the governmental actions developed in Brazil in recent years, aimed at professional qualification having as the discourse for employability, there was an increase in the unemployment [8]. It is important to remember that the development of capitalism, with the use of technologies, has led companies to rethink the human workforce. Thus, especially in Brazil since the 1990s, companies have adopted toyotism methods, such as flexibility and new ways of organizing the work process. Therefore, we remember that unemployment is not determined only by the difficulty of training and education.

Another path that has been proposed for recent graduates is entrepreneurship, but many of them have also been frustrated with this possibility, it does not bring the long-awaited stability [9]. In view of the context presented, it is worth questioning the traditional form of teaching [10]. There is a need for better reflection on the use of active teaching methodologies [11], as well as the use of training through distance education [12]. Rethinking management education while valuing entrepreneurship can be a relevant form of practical learning to be considered. Thus, the present study aims to investigate the perspective of students in the business course on innovation and the use of new teaching technologies in undergraduate learning and empowerment for the labour market in a city in northeastern Brazil.

2 Methodology

The research method utilized is survey. Survey research may use a variety of data collection methods with the most common being questionnaires and interviews [13]. This type of research allows for a variety of methods of instrumentation. Survey research can use quantitative research strategies or qualitative research strategies using open-ended questions), or both strategies. It is often used to describe and ex-plore human behavior. In this study surveys are used to understand the opinion of the students with open question.

The study is qualitative, conducted through a questionnaire technique with open questions with students from a higher education institution, graduates of the business course and others who have already completed and are looking for space in the labour market. Qualitative research is a scientific investigation focused on the pertinent character of the objective analysis, which studies its particularities and individual

experiences, in which the respondents answer questions more freely, so that they give their point of view on the given related subject with the object study [14].

The data collection instrument used was a questionnaire with open questions. The questionnaire was applied through an instant messaging application. The questionnaire asked about: the respondent's view of the course he was studying and whether it would improve his life as a whole; the degree of knowledge of the labour market and the interest of companies; the security that the participant would have at the end of graduation entering on labour market; the utility of the undergraduate course in the respondent's life. From the answers, the data were tabulated. The analysis technique used was the content analysis using procedures that analyzes the description of the message content [15]. Content analysis is a methodological tool and stresses the relevance of describing the content of messages, by analyzing the informants dis-course.

3 Results and Discussion

The survey was applied interactively, via the instant messaging app. The questions were sent in a single block, and the participants answered them promptly. When asked about the perspective regarding their future as managers, most students report-ed that the prospects are very low. According to them, the city does not offer good positions for managers and there is no salary increase. So, is possible observe in the discourse that your expectative is about looking for an employment, to have a salary and advance career.

Regarding the question about the local market for the business professional, whether or not it is promising and if companies are looking for this type of employee for their staff, they replied that "Mostly, there are few companies that specifically seek a manager" (Respondent B). This means that there is a lack of local interest in the companies for the business professional, thus, having a degree in the area does not represent such an important differential because companies are looking for something more. Generally, companies are looking for proactive professionals, able to solve problems and trained for the labour market. Mainly with ability to innovate and adapt to any adverse circumstances. This something more could, for example, be added to the students' training path through new Technologies [16], [17]. However, is important to prepare the students with another teaching forms. The new teaching technologies may include the use of distance education [18]-[25] and new ways of conducting learning [26]-[31].

The students' opinion in relation to the companies in the city needs more professionalism, and the reasons for these companies not hiring professionals in the area, they responded by stating that "yes, they believe it is due to the expense, or the fact that they think that anyone who has already has worked in the management area can act like a trained professional" (Respondent D). Thus, it is noted that companies seek to save on hiring professionals and seek cheaper alternatives, believing that the management function can be done by a person with some experience in the man-agement area.

When asked about the ability of graduates of the business course to run a company in our city, the vast majority stated that they receive many theories and miss some practical experience. So, there is insecurity in taking over a company. Despite the availability of internships, they are insufficient for everyone, and there is a lack of further clarification on the importance of their participation. The internships could be used as a strategy for innovation in learning during the undergraduate course [32]. The practice of active methodologies with the creation of projects using Problem based learning - PBL is a good option to prepare students for the labour market. Many innovation projects are created with the aim of providing some experience with the labor market

As for the question about the importance of the business course in the organiza-tion of personal and professional life, the subjects replied that the course was im-portant for the organization in general, market, political, economic and social view. Thus, it is notable that the course covers beyond the individual's professional life, generating important gains for personal life and gaining knowledge in various areas. In this way, education, by making the student think for himself with the use of active methodologies, can boost the student's empowerment. Learning to work with projects and as a team helps in the training of professionals. This helps to make the profes-sional more proactive. Because the students get a real experience with the company [33].

The results obtained in the present study suggest a greater participation of the university in the articulation of its trained professionals with the local companies, serving as a support platform and in this way enabling some monitoring of these graduates at the entrance of the local market, through networks of contacts that bring together companies of recent graduates. The use of information technology-based platforms could facilitate this approach [20], [24].

It is also possible to affirm that it is necessary to improve the qualification of students through more practical methods, in a way that generates some experience and training currently required by companies, using important tools such as junior companies and business incubators. It is also important to note that the idea that a student who leaves a college has not learned anything about running a business is mis-taken. Each student has a background in education, as they knew how to take advantage of what they had been taught. So that others they did not care about teach-ing and were more concerned with simply receiving the university degree.

Finally, the path of entrepreneurship is an interesting alternative for these professionals. Despite certain advantages and disadvantages, such as insecurities and instabilities, in the world increasingly fewer jobs, but never less work, through incentives and partnerships with public and private entities. It is necessary to engage the univer-sity in implementing policies to support entrepreneurship and empowerment for the labour market.

4 Conclusion

The conclusion of the study is that there is a complex situation. Despite the difficulties imposed by the economic crisis and lack of local opportunities, the chance of getting a job is better for those who, in fact, absorb as much of the knowledge that the course offers and get their university degree.

In view of this, it became evident that there needs to be a better valuation of the business course by local companies. Actions must be taken so that these companies know the quality of the course and of these professionals who graduate from the educational institution. However, the university needs to better monitor the entry of its graduates into the labour market. It's important to improve the techniques of students' practical experiences to be a link between companies and students.

5 References

- [1] F. B. Silva, and M. L. A. Brito, "Professional internships and the skills of the administrator: a study with graduates and graduates of a federal Higher Education Institution," Research, Society and Development, vol. 9, no. 2, pp. e11092925, mar. 2020, http://doi.org/10.33448/rsd-v9i2.925
- [2] I. K. Araujo, M. L. A. Brito, and A. C. S. Jesus, "Times of crisis in the administration public: perception of managers of the municipality of Cruzeta/RN," Humanidades & Inovação, vol. 7, no. 2, pp. 290-299, 2020.
- [3] D. O. F., and M. L. A. Brito, "Quality of care in the clothing trade: A study in the city of Currais Novos-RN," Research, Society and Development, vol. 9, no. 2, pp. e93922093, jan. 2020, http://doi.org/10.33448/rsd-v9i2.2093
- [4] G. G. S. Ribeiro, I. M. M. Silva, J. R. S. Julião, A. B. N. S. Souza, T. T. S. Nascimento, D. B. Nascimento, R. L. A. S. Sousa, A. D. André, S. E. M. Oliveira, and M. L. A. Brito, "The management of public safety in the municipality of Currais Novos RN," Research, Society and Development, vol. 8, no. 4, pp. e1384952, 2019, http://doi.org/10.33448/rsd-v8i4.952
- [5] A. D. Teixeira, A. B. S. Brito, C. A. P. Nascimento, J. M. S. Araujo, J. D. Soares, W. L. Bernardino, and M. L. A. Brito, "The impact of sewing companies in Seridó," Research, Society and Development, vol. 8, no. 2, pp. e2082666, 2019, http://doi.org/10.33448/rsd-y8i2.666
- [6] H. L. Nascimento, and M. L. A. Brito, "Organizational climate and job satisfaction: a case study in a supermarket," Research, Society and Development, vol. 9, no. 2, pp. e112921584, 2020, http://doi.org/10.33448/rsd-v9i2.1584
- [7] E. A. Reis, and M. L. A. Brito, "Thematic analysis of the turnover at the interface between people management and knowledge management," Espacios , vol. 36, pp. 14, 2015.
- [8] R. M. Pereira, M. C. Galvão, and H. S. Maxir, "Determinants of secondary employment and informality: additional evidence for the Brazilian labor Market," Rev. Bras. Estud. Popul., vol. 35, no. 3, pp E0047, 2018.
- [9] R. S. L. Lima, P. R. M. Barbalho, H. L. Nascimento, J. S. Medeiros Neto, and M. L. A. Brito, "The study of personal finances at the university level," Research, Society and Development, vol. 8, no. 2, pp. e1982656, 2019, http://doi.org/10.33448/rsd-v8i2.656
- [10] E. P. A. Seixas, M. V. P. Araújo, M. L. A. Brito, and G. F. Fonseca, "Difficulties and challenges in the implementation of active methodologies in tourism education: A study in a Higher Education Institution," Tur., Visão e Ação, vol. 19, no 3, pp. 566-588, 2017, doi: 10.14210/rtva.v19n3.p566-588

- [11] E. P. A. Seixas, M. V. P. Araújo, M. L. A. Brito, G. F. Fonseca, and R. Shitsuka, "Active methodologies in tourism education and practices of professor," Espacios , vol. 37, pp. 17, 2016.
- [12] R. Shitsuka, D. M. Shitsuka, and M. L. A. Brito, "Estratégias para a construção coletiva ativa do saber em um fórum de educação a distância de um curso de pós-graduação. Revista de Casos e Consultoria, vol. 9, no. 3, pp. e932, 2018. https://doi.org/10.29327/3860.11.20-12
- [13] J. Ponto. Understanding and evaluating survey research. Journal of the advanced practitioner in oncology. V.6(2), Mar-Apr, pp. 168–171, 2015. https://pubmed.ncbi.nlm.nih.gov/26649250/
- [14] R. C. Souza, K. C. Ribeiro, M. L. A. Brito, J. T. M. Faria, L. F. F. Oliveira, and L. M. L. Saraiva, "Institutionalization of performance evaluation: a case study from the perspective of Institutional Theory," Revista Inclusiones, vol. 6, pp. 397-412, oct.-dec., 2019.
- [15] M. L. A. Brito, G. G. C. Pessoa, and M. G. C. Pessoa, "Impact of strategic planning to a service provider micro-enterprise," European Journal of Scientific Research, vol. 151, no. 1, pp. 48-57, 2018.
- [16] N. Israfilov, O. Borisova, O. Kartashova, N. Davydova, G. Biserova, and A. Gryaznukhin, "Motivation and employee effectiveness in online learning environments: leadership strategies of new generation and emotional intellect," International Journal of Emerging Technologies in Learning (iJET), vol. 15, no. 09, p. pp. 258-279, 2020, http://doi.org/10.3991/ijet.v15i09.13921
- [17] C. Diez-Sanmartín, J. Gayoso-Cabada, and A. Sarasa-Cabezuelo, "Use of critical annotation and interactive fiction for the creation of digital educational contente,". International Journal of Emerging Technologies in Learning (iJET), vol. 15, no. 9, pp. 231-244, 2020, http://doi.org/10.3991/ijet.v15i09.12377
- [18] I. Yusuf, and S. W. Widyaningsih, "Implementing e-learning-based virtual laboratory media to students' metacognitive skills," International Journal of Emerging Technologies in Learning (iJET), vol. 15, no. 05, pp. 63-74, 2020, https://doi.org/10.3991/ijet.v15i05.12029
- [19] H. O. Chorfi, and G. Al-hudhud, "Optimizing e-learning cognitive ergonomics based on structural analysis of dynamic responses," International Journal of Emerging Technologies in Learning (iJET), vol. 14, no. 10, pp. 150-160, 2019, http://doi.org/10.3991/ijet.v14i10.10134
- [21] C. Boghi et al., "Trabalhando a evasão em um curso de graduação a distância em um ambiente virtual," Revista de Casos e Consultoria, vol. 9, no. 1, pp. e912, 2018. https://doi.org/10.5585/eccos.n34.4548
- [22] A. Jesus, and F. Chagas, "Ensino superior e educação à distância: um estudo de caso no curso de administração pública da UFRN/CCSA polo Currais Novos/RN," Revista de Casos e Consultoria, vol. 9, no. 4, pp. e945, 2018.
- [23] D. Shitsuka, R. Shitsuka, and C Boghi, "Estudo de caso de superação de dificuldades de leitura e escrita em aluno, por meio do apoio da tutoria em um curso de pós-graduação "lato sensu" a distância," Revista de Casos e Consultoria, vol. 9, no. 4, pp. e942, 2018. https://doi.org/10.17143/rbaad.v17i1.71
- [24] S. Rakic, N. Tasic, U. Marjanovic, S. Softic, E. Lüftenegger, and I. Turcin, "Student performance on an e-learning platform: mixed method approach", International Journal of

- Emerging Technologies in Learning (iJET), vol. 15, no. 02, pp. 187-203, 2020. http://doi.org/10.3991/ijet.v15i02.11646.
- [25] Lillian-Yee-Kiaw Wang, Sook-Ling Lew, and Siong-Hoe Lau, "An empirical study of students' intention to use cloud e-learning in higher education," International Journal of Emerging Technologies in Learning (iJET), vol. 15, no. 09, pp. 19-38, 2020, http://doi.org/10.3991/ijet.v15i09.11867.
- [26] R. L. P. Teixeira, P. C. D. Silva, and M. L. A. Brito, "Aplicabilidade de metodologias ativas de aprendizagem baseada em problemas em cursos de graduação em engenharia," Humanidades & Inovação, vol. 6, no. 8, pp. 138-147, 2019. https://doi.org/10.22456/1679-1916.25115
- [27] J. Facó, et al., "Reflexões sobre o ensino de ciência, tecnologia e inovação por competências e habilidades," Revista de Casos e Consultoria, vol. 7, no. 3, pp. e731, 2016.
- [28] Y. Yan, S. Hooper, and S. Pu, "Gamification and student engagement with a curriculum-based measurement system," International Journal of Learning Analytics and Artificial Intelligence for Education, vol 1, no 1, 2019. https://doi.org/10.3991/ijai.v1i1.10805
- [29] M. Saxena, and M. Kasparian, "Establishing a sustainable process to measure learner performance," International Journal of Learning Analytics and Artificial Intelligence for Education, vol 2, no 1, 2020. https://doi.org/10.3991/ijai.v2i1.13083
- [30] A. Olewnik, R. Yerrick, A. Simmons, Y. Lee, and B. Stuhlmiller, "Defining open-ended problem solving through problem typology framework," International Journal of Engineering Pedagogy (iJEP), vol 10, no 1, 2020. https://doi.org/10.3991/ijep.v10i1.11033
- [31] P. Appiah-Kubi, and E. Annan, "A review of a collaborative online international learning," International Journal of Engineering Pedagogy (iJEP), vol 10, no 1, 2020. https://doi.org/10.3991/ijep.v10i1.11678
- [32] K. P. King, "Professional learning in unlikely spaces: social media and virtual communities as professional development," International Journal of Emerging Technologies in Learning (iJET), vol. 6, no. 4, pp. 40-46, 2011, https://doi.org/10.3991/ijet.v6i4.1765.
- [33] R. L.Teixeira; P.C.D. Silva; R. Shitsuka; M. L.A Brito; B. M. Kaizer, B. M.; P.C.E.Silva. Project-Based Learning with Industry as a Learning Strategy for Improvement Engineering Education. In: 2020 IEEE Global Engineering Education Conference (EDUCON), 2020, Porto. Proceedings of the 2020 IEEE Global Engineering Education Conference (EDUCON). New Jersey: Piscataway, 2020. v. 1. p. 1-2. https://doi.org/10.1109/educon45650.2020.9125195

6 Authors

Daniel Beserra do Nascimento has a bachelor's degree in business from the Federal University of Rio Grande do Norte.

Max Leandro de Araújo Brito is professor at the Federal University of Rio Grande do Norte, permanent professor of the Postgraduate Program in Administration at the Federal University of Rio Grande do Norte. Post-doctorate and Ph.D. from the Federal University of ABC.

Géssica Fabiely Fonseca is Adjunct Professor at the Federal University of Rio Grande do Norte and permanent professor of Postgraduate Programs in Education and Special Education at the Federal University of Rio Grande do Norte.

Olívia Morais de Medeiros Neta is Ph.D. in Education, and professor at the Federal University of Rio Grande do Norte and works in the Postgraduate Program in

Education at the Federal University of Rio Grande do Norte, and in the Postgraduate Program in Professional Education at the Federal Institute of Education, Science, and Technology of Rio Grande do Norte.

Cibelle Amorim Martins is adjunct professor at the Federal University of Rio Grande do Norte, coordinator of the Educational Technology Laboratory, is the leader of the Studies and Research Group in the Media and Education, and acts as a professor and vice-coordinator in the Postgraduate Program in Innovation in Educational Technologies.

Mabel Simone de Araujo Bezerra Guardia is adjunct professor at the Federal University of Rio Grande do Norte, holds a Ph.D. from the Federal University of Campina Grande.

Maria Valéria Pereira de Araújo is professor at the Federal University of Rio Grande do Norte, has a Ph.D. in Business Administration from the Federal University of Paraíba, is a permanent professor at the Postgraduate Program in Administration and the Postgraduate Program in Tourism at the Federal University of Rio Grande do Norte.

Eliana Costa Guerra is a professor at the Federal University of Rio Grande do Norte, Ph.D. in Sociology from the University of Paris VIII, Member of the Management, Education, Work, and Health Research Group.

Ricardo Luiz Perez Teixeira is professor at the Federal University of Itajubá, holds a Doctor of Science, Metallurgical and Material Engineering from the Federal University of Rio de Janeiro with a doctorate in mechanical engineering from the Faculty of Engineering of the University from Porto.

Ricardo Shitsuka is professor at the Federal University of Itajubá, Ph.D. in Teaching, Leader of the MEAC Research Group, and permanent professor of the Postgraduate Program in Science Education.

Priscilla Chantal Duarte Silva is professor at the Federal University of Itajubá, Ph.D. in Linguistics and Portuguese Language, Post-doctorate in Communication and Speeches at the University of Lisbon.

Alex Paubel Junger is Post-Doctor in Engineering and Innovation Management, Doctor in Energy by the Federal University of ABC, is a permanent professor in the Postgraduate Program in Science and Mathematics Teaching at the Cruzeiro do Sul University.

Article submitted 2020-06-05. Resubmitted 2020-07-05. Final acceptance 2020-07-05. Final version published as submitted by the authors.