

Management and Instructional Design: Building Intersections

Andreza Regina Lopes da Silva, Juliana Bordinhão Diana, Araci Hack Catapan
Universidade Federal de Santa Catarina, Florianópolis, Brazil

The instructional design employed in distance education in Brazil is a recent practice and therefore the scientific production in the area is still incipient. The present study aims to map the scientific production of this problematic issue that discusses the management of the instructional design process in distance education. The methodology used was the systematic search applied to database Scopus. The results found in the 2010 period, until April 2014, allowed, besides expanding interdisciplinary discussion on the topics of management and instructional design, to realize that these, in the literature, present no direct relationship. From the 64 articles found, 27 were considered relevant to the study. After reading the summaries of these articles, 12 articles adherent to the purpose of the study were identified and, of these, eight articles contribute with the question. Overall, the studies show little evidence of discussion that converges the instructional design as a management practice. But, the contribution of the theme management within education as a way to plan and to develop an educational work, and design, as a way to introduce this practice, stands out.

Keywords: distance education, instructional design, management

Introduction

The contemporary scenario combines in a kaleidoscope of images in expansion, reframing, and innovation, involving directly the educational setting, because access to knowledge can be instant at any time and place, regardless of the mode of teaching-learning process. In the educational context, distance education has mobilized itself, basically sustained by digital communicational network, although, in essence, it is not different from education developed face-to-face, because it operates in three management plans: (a) academic management; (b) infrastructure management; and (c) pedagogical management (Catapan, 2001).

Distance education is an innovative educational modality in Brazil and is still not consolidated as a system. It develops with specific projects, with beginning, middle, and end pre-set. One of its elements of pedagogical organization and execution is the instructional design, which brings together academic, pedagogical, and technological aspects. Instructional design gives the required visibility to the teaching-learning process, specifically, when it comes to distance education, design is an instrument that gives visibility to an idea or a concept (Catapan, Kassick, & Otero, 2013).

Internet offers a deluge of information; however, the construction of knowledge in the network requires insight, abstraction, and proposition. Information abstracted from its context, isolated, is just data, while

Andreza Regina Lopes da Silva, M.A., Postgraduate Program in Engineering and Knowledge Management, Universidade Federal de Santa Catarina

Juliana Bordinhão Diana, M.A., Postgraduate Program in Engineering and Knowledge Management, Universidade Federal de Santa Catarina.

Araci Hack Catapan, Ph.D., Postgraduate Program in Engineering and Knowledge Management, Universidade Federal de Santa Catarina.

appropriate and interpreted information in the network can be the presumption of knowledge, or even new knowledge. Knowledge is a continuous construction, fluidic, dynamic, and networked, and takes a never seen perspective as a possibility (Morin & Moigne, 2009).

In this perspective, the purpose of the systematic review was to answer the question: Which management practice contributes to the process of instructional design? To answer this question, with the goal of mapping the scientific production in this issue that discusses the process of instructional design as a management practice in distance education, the present study is characterized as descriptive exploratory, of qualitative approach. The result was explored and analyzed in detail, allowing the identification of theoretical assumptions that underpin the discussion. The analysis of conceptual differences and similarities found in materials was considered at the intersection between terms of instructional design and management. The findings of this study allow listing some elements that impact this discussion, highlighting gaps between management practice and the nature of the process of instructional design, so singular when applied to distance education.

Theoretical Assumptions

Management can be understood in different scenarios. However, its origin goes back to the period that followed the industrial revolution, being subsequently diffused among other commercial and organizational entities. Although, for this study, as a systematic review, to appoint itself as management, the result of research alludes directly to the theme of “project management”. Van Rooij (2010) defined project management, based on the Project Management Institute (PMI), as a set of knowledge, skills, tools, and techniques organized to meet the common requirements of a project, which are documented and collected in five groups of processes, namely, initiation, planning, execution, monitoring and control, and closure. Thus, project management is considered a natural alignment that derives from industrial management, whereas in the educational field, instructional design derives from the need to give visibility to a pedagogical approach in offering a course. Despite this divergence, the scenario converges as nature. In the productive world, design refers directly to a product; in the case of education, the statement is also a product that requires the management of processes, values, beliefs, and theoretical assumptions of education (Van Rooij, 2011).

It is possible to see the grip of these guidelines to the instructional design process, because, as Herron, Holsombach-Ebner, Shomate, and Szathmary (2012) highlighted, setting a baseline in each and every institution requires focus on development, and this process, in distance learning, often suffers from a lack of resources, mainly of infrastructure, policies, and support mechanisms and needs to be conducted to meet rapidly the growing demand, which requires planning for its development.

To Herron et al. (2012), quality assurance is an essential value, justifies many political decisions in an educational institution, and is directly influenced by numerous situational and environmental factors, including accreditation, technology, and competitiveness. As He and Abdous (2013) pointed out, the search for best practices in knowledge management happens systematically and effectively, and has been more frequent within educational organizations. This momentum can sustain itself in the field of instructional design.

Omrani, Fardanesh, and Hemmati (2012) pointed out that literature presents a variety of definitions for the instructional design theme, these being related to the process of inserting principles of learning and instruction in materials that aim to contribute to the solution of adversities of the teaching and learning process; however, it should be noted that this is a complex and detailed activity. Considering a project on the educational scenario that is currently being reframed, given the convergence of practices of different teaching modes, an

instructional design that contemplates this diversity is needed, which extends to varied audience of students, demanding so that the activity of instructional design is able to perform similar pedagogies in different environments (Drira, Laroussi, Le Pallec, & Warin, 2012). Considering that the effective project management, according to Van Rooij (2010), requires knowing the characteristics of the actual project environment, instructional design projects must have its knowledge interconnected with educational practices of the teaching-learning process. For us, the difference between the models of project management and instructional design is the consequence of divergent perspectives between the management area and the educational area.

For Van Rooij (2010), the disciplinary culture of higher education and the disconnection between the models of instructional design and management practices are among the barriers to the integration of management solutions in any educational institution. Tawfik and Jonassen (2013) pointed out that the resolution of problems is a significant challenge for instructional designers, since this is an activity that is not held on an individual basis and brings, as consequence, the exposure of different processes of cognitive and social learning. One realizes that the actions and practices of instructional design converge for an educational project of quality within the requirements of organizational project management, however, this convergence is still lacking in practice and, as pointed out by Omrani et al. (2012), the development of instructional materials is an effective way to improve the quality of educational opportunities.

For Van Rooij (2013), project management complements the instructional design process, offering a set of processes that describe, organize, and complement the work required at various stages of the life cycle of a project. In this sense, it is considered that the roles of the instructional designer and project manager can, in the context of education, be occupied by the same individual, because, according to Van Rooij (2010), they allow actions, such as the clear project definition with schedule institution, the selection processes in different levels of detail, and components proper and specific to reality, and also devote time to management skills as team. In the digital age, instructional designers must possess basic instructional design knowledge and solid project management skills to allow them to complete the projects of courses on time, on budget, and in accordance with customer expectations, as well as communication and interpersonal skills and team leadership, which, in turn, impact on conflict management and decision making. According to Van Rooij (2010), a successful project manager must have a background in science, technology, and education, in order to provide a team leadership in multidisciplinary project, a description that allows making a parallel of the professional instructional designer, which is considered a multidisciplinary professional with interdisciplinary approach.

Van Rooij (2013) highlighted, based on his study on models of instructional design, the role of the project manager, which is the most relevant to the management of instructional design project. In this sense, we point out a professional called "instructional design project manager"; this professional as being an instructional designer's career rise on high performance position in knowledge-intensive environments, in professional services companies. To Van Rooij (2011), instructional designer practices require not only instructional design skills, but competence and project management skills, including the ability to lead a team project, follow the requirements of the project, set estimate, and develop processes and standards for the completion of development projects of education products. When it comes to instructional designer and project manager, one skill appears similarly in the final rankings observed by Van Rooij (2013), and is related to interpersonal skills with a more focused approach in communication than in the process, implying directly in a successful management of a project.

Presentation and Analysis of the Result: A Methodological Approach

The method used for the preparation of this paper is based on a proposed systematic review process, in order to envision the advancement of knowledge in the field of research on instructional design and management and realize their intersections. The systematic review of literature is a model of scientific research that aims to answer a question by means of systematic and explicit methods, previously defined, to identify, select, collect, analyze, and evaluate relevant studies in order to conduct a synthesis of the results of multiple primary studies (Cook, Mulrow, & Haynes, 1997; Clarke & Horton, 2001).

For this study, we selected intentionally articles indexed in the database Scopus, this being considered a referential source of impact of peer-reviewed scientific literature, besides being an interdisciplinary source that contributes to a broader vision of scientific publications.

To answer the question “Which management practice contributes to the process of instructional design?”, we organized four distinct moments, namely, planning, collection, analysis, and result. In the planning phase, we defined the question of search, the database for work, and terms for search as the first criteria to be used in the form available in the online environment database. In order to answer the guiding question of research, in the second phase, called collection, the result available was sought, when applicant in title, keywords, and abstract, for the words “management” presented a result of 101,285 articles found and, for the term “instructional design”, which resulted in 624 articles. Right after, the combination of the terms “instructional design” and “management” in order to select researches that deal with the two was searched. Still in the phase of collection, some criteria were defined to be applied to the result found, i.e., published in the last five years, in order to indicate the state of contemporary art and articles that involve the social sciences area, where the discussion was prevalent and relevant for the purpose of research. This search resulted in a total of 64 articles.

At the third moment of this research, in the analysis phase, in order to make the recognition of the publications found, it was evidenced that, considering the time frame selected for the research, the publication highlight was in 2012, with 19 articles, followed by 17 articles and, in 2013, with 14 articles indexed in the database Scopus. With the result in hands, continuing the analysis phase, after the prior recognition of publishing, articles were analyzed, following some pre-established criteria: analysis of the title and abstract. Based on reading the titles of the 64 articles, only 27 were considered as possibly relevant to the study. Of the sample of the 27 articles, the abstracts were read, where 15 articles were identified as adherent to the research purpose, and of these 15 articles, searching for documents available without restriction for public domain in databases was accomplished as a sample to complete reading, in order to realize the real contribution to the discussion proposed here, a total of 12 articles.

Armed with these results, we began the complete reading of materials to identify which feature directly related and convergent with the question that guides this article. And, of these, it was observed that only eight articles contribute effectively with the research. This sample of eight articles composed the literary basis for the discussion proposed in this article. With the critical analysis of this sample, it was possible to understand specific points of convergence and divergence between the themes. Seeking to systematize this information, Table 1 was elaborated.

Based on this preliminary analysis, it was realized that the articles diverge in their vast majority with regard to practices of the instructional design process with the management process, i.e., do not have a direct relation with both themes. However, they converge when talking about practice, skills, and competencies of these

professionals without significant difference among their roles, although it is clear that the performance of both is directly related to the maturity level of the institution.

Table 1

Search Results in the Database

Search term	Articles found
“Management”	101,285
“Instructional design”	624
	64 (Total of articles found)
	27 (Relevance by title)
“Management” and “instructional design”	15 (Relevance of the abstract)
	12 (Available for download)

Note. Source: Elaborated by the authors.

Another emphasis observed in the research rests on the contribution of the theme “management” in the education scope when presenting ability to plan and manage educational work. The qualitative analysis of the selected works also allowed to identify the term “instructional design”, which is highlighted in the search for its relationship with management practices and has a direct relation with the processes of education and learning in distance education, following a smaller proportion the relationship with development, decision, and management. Seeking to elucidate this scenario, Figure 1 was organized on the basis of keywords of the articles selected as effective sample of research.



Figure 1. Tag cloud with keywords from the research (Source: Elaborated by the authors).

Finalizing the result phase, data from the eight articles were compiled, which allowed the composition of the item “theoretical assumptions” of this article. To get closer to the discussion of management and instructional design, one can realize that, although there are theoretical researches that recognize the importance of management in instructional design, as well as some empirical studies that offer insights like practices of training institutions, there is still little insight into the processes that surround these practices.

Final Considerations

In spite of this systematic review of literature being in the beginning, it is possible to realize that, so far, there is little evidence of convergence of instructional design as a management practice. Literature presents a mixed picture, bringing a more specific relationship of instructional design with project management, and

points a need for this discussion in the educational setting. However, it is considered that instructional design is a problem-solving activity in the organizational context, in educational projects, which allows sharing management attributes. Thus, one can infer that the management process, here emphasized as project management, complements the instructional design practices, mainly in the educational context, if this is developed by the same individual. However, although it is notorious that paths are already open to the discussion of the subject, this practice is still considered limited. Therefore, it is suggested the continuation of the research in complementary bases, as well as the extension of the timeframe, in order to contribute to the definition of good management practices related to instructional design, in the educational context.

References

- Catapan, A. H. (2001). *Tertium: O novo modo do ser, do saber e do apreender* (Tertium: The new way of being, of knowledge and grasp) (Doctoral thesis in media and knowledge, Universidade Federal De Santa Catarina).
- Catapan, A. H., Kassick, C. N., & Otero, W. R. I. (Org.). (2013). *Cartografia para o currículo referência* (Cartography for curriculum reference). Retrieved May 1, 2014, from <http://www.etc.ufsc.br>
- Clarke, M., & Horton, R. (2001, June). Bringing it all together: Lancet-Cochrane collaborate on systematic reviews. *Lancet*, *357*, 1728.
- Cook, D. J., Mulrow, C. D., & Haynes, R. B. (1997). Systematic reviews: Synthesis of best evidence for clinical decisions. *Ann Intern Med*, *126*(5), 376-380.
- Drira, R., Laroussi, M., Le Pallec, X., & Warin, B. (2012). Contextualizing learning scenarios according to different learning management systems. *IEEE Transactions on Learning Technologies*, *5*(3), 213-225.
- He, W., & Abdous, M. (2013). An online knowledge-centred framework for faculty support and service innovation. *Vine*, *43*(1), 96-110.
- Herron, R. I., Holsombach-Ebner, C., Shomate, A. K., & Szathmary, K. J. (2012). Large scale quality engineering in distance learning programs. *Journal of Asynchronous Learning Network*, *16*(5), 19-35.
- Morin, E., & Moigne, J. L. L. (2009). *Inteligência da complexidade—Epistemologia e pragmática* (Intelligence complexity—Epistemology and pragmatics). Lisboa: Instituto Piaget.
- Omrani, S., Fardanesh, H., & Hemmati, N. (2012). Exploring an appropriate instructional design model for continuing medical education. *Turkish Online Journal of Distance Education*, *13*(3), 347-361.
- Tawfik, A., & Jonassen, D. (2013). The effects of successful versus failure-based cases on argumentation while solving decision-making problems. *Educational Technology Research and Development*, *61*(3), 385-406.
- Van Rooij, S. W. (2010). Project management in instructional design: ADDIE is not enough. *British Journal of Educational Technology*, *41*(5), 852-864.
- Van Rooij, S. W. (2011). Instructional design and project management: Complementary or divergent? *Educational Technology Research and Development*, *59*, 139-158.
- Van Rooij, S. W. (2013). The career path to instructional design project management: An expert perspective from the US professional services sector. *International Journal of Training and Development*, *17*(1), 33-53.