

Bibliometric Study on Educational Process and Certification

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ABSTRACT

Education is characterized by the construction of knowledge acquired throughout life and thus contributes to the composition of meaningful innovative models to overcome challenges. The objective of the article is to identify methods and models of certification of educational processes, however, during the educational process, strategies are developed, development of competences, skills and scientific and technological domains with the aim of qualification in the teaching-learning process that can be acquired for the development of a method or model that differs from school to school in order to meet the requirements for certification, protection and / or patenting. The research used a bibliometric method looking for published theoretical references for data collection using the search platform SCOPUS which resulted in a total of 1,555 articles, filtering according to the research theme. The result showed a lack of obtaining studies in this area of certification in the educational process, reporting the qualification between teaching and learning, students and teachers, the relationship of supply and demand by educational institutions and individuals and the importance of publishing in English as a highlight in the bases bibliometrics worldwide. Therefore, the conclusion brought the reflection, inquiry and information that educational institutions when developing an educational project has a more market view. During the research, the qualification of this student and teacher was not found when entering and leaving the academy, as one must consider such importance and highlight that the educational process is not only creating or implementing a project, model and certifying it, but, it goes far beyond this perspective, when it comes to qualification in education.

Keywords - Certification, Teaching and Learning, Qualification, Educational Process

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I. INTRODUCTION

Education is linked to the development of knowledge built throughout life and within this reality contributes to the composition of meanings, be they economic, social and political. In general, education allows the transfer of information from a teacher, institution or representative to students or human beings who wish to receive and practice this information [1]. According to the authors in the educational process when linking teaching and learning, it is necessary to analyze some points along the way, for example, Performance, Resources, Learning Results and Evaluation and quality assurance, stating that education is a fundamental process in the formation of the human being.

When performance during teaching and learning is addressed, we describe methods or programs that require a level of information sent and adjusted to the pre-existing knowledge of individuals and these educational practices can stimulate a different way of achieving learning using, for example, the new information technology and Communication. The resources emphasize the equipment and materials used to complement the learning, the learning result refers to the evaluation process that should guarantee individuals or students opportunities to adhere to the knowledge and competence to practice all the information acquired, for evaluation and quality assurance is equivalent to the process of accreditation or application of this acquired knowledge.

The Law of Guidelines and Bases - LDB of education, determines that the education system establishes strategy, development of competences, skills and scientific and technological domains in order to qualify the teaching-learning process [2]. The legislation provides that, being a process, education has distinct characteristics and each organization or subject has its own pace to 'educate themselves'. The process works as a continuous action that can be constituted by complex behaviors and by multiple components that interact with each other [3], the process are steps that allow to reach the final objective and during the continuous actions is that we visualize the failures, provocation of a given change, be it short, medium or long term for the success and validation of a project.

In this context, the education system can be innovative as long as it promotes interaction between student and teacher, flexibility in teaching that contributed to a collaborative environment, with an exchange of knowledge and information in a different perspective for the educational process. As it is a process and there is a need to meet the specificities of people, inputs and socio-environmental factors, the methodologies used can and should be differentiated, which determines that the stimuli are specific to each direction to be given. When performing new innovative pedagogical practices with institutional and academic results, they can provide the incorporation of a model that must be registered, validated and adapted as a curricular model [4].

To develop the capacity of students during the learning path in the academy, it is interesting to work on strategic models that are successful with the intention of balancing competences, attitudes, skills in practical teaching activities. The authors Fraser and Greenhalgh [5] report that, in the educational process of learning, it is worth improving not only the competence, but also facilitating the capacity development of this student. This ability brought by the authors determines the generation of change, the generation of new knowledge and the continuous process of performance.

For the authors [6] the use of technology can validate the development of students in their studies, in addition to facilitating quick access to teaching practice, but its rapid evolution often ends up making monitoring difficult during educational process, so the process needs to be continuous interacting with the learning objectives in all activities. It is important to note that the development and skills built must be identified both individually and collectively, both are part of the academic environment and human development.

The authors [7] guide the difficulties that each university has during the entire academic process when developing the program, method or model that qualifies the student's learning with regard to experience, competence, stimulation, new approaches, maturation of information and knowledge.

The creation of a method always seeks better qualities in education in a growing perspective between man and society [8]. Given this reality, the question of the research problem arises, Schools and Universities certify their educational processes. If so, how they certify them. When developing a program, the development of necessary competencies is encouraged, which helps in the decision-making process that provides new or adapted actions and in this segment allows new applications to someone's practice. Certification is a process that allows the organization, individual to be officially recognized by an entity determining certain qualities [9], this certification goes beyond a supporting document, it emphasizes that the individual, product, service or process obtains the qualifications necessary to operate in society and in the market.

The objective of the article is to identify methods and models of certification of educational processes, because in this perspective, the educational 'process' differs from school to school and, therefore, can meet the requirements of certification, protection and / or patenting. The study becomes relevant because it is concerned with verifying works that emphasize, during the educational path, the processes and their certifications in a qualitative vision aimed at continuous improvement between teaching and learning, students, teachers and institutions.

II. METHODOLOGY

This is a bibliometric study analyzing the scientific or technical activity in a quantitative way in publications [10]. To start the first stage of development of scientific work, the bibliometric method was used, looking for published theoretical references for the collection and evolution of information and knowledge according to the research problem investigated. Following the study, some data collection indicators were inserted [11] related to the theme: 'authorship', 'scientific collaboration in authorship', 'temporal distribution', 'objectives', 'abstracts', 'thematic', 'methods' and 'research findings'.

To obtain the data, the SCOPUS search platform was used, using the keywords 'Certification' and 'Process' present in such fields 'Title', 'Summary' or 'Keywords', which resulted in

1,555 articles that were exported to a electronic spreadsheet with all references.

Therefore, a filtering was done, selecting articles containing words on the theme related to the certification, education and teaching process, which resulted in 278 articles and among those 278 articles, all abstracts were read, checking Titles, Objective, Methodology, Conclusion and words associated with education, graduation and both.

63 articles were found that address every term associated with the research problem, initiating a literature review.

III. RESULTS

In figure 1, publications are distributed by year and given this information, it can be seen that the topic assumes scientific relevance at the end of the first decade of this century, there are just over 10 years of publications in increasing numbers, which indicates that the topic is emerging and it still deserves to be studied.

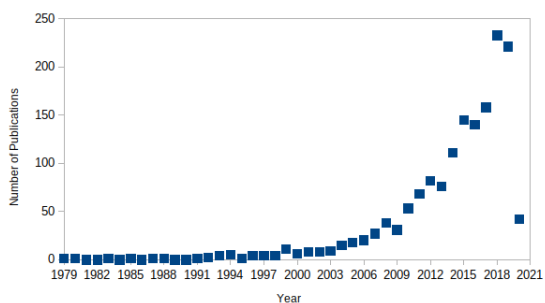


Fig. 1: Number of publications per year.

The presentation in figure 2 reports the language used for publications of the studies that gather the search terms. At the same time, there was a lack of publications in the Portuguese language, but it seems that the 'official' language related to the search terms is English. Therefore, it can be a guide for readings and for publication of new studies.

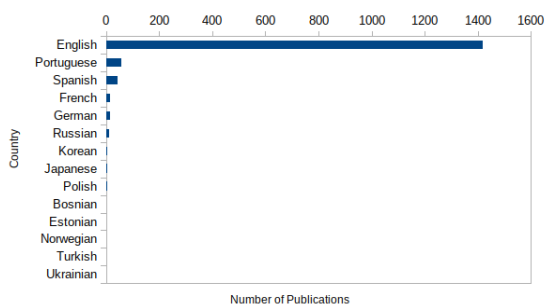


Fig. 2: Language of publications.

It can be seen in figure 3 that some terms associated with publications, especially considering the area of interest in this study, this search contributes to direct the sample to be studied.

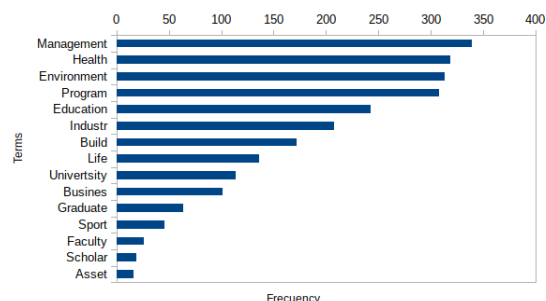


Fig. 3: Frequency of associated terms in publications.

When the described forms of certification are analyzed, the studies basically refer to certifications aimed at actions or phenomena directly related to students, teachers or academic management processes. It is observed that the attention focused on the certification of teachers or their actions directly are fewer. The educational institution's management or 'offer' processes are the most frequent (figure 4).

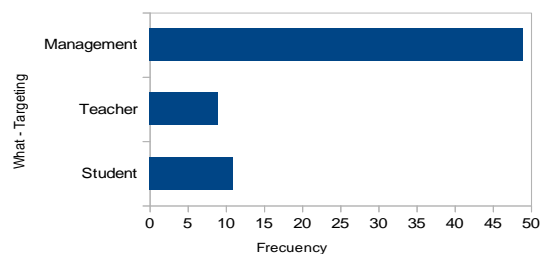


Fig. 4: Targeting of certifications according to the public considered.

Figure 5 shows the directions of the tools used to certify the processes. The tools are not always described directly, but always focus on actions related to students, teachers and management processes. It is observed that again the certification methods are directed to the management processes to the detriment of the processes related to teachers and students. In this case, it is worth mentioning that the quality of the service offered is not necessarily perceived in the profile of the graduate of the Educational Institution, as these are different events.

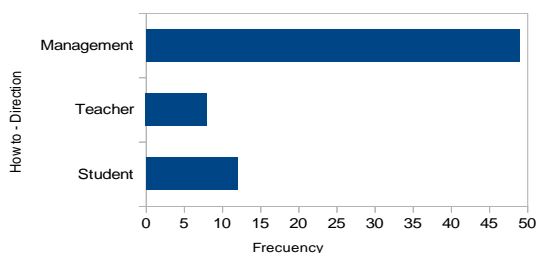


Fig. 6: Targeting the certification according to how to do it.

IV. DISCUSSION

The relevance of the study provides an opportunity to obtain more research in this area of certification in the educational process in a broad and specific way. Higher education institutions are developing due to the need to seek a profession through education and through it obtain certification and as a result guarantee a job in their field, however several studies have reported another view in a non-mechanical and marketing way, but seeking an educational process with an innovative and effective approach in the execution between teaching and learning aiming at the knowledge, skill and competence acquired and developed during the learning process.

The authors [12] state that there is a concern during the educational process to analyze how these knowledge and skills are being cast and how they are being practiced. When these questions are answered in a positive way, effective knowledge and efficient productivity (theory and practice) will be acquired that impacts on the individual's satisfaction as a student; individual as a professional; individual as a society; individual as a researcher; individual as a manager providing a chain of evolution of that individual and in that requirement we will have an educational quality with regard to the ability, competence, capacity and teaching and learning strategy.

The teaching-learning process takes place with the presence of a teacher, instructor, mentor who has adequate competence in the communication process [13]. The presence of this professional in education becomes the fundamental key in terms of human, social, economic, technological and even religious development, but the presence of an educator alone is not enough to highlight the necessary tools with respect to competence, skills or building new skills, new methods used as strategies, to establish an innovative teaching-learning model and generate results both nationally and internationally, this is the intention.

The teaching and learning process must be aligned with the political and pedagogical project in a perspective of developing innovative experience [14]. It is important to emphasize that when developing a model, method, interaction between students and teachers is necessary in a relationship between learning and learning and the teacher emerges as a mediator and promoter of the transfer of knowledge and of exposing the learning situation.

The evolution of technology has facilitated access to information more quickly for the individual, but does not guarantee quality in teaching and learning [6]. But as an advantage it becomes a fundamental part in the elaboration of a model that produces new knowledge, generating new practices, different strategies that result in quality, trust, validation and certification in the educational process. To facilitate student development in a participatory manner and the evolution of learning in higher education institutions and schools, technological tools are used to introduce innovative models causing confidence in teaching, especially in institutions with limited resources, studies show that there is a concern for HEIs and schools in qualifying teaching, favoring their brand with the development of new techniques, but do not clearly report the certification of the method developed.

There are several factors that influence the choice of citation practice in scientific communication. The reasons that lead authors to decide between one article and another can be classified by the relevance of the citation or the value that the journal has before its categories regardless of the area of knowledge.

The author [15] affirms that, the weakest language of world science is English and as absurd as this information is, authors and readers from countries whose native language is not English, in their "majority" allows the summaries of their articles are published in English, this strengthens a worldwide trend to predominate English as an international language of science. In this sense, the interest for authors in publishing articles / journals in English increases and consequently arouses efforts in writing a language that few have mastered.

Most Brazilian academic articles are published in English or in both Portuguese and English versions. This does not mean that the articles in Portuguese are bad, they have their value and respect, but when scientific articles are published in the English language, they will have a better chance of access and views, that is, of being seen by researchers from all over the world.

In general, in practice, it follows a logic that articles published in scientific journals serve as a fundamental currency for academics in terms of

guaranteeing the opening of opportunities for the job market or job stability (Tenure) in the case of teachers in the education program. *stricto sensu* graduate school [16]. This conception takes place in leading countries such as the USA and Europe, which has an institution that seeks to maintain and grow the level of excellence and to achieve this purpose, they tend to hire academics who emphasize and attribute potential in publishing "top" scientific articles in other words, which reaches greater level of impact in certain areas, in addition to being part of the School Research Rankings list.

In the academic world there is an incentive between professors and students to produce high impact journals, however it depends on where the articles will be published. Therefore, the higher the ranking of accepted journals in the high quality standard, the greater the academic prestige in your community and the opportunity to assume some highlights in institutions of excellence. In this respect, the researcher will be charged for maintaining and caring for the rigor of what is published and developed.

For author Pegino [17] most of the publications in circulation come from research groups that have productivity grants governed and encouraged in a "mandatory" manner by the National Research Council (CNPq), considered as an elite group when referring to researchers and national academics.

In Brazil, the circulation rate of journals is still low and the number of published articles is generated among students and professors, publications by professors alone or among professional colleagues are rare, a fact identified by the CAPES Qualis-Periódicos list, however the quality of scientific publications are not related to their employability or prestige in their field, to guarantee such stability in the institution, teachers / professors go through an evaluation period called probationary period provided for in art.20 of law 8.112 / 90 [18], after this period and approved will acquire stability which does not happen in other countries such as the USA, on the other hand, private educational institutions the teachers are governed by the Consolidation of Labor Laws (CLT) which does not guarantee job stability, the criteria of scientific production is not the main key, but it contributes to its permanence in the organization.

In general, the English language has shown several researches and discoveries in the bibliometric bases worldwide [19]. However, it does not mean that the authors are from English-speaking countries, but it does clarify the relevance of publishing a periodical in English by reaching a larger number of readers, greater chance of being

cited in other works, growing impact factor in a certain area, quality, originality and greater chances of acceptance by English magazines if they are well written.

During the research, several words related to management, education and university were identified. In this regard, some important factors were found that when developing an educational project [20] we work with the growth of students, teachers and institutions, in addition to sharing knowledge and information, relieving social tensions with the scope and intention of encouraging a curricular model that promotes and conducts model validation, equity in the education system for the purpose of future development.

To understand the context, the words related to management, education and university appear in different or familiar forms, all the words mentioned in the table obtain within their category an association with the questions about management / management, education and university that correspond to the research problem and the objective of the study, however we verified the same links with other areas of knowledge at the moment that relate educational processes as shown in figure 4. Therefore, when working on an educational process regardless of the area of knowledge, focus on quality and promotion of teaching- learning as a method or model proposal that achieves the objectives of the individual, student, teacher and institution making a link between supply and demand.

According to [21], during the educational path, schools and universities develop methods, programs with the purpose of meeting the need and the objective of the institution, but it does not make the main focus of what refers to teaching and learning. Developing an innovative model that results in every difference in the quality of teaching, but the validation process depends on the involved and reliable agents to make it possible, professional knowledge, for example, allows the action to be carried out, making it happen, but it is done an adequate technical demonstration is needed to promote such an institutional, academic, professional and individual result, in view of the analyzed result, the validation process occurs and, consequently, the certification of a product or service.

One of the significant reflexes in education is economic globalization and the development of technology, as there is a trend towards continuous quality, that is, a vision aimed at the continuous improvement of a product, processes and services. In the educational and academic process, there is a standardization by schools and universities in the context of learning with regard to the future of the

professional, however it is relevant to identify the study of practice that often remains in its infancy and its exploration is necessary by making a supply and demand relationship [22].

In the general context, the demand grows for the search for quality of life and with this it has led the educational institutions to adopt criteria, methods, instruments that improve the educational quality that consequently directly perceives the professional development.

Study on organization in the business context as a whole needs to be updated to be competitive and bold to continue surviving in the market regardless of the existing economic model and the prevailing political ideologies. Therefore, according to Amaral [23], maintaining a consistent policy and an institution that offers quality is challenging, especially in developing countries, with regard to the lack of structure and technological capacity to use a product, service and process that meets effectively and efficiently. It is no different in an educational institution, whether private or public, these organizations in turn need to develop a system that can maintain and disseminate their work, enhance their brand as the essence in offering quality education, making the market increasingly competitive as an educational institution.

When a model receives validation of its competence, official and professional recognition is necessary, showing its capacity to produce and relate its political, commercial interaction and its literature [24]. Developing a model, a method that improves educational quality, must take into account the public's desire, competitiveness, knowledge, competence and acquired skills that it evaluates as an educational strategy.

In general, the institution works as an offer generator for the individual as a student, professional and researcher in order to satisfy the need and desire of a public or market, as the demand of this individual as a student, as a professional and researcher certifies capacity development, skill and knowledge when it happens effectively and efficiently which makes it one of the biggest challenges regarding educational qualification. The creation and implementation of a method serves as a strategic bridge as stated by Dugarova, Starostina, Bazarova, Vaganova, and Fomitskaya [8], however, as previously reported, it is a challenge to transfer this knowledge in a way that generates quality in the result in the relationship between competence and skill of this both student and professional.

Another challenge is the qualification of this teacher when transmitting this knowledge in a way that meets the teaching-learning qualification process, it is important to analyze which criteria are

used, how the teacher qualification is analyzed, it is only through the curriculum containing his experiences or by example there is a new method, a new technology developed, all of these points can introduce as a research tool, tool in the composition of competence, skills when it obtains a true, qualitative and visible answer in society.

The study shows that regardless of the area of knowledge and the reality of each country, there is a tendency towards continuous construction during the educational process, leading to new meanings and interaction of society. The certification of a process and method when accepted and developed defines competency-based learning [25]. When the institution or educational program develops a method, it aims to meet new educational practices in order to improve quality as we verified during the studies, but looking at the organizational context, its brand is sold making it seen in the market in that segment, it does not fail to do part of a competitive environment with a vision to meet real and future needs and build an environment of excellence in terms of competence and skills during the educational process.

For [26], one cannot think about educational development without thinking about the qualification of this teaching professional who is at the forefront as a conductor of information and knowledge, in practice the use of new information and communication technologies has helped in this transfer meeting current and future needs. It is a challenge, the process of adapting new learning styles, however it appears as opportunities for both individual and institution (macro and micro).

It was analyzed during the research of how governmental and non-governmental institutions issue their certifications, what are the criteria offered and, however, some indicators were found each within their reality that can lead to their competence to issue the certification. The first step analyzed during the certification process of a model was the sustainability of this method, recognizing the quality and execution of some innovative practices, strategies, technical demonstrations, planning, management and evaluation and right after information and communication technology (ICT), second step highlights the result of this model in the institution and in the individual, what benefits were found, if they met the needs, until certifying the individual or model developed.

Institutions need to highlight the characteristic of pressing and not judging, in this sequence it allows to move towards educational qualification [27]. Faced with this perception, institutions obtain roles in offering quality teaching-learning with professionals who have the required competence and skill, analyzed and certified, with

actions that are as facilitators of innovation, that contribute to a collaborative environment, exchange of knowledge and information in a different perspective, motivated to the educational process.

V. CONCLUSION

The research brought the reflection, inquiry and information that educational institutions when developing an educational project seek some objectives, to meet the needs of the present and future market that consequently will consider the search for individuals or society as a whole, but it is not only creating or implementing a project, model and certifying it, goes far beyond this perspective, when it comes to qualification in education.

During the study, it is observed that the quality of the student and teacher is not something discussed, there is little attention in this regard, what were seen in the analyzed articles are concerns in creating or implementing a model that qualifies teaching-learning in general, with a view to strengthening the brand, reducing the illiteracy rate, training a certain number of professionals in the market, especially in meeting this need for a given moment. Most authors report the same information producing a method, teaching techniques, new approaches in order to adhere to competences, skills and knowledge to meet the needs that are seen as educational quality.

The learning process and theoretical studies must be linked with practice and in this conception work new methods that lead to the generation of innovation, however who will lead such initiative is the institution, teacher, student, or the interaction of all, leading to several questions. However, this article draws attention to how the qualification process of this student is leaving the school and higher education institution, teachers are prepared for the new trends offered in the market, teachers have the required skills and abilities, as is being developed. qualification of this teacher, there is a follow-up, which result, in relation to the student what degree of satisfaction, of the qualification, the students are able to leave with the skills, abilities and knowledge required during the process, this reality leads us to several questions and that were answers found, in which case they should be investigated as a suggestion for future research.

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