THE UNDERGRADUATES' UNDERSTANDING ABOUT TEACHING PRACTICES IN THE TECHNOTEACHING DISCIPLINE CONTEXT

L. de Lima, R. Carlos Loureiro, G. Teles, B. Aguiar

Universidade Federal do Ceará (BRAZIL)

Abstract

The aim of this research is to describe how undergraduates enrolled in 2016 and 2017 in the Technoteaching discipline understand teaching practices. In the face of a technological boom scenario that promotes changes in various spheres of society, including education, the way individuals access, produce, and share information and knowledge is presented under another bias. The teaching practices, based on historically acting models, appear in dissonance with the demands of society, revealing the need to develop a teacher training that integrates Teaching and Digital Technologies of Information and Communication (TDICs). A Case Study was developed in three stages: planning, data collection and analysis. The data obtained from the survey questionnaire was performed using a methodological triangulation focused on the considerations made to the following question: What is teaching? It was perceived the predominance of the association between teaching and teaching practice performed by the teacher who has the task to transmit the pre-established knowledge. However, it was noticed answers that related teaching practices to aspects considered innovatives such as construction, innovation, share, but in a reduced format. Revealing a scenario in which the teaching action needs to be modified, considering the technological knowledge. It is intended to continue this research in different contexts.

Keywords: Teaching Practices. Undergraduates. Technoteaching.

1 INTRODUCTION

The first ways to do Teaching in Brazil emerged using religion as its background, in which the main objective of the teaching and learning practice were centered on the perpetuation of Catholicism, with teacher action based on vocations and virtues. The Industrial Revolution established a context to do teaching professionally, therefore it was necessary to direct the process of formation to enable them to act as workers and citizens.

The focus of teaching has been the formation of individuals for social coexistence and for the execution of labor functions, responding to governmental needs [1]. Therefore, teaching is being used to make individuals docile, adapted and adecuado to the reality surrounding them, aiming to a greater resilience to what is imposed and that individuals will respond in accordance with social demands, obeying imposed standards [12].

It is for the fulfillment of the impositions of governability that the teacher emerges, and must educate the citizens for a productive performance, based on discipline, control and domestication [10].

In this structure, it is utilized a model in which the teacher is presented as the center, having the task to transmit the unquestionable knowledge to the students. The process of teaching, learning and evaluation is oriented by the following organization: the teacher, provided with knowledge, exposes what he knows to the students who appear as those who do not know, but who need to know, at all costs.

While approaching the transmissive knowledge model, it is important to highlight that this is based on the appeal for reinforcement, having the purpose of supplying or correcting the problems that occur [3]. In this way, the expository lesson is used as a basic modality of teaching applicable to any content, to any age, under any circumstances [3].

It is a problematic fact that the teaching is still based on a single, uniform model that presents as a formative horizon the adaptation and adequacy of the subjects [19]. Therefore, the author reveals her concern and questioning about this scenario, that signals that the school, under the current models, experiences a state of waiting for closure [19].
In agreement with these considerations, it is emphasized that the current model of Teaching reassemble the foundations of the emergence of writing, based on the defense of the existence of an absolute truth, which the teacher holds and controls, and which must be exposed to the students [4].

Facing the technological boom in which transformations are evidenced in ways of understanding and acting on the world, the expository model appears disconnected from reality [8]. Information and knowledge are accessed in seconds, in such a way that the roles of the school, the teacher, the student, the content are questioned, requiring the development of thinking and transformations.

The emergence and massification of Digital Technologies of Information and Communication (TDICs) points to a conceptual change, considering that directly interfere in human thinking, modifying the structure of the society that becomes a net, in a new social form [4].

Thus, it is understood that it is necessary to rethink teaching integrated to TDICs. Therefore, it is considered that the teaching training is the most significant path, in which this rethinking can be planned, organized, developed and evaluated.

It is considered important to investigate and think about the knowledge the undergraduates have about the concept of teaching, as they are teachers in initial formation. This information could enable the planning, development and evaluation of didactic-methodological strategies to facilitate the expansion of possibilities, conceiving the existence of other models.

Facing that, the authors ask: how undergraduates enrolled in 2016 and 2017 in the Technoteaching discipline understand teaching practices? Guided by this question, the objective of this work is to describe the understandings a priori undergraduates have about teaching practices, obtained from their answers to the survey questionnaire.

2 THEORETICAL REFERENCE

Teaching consists of a social construction, in which the understanding that the use of only one model of teaching can meet the plural needs of the society (not only of governmentality) is denied [22]. Although according to the author, there are teaching practices, permeated by different didactic-methodological possibilities, that are directed to diverse subjects with diverse demands.

Therefore, teaching action is based on reflection, flexibility and interaction, and it is related to work and not to a vocation as it was previously believed [21]. In this dynamic process, it is recognized that teaching occurs in a relation between individuals and not from an individual to another, unlike what is preached in the expository model.

Teachers and students are like learners that share their knowledge, aiming the construction of new knowledge. The absolute truths are denied, and the dynamic character of knowledge is recognized, highlighting that knowledge is in humanity, it is what people know, considering that everyone knows something, no one knows everything and there isn’t a reservoir of transcendent knowledge. Officially valid knowledge represents a tiny minority of those who are valid today. Therefore, the knowledge each one has needs to be recognized and valued into its diversity [4].

The expository model utilized on teaching practices is limited in many aspects, some problematics like evasion, grade repetition, non-construction of meaningful knowledge, disconnection between school approach and what is widely experienced in students’ social context, can be observed as signs of its utilization. It is evidenced that Teaching needs to take place from other paradigms and possibilities [21], [22].

Linked to this aspect, there is also the advent and wide use of TDICs in society, generating a greater questioning of the current bases. The student with whom the teacher is faced in the contemporary is different from the student of previous years, appearing as a digital native, that has as habit to spend a relevant amount of time on screens.

In dealing with the intentional, planned and organized use of digital technologies in the process of teaching, learning and evaluation as one of the ten new skills to teach, this author indicates that these technologies change the ways to communicate, to work, to make decisions and to think, requiring that the formation of individuals happens related to other bases [16].

It is emphasized the demand and the validity of the utilization of the TDICs in a school environment, in the contemporary scenario, highlighting that the digital technologies can support different ways of
thinking and learning [15]. However, the author warns about the way that technology is processed, emphasizing that the simple utilization of TDICs by the teachers, to expose content to students, wouldn’t generate meaningful changes in pedagogical practices.

It is proposed the integration of the digital technologies into teaching and student practices, so that these actors use them as tools to teach, learn and think through the realization of projects, using them as a source of concepts to elaborate new ideas [15].

The TDICs are more than simple tools and resources to support the teachers on their practices to transmit knowledge, TDICs appear as systematization of know-how, from which teachers and students create, produce, share, interact, innovate, construct [8]. It is questioned the use of the TDICs only for the instruction (instructionism) and it is defended its use also guided by the construction (constructionism).

Although different theorists recognize the necessity of teaching practices integrated to TDICs based on the construction of knowledge, it is possible to observe difficulties for the successful execution of this process, mainly related to the teaching training that did not approached teaching and TDICs in an integrated way [11].

In a research carried out with teachers of undergraduate courses, it was verified their interest to study and apply the digital technologies on their practices to dynamize the exposure of the contents, not modifying the current scenario [13].

The distance between theoretical and practical aspects, the fragmented approach of knowledge; the decontextualization; and the lack of consideration of the contemporary demands, inclusive regarding the technological knowledge are elements that stand out as problems that permeate teacher training processes [11].

It is understood, therefore, the need for teacher training to be rethought and transformed, considering the integration between teaching and TDICs, since teachers usually act in accordance to how they were formed [17]. Not having a training that mobilizes them to perceive, in theory and in practice, the pedagogical possibilities existing from the establishment of an integrating relationship between the teaching acting and the digital technologies, it becomes a complex task for these professionals to plan, execute and evaluate didactic-methodological contextualized, authorials, mobilizing, creative and critical practices.

Teacher training needs to be directed to the analysis of the contemporary scenario, as well as to the proposition of pedagogical alternatives connected to this scenario, in the sense that both teachers and students know and use reflexively and critically the technology to not be dominated by it [18].

3 METHODOLOGY

This research uses as methodological framework the Case Study, research modality directed to the investigation of contemporary phenomena under which the researcher has no control. In the Case Study, the aim is to describe or analyze what is being studied, having as a starting point question such as how or why [23].

The guiding objectives of this research modality are: to investigate phenomena that occurred in a real context; to preserve the unity of the object studied; to describe the context in which the phenomenon occurs; to create hypotheses or theories; to describe and analyze the causes that permeate the phenomenon [7].

In face of the necessity to comply with the ethical aspects of the research, it is highlighted that the Termo de Consentimento Livre e Esclarecido [Free and Informed Consent Form] (TCLE) was presented in full to all participants, and it was emphasized that the participation was optional and that the undergraduates, under no circumstances, would be identified.

The unit of analysis of the research is formed by seventy-one (71) undergraduate students who were enrolled in the Technoteaching discipline, in 2016 and 2017. The majority (56.3%) identified themselves as being male. A total of 49.4% of students belong to the age group between twenty-one (21) and twenty-five (25) years old.

Considering that the discipline in which the research was developed is based on Interdisciplinarity, it was observed the performance of students from twelve (12) different undergraduate courses, in the analyzed years, namely: Chemistry (31.0%); Letters (23.9%); Mathematics (11.4%); Biological
Sciences (8.5%); Pedagogy (5.6%); Music, Physics and History (4.2% each); Philosophy (2.8%); Dance, Social Sciences and Theatre (1.4% each).

The majority (40.9%) of students were close to finish their courses, on the fourth year of studies, followed by 25.3% that were on the second and third year of their courses; 18.3% who were on the beginning of the courses; and 15.5% who were above the ninth semester, last year of the courses. It is perceived, based on these data, a predominant scenario of undergraduates in the stage of finishing their courses, an aspect that can signalize the performance of individuals who have a significant theoretical and practical background in relation to what is teaching.

Related to the general context of the research execution, it is highlighted that the Technoteaching course is offered by the Universidade Federal do Ceará [Federal University of Ceará] (UFC), since 2015, focusing on the development of theoretical and practical reflections about the process of integration between teaching and TDICs, based on Constructionism, the Philosophy of Difference, on Meaningful Learning Theory, on Flow Theory and on Interdisciplinarity.

It should be noted that, during the course, the students, organized in heterogeneous groups, are mobilized to plan, develop and evaluate authorial material, as well as to plan, execute and evaluate hypothetical situations of lessons with public school students, from the fundamentals of Technoteaching.

The research was organized in three stages: planning, data collection and analysis. In the first stage, regarding the planning, the protocols and the instruments of collection and analysis were produced. The protocols are important in the development of Case Studies, since they are basic guiding instruments for the development of the research [23].

Also, in this first stage, we carried out a Bibliographic Survey, in which the guiding concepts of the study were explored, focusing on Teaching, the Teaching Training process and the Integration between Teaching and TDICs. The main relevance of the development of Bibliographic Research is to establish a theoretical basis for the work, as well as to identify the current stage of knowledge related to the theme [7].

The second stage, related to data collection, occurred during the month of August 2017, through the access and download of the Survey Questionnaires applied in the discipline previously. It should be noted that the Survey Questionnaires are developed by the teachers of the discipline on Google Drive and made available to students on their first lesson, through the Group on Facebook.

The guiding proposal for the application of the Survey Questionnaire is to collect the previous knowledge of the undergraduates, therefore external consulations were not allowed, and it was reinforced by the teachers that the objective of the activity consisted in accessing the knowledge that the students already have.

This way, this research considered the answers given by three different groups of students to the Survey Questionnaires, enrolled in different semesters of 2016 and 2017. Each questionnaire consisted of twenty-seven (27) questions, of which twelve (12) were related to the personographic profile of the individuals and fifteen (15) regarding the theoretical aspects that permeate the Technoteaching. The data collected and analyzed in this research are related to the answers produced by the undergraduates to the question number eight (08) of the theoretical elements, namely: What is Teaching?

The data analysis is performed through the triangulation of data sources on an interpretative basis, by comparing the discourses, in order to verify the convergences and divergences of the interpretations from the three different groups of students, using the theoretical basis of this research.

In general, the elements obtained from the three groups were compared, based on two focus of analysis [23]. The first focus is the centralization of the teaching action, in which it was observed if the participating individuals, while defining the concept of Teaching, centralized the teaching action in the teacher, in the student, in the content or in another component. The second focus corresponds to the use of the TDICs, and it is observed if the undergraduates relate the teaching action to the digital technologies, and in which way they relate it.

Considering the first focus of analysis, two categories emerged: Teaching as Transmission of Knowledge and Innovations in Teaching. Regarding the second focus, two other categories were created: Influence of Digital Technologies in Teaching; and Influence of Constructionism.
Discourse Textual Analysis was also used as a resource for the third stage of the research. This approach corresponds to a process of emergence of new understandings, occurring from the following steps: unitarization, categorization, description, interpretation and argumentation [14].

4 RESULTS

As a result of the data collection and analysis, based on the survey questionnaires and the theoretical basis considered in this research, it was perceived mobilized aspects of reflections regarding the integration between Teaching and TDICs in the initial process of teacher training.

Specific alphanumeric codes were used with the purpose of guaranteeing the preservation of the identity of the students participating in the research, based on the ethical precepts that permeate the development of scientific studies. Considering that the answers of seventy-one (71) undergraduates were analyzed, the codes used went from A1 up to A70.

Most of the undergraduates’ responses considered Teaching as Transmission of Knowledge. Among the seventy-one (71) individuals, forty-seven (47) conceptualized teaching as a practice, from which the teacher transmits the knowledge to the students, in an expositive way. Thus, the teaching action is based on the teacher, and the student is presented as a passive being who must memorize and reproduce the content exposed.

“É o ato e prática de ensinar e transmitir conhecimento” ["It is the act and practice of teaching and transmitting knowledge"] (A4).

“Exercício de lecionar” ["Teaching Activity"] (A6).

“É ensinar algo, passar um conteúdo, dar aulas” ["It is to teach something, approach some content, to give lessons"] (A27).

“Exercício do magistério” ["Exercise of teaching"] (A36).

“É a prática de transmitir conhecimento que irá auxiliar alguém a desenvolver habilidades e saberes para atuar na sociedade em que está inserido” ["It is the practice of transmitting knowledge that will help someone to develop skills and knowledge for acting in the society in which they are inserted"] (A38).

“É a arte de transmissão de conhecimentos e saberes” ["It is the art of transmitting knowledge"] (A42).

“Creio que deve ser o conjunto de regras que são utilizadas para uma melhor transmissão do conhecimento” ["I believe that it must be the set of rules that are used for a better transmission of knowledge"] (A43).

“Ensinar transmitir conhecimento” ["Teaching to transmit knowledge"] (A57).

“É o oficio de ensinar” ["It is the role of teaching"] (A61).

“Ato ou ação de ensinar” ["Act or action of teaching"] (A64).

“Atividade professoral, facilitar que certos conhecimentos sejam absorvidos pelos alunos” ["Teaching activity, to facilitate that some knowledge could be absorbed by the students"] (A68).

The expository model, which is predominant in the students' considerations regarding Teaching, is guided by the thesis that the quantitative absorption of knowledge by the students is related to a successful teaching, learning and evaluation practice. Thus, the teacher is responsible for exposing the content and the student is responsible for memorizing and reproducing it precisely [5].

This model is questioned by many authors, indicating that the development of changes that contemplate the demands of teachers and students, in the face of the contemporary scenario, tends to occur in a timid and slow way, considering that the students use a considerable part of their time dedicating their efforts to memorize the content or to pretend that they are memorizing it [20].

Therefore, it is difficult to meet the demands of the society of knowledge that requires the existence of creative, autonomous, proactive persons. Moreover, the dialogue between teachers and students towards the construction of knowledge, recognized by several theorists as necessary, becomes impracticable. Authors highlight the need to overcome the existing antagonism between teachers and
students, an aspect that will hardly occur in a vertical relationship, in which the desires and interests of one side are not properly considered [12].

With respect to the category Innovations in Teaching, it was observed responses permeated by aspects that exceed the transmission and exposure of knowledge. In this category, elements such as exchange, sharing, interaction, learning, construction of knowledge were listed in a limited way. From the seventy-one (71) responses collected, twenty-four (24) fit into this perspective that conceives Teaching as a construction of knowledge, based on the interaction established between teachers and students.

“A arte de ensinar e aprender - se reinventar, reciclar, melhorar a cada dia” ["The art of teaching and learning - to reinvent, to recycle, to improve every day"] (A3).

“É uma construção educacional entre toda a comunidade escolar, que deve ser sempre contextualizada e não somente repassada isoladamente do mundo fora da instituição escolar” ["It is an educational construction among the entire school community, which should always be contextualized and not only passed on in isolation from the world outside the school institution"] (A7).

“Processo de ensino-aprendizagem mediado pela reflexão” ["Teaching-learning process mediated by reflection"] (A28).

“Sabem criar caminhos para que outra pessoa construa conhecimento, sejam eles advindos de conhecimentos prévios ou a formação de novos conhecimentos” ["To know how to create ways for someone else to build knowledge, whether they come from previous knowledge or from the formation of new knowledge"] (A41).

“Área da educação vinculada diretamente na mediação do processo de ensino aprendizagem” ["Educational area directly linked to the mediation of teaching and learning process"] (A53).

“Docência é o ato de ensinar, de troca e compartilhamento de conhecimentos” ["Teaching is the act of teaching, of exchange and sharing of knowledge"] (A37).

In such considerations are observed mobilizing elements for the development of other possibilities of Teaching. Although they do not detail their understandings, the students signalize the intention of establishing a horizontal relationship between teachers and students, based on collaboration, mutual learning, and sharing of knowledge.

Therefore, it is understood, that the student also has knowledge to be used in the context of the classroom and that the teacher does not know everything and can thus learn from the students. In this conception, the student does not appear only as a deposit under which the teacher puts his knowledge, but as an individual who is capable of thinking about the situations in order to reorganize his cognitive structure [18].

Regarding the categories of Influence of Digital Technologies in Teaching, and Influence of Constructionism, none of the undergraduates participating in the research mentioned any element that related to these aspects. It is verified in the previous understanding of the participants, a scenario in which Teaching and TDICs are disconnected, even though they are digital natives [5].

Such context corroborates with the understanding built by [6] that the teacher training for the teaching action is fragile. Even though the TDICs are part of human life today, being present in diverse areas, these have not yet been conceived in relation to the process of teaching, learning and evaluation. It is important to notice, as confirmed in the methodological section of this study, that most of the participants of the research are in the final phase of their degree courses.

Specifically, about the process of non-integration between Teaching and TDICs in teacher training, with the existence of a difficulty of equalization between teaching theory and practice, based on techniques and the lack of commitment in the formation of undergraduates to act in the contemporaneity, considering the technological know-how [12].

It is understood, therefore, the demand for rethinking and for the transformation of the initial teacher training process, so that theory and practice are interwoven; that knowledge is approached in a connected way; that teacher training propose and develop contextualized practices, based on the knowledge and the reality of the students considering the TDICs; that teachers are concerned with
introducing challenges that mobilize students to construct knowledge in a creative, critical, reflexive, authorial and dynamic way [12].

5 CONCLUSIONS

The objective of this research consisted in describe how undergraduates enrolled in 2016 and 2017 in the Technoteaching discipline understand teaching practices. Therefore, the undergraduates’ previous knowledge were collected and analyzed through the utilization of a survey questionnaire on the first day of lesson, in each period.

It was obtained a scenario in which most of the undergraduates revealed to understand teaching as a practice in which the teacher transmits the knowledge to the students. This expository model highlights the teaching action from its institutionalization, appearing as a complex aspect that the subjects, even in the phase of completing their undergraduate courses, can perceive Teaching under another bias.

It is understood that, during the initial teacher training, didactic-methodological theories and concepts significant for the construction of their professional role are discussed and reflected. However, there is a tendency that such theories and concepts are presented in an expositive way. Thus, the undergraduates experience little on their training theoretical-practical situations guided by other perspectives [12].

In addition, authors reveal the difficulty that the concepts anchored in the cognitive structure of students are reformulated. The authors also reveal, while working the Meaningful Learning Theory, that the process of anchoring concepts is complex and involves several phases, therefore it is also a complex task to withdraw and re-elaborate these concepts in the cognitive structure of the subjects [2].

However, some responses were found, guided by innovative aspects included in the study, that indicate the existence of a minority of undergraduates that understand teaching beyond the idea of the transmissive practice. The responses presented elements like share, interaction, reflection and construction.

Another aspect understood as questionable based on the obtained answers consists in the non-establishment of conceptual relations, by the subjects investigated, between Teaching and TDICs. Although the undergraduates are immersed in a technological context, there was no mention of possible technologies that would be used or integrated into the teaching practices, revealing a scenario of disconnection between such areas of knowledge. In opposition to this reality, an author emphasizes the indissociable existing character, in the contemporaneity, between Teaching and Technology [9].

Therefore, it is perceived the urgent need for teacher training that experience planned and organized transformations, aiming to integrate Teaching and TDICS. Basic conditions should be offered so the undergraduates, future teachers, develop their knowledge, skills and competences that would enable them to analyze and utilize the TDICS in a critical and reflexive way [9].

It is intended to continue the research along with the offering of the Technoteaching discipline on the following academic years, going deeper into the studies in order to provide significant bases that can be reflected and utilized in teacher training.

REFERENCES