Experiences of professionalized Chilean dental educators. A qualitative study.

Experiencias de docentes chilenos profesionalizados de la carrera de odontología. Un estudio cualitativo.

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Abstract: **Introduction:**The active learning process is certainly one of the most complex challenges in dental education. It is essential for the development of critical thinking and clinical skills. There is evidence of the need for teacher professionalization, but there is scarce literature reporting on the positive changes in the teaching profession based on such professionalization. The aim of the present study is to explore the experiences of the pedagogical performance of professionalized educators in dentistry. **Material and Methods:** A qualitative study was conducted using a design based on content analysis. The sample was selected for convenience and included dentists who have completed a master's degree in teaching in higher education, who were part of the teaching staff of a dental university program and with a career experience of at least 5 years. Semi-structured interviews were conducted, with three initial dimensions: Teaching Career, Motivation for Teacher Professionalization, and Impact on the teaching-learning process. The interviews were verbatim transcribed and content analysis was performed by the researchers using data triangulation. The research was approved by the research and ethics committee. **Results:** Six categories were established: Generational clash, Motivations to practice teaching, Motivations to professionalize teaching, Competences acquired after professionalization, Effects of professionalization in the classroom context, and Shortcomings of the professionalized educator. **Conclusion:** Professionalized dental educators show comprehensive improvements in their performance. They have developed practical competences for the specific needs of the courses they give.

Keywords: *staff development; education, dental; education, dental, continuing; education, professional; qualitative research; teaching.*

Resumen: **Introducción:** El proceso activo de aprendizaje es sin duda uno de los desafíos de mayor complejidad en la educación dental, el cual resulta imprescindible para el desarrollo del pensamiento crítico y habilidades clínicas. Existe evidencia de la necesidad de profesionalización docente, pero escasa literatura en odontología que exprese los cambios positivos desde el quehacer docente a partir de dicha profesionalización. El presente estudio tiene el objetivo de explorar las experiencias del quehacer pedagógico a los docentes

profesionalizados de la carrera de Odontología **Material y Métodos:** Estudio cualitativo con un diseño basado en el análisis de contenido. La muestra fue seleccionada por conveniencia, buscando seleccionar cirujano-dentistas que hayan cursado un magíster en docencia para la educación superior, que sean parte del plantel docente de la carrera de odontología y que posean trayectoria de al menos 5 años. Se realizaron entrevistas semi-estructuradas, con tres dimensiones iniciales: Trayectoria Docente, Motivación de Profesionalización Docente e impacto en el proceso de enseñanza-aprendizaje. Las entrevistas se transcribieron verbatim y se realizó análisis de contenido, realizando triangulación entre los investigadores. La

investigación contó con la aprobación del comité de ética e investigación. **Resultados:** Se generaron 6 categorías: Choque generacional, Motivaciones para ejercer la docencia, Motivaciones para profesionalizar la docencia, Competencias adquiridas tras la profesionalización, Efectos de la profesionalización en el contexto de aula y Falencias como docente profesionalizado. **Conclusion:** Los docentes profesionalizados de odontología evidencian mejoras integrales en sus quehaceres; desarrolladas de forma específica para la singularidad de cada curso.

Palabras Clave: *desarrollo de personal; educación en odontología; educación continua en odontología; educación profesional; investigación cualitativa; enseñanza*

INTRODUCTION.

The active learning process is certainly one of the most complex challenges in dental education. It is essential for the development of critical thinking and clinical skills, which are crucial to succeed in the globalized world. Despite the importance of providing instances that stimulate an active learning process, there are few teachers and educators who manage to facilitate this process[1] because there are conditions that may negatively affect the work of teachers such as: teacher/student relationship, little freedom in the development of curricular networks, and lack of pedagogical tools, deepened by the lack of academic development.[1]

The study center of the Ministry of Education of Chile in its report on the 2016 education statistics indicates that from 2008 to 2016 there was a significant increase in the number of teachers in the country's universities. The rate of new academics has increased by approximately 29%. However, only 39.4% have a professional degree, 5.7% have a bachelor's degree, and the remaining 1.2% do not have a bachelor's or professional degree.

These data reveals that 46.3%, that is, almost half of the teachers working in the different universities throughout the country do not have postgraduate training, either in the discipline they teach or in some type of pedagogical training such as a master's or doctorate degree in education (excluding those who studied pedagogy).

The lack of formal professional teacher training that

university educators have is undeniably one of the main variables to consider, and dental education is not immune to this problem. It is paradoxical that in lower educational levels not being a qualified teacher is an excluding factor, but among university educators only disciplinary knowledge and development in their field are common requirements. Consequently, it is only the teacher's own initiative to pursue some degree of pedagogical development, such as a diploma, master's, or doctorate in education which makes a difference.

This degree of academic or pedagogical training will be defined as teacher professionalization.

Different authors and institutions suggest the need for teacher professionalization in the university environment,[2,3] as a requirement for continuing pedagogical education and as a core component of teacher development in higher education.[4] Higher education institutions and their academic staff must understand the importance of the professional development of educators and the progressive evolution of educational tasks towards greater professionalization, which are characterized by the depth of critical thinking and its application to the global analysis of the processes involved in teaching within the new educational paradigm.[4]

There is evidence of the need to professionalize dental education, but there is scarce literature reporting on the positive changes in the teacher profession based on such professionalization. The present study aims to explore the experiences of the pedagogical performance of professionalized educators in dentistry

programs, and in this way, produce evidence to support the improvement in education and its transformation to a professionalized teaching practice, regardless of the other requirements of the educational institution.

MATERIALS AND METHODS.

A qualitative study was carried out based on content analysis. Its aim is to systematically transform large amounts of text into a concise and organized summary of key results, through the analysis of fully transcribed interviews, to form codes and categories in a process of information abstraction from literal content to latent meanings.

The sample was selected for convenience from the records of the general academic office at Universidad Andrés Bello, Viña del Mar, Chile. Dental surgeons who had completed a master's degree in teaching in higher education, who had a permanent contract with the dentistry program and who had a career experience of at least 5 years as a university educator were included in the study. After applying the inclusion criteria and inviting people to participate freely and voluntarily, the sample was consolidated into four dental surgeons, whose characterization is found (Table 1).

Data collection was carried out through semi-structured interviews at the university campus in a quiet room, after making an appointment with the participants.

During the interview, open guiding questions were used so that participants could talk freely about the topics, giving them the choice to delve into certain topics according to their interest and personal stories. The pattern of the semi-structured interview contained topics organized in three initial dimensions: Teaching Career, Motivation for Teaching Professionalization, and Impact on the teaching-learning process. After fully transcribing the interviews from the recordings, they were subjected to content analysis[5] using the software Atlas.ti® 8.4, which allowed the identification of units of meaning in the texts. Later they were assigned codes and grouped into emerging categories that dealt with similar or connected topics. Discrepancies were discussed until agreement was reached among the researchers. Rigorous qualitative methodological criteria were con-sidered, including triangulation between researchers.[6] The protocol was authorized by the Ethics and Research Committee of the School of Dentistry of Universidad Andrés Bello, Viña del Mar.

RESULTS.

Six categories were created: Generational clash, Mot-ivations to practice teaching, Motivations to professionalize teaching, Competences acquired after profes-sionalization, Effects of professionalization in the classroom context and Shortcomings of the professionalized educator.

Generational clash

This category refers to the observations made by teachers regarding the transformations that university teaching has undergone because of global and social processes.

A generational clash between teachers and students is evidenced, mainly due to the different sociocultural and economic contexts that occurred and still occur during the training of both groups as a result of said global and social processes. There is a clear difference in the perceptions and the ways to achieve ideal professional development (Table 2).

Motivations for teaching

This category of analysis refers to the initial motivations of those who chose teaching as their career path.

On the teachers' reports it is possible to identify short-comings on the part of the universities regarding the teacher selection process. In the case of the participants in this study, there were no institutional criteria based on key competencies in the pedagogical area for their selection, rather, it was a set of individual factors, personal interests and opportunities that occurred when they were students, mainly in the form of an incentive from their own professors, who saw in them potential pedagogical skills (Table 2).

Motivations to professionalize teaching

This category refers to the reasons that encouraged participants to professionalize their teaching, specifically to pursue a master's degree in teaching in higher education. The motivations for professionalizing teaching, unlike the motivations for teaching, are quite

consistent in the interviewed participants. There is a response pattern related to the perception of having a lack of pedagogical competences, which is logical due to the absence of specific courses for university students who wish to follow education as their career path. There is also the lack of curricular requirements of professionalization in pedagogical competences. As previously mentioned, one of the weak aspects of university education is the traditional orientation towards the domain of theoretical-practical scientific knowledge, which consequently puts pedagogical competences in the background hindering the correct development of the teaching-learning process. (Table 2).

Competences acquired after professionalization

This category refers to the competences that were developed after professionalization and that had a significant impact on teaching. There is agreement in the participants' report regarding the benefits achieved in the context of the master's degree, in which an assessment of pedagogical competences and teaching practice is carried out, in the face of the lack of adequate training with which they began to exercise the teaching profession. In this sense, pursuing a master's degree in teaching for higher education becomes an asset for professionals, since it provides them with a more comprehensive understanding of the teaching process, beyond the theoretical-practical scientific requirements. As stated above, it favors the compatibility of these three elements under the understanding of teaching as a dynamic discipline with constant updating (Table 2).

Effects of professionalization in the classroom context

The next category refers to how professionalization in teaching within the framework of educational techniques had an impact in the classroom environment.

The skills associated with the know-how are those related to the setting up of the teacher-student relationship, where the horizontal link and pedagogic dynamics are promoted in order to carry out a joint and reflective training process aimed at the critical thinking of students. Professionalization reshapes the internal dynamics of the classroom, providing skills to teachers to carry out fluid communication processes, which provide instances of trust and learning through the provision of feedback.

Teachers pay greater attention to the needs and shortcomings of their students, and then use the com-petences acquired to create methodologies that match and satisfy their students' educational needs. In the following extract, the teacher comments on the changes that have occurred in the classroom context in the teacher-student relationship (Table 2).

Shortcomings of the professionalized teacher

This category refers to possible shortcomings that educators show despite professionalization. As mentioned above, a characteristic of teacher professionalization is the constant improvement of pedagogical, theoretical, and practical skills.

In this sense, it seems relevant to highlight – in the pedagogical field- the shortcomings that the participants showed when performing in the classroom. 4

Table 1. Characteristics of the participants in the study.

Participant	Gender	Age	Teaching experience	Postgraduate Specialization	Studies/training in Education
1	Male	34 years	7 years	Specialist in Periodontics	Master in teaching in Higher Education
2	Female	67 years	28 years	Specialist in Periodontics	Master in teaching in Higher Education
3	Female	43 years	19 years	Specialist in Periodontics	Master in teaching in Higher Education
4	Female	54 years	29 years	Specialist in Maxillofacial Surgery	Master in teaching in Higher Education

Table 2. Dimensions generated from the analysis of discourses.

Category	Extract
Generational Clash	"My point of view is not only with the students that come to us, it is with society or young adults in general, there is a global immaturity, there is a delay in the concept of adulthood, they just take responsibility around thirty." **Participant 3**
	"Students used to search books or download information, but they looked for it. Now they are used to being given everything. We are falling into a flaw by not making the students search the information by themselves, that they investigate by themselves, that they are motivated to look for information. This autonomous work does not work without feed-back." **Participant 2**
Motivations to teach	"It was in the last year of my career when I had the opportunity to be an assistant / student because the career director saw in me certain skills to teach, to transform the complicated things into easy things which my classmates could understand." **Participant 3**
Motivations to professionalize teaching	The thing is that being a clinician you don't have the necessary methodological skills or tools to be able to deliver significant learning in students. I believe that this was my main motivation, because I could somehow use my previous training in working methodologies ... When you are in the classroom it is completely different from what you do in the clinic and it is at that moment when you feel that something is missing." **Participant 4**
	"The thing is that I already had the group dominance, the scenic domain, and how to handle groups. It wasn't that terrible. The hard part here in the classroom is…they give you a program with certain content and this content has to talk by itself, you have to make it move, you have to do different kinds of methodologies, and those are the ones that they teach you in the Master in higher education" **Participant 2**
	Then you are more specific, then you can improve yourself and make your content really achieve the meaning you want. So to handle that wasn't that hard for me, but rather this contribution from the magister helps me to develop my classes very well, they have improved. I felt that I improved from when I came alone with pedagogy in gymnastics education to now with the new tools I had acquired." **Participant 1**
Skills acquired after professionalization	"Patience. I think that when analyzing the pedagogical situation lived along with the student, I can realize that in the past it was extremely authoritative, I did not like that a student did not know the answer, many times it was intimidating, and one of the things that the Master in higher education helped me the most was to be able to control that feature in me (...) and also to acquire tools in which I can have the best of each student's ability and capacity (...) The master in education gave me many tools of emotional management, such as motivating, giving a warmer look and interaction between the student and the teacher". **Participant 3**
	I think there are 2 major changes, a change in practice; How do you modify your teaching, your evaluation? And another change that is mental, it changes your vision, it changes your teaching, the relationship with the students, the curriculum, your mind is reorganized. When you just do your classes, just like that, you focus on the content and try to put everything on a slide with photos and animation, instead of anchoring it to the curriculum, the procedimental part or the clinic. I think that changes you, that is the most important change, a reorganization of the whole mind, in a manner of speaking; and another that is already the most practical one, which is how you can do better evaluations, programs, planning, etc…" **Participant 1**
	"I know it's a slow change. It is difficult to change models, right? It is also difficult for students who previously had everything and were given everything done, to participate in their own knowledge (...) this has to be a gradual, gradual and very honest change. Also understanding what students are feeling as they are taking care of their own learning acco-

mpanied by the teacher. I think that one of the most important things was in how I changed my way of approaching the students, because before the teacher was seen as an authority, and that has been changing because you have also changed, because now you participate and know the students whom you're working with. Because if you don't know them, you're not going to have so much interest in them either. And I have realized that as you participate with them, you form groups with them, study groups, you get to know them deeply and you have different criteria when it comes to being with them. " **Participant 4**

"I think that the significant learning in our case, you can see it in the practical part when you have a good theoretical background behind, that you can transfer without problems to the practice and knowing why you are doing it. So by transferring all theoretical knowledge to practical knowledge and then to practice, you are working and doing clinic with a strong base on which you are not working as a simple artisan of dentistry, but everything you do, every movement you do with the curettes for example, you know exactly why you are doing it, you know what you want to achieve and there is only one thing… an instrument and nothing more. "

Professionalization effects in the context of classroom

"I think there is a different look from us towards the students and from the students towards us. And that different look is good, it's very good because we have approached them from another spot. We approach them because we want them to learn, and they approach us because they also know that we are willing to help them seek their knowledge in a good way. Participating with them, motivating them, encouraging them, making them work in groups. Making this learning and teaching thing more playful, not so strict, not so vertical. "
Participant 2

"I am also atypical in my classes, I treat students as colleagues, I am not looking at them as students, I ask them what they think, what they found, everything through a conversation between us. I think that being so omnipotent, although we know that kids love to be treated badly, but when you treat them more horizontally, but not being disrespectful, kids can and do more. I remember that the last classes with the kids we spent the time talking without so many rigid things, like "read the chapter" because they are already in second year". **Participant 1**

"When you are in front of your class, you are the one that motivates them, I have different types of days like any other person but when you enter the classroom you have to motivate them, and for me, you have to understand them; for example in structure and function they like my subject because they integrate a lot, I make them to reason, to think much more than just watch, you are going to go to the internet or a book and they are going to tell you they found the evaluations and even the protocols but they will not make you think and that is what I am looking for. One of the objectives of the class is to learn to think and reason (...) in order to find the most optimal clinical reasoning. " **Participant 3**

Failures as a professionalized teacher "Perhaps what I need is to incorporate more tic's, learn things to make the classroom or tutoring situation more interactive with the student, in order to develop and take advantage of the information that is dynamically available. Modernize me a little bit, depending on using all these audiovisual alternatives, to complement the knowledge that you can transmit, knowledge of the profession as you live it transmit the experience, sensations, errors and projections. " **Participant 3**

"I still have to study a lot as a teacher. I would like it very much to get into the topic of neurodidactics and neuroscience to understand in a better way how significant knowledge is achieved. " **Participant 2**

There is a wide agreement that constant improvement is fundamental in university pedagogical practice, and although it is true, the master's degree in education allows the transformation from the traditional teacher to a professional one, it does not provide all the necessary tools such as in-depth management of information and communication technologies (ICT) or the biological bases that the deep learning process entails (Table 2).

DISCUSSION.

Considering the social, cultural, economic, and political transformations, the concept of a university professor in dental education has also been transformed in the face of the needs of a new university system. It is evident that there is a sociocultural change in the students entering higher education, and many causes could explain this phenomenon, however, inclusion has played a fundamental role.[7,8]

This phenomenon would explain the differences in the type of motivation shown by today's students when faced with a different level of demand when compared to lower levels of education. Consequently, the current university dental educator must go beyond the theoretical-practical knowledge to acquire pedagogical skills that may allow them to integrate new teaching methods that positively impact students with different motivations, through a progressive, pluralistic, inclusive, and global perspective.[9]

The motivations that each participant had to become a teacher cannot be generalized. Despite this and from an interpretation of their answers and how they began their careers as teachers, an underlying lack of appropriate protocols for the selection of professionals was identified, so academic development is not a determining element for teaching. The perception of Chilean universities regarding the importance of having professionalized teachers participating in the active learning process beyond the disciplinary level is questioned in this study, as it seems to be completely different from that of developed countries such as Sweden, Australia, Germany, or the United Kingdom, where teacher professionalization has been a priority in the accreditation processes in recent years.[10,13]

Despite this and understanding professionalization as a dynamic and constantly evolving concept, which is related to the importance of updating pedagogical competences and knowledge that allow a responsible exercise of teaching and teaching,[14] there is a natural motivation of educators to professionalize. The reasons to do so are different, although the individual component or personal interest of the teacher is evident; however, it is possible to deduce an intrinsic motivation to improve their classes, as well as an agreement on the lack of tools to address a diverse student profile.[7,8] There is a general understanding that a high disciplinary development does not guarantee a better development of knowledge, know-how and knowing how to be. Apparently, the development of competences in dental students should be one of the main components in any curricular process of teacher improvement, as well as part of the institutional vision, independent of the academic body that belongs to it, since pedagogical practice is understood as a dynamic, adaptable, constantly updating, and evolving discipline.[12,15]

There is a wide agreement that having completed a master's degree in higher education was a constructive experience; a positive assessment of the acquired pedagogical and practical competencies is made. The training contributed to a deep understanding of the pedagogical task itself, a visualization of the shortcomings, as well as the strengths that each educator had and how these could be corrected or improved as the program developed. The participants' testimonies reveal that the professionalized teacher becomes a committed professional, capable of integrating theory, practice and experience; this last dimension being the most questioned in the configuration of a professional educator, since it is associated with subjective factors of individual experience. The teacher-student relationship, the administrative capacities reflected in a planning according to the vision and mission of the institution, the change in the didactics and the evaluation processes with an adequate link with the environment, are some of the competences that this study could observe in the testimonies

of dental educators. The understanding and the need to develop competences in the students in these three dimensions was a common point and fundamental component of the master's degrees in education.[16] The dynamic relationship in these three dimensions allows the development of metacognitive and social competences reflected in a capacity for reflection, self-criticism, leadership, and cooperation of professors, which will be transmitted to students through the teacher-student relationship.

From the above, it can be deduced that the professionalization process carried out by the educators in this study showed achievements related to the development of professional competences in these three areas. However, it is important to highlight that research in dentistry at university level is essential to produce new scientific evidence, as part of the process of learning and constant feedback. However, in the teachers' testimonies, it was not possible to identify this need as an obvious shortcoming in university work.[17]

Facilitation is intended to produce mutual construction of knowledge, using the skills, tools, and abilities of the educator, providing instances for meaningful and reflective learning, to enhance metacognitive processes in the student, stimulating and accepting the autonomy and initiative of the dental students. Testimonies reveal that teachers are gradually carrying out processes of this type, expressing their interest in maintaining continuous improvement. Based on the above, a shortcoming was observed in the development of information and communication technologies (ICT) that pedagogical training failed to make up for. Likewise, the lack of theoretical bases in the field of "neurodidactics" and how this can influence the teaching-learning process was evidenced.[18,19]

These reflections are expressed in the transformations that occur in the internal process of the classroom as a concrete expression of the transformation of the teacher into a professionalized educator, in the classroom environment, communication processes, and the bond created between the teacher and their students.[11,13, 20] This dynamic process is influenced by monitoring, focusing on the individual needs of the student, and the provision of feedback through instances of trust and learning. This results in the incorporation of active methodologies consistent with the current dental context.

CONCLUSION.

Professionalized dental educators show substantial and comprehensive improvements in their performance. Past limitations become diffuse and educational strategies that they did not believe possible emerge. They have developed specific strategies for the courses they give, demonstrating an integration of the postgraduate content, where the skills acquired have been of crucial importance for the teaching-learning process.

Educators have become more a guide or mediator than just a professor, giving students the opportunity of communicating, making mistakes, and improving their learning together with their peers and not individually; without neglecting the "know how to be", during which binding dynamics emerge that go hand in hand with the student's training process.

It is suggested to conduct further research adopting a qualitative approach through grounded theories that allow the study and explanation of the phenomenon in greater depth.

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