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DIDACTICAL CHALLENGES OF THE PEDAGOGICAL KNOWLEDGE IN CHILEAN UNIVERSITY NEW TEACHER

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Abstract

This study provides an analysis of the didactic transfer of the novice university professor and seeks to characterize the path of his transformation into a teacher. The methodological matrix of the research was a case study in three regional Chilean universities. The data come from the application of an in-depth interview and the analysis of the curriculum vitae of the group consulted. The results reveal elements of the didactic transposition in the construction of knowledge, where subjective, disciplinary, institutional factors and practical experiences of the new teacher converge. Initially, training patterns are reproduced, which are questioned in complex situations. It is interesting to note that this knowledge is constructed as a dialogue of knowledge: science and pedagogy.

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DESAFÍOS DIDÁCTICOS DEL SABER PEDAGÓGICO DEL DOCENTE UNIVERSITARIO NOVEL CHILENO

Resumen

Este estudio proporciona un análisis de la transferencia didáctica del profesor universitario novel y busca caracterizar el camino de su transformación en docente. La matriz metodológica de la investigación fue un estudio de caso en tres universidades regionales chilenas. Los datos provienen de la aplicación de una entrevista en profundidad y el análisis del currículo vitae del grupo consultado. Los resultados revelan elementos propios de la transposición didáctica en la construcción de saberes, donde convergen factores subjetivos, disciplinarios, institucionales y experiencias prácticas del profesor novel. Inicialmente se reproducen patrones de formación, los cuales son cuestionado frente a situaciones complejas. Interesa destacar que este conocimiento se construye como un diálogo de saberes: ciencia y pedagogía.

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DESAFIOS DIDÁCTICOS DO SABER PEDAGÓGICO DO PROFESSOR UNIVERSITÁRIO CHILENO PRINCIPIANTE

Resumo

Este estudo nos oferece uma análise da transferência didática do professor universitário principiante e pretende caracterizar o caminho da sua transformação em docente. A matriz metodológica da pesquisa foi um estudo de caso em três universidades regionais chilenas. Os dados provêm da aplicação de uma entrevista em profundidade e da análise do *curriculum vitae* do grupo consultado. Os resultados revelam elementos próprios da transposição didática na construção de saberes, na qual convergem fatores subjetivos, disciplinares, institucionais e experiências práticas do professor principiante. Inicialmente se produzem padrões de formação, que são questionados perante situações complexas. Interessa destacar que esse conhecimento é construído como um diálogo de saberes: ciência e pedagogia.

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DÉFIS DIDACTIQUES DU SAVOIR PÉDAGOGIQUE DES PROFESSEURS UNIVERSITAIRES DÉBUTANTS AU CHILI

Résumé

Cette étude propose une analyse du transfert didactique des professeurs universitaires débutants et cherche à caractériser leur parcours de transformation en enseignants. La base méthodologique de la recherche a consisté en une étude de cas au sein de trois universités régionales chiliennes. Les données ont été recueillies au cours d'un entretien approfondi ainsi que par l'analyse du *curriculum vitae* des participants. Les résultats ont mis en évidence des éléments propres à la transposition didactique dans l'élaboration des savoirs, où convergent des facteurs subjectifs, disciplinaires, institutionnels et des expériences pratiques des professeurs débutants. Les modèles de formation initialement produits sont remis en question face à des situations complexes. Il est intéressant de souligner que cette connaissance se construit comme un dialogue des savoirs : entre la science et la pédagogie.

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AN ATTEMPT HAS BEEN MADE TO OFFER AUTONOMY TO THE UNIVERSITY STUDENT LEARNING

a professional career after the declaration of Bolonia and the Tuning project in Latin America and particularly, in Chile, which has caused new challenges and new problems in the work of Chilean higher education teachers (Tuning América Latina, 2004; Brunner, 2015).

In this context, it can be affirmed that university teaching is under increasing requirements and demands for quality that come from this knowledge society (Brunner, 2015), as well as the type of student who enters the higher education system (Isaurralde, 2016; Walker, 2016).

The university teacher, when assuming the teaching position, faces a dichotomy: holding to the past or facing the present-future. This professor, and mainly the novice professor, lives a situation of confusion, because the traditional roles of teacher and researcher have been joined by another one, as manager (facilitator) of student learning (Medina & Jarauta, 2013; Rodríguez Torres et al., 2020; Tardif, 2004).

When examining the specialized literature on university pedagogy, it can be recognized an abundant investigation on different facets of the work of the university professor, whether on their beliefs, teaching styles, assessment instruments, teaching competencies, pedagogical knowledge, professional identity, proficient performance, and pedagogical training (Bolívar & Caballero, 2015; Fernández Lamarra & Pérez Centeno, 2011; García-Prieto et al., 2019; Medina & Jarauta, 2013; Villalobos-Claveria & Melo-Hermosilla, 2019).

Nonetheless, only in recent years the voice of novice teachers begins to be recognized as a valid expression within the academic community (Guzmán, 2012; Porto Castro & Mosteiro Gascía, 2016; Rodríguez Torres et al., 2020), with the exception of some cases such as Feixas (2002), who analyzed problems identified by this group in university contexts. Until that moment, the beginner teacher was expected to meet the demands of the academic career in order to be recognized as a peer by expert coworkers.

The foregoing allows to affirm that it is necessary to develop research on the new teaching staff that is incorporated into university education and the way it is used to generate didactic knowledge that allows responding to institutional challenges for a quality higher professional training (Guerra & Montenegro, 2017). Therefore, the problem addressed in this study is the transformation of the disciplinary knowledge that an expert (researcher, doctor) possesses when developing his/her daily teaching work, through knowledge management that allows to assume a new professional role, as a university professor. The thesis that this work assumes and that is a true investigative assumption for this methodological operationalization.

A first interesting perspective to use understanding the work of the novel teacher is the view of the SoTL (Scholarship of Teaching and Learning), which allows to understand the exercise of university teacher and, at the same time, it can be a base to set the founding principles of its future professionalization (Chocarro de Luis et al., 2013; Fanghanel et al., 2016; Albergaria-Almeida, 2010).

The SoTL aspires to be a meta-theory capable of giving a global vision of university teaching and, at the same time, uses techniques typical of educational research, such as: interviews, questionnaires, participant observation, surveys, focus groups, etc. and procedures associated with reflection and analysis, triangulation of findings, quasi-experimental research, among others (Fanghanel et al., 2016; Hutchings & Shulman, 1999).

We need to systematically reflect on the evidence of learning from our own students, our own classes, and disciplines. We need to build on generic research, but carefully place that within our disciplines. We then need to monitor the success or failure of our efforts to improve our students' learning and then communicate the results of those efforts to our colleagues. The payoff for teaching and learning in this perspective is not research in the traditional sense; it is an orientation activity to be performed in a collegiate way and increasingly together with traditional research within the disciplines". To be erudit professors, scholars must use the same type of thought processes in their teaching, which they apply to their research. (Albergaria-Almeida, 2010, p. 149).

The SoTL perspective has spread in English-speaking countries and is little known in Spanish-speaking countries and some European countries such as Italy or France. Despite it, in almost all of Europe and Latin America, the existence of university teaching groups and communities of all disciplines that seek to investigate, research and present results on aspects that help improve and coordinate the processes of teaching and learning in university, i.e. academic communities arise motivated by making a scientific analysis of their pedagogical practice and, therefore, advance in the knowledge of best teaching practices that promote student learning in higher education (EuroSoTL, 2019).

A second conceptual dimension used in this study was the Didactic Transposition theory by Yves Chevallard (1991), whose contribution has made it possible to transcend the psychologist stance that characterizes the teacher's didactics, to incorporate an epistemological and anthropological vision of teaching knowledge, fact that is associated with the "noosphere" as a context of the educational phenomenon.

The noosphere is the external environment of the pedagogical fact, a place of experts (scientists, politicians, bureaucrats, managers and important figures in the social and cultural life of the nation), who define educational policy, content selection, knowledge didactics and teaching support works, among other aspects. Situation that subsequently generates an "external transposition".

The principles and ideas of Chevallard offer a new look at didactic as a pedagogical discipline, where it is important to recognize the distance between expert knowledge and taught knowledge, as an engine of development of a quality education. At the same time, he introduces a new terminology and categories to understand the pedagogical action of teachers in the educational system (Villalobos-Claveria & Melo-Hermosilla, 2019).

In this perspective, Chevallard helps to understand teaching as a knowledge management, where didactic knowledge is an epistemological delimitation of disciplinary expert knowledge, according to training purposes, current regulations and institutional requirements of the teacher (Chevallard, 1991; Grisales-Franco & González-Agudelo, 2009).

Through the didactic transposition, a process is created by which the contents and knowledge from an expert field become knowledge to be taught, curricular contents and teaching activities. But these knowledge that are at the same time "teaching objects", must be recognized as products of the disciplinary culture and acquire a nature similar to expert knowledge, to later become "learning objects" in students: knowledge learned specific to a profession (Chevallard, 1991; Grisales-Franco & González-Agudelo, 2009).

The teacher's didactics is recognized in the so-called "internal transposition"; which refers to the changes that the *knowledge to be taught* undergoes when it becomes a *taught knowledge*. In this space, the classroom teacher participates directly in the development of learning materials, design and application of strategies, as well as the use of analogies, example, illustrations, case studies, laboratory guides, support texts, to transform scientific knowledge into understandable structures for students (Chevallard, 1991; Grisales-Franco & González-Agudelo, 2009; Verdugo-Perona et al., 2017).

The epistemic distance between both types of knowledge generates the need for an “epistemological vigilance”, which ensures that the “knowledge to be taught” is structurally isomorphic with the “wise knowledge”, ergo it helps to exercise a control so that the knowledge that is taught in university does not deviate from the substance of scholarly or scientific knowledge (Chevallard, 1991).

It should be noted that the choice of these two theoretical perspectives (SoTL and Didactic Transposition) help to describe, explain and interpret some problems that characterize the current situation of Chilean university pedagogy, specifically the construction of didactic knowledge of the novice teacher

In this perspective, the objectives of the present study were:

1. Analyze the process of didactic transfer of novel teachers in three Chilean regional universities.
2. Characterize the process of transformation of a researcher (disciplinary expert) into a university professor.

Within this research environment, various questions arose that problematize the didactic work of the novice teacher, such as:

What biographical and professional background does a beginning teacher have when entering university teaching?, How does the didactic disciplinary knowledge of a novice teacher take shape?, How does this young professor face difficulties or problems in developing his teaching?, What is the importance of the experience of being a teacher in the construction of their knowledge in the daily pedagogical exercise?, What is the nature of the process of the didactic transfer that a new teacher makes when executing their daily teaching?

A premise that has been accepted in this study is the recognition that this young teacher, in a daily practice, has begun to build an adequate and pertinent didactic knowledge to reality, but that it has not yet been conceptualized in a model of professional university teaching. This phenomenon has been recognized by SoTL.

Research design

The study assumes an exploratory and comprehensive nature of the activity of the university professor in terms of the practice as a novice teacher. The study is about understanding and interpreting the pedagogical performance of a professional who begins in university teaching and his/her experiences, therefore, the teacher assumes a global and individual view of the subjects consulted. This situation helps to understand its application in this study (Albarello, 2012; Canales, 2016; Vasilachis, 2006).

This qualitative research is part of the phenomenological, hermeneutical and interpretative approaches. At the same time, it assumes a case study methodological matrix (Stake, 2005). From this perspective, each case represents a singular vision, where its data are deeply understood by the researcher's vision framed in his epistemological and conceptual vision (Albarello, 2012).

The data were collected during the year 2015-2016, in the format of in-depth interviews, with semi-structured questions and previously supported by an analysis of the content of their curriculum vitae (CV), on a random sample of 16 academics who worked in three Chilean universities in the Biobío region.

These three regional universities were: one of a traditional character and Catholic formation; another, a traditional and secular university, and another one of traditional and state character.

TABLE 1
SAMPLE COMPOSITION

University	Sex	Profession	Academic degree	Faculty	Degree
1 UCSC	Women: 5 Men: 1	Kinesiologist, Mathematic Graduate, Biologist, Social worker, Nutritionist and Anthropologist	Graduate: 4 Master: 4 PhD: 2	Medicine, Sciences, Communication and Social Sciences.	Environmental Chemistry, Kinesiology, Nutrition and Dietetics, Engineering and Social Work.
2 UdeC	Women: 3 Men: 1	Lawyer, Medical Technician, Doctor, Kinesiologist, Journalist	Graduate:1 Master: 3 PhD:	Medicine, Social Sciences and Legal and Social Sciences.	Medical Technology, Journalism, Law and Kinesiology.
3 UBB	Women: 1 Men: 5	Speech therapists (2), Business Administrator, Graphic Designer, Marine Biologist, Psychologist	Graduate:1 Master:3 PhD:2	Health and Food Science, Sciences, Business Sciences, Architecture, Design and Construction.	Speech therapy, Business Administration, Graphic Designer and Education.
Total:	Women: 9 Men: 7	14 professionals	Graduate:2 Master:12 PhD:4	16	12

Source: Personal elaboration.

The unit of analysis is the professional subject who acts as a university professor, regardless of their disciplinary field, sex or age. The inclusion criteria were: experience of less than 5 years in teaching tasks with undergraduate students, full-time work and belonging to one of the disciplinary areas (Social Sciences, Health Sciences and Experimental Sciences) that were grouped by each university.

To ensure the reliability and validity of the data collection instruments (interview and analysis grid of the curriculum vitae), the application format was validated by national and international judges using the inter-judge fidelity technique, which refers to the degree of agreement shown in the evaluations made (Canales, 2016; Vasilachis, 2006). 6 national experts in measurement (psychologists and academics from the evaluation area) and 2 international judges (PhD students in Education from the University of Barcelona) were consulted. With this, it was sought to improve the relevance and applicability of such tools.

Faced with the application of the instrument, it can be pointed out that once the subjects who met the inclusion conditions were randomly selected, a total of 16 teachers from these regional universities were contacted. Their participation in this project was requested by signing an informed consent letter (a document that ensured the anonymity and confidentiality of the responses). It should be noted that this investigative document was approved by the Ethics Committee of the University of Concepción. At the same time, their respective curriculum vitae was accessed.

At the same time, the members of the research team (psychologist, Master's degree students in university Pedagogy and Education, among other professionals), proceeded to the application of the interview and a previous reading of the curriculum vitae of the teachers consulted.

The interviews were recorded and later transcribed in Word format, for later categorization. During the application of this instrument, the interviewer created a friendly, cordial, respectful and safe environment that stimulated reflection and the experience of being a university teacher. The time used in its application ranged from 45 minutes to 1 hour, depending on the character and disposition of each teacher.

The interview results were processed through the Atlas Ti Software, developing a content analysis guided by the previous categories of the investigation, which were considered in the construction of the instruments to generate data and access the field in conjunction with a theory that supports and guides the study (didactic transposition). Nevertheless, in the process of coding and categorizing the meanings of the actions and representations of the informants, new categories emerged (inductive data), which can be interrelated with the previous data, giving rise to a permanent dialectical interaction throughout the process of data analysis (Canales, 2016; Vasilachis, 2006).

Regarding the analysis grids of the Curriculum Vitae, the information obtained was processed through Microsoft Excel Software, with the purpose of obtaining greater precision in the segment under study and knowing in greater depth elements associated with the subjectivity of novel teachers (cognitive interests, abilities and achievements that summarize the teacher's trajectory). This analysis was guided by the perspective of the SoTL approach.

Results and its interpretation

An important aspect to highlight is the age of the academic novel. The novel teacher is usually a young person, so there is no significant age difference between the teacher and the university students. This circumstance is expected to be a positive factor in such teachers, but it is suspected that the aforementioned factor tends to make it difficult to adopt the teaching role. This fact, obtained from the observation and previous experience of the members of the research team in university pedagogy, determined the present initial analysis of the data obtained during the execution of the study.

It should be noted that the grid applied to the Curriculum Vitae of teachers was decisive to discover their area or scope of pedagogical performance in university careers where they usually exercised their teaching works, since there are academics who teach basic science courses for various careers; as is the case of subjects of: statistics, mathematics, biology, physics, research methodology, among others.

The analysis of the results obtained was organized and grouped into two large categories that arise from the objectives of the research.

The didactic transfer process of the novice teacher

The university student learns a set of knowledge that characterizes a certain profession, but whose nature similar to expert knowledge tends to provoke an epistemological "illusion" in the student to appropriate this disciplinary source that is part of a certain field of expert knowledge. By the way, in this disciplinary selection of the contents, it may happen that the teacher does not carry out this operation in a conscious way, for various reasons and motives of a cultural, economic, political or ideological nature. A theory that helps to explain such a situation is Chevallard's Didactic Transposition (1991).

From the point of view of knowledge, the novice university professor tends to use his/her expert knowledge in undergraduate teaching, but leaves the disciplinary research for postgraduate teaching, i.e. this professor tends to reproduce a training pattern that has experienced during his/her career and applies it in the training of students. Thus, for example, they tend to use the same study books or manuals, laboratory guides, examples that have been validated by themselves of their colleagues, among other situations. Some illustrative fragments of this trend are set out below.

Scientific advances are too fast or too deep so that students, in the conditions that they are now, can understand them; there are bioinformatics programs that I can't teach them right now. They would not know how to handle the theory that is under those computer programs, for example. That has to be taught in a graduate course. So I can't explain scientific progress, because I have to teach them the basics first and I can't teach the current progress, I can't do it, they have to do a postgraduate course for that.¹ (biologist, Health Sciences, U3, own translation).

1 In the original: "Los avances científicos son demasiado rápidos o profundos como para que el alumno, en las condiciones actuales, pueda entenderlas; hay programas de bioinformática que no les puedo enseñar ahora. No sabría manejar la teoría que está bajo esos programas informáticos, por ejemplo. Eso tiene que ser enseñado en un curso de postgrado. Entonces el avance científico no lo puedo explicar, porque tengo que enseñarles lo básico primero y no alcanzo a enseñar lo actual, no lo puedo hacer, tiene que hacer cursos de postgrado para eso."

At this moment I am not relating much teaching to research, because the project I am developing is quite complex for these students. But now I intend to send research projects for competitive funds and there I do have an interest in approaching these students and creating a link, both in undergraduate and graduate students.² (kinesiologist, Health Sciences, U2, own translation).

In the latter case it is recognized that the teacher must create an instance to incorporate her students in disciplinary research, as she notices the distance between one type of expert knowledge and another of a didactic nature and contextualized to her professional training area. This is an interesting aspect that can be highlighted and interpreted according to the postulates of didactic transposition and the challenge associated with epistemological vigilance. This last process highlights that the knowledge to be taught must be structurally isomorphic with the wise knowledge, i.e. it helps to exercise epistemic control so that the knowledge that is taught at the university does not deviate in substance from the erudit or scientific knowledge (Chevallard, 1991).

Identifying the obsolescence of the knowledge present in the study plans and programs is another issue that is recognized in the expressions of novelty teachers. There is a concern for the advancement of scientific knowledge, new market creations and products that emerge in the disciplinary area. In this perspective, the novelty teachers point out:

I find the programs, the list of contents and the bibliography very obsolete. They are the same books that I read when I was a student. The contents of the program are contents that are no longer on the market, as they are already talking about other terms in the market. I think the information needs to be updated a bit, at least in Design, which is a discipline that is constantly changing. Today it is necessary for the Design student to be linked more to the internet, everything is mutating there, marketing strategies are being done online, and it is required to train professionals to manage social networks and position brands or advertising through these networks.³ (designer, Social Sciences, U3, own translation).

When planning, when I got here, I completely modified this subject, because the students were learning to use “Flash”. This is a program that is no longer used anywhere in the world. I don’t think that students should be taught Flash in a university, because it is only a tool. So what was done was to modify the subject, to teach how to make visual proposals in visual design software.⁴ (male, journalist, Social Sciences, U2, own translation).

If it is accepted that the university professor is a frontier researcher of knowledge, then this teaching concern is manifested by taking an external look (from the noosphere as an epistemic place) to the disciplinary contents of a subject study program, with which “monitors” the actuality of said content in vocational training. This situation helps to avoid its obsolescence (“biological and moral aging”) and it is related to the epistemological vigilance dimension, associated with the didactic transposition (Chevallard, 1991).

2 In the original: “En este momento yo no estoy relacionando mucho la docencia con la investigación, porque el proyecto que estoy desarrollando es bastante complejo para estos alumnos. Pero ahora pretendo enviar proyectos de investigación para fondos concursables y ahí sí tengo interés en acercarme a estos alumnos y crear un nexo, tanto en el pregrado, como en el postgrado.”

3 In the original: “Encuentro muy obsoletos los programas, la lista de contenidos y la bibliografía. Son los mismos libros que yo leía cuando era estudiante. Los contenidos del programa son contenidos que ya no están en el mercado, pues en el mercado ya están hablando de otros términos. Yo creo que hay que actualizar un poco la información, al menos en el Diseño que es una disciplina que está constantemente cambiando. Hoy día se está necesitando que el estudiante de Diseño esté vinculado más a internet, todo está mutando hacia allá, las estrategias de marketing se están haciendo por internet, y se requiere formar profesionales que manejen las redes sociales y posicionen las marcas o la publicidad a través de dichas redes.”

4 In the original: “Al planificar, cuando yo llegué acá, modifiqué completamente esta asignatura, porque los estudiantes estaban aprendiendo a utilizar “Flash”. Este es un programa que ya no se utiliza en ninguna parte del mundo. No creo que, en una universidad, a los alumnos se les deba enseñar Flash, porque solamente es una herramienta. Entonces, lo que se hizo fue modificar la asignatura, para enseñar a realizar propuestas visuales en software de diseño visual.”

The link with the “noosphere” and the university is an interesting field to know, since it allows us to understand the attitude that this new professor assumes when begins the teaching work. In general, we see that the teachers consulted tend to adapt to the labor regulations and demands set forth by their respective universities; This situation is shown in the organization of their teaching, the planning of classes and the evaluation requirements that young teachers pose in their chairs. In this way, teachers review the program, prepare the syllabus of their subjects, promote teamwork, consult colleagues or career leaders to help dimension the future pedagogical work to be carried out. Some of these situations are set out below.

Generally, every year we plan the subject together with another teacher. We take the calendar they send us as a reference, we have a meeting with the teachers from the previous year, we review the subject of the assessments, we find a common guideline, a rubric, and we make the Gantt chart that we then deliver to the management. This is our *modus operandi*, which is not very different from all other careers.⁵ (designer, Social Sciences, U3, own translation).

The sequence of contents is given by the program and we discuss this with all the teachers of the department, this program is reviewed, from time to time, and the duration of how much I am going to assign to each content (which depends on the legal cases that I have had), which is reflected in my Syllabus, so I am organizing it. Generally, I leave the complementary readings for the end.⁶ (male, lawyer, Social Sciences, U2, own translation).

Well, the first thing is the topic of the Syllabus, because in modular subjects the teacher in charge of the subject asks us to do it. Before it was the content, now we have focused on the issue of learning outcomes (a problem that arises from professional work). We wonder about what the student needs at that level. If I see that there are some shortcomings, I try to integrate in my classes some previous concepts that I consider necessary. So, the idea is to plan the subject of the contents, but focusing on the practical activities for the laboratory.⁷ (kinesiologist, Health Sciences, U2, own translation).

Faced with difficulties or problems in developing their teaching, the novice teacher tends to turn to their colleagues with more experience and not necessarily to experts or pedagogues. With colleagues the teacher shares experiences about the difficulties that are experienced, the problems with the students and the most appropriate ways to solve these unusual situations. Thus, for example, there is a tendency to integrate disciplinary knowledge from different years of the career.

We are working with the “Wiki”, and we simulate in the Intervention subject micro intervention models with students from the same career. For example, our fourth-year students are learning what vocal therapy is and our third-year students are taking Euphony, acquiring a vocal technique. So what we did was partner with the Euphony colleague, where my fourth-year students are tutors for the third-year, who are the patients and users. Every week they

5 In the original: “Generalmente cada año planificamos la asignatura en conjunto con otro profesor. Tomamos como referencia el calendario que nos envían, hacemos una reunión con los profesores del año anterior, revisamos el tema de las evaluaciones, encontramos una pauta en común, una rúbrica y hacemos la carta Gantt que después la entregamos a la dirección. Este es nuestro *modus operandi*, que no es muy distinto a todas las otras carreras.”

6 In the original: “La secuencia de contenidos viene dada por el programa y eso lo conversamos con todos los docentes del departamento; se revisa este programa, cada cierto tiempo, y la duración de cuanto voy a asignar yo a cada contenido (que depende de los casos jurídicos que he tenido), que se refleja en mi Syllabus, así lo voy organizando. Generalmente, las lecturas complementarias las dejo para el final.”

7 In the original: “Bueno, lo primero es el tema del Syllabus, porque en las asignaturas modulares, el profesor a cargo de la asignatura nos solicita hacerlo. Antes eran los contenidos, ahora nos hemos centrado en el tema de los resultados de aprendizaje (problema que surge de la labor profesional). Nos cuestionamos acerca de qué necesita el alumno a ese nivel. Si veo que hay algunas falencias, trato de integrar en mis clases algunos conceptos previos que yo considero necesarios. Entonces, la idea es planificar el tema de los contenidos, pero centrándome en las actividades prácticas para el laboratorio.”

upload videos to the platform, about what the intervention is like, and I evaluate them through a rubric, which they know from the beginning of the course. They are evaluated through the Wiki, because for us it is also complex to go evaluate each time they meet with their users, then they edit the videos and upload them.⁸ (speech therapist, Health Sciences, U3, own translation).

In this reconstruction game, teachers interpret and filter the teaching materials with a didactic intention, exploring new languages and resources more accessible to the students' knowledge structures. By the way, the novice teacher is not aware that they are making a didactic transfer, since they accept or affirm that they teach the discipline as it was taught in their training, whether in undergraduate or graduate studies. Their teachers are a reference to address their pedagogical career, especially when they carry out teaching tasks.

I basically do the classes based on what the teachers I had taught me in my time as undergraduate and graduate student, I did a master's degree, I did a doctorate, I did a post-doctorate, and the style of my classes is more or less the style of the classes that those teachers do. I learned and I think it's okay. At least that kind of teaching satisfies me, it's what I know.⁹ (biologist, Health Sciences, U3, own translation).

We have a training that is not pedagogy, but we are in some way linked to teaching. The speech therapist works in language schools, he works teaching his users. When I got to university there was no such thing as "I'm going to do classes, what are the techniques?"; I had no idea about anything. I was happy to be in the university . . . one has a perception of their university professors, who did not have much pedagogy with one either, so one thinks that it is just to arrive, stand up and start talking, and then we encounter the reality which is much more complex and look... the mess you got into.¹⁰ (Speech therapist, Health Science, U3, own translation).

One aspect in which new teachers agree is the development of didactic worksheets for their courses. Worksheets that are proposed, in the case of some teachers, under their own beliefs and expectations about the potential learning of students. At the same time, other teachers usually follow the indications given by the Directorate of Teaching for the development of these teaching resources.

When I finished my doctoral studies, I started working at a private university, . . . There I was faced with the work of being in a classroom, I had never done classes beyond what one does as a student. I went from never having taken classes to taking ten subjects immediately the first year of work. I started as a "taxi professor", I gave classes at five different universities, running from one to another, and with zero previous experience; I had not taken courses in didactics or pedagogy either. In my case I learned in the field, I did not take time to investigate. Beyond

8 In the original: "Nosotros estamos trabajando con la 'Wiki', y simulamos en la asignatura Intervención, modelos micro de intervención con estudiantes de la misma carrera. Por ejemplo, nuestros estudiantes de cuarto año están aprendiendo qué es la terapia vocal y los estudiantes de tercer año están cursando la asignatura de Eufonía, adquiriendo una técnica vocal. Entonces, lo que hicimos fue asociarnos con la colega de Eufonía, donde mis estudiantes de cuarto son tutores de los estudiantes de tercero, son sus pacientes, son sus usuarios. Todas las semanas suben videos a la plataforma, acerca de cómo es la intervención, y los evalúo a través de una rúbrica, que ellos conocen desde el inicio de la asignatura. Se les evalúa por medio de la Wiki, porque para nosotros también es complejo ir a evaluar cada vez que se junte con su usuario, entonces ellos editan los videos y los suben."

9 In the original: "Yo básicamente hago las clases basado en lo que me enseñaron los maestros que tuve en mi época de estudiante de pregrado y de postgrado, hice magister, hice doctorado, hice postdoctorado, y el estilo de las clases es más o menos el estilo de las clases que hacen esos maestros, yo aprendí y creo que está bien. A mí me satisface, al menos, ese tipo de enseñanza, es lo que conozco."

10 In the original: "Nosotros tenemos una formación que no es de pedagogía, pero estamos, de alguna forma, vinculados con la enseñanza. El fonaudiólogo trabaja en escuelas de lenguaje, trabaja enseñando a sus usuarios. Cuando yo llegué a la universidad no hubo algo como 'yo voy a hacer clases, cuáles son las técnicas', no tenía idea de nada. Yo estaba feliz de estar en la universidad . . . uno tiene una percepción de sus profesores de la universidad, que tampoco tuvieron mucha pedagogía con uno, entonces uno cree que es llegar y pararse adelante y empezar a hablar, y después se va encontrando con que es mucho más complejo y mira . . . el lío en el que te metiste."

what I had learned as a psychologist, such as general learning processes, but without didactics nor pedagogy.¹¹ (psychologist, Social Sciences, U3, own translation).

I used to do lectures, but I have stopped doing it lately and I have started doing something similar to TBL (Team Based Learning). A document is given to the students before class, they read it and then we develop a worksheet about it from their own doubts. Apart from that, I have many laboratories, I do a laboratory, then classes, and in addition to that, I have a great dedication to research. That is my general teaching activity...¹² (kinesiologist, Health Sciences, U2, own translation).

Despite coming from different disciplinary fields, this novel teacher has a similar attitude to undertake this challenge, since lacking pedagogical and didactic tools to start the development of the teaching process. A scientific attitude is recognized in facing the problems that their own teaching causes them, even when sometimes it is a tentative and provisional approach in the search for a teaching style appropriate to their own reality, the results of which will be a reason for reflection and analysis. This result agrees with the proposal of the SoTL approach, on the construction of pedagogical knowledge.

Transformation of a researcher into a university professor

The criterion of becoming a good teacher is to have a good command of the discipline, of expert knowledge (Guerra & Montenegro, 2017; Hutchings & Shulman, 1999; Shulman, 1987). Nonetheless, there are also voices that express concern about the way in which university pedagogy is understood.

I try to teach them as much as I can, basically I follow the Aristotelian system of academic work, which is that you have to try to transfer all your knowledge to the student, and if it is ever true that the student becomes better than the teacher, there we are training academics. This is what I want to instill in my students.¹³ (biologist, Health Sciences, U3, own translation).

It scares me more and more that the university is tending to syllabus models, where the teacher is given the program, the planning, the methodology and the content of what you have to say. This is a control and universalization of training, which goes against what was previously called academic freedom. To innovate, to be a teacher you must have a balance and not be subject to these rigid structures, so I think that to change it is good to have more collegiate subjects, because that way as a team we all contribute and it is also more entertaining. It is not just your responsibility as a teacher, that this is your field, we are part of a continuous process and not as it is now, which is very fragmented.¹⁴ (psychologist, Social Sciences, U3, own translation).

11 In the original: "Cuando terminé mis estudios de doctorado me fui a trabajar a una universidad privada, . . . Ahí me enfrenté con el trabajo de estar en un aula, nunca había hecho clases más allá de lo que hace uno como estudiante. Yo pasé de nunca haber hecho clases y tomé diez asignaturas inmediatamente el primer año que tuve de trabajo. Partí como "profesor taxi", hacía clases en cinco universidades, corría de una a otra, y con cero de experiencia previa; tampoco había tomado cursos de didáctica, ni de pedagogía. En mi caso tuve un aprendizaje en terreno, tampoco me encargué de investigar. Más allá de lo que uno aprende como psicólogo, como de los procesos de aprendizajes generales, pero sin didáctica o pedagogía."

12 In the original: "Yo hacía clases expositivas, pero este último tiempo he dejado de hacerlo y hago algo similar a TBL (Team Based Learning o Aprendizaje basado en Equipos). Se le entrega un documento al alumno antes de la clase, él lo lee y después desarrollamos una guía respecto de eso, de sus dudas. Aparte de eso tengo muchos laboratorios, hago un laboratorio, luego clases y, además, tengo una gran dedicación a investigación. Esa es mi actividad docente general"

13 In the original: "Yo trato de enseñarles lo más que puedo, básicamente, sigo el sistema aristotélico del quehacer académico, que es que tú tienes que tratar de traspasar todo tu conocimiento al alumno, y si alguna vez se cumple que el alumno sea mejor que el maestro, ahí estamos formando académicos. Esto es lo que yo quiero inculcar en mis alumnos."

14 In the original: "A mí me asusta cada vez más que la universidad está tendiendo a modelos de syllabus, donde al docente le pasan el programa, la planificación, la metodología y los contenidos de lo que tienes que decir. Esto es un control y una universalización de la formación, que va en contra de lo que antes llamaban la libertad de cátedra. Para innovar, para ser profesor se debe tener un equilibrio y no estar sujeto a estas estructuras tan rígidas, por eso creo que para cambiar es bueno tener asignaturas más colegiadas, porque así en equipo vamos entre todos aportando y también es más entretenido. No es tan solo tu responsabilidad como profesor, que éste sea tu ramo, somos parte de un proceso continuo y no como es ahora, que es muy fragmentado."

It should be noted that the opportunity for novelty teachers to progressively develop situational pedagogical knowledge in line with the scientific and institutional scenario in which they operate is provided by the participation in teaching management tasks, collegiate work in degrees, and belonging to teaching communities (Feixas, 2002; Rodríguez Torres et al., 2020; Shulman, 1987). This situation experienced in the daily work drives them to be a better teacher, as an expression of their commitment and professional responsibility to be a university professor. Challenge that generates another category of analysis in these results, which is exposed below.

a) Detection of training needs and self-exploration

Once these professionals become university teachers, they have concerns about knowing about the nature of pedagogy and, at the same time, they tend to compare the training received with the performance they have in front of their students (Bozu, 2009). In this critical and comparative analysis both teaching and learning are evaluated. Particularly important is the form of assessment they use to rate their students. Here uncertainties and difficulties arise to achieve an evaluative management of their courses, beyond what is proposed by the respective Directorate of Teaching (unit in charge of administrative and teaching processes).

For this reason, it turns out to be very important to assume the international trend called “Scholarship of Teaching and Learning” (SoTL), whose approach has allowed the construction of this category. In this sense, it seeks to understand the form assumed by the processes associated with teaching – learning in university teaching and the role assumed by the novice teacher, to promote quality education. Thus, for example, this category is illustrated with the following narrative fragment of a consulted teacher.

Basically in all the courses I take I tell my students that they have to know what is a paradigm, an inference, a deduction. That they have to know what a theory is, what a hypothesis is, a law, they have to know what an emission is, because none of them is the same So in science you basically have to know that, I encourage them to study who the philosophers of science have been, for example Thomas Kuhn, Karl Popper, Lakatos. To my understanding, they have to know how science moves through the centuries, and how we work doing science. Researchers work under Popper’s scientific philosophy, our way of doing science is Popperian. There are other philosophers of science, like Kuhn, but we do not work on Kuhn. To the students, generally to the people who are finishing here, I tell them what they need to know. They had never heard of Kuhn, and they are doing a lab thesis. I find that incredible!¹⁵ (biologist, Health Science, U3, own translation).

Through this reading, the interrelation that arises between the disciplinary perspective of the teacher and the potential development of pedagogical research that can be applied in the classroom can be inferred. Idea exposed by the SoTL approach in the context of transformation of university pedagogy, by allowing a greater professionalization to the academic in pedagogy issues.

The interpretation of the interviews applied to new teachers allows us to recognize an intention to incorporate the teaching function in their academic work. There is a concern to follow university

15 In the original: “Básicamente en todos los cursos que hago les digo a mis alumnos que tienen que saber lo que es un paradigma, una inferencia, una deducción. Que tienen que saber lo que es una teoría, qué es una hipótesis, una ley, saber lo que es una emisión, porque ninguno de ellos es lo mismo Entonces en ciencia básicamente tienen que saber eso, los estimulo a estudiar quienes han sido los filósofos de la ciencia, por ejemplo, Thomas Kuhn, Karl Popper, Lakatos. A mi entender, ellos tienen que saber cómo se mueve la ciencia a través de los siglos, y cómo nosotros trabajamos haciendo ciencia. Los investigadores trabajamos bajo la filosofía científica de Popper, nuestra forma de hacer ciencia es popperiana. Hay otros filósofos de la ciencia, como Kuhn, pero nosotros no trabajamos a Kuhn. A los alumnos, generalmente a las personas que están terminando acá, les digo lo que tienen que saber. Ellos nunca habían escuchado acerca de Kuhn, y están haciendo una tesis de laboratorio. ¡Eso yo lo encuentro increíble!”

regulations, seeking to respond to the challenges that higher professional training entails. Many of its activities can be understood within the theory of Didactic Transposition. By the way, in this process of professional growth arises the need for self-improvement and training that facilitates and enhances their own academic development; a need that up to this date is a pending task, despite the efforts of university institutions.

Finally, it should be noted that no differences were found between the novel teachers of these higher education institutions, in terms of the aspects consulted; As it is suspected that being directed by the application of the competencies approach promoted by the Chilean Ministry of Education, their teaching tends to repeat these guidelines that frame their daily pedagogical work.

As theorizing mode of results and critical discussion

Reading the results of the study allowed identifying key aspects to map the process of construction of pedagogical knowledge in new teachers, i.e. through inductive reasoning the findings have been theorized (Rodríguez Torres et al., 2020). For this reason, the teachers consulted can be grouped into three modes of construction of didactic knowledge, which are explained below.

- a. *Basic training and professional socialization.* This first mode refers to the area of knowledge characterized by the initial training of the teacher, as in their discipline of specialization (undergraduate and postgraduate studies). At this stage, the novice teacher begins to acquire and develop scientific knowledge that, later, will use in his/her teaching, with the necessary adaptations for such purposes. The novice teacher participation in subsequent training spaces, such as defense of a doctoral thesis, attendance at conferences, seminars, internships, give him/her the possibility to acquire key knowledge skills, both for the research function and for the teaching function.

The novice professors begin to think about teaching from their own discipline and the challenges that they must face are done thinking from this same disciplinary field. It is important to mention that new teachers discover an affinity for teaching, as a consequence of the specialization in their discipline (or research field) and not in the opposite sense,

Teachers indicate that they begin in a gradual process, first in assistantships, then with laboratory tutorials, until they become teachers with greater autonomy (all within the framework of their academic and work training), teaching being an always latent aspect in their work plan, which facilitates the mobilization of the pedagogical knowledge acquired in a conscious way. Nonetheless, the complexity of the pedagogical act prompts them to seek new theories or ways of teaching, either through training in their alma maters or the possibility of accessing postgraduate studies in the field of educational sciences. Situation verified in the Curriculum Vitae exam.

- b. *Professional induction and socialization in practice.* A second way to face this initial stage is recognized when the novice teacher refers to the training received in a doctoral program, to become a good teacher.

As in the previous phase, this is another way of understanding the first years of professional activity as a university teacher, a stage in which an academic socialization takes place both in the fields of teaching and research (Bozu, 2009). Space there the novice professor faces a process of professional self-induction, characterized by an adjustment and adaptation to the institutional procedures that his/her university has (Porto Castro & Mosteiro García, 2016). In this context, the socialization of the teacher can manifest itself in three areas:

- i. The classroom as a space for teaching. The type of subject, the degree and the type of student are usually factors that affect this initial socialization of the beginning professor.

- ii. The context of the career or training program where they work is another space in which the novel teacher internalizes elements of the university organizational culture, either in the relationship with their colleagues, department meeting, development of programs and syllabus, participation in the application of evaluation systems, the assessment of research in teaching, among others.
- iii. The socio-cultural context of the university where the novice teacher must respond to challenges related to the social role that said institution has in the environment of its students, as well as the type of training orientation or professional training model that it offers to the student body and that is recognized as an educational model.

In sum, these different spaces through which a new teacher passes constitute opportunities to build their own didactic knowledge (Hutchings & Shulman, 1999; Rodríguez Torres et al., 2020). It should be noted that said teacher, due to lack of experience, does not yet have a tacit knowledge of the pedagogical task and, therefore, has not yet ritualized his didactic knowledge (Chocarro de Luis et al., 2013).

- c. *Development as an institutional policy of the university.* This is another training space for a beginning teacher. Through successive training, it is expected to have a teacher prepared to apply new reforms and/or institutional policies that are required of higher education institutions. Despite being promoted by the competent authority, they do not meet the expectations of the new teacher, who tends to turn to their colleagues with more experience and academic trajectory.

This is a great institutional challenge for the participating universities, to offer a pertinent, adequate and valid improvement to university teaching that, at the same time, is global and specific to each professional field (Guzmán, 2012).

In other words, it is about going beyond the transmission of knowledge that the teacher does in front of the students, to promote a reflection on the action of learning that happens when the student has autonomy to think (Albergaria-Almeida, 2010; Medina & Jarauta, 2013; Verdugo-Perona et al., 2017). In this scenario, the novel teacher begins to build their own teaching career through a research activity that is promoted in universities, for their academic development. The teachers' own training needs arise when they begin their academic career, especially for new teachers. Result that is linked to the SoTL approach.

Finally, faced with the new didactic challenges faced by university teachers, the search for successful experiences arise, the elaboration of academic profiles based on competencies, competitions and research programs on university pedagogy, elaboration of didactic material to support university learning, new alternative forms of evaluation, among other initiatives aimed at formulating an innovative model in higher professional teaching (García-Prieto et al., 2019).

Indeed, this new modality of the didactic version of the novel teacher demands a model of teacher training that higher education institutions must conceptualize and apply in the academic development of their teachers. Pending task and in full development.

Conclusions

From the results obtained in this study it is possible to obtain the following conclusions:

1. In the teaching of novel teachers, the Didactic Transposition approach and its associated mechanisms can be recognized, but without having greater awareness or understanding of said pedagogical procedures. Perhaps, it is due to ignorance of this theory. at the same time, the approach called "Scholarship of Teaching and Learning" (SoTL) serves to explain the research in didactics carried out by novel teachers, since the domain of scientific research and the understanding of its stages allows it to be applied to teaching university, where its various problems are approached from science and the analytical reasoning that characterizes it.

2. With regards to the process of transforming a researcher (disciplinary expert) into a university professor, the novel unfolds in different contexts and assumes different modes, already exposed in the theorizing of results, which allow to conclude that construction of didactic knowledge constitutes a real intellectual challenge to build your own pedagogical knowledge. In this perspective, the pedagogical action of teachers is the result of a socio-historical process where the models of their teachers (context of their academic training), are decisive in this aspect, to the extent that they are a closer reference to the situations specific to the exercise of teaching. Moreover, the concordance between academic training and teaching complement each other within a common environment that determines the same degree.

Finally, it can be affirmed that the knowledge and the opportunity to recognize the opinion of novel teachers about this “unknown” process of didactic transfer, as well as the path of their transformation into teachers, turns out to be a great interest to advance towards institutional improvement programs that encourage the generation of true professional communities, in line with the academic challenges of this knowledge society.

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References

- Albarello, L. (2012). *Apprendre à chercher. L'acteur social et la recherche scientifique*. De Boeck & Larcier S.A.
- Albergaria-Almeida, P. (2010). Scholarship of teaching and learning: An overview. *Journal of the World Universities Forum*, 3(2), 143-154.
- Bolívar, A., & Caballero, K. (2015). El profesorado universitario como docente: Hacia una identidad profesional que integre docencia e investigación. *REDU. Revista de Docencia Universitaria*, 13(1), 57-77. <https://doi.org/10.4995/redu.2015.6446>
- Bozu, Z. (2009). El profesorado universitario novel y su proceso de inducción profesional. *Magis, Revista Internacional de Investigación en Educación*, 1(2), 317-328.
- Brunner, J. J. (2015). Medio siglo de transformaciones de la educación superior chilena: Un estado del arte. In A. Bernasconi (Ed.), *La educación superior de Chile: Transformación, desarrollo y crisis* (pp. 21-107). Ediciones U.C.
- Canales, M. (2016). *Metodologías de investigación social: Introducción a los oficios*. LOM.
- Chevallard, Y. (1991). *La transposition didactique: Du savoir savant au savoir enseigné*. La Pensée sauvage.
- Chocarro de Luis, E., Sobrino Morras, Á., & González-Torres, M. del C. (2013). Scholarship of Teaching and Learning: Un modelo de desarrollo profesional de los profesores universitarios. *Revista Electrónica Interuniversitaria de Formación del Profesorado*, 16(11), 5-14. <https://doi.org/10.6018/reifop.413601>
- Fanghanel, J., Pritchard, J., Potter, K., & Wisker, G. (2016). *Defining and supporting the Scholarship of Teaching and Learning (SoTL): A sector-wide study*. Higher Education Academy. https://repository.uwl.ac.uk/id/eprint/2066/1/literature_review.pdf
- Feixas, M. (2002). El profesorado novel: estudio de su problemática en la Universidad Autónoma de Barcelona. *Boletín de la RED-U*, 2(1), 33-44.
- Fernández Lamarra, N., & Pérez Centeno, C. (2011). La profesión académica universitaria en América Latina, en perspectiva comparada. *Educação: Revista do Centro de Educação*, 36(3), 351-363. <http://dx.doi.org/10.5902/19846444>
- García-Prieto, F., Pozuelos-Estrada, F., & Álvarez-Álvarez, C. (2019). La evaluación de aprendizajes del alumnado por parte del profesorado universitario novel. *Formación Universitaria*, 12(2), 3-16. <https://dx.doi.org/10.4067/S0718-50062019000200003>

- Grisales-Franco, L., & González-Agudelo, E. (2009). El saber sabio y el saber enseñado: Un problema para la didáctica universitaria. *Educación y Educadores*, 12(2), 77-86. <https://doi.org/10.5294/edu.2020.23.1>
- Guerra, P., & Montenegro, H. (2017). Conocimiento pedagógico: Explorando nuevas aproximaciones. *Educação e Pesquisa*, 43(3), 663-680. <http://dx.doi.org/10.1590/S1517-9702201702156031>
- Guzmán, C. (2012). Enseñanza reflexiva y profesores universitarios nóveles: Desafíos para la mejora de la enseñanza. *Revista de la Educación Superior*, 3(163), 115-137. <https://doi.org/10.36857/resu.2020.193>
- Hutchings, P., & Shulman, L. (1999). The scholarship of teaching: New elaborations, new developments change. *The Magazine of Higher Learning*, 31(5), 10-15. <https://doi.org/10.1080/00091380009601717>
- Insaurralde, M. (2016). *Enseñar en las universidades y en los institutos de formación docente* (Colección Desarrollo). Noveduc.
- Medina, J. L., & Jarauta, B. (2013) *Enseñanza y Aprendizaje en la educación superior*. Síntesis S.A.
- Porto Castro, A., & Mosteiro García, M. (2016). Calidad y formación del profesorado novel en las universidades públicas gallegas. *Panorama*, 10(19), 8-17. <https://doi.org/10.15765/pnrm.v10i19.830>
- Rodríguez Torres, Á., Rodríguez Alvear, J., & Arias Moreno, E. (2020). El profesorado universitario novel en schock: Propuestas de mejora. Revisión sistemática. *Revista Educare*, 24(1), 245-269.
- Shulman, L. (1987). Knowledge and teaching: Foundations of the new reform. *Harward Educational Review*, 57(1), 1-22.
- Stake, R. (2005). *Investigación con estudios de caso*. Morata.
- Tardif, M. (2004). *Los saberes del docente y su desarrollo profesional*. Narcea.
- Tuning América Latina. (2007). *El proyecto Alfa Tuning América Latina, 2004-2007*. <http://tuning.unideusto.org/tuningal/>
- Universidad del País Vasco. EuroSoTL. (2019, June 13-14). *Explorando nuevos campos a través de la enseñanza y el aprendizaje. Anais do 3 Congreso Europeo de Scholarship of Teaching and Learning*. Bilbao, España. <https://www.ehu.es/es/web/eurosotl-2019/home>
- Vasilachis, I. (2006). *La investigación cualitativa*. Gedisa.
- Verdugo-Perona, J., Solaz-Portolés, J., & Sanjosé López, V. (2017). El conocimiento didáctico del contenido en ciencias: Estado de la cuestión. *Cadernos de Pesquisa*, 47(164), 586- 611. <https://doi.org/10.1590/198053143915>.
- Villalobos-Claveria, A., & Melo-Hermosilla, Y. (2019). Narrativas docentes como recurso para la comprensión de la transferencia didáctica del profesor universitario. *Formación Universitaria*, 12(1), 121-132. <http://dx.doi.org/10.4067/S0718-50062019000100121>
- Walker, V. (2016). El trabajo docente en la universidad: Condiciones, dimensiones y tensiones. *Perfiles educativos*, 38(153), 105-119. <https://doi.org/10.22201/iisue.24486167e.2020.168>

Note on authorship

Alejandro Villalobos-Claveria: definition of the intellectual content of the manuscript; writing and argumentation of the introduction of the article; elaboration of theoretical framework; investigative design; analysis and theorization of results; definition of intellectual content of the article discussion; preparation of conclusions from the combination and integration of results obtained. Yenia Melo-Hermosilla: summary writing; organization of data for analysis; analysis of results; definition of the intellectual content of the article discussion (bibliographic arguments); preparation of conclusions from the integration of results obtained; bibliographic analysis and incorporation of bibliography; review of the manuscript to make it acceptable for publication.

Data availability

The data cannot be made available to the public, due to the sensitivity of the information contained, which is regulated by Law No. 19,628 of Chile, which regulates the treatment of personal data.

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