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Construction and psychometric analysis of the Teacher Vocation Questionnaire for students (TVQ-S)

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ABSTRACT. Teaching vocation is an important factor considered as a basic competence in most of the teacher training programs in Chile. There is little research addressing this issue, which led researchers to carry out this study through the construction of a questionnaire to measure teaching vocation in pedagogy students (TVQ-S). The questionnaire was built based on a comprehensive literature review and process of content analysis by referee criteria and levels of internal validation with an instrumental study. It was made up of 37 items distributed in 6 factors that measure the interest in teaching, academic achievement motivation, self-determination, intrinsic motivation, disciplinary interest and a scale of lies. The Pilot study involved 209 student teachers from the University of Bio-Bio, Chile, including 86% women and 14% men, aged between 19 and 29 years. Statistical analyzes indicate a good level of overall reliability (α = .833) as such as its factors (.419 and .799); factors also have a significant level of correlation with global instrument (between .539 and .760 Pearson, significant p> .001). It can be concluded that the instrument is valid and reliable for assessing the construct teaching vocation in Chilean students of pedagogy.

KEYWORDS. Teaching vocation; pedagogy; psychometric properties; assessment.

1. INTRODUCTION

Teaching vocation, which has been traditionally defined as an inclination that people have towards the exercise of teaching (Larrosa, 2010), is currently considered an important factor in the graduation profile of the teaching programs (Larrosa, 2010; Ramírez, 1999; Tineo, 2009). So it is an interesting construct to identify in the academic world. However, as a concept it is not easy to define, due to the complexity of empirically measuring the incidental factors in the teacher's performance (Esteve, 2009).

A fundamental component for the achievement of high-quality standards in the educational system is the implementation of measures that contribute to the development of the teaching profession (Darling-Hammond, 2000), since a fundamental piece to provide quality education is to have effective teachers who are focused on their task.

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To this end, several public policies have been drawn up in Chile, and one of them is the Teacher Vocation Scholarship, which pays the pedagogy studies fee to those students who get the best scores in the university selection test (Ávalos, 2014). This is also part of the proposals that aim at encouraging motivation and performance of future teachers.

This initiative highlights the idea that developing internal vocation is an essential element in order to be a good teacher. In this sense, the training of future teachers should focus on the development of this characteristic, based on the knowledge of this in the initial levels of university education.

However, in Chile there are few investigations about the levels of teaching vocation, both in teachers and students of pedagogy. Hence, there are few studies that contribute to the conceptual and methodological clarity on how to approach it. Also there are no instruments, in either Chile or Latin America, that measure such construct in a specific and scientific way so that it is possible to have information adjusted to the reality of our students.

Therefore, this study has focused on the task of developing a questionnaire that, based on a set of definitions about teaching vocation, allows us to measure this construct with an adequate level of reliability. Then it was submitted to a respective psychometric validation for its use in the Chilean context.

2. BODY

2.1 The concept of Teacher Vocation

The consensus on a delimitation of the concept of vocation has been complex. It is observed that some authors have defined it as a strongly emotional or ideological activity, while others have emphasized the idea that it is an element of professional criteria (Tenti, 1999; Avalos, 2002).

Historically, vocation has been seen from three great conceptions. First, as an innate aspect, so teaching is a response to a natural call of the spirit (or of God) and not the result of a rational choice. From this perspective, the teacher is born with this inclination and should only complement the mastery of certain basic knowledge. Under this view, the task of the future teacher consists of complementing that kind of destiny (Tenti, 1999).

A second perspective suggests that vocation has been considered as an ideology of selflessness or gratuity, focusing its essence on a human virtue that expresses the ability of giving and serving others (equally related to the religious gaze). Therefore, an activity that is defined as "vocational" has a sense in itself, and cannot be subjected to a rationality or reward. From this point of view, the teacher does what he has to do (educate, teach, etc.), without demanding any consideration.

The third representation of vocation is related to the idea of profession or professionalization. This has a different logic, since a profession is the result of a rational choice that is a conscious calculation and not the answer to an internal call (Esteve, 2009). The professional is characterized by having knowledge that usually requires a long period of training, and vocation is related to the motivational aspect that allows that action to be maintained over time (Tenti, 1999).

Thus, the students of pedagogy are expected to develop a sense of vocation regarding what their mission as a professional is (Ávalos, 2002, Solar and Díaz, 2007). In this sense, vocation has been granted a great importance in those students that are candidates of the career of Education. However, they also attribute it to remuneration or social prestige, which sometimes is very

far from what is traditionally associated with the vocation to the teaching profession (Ramírez, 1999).

These perspectives have not been characterized by harmony, but rather by the struggle and the search to impose a position to the others. According to Esteve (2009), this fact has turned vocation into a negative aspect, hovering like a ghost (as a spiritual call or as a profile of a good teacher), generating the idea that being a teacher is an action more related to the personality than with training, which does not offer valid help for the practice of teaching. At the same time, it generates an idealized image of the teaching profession, which even leads to generating ideal types that restrict the view of the discipline (Alliaud, 2015). This choice or decision of becoming a teacher, in the view of an institutionalized and techno-scientific process, is one of the reasons why the perspective of teaching professionalism has recently been raised with greater force, where vocation stands as an aspect that helps maintain that decision, although it does not define it.

Currently, the research and conceptualization of the teaching vocation have been based on a perspective of professional identity construction (Ávalos, 2002, Cárdenas, 2015, Esteve, 2009). In this context, when analyzing the construction of teaching identities, it is necessary to start by remembering the origin of the school, which obeys to a construction of a sociocultural type. For this reason, the activity of the teacher has been characterized according to the cultural ideology that society imposes. Historically, it has been considered as an apostolate or religious mission. Then, as a banner of struggle of the republican construction, later as a struggle of social classes, until the end of the XX century- where the profession is conceived as a disciplinary and a scientific field (Contreras and Villalobos, 2010) which is how we think it should be understood today.

This idea of vocation as part of the professional identity takes us to conceive it more as a motivational attribute rather than as an ideology, showing a relationship to both behavioral and attitudinal aspects. These are important elements that help us define and understand teaching vocation (Cárdenas, 2015, Martínez, 2013, Sánchez Lissen, 2003, Tineo, 2009).

2.1 The motivation for teaching

The motivation to become a teacher is an aspect that has not been developed in the proposals of teacher profession. It has being relegated by technical topics or by personality aspects that lead us to understand motivation as part of the so-called proactive attitude or entrepreneurship (Ares, 2004). Anyway, it should be noted that the commitment to teaching and training students requires the aforementioned level of proactivity. This is due to the fact that teachers must face a variety of situations and changing behavior in students, which are common in a dynamic and chaotic social environment such as the classroom (Collom, 2005).

In this scenario, motivation emerges as a fundamental tool to maintain proactive behavior or oriented to face and meet the needs that are presented in the classroom. Urbina (2015) refers to it as the impulse to maintain a passion, the reason to face fatigue, the worries and dislikes of school life, so as to maintain interest and concern for the task of teaching despite all the difficulties.

In this way, this motivation should be understood as an internal, personal disposition to perform tasks related to teaching, which may be related to the so-called Intrinsic Motivation. Deci and Ryan (2000) define it as that disposition towards activities where satisfaction is given by the person's pleasure towards the task that they perform, therefore, it is inherent to the activity itself. Thus, they differentiate between intrinsic motivation, which would be the one that generates pleasure by their own characteristics, and extrinsic motivation, which would be that activity that generates pleasure or disposes to it through rewards which are external to the subject.

This perspective of intrinsic versus extrinsic motivation is one of the models used by different researchers to measure the disposition of people towards activities in general, as well as specifically to academic and school activities (Flores-Macías and Gómez-Bastida, 2010; González, 2007). Although, it has also been suggested that the motivation towards academic or school-related factors is related to cognitive factors such as the locus of control or expectations rather than the disposition or the impulses of satisfaction (Lamas, 2008 Valle, Cabanach, Rodríguez, Núñez and González-Pienda, 2006).

In relation to this perspective of attributions, students who attribute their success to internal causes (such as skills and aptitudes), tend to be more successful and more independent. On the other hand, those who attribute success to external causes (such as luck or difficulty of the task) will have a more negative expectation of success and less independence (Flores-Macías and Gómez-Bastida, 2010).

Regardless of whether it is considered a dispositional or attributional element, it is clear that the motivation seems to influence the way of thinking, and in that sense, about learning (González, 2007, Flores-Macías and Gómez-Bastida, 2010). This would lead to suppose that the different motivational orientations would have different consequences for learning; On the one hand, a motivated student will intrinsically select and perform activities because of the interest, curiosity and challenge that they provoke, and may be more willing to apply significant mental effort during the accomplishment of the academic task. On the other hand, a student who is extrinsically motivated would not have the same behavior and attitudes towards academic tasks (Lamas, 2008).

In this way, one might think that intrinsically motivated students would be more concerned with learning, mastering the task and increasing their skills during the training process, they would be more likely to see a strong connection between their achievements and their efforts, they would value the learning activity as an end in itself, and they would use more effective learning strategies, using greater cognitive effort in the task (González, 2007). These elements of intrinsic motivation would not only guide them to motivate themselves towards any activity, but also to value and feel the task of learning as an achievement to overcome or master a subject, which would be related to the concept of mastery of the subject learning, a more focused aspect of this intrinsic motivation (Cazares, 2009).

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However, it has not always been so clear that motivation to become a teacher (choice) is present in those who are being trained to be teachers. It is stated that the profession is a progressive construction of identity. The person who chooses this area, chooses it as any another profession. But there is a transformation from teaching (as a profession) to educational vocation by projecting that interest in time. That means, by wanting to be a true teacher, interested in people and reaching this advanced level, which teachers have assumed as a professional way in their working lives (Cárdenas, 2015).

Thus, the motivation to be a teacher considers both the pretension to work in a certain area called education, and to develop a profession that has the purpose of teaching (Cárdenas, 2015); Together with the above, it is to decide and wish to maintain a lifestyle centered on teaching and training people as the essence of life (Urbina, 2015). From this perspective, teaching vocation would be a construct that would include intrinsic motivation (desire or a personal interest), motivation for teaching (interest in carrying out instructional and training actions), motivation for the discipline (interest developed freely and consciously throughout life for the teaching profession), and motivation to learn (interest in discovering and managing concepts and skills autonomously). All these motivational elements would be linked to the fact of being able to decide and be autonomous in decisions, relating this process with the concept of self-determination.

2.3 Self-determination

Self-determination is a process that involves gaining control and experience in life and in personal decisions, leaving aside the dependence behavior of the people who teach, care for and attend. It is a free and conscious decision process that allows knowing where to live and with whom, what services to use, how to spend the day, what to study, where to work, how to participate in the community, or with whom to relate (Black and Deci, 2000).

Wehmeyer (1992) defines self-determination as the process through which the action of a person becomes the main causal agent of his own life and decision-making is done free of external influences or interference. In this way, decisions express the priorities and individuality of a person.

It is a quality that intents autonomy, allowing people to have the necessary and pertinent information to make decisions that allow them to solve their own problems and in the way they decide, promoting an intrinsic and self-regulated motivation. In this sense, it becomes contrary to authority, dependence and external control, which also promotes extrinsic regulation and motivation (Black and Deci, 2000).

As part of vocation, self-determination is clearly related to entrepreneurship and proactivity. Since being able to decide and determine one's own activities and assume the consequences derived from that decision is what explains this ability to be looking for results and solutions to the problems, a fundamental characteristic of the entrepreneurs (Orrego-Correa, 2014). In this way, it can also be related to the clarity or awareness of the decision, since a self-determined choice is a choice where both the attributes of what is being decided, and its consequences are accepted.

Based on the definitions and perspectives indicated above, in this study we have given the task of defining the concept of teaching vocation as a set of intrinsic dispositions and interests for the activities of the teaching field, which a person is building from the tasks he undertakes, being aware of his or her decision (Larrosa, 2010, Sánchez Lissen, 2003). Its constituent elements would be the intrinsic motivation, the motivation to teach, the interest in the pedagogical area and self-determination; and the designed and tested instrument has been developed according to the characteristics of this definition.

As it is an instrument designed to collect self-report data, and considering that this type of instruments have the disadvantage of the presence of non-sincere or idealized responses. This is due to the idea that the evaluator or third parties do not judge negatively what is answered, a concept known as social desirability (Ferrando and Chico, 2000). That is why a scale of lies has been generated to detect such behavior, based on questions related to extreme personal and social situations, which do not obey to a natural behavior. If they are considered samples of a normal or constant behavior (by choosing the option totally agree), they are indicators of deceptive response by social desirability. These items were constructed based on the model of social desirability questions generated by Marlowe and Crowne (in Ferrando and Chico, 2000).

3. METHOD

An instrumental research design was used, proposed for the construction and psychometric validation of instruments (Montero and León, 2005), choosing the process of Carretero and Pérez (2005) that considers the stages of construction and conceptual justification, content analysis by judges, dimensionality and reliability; leaving the external validity for later phases.

3.1 Participants

The sample of the study included 209 first and second year students of the Pedagogy in Nursery Education (36%), Pedagogy in Primary School Education (14%), Pedagogy in Spanish (14%), Pedagogy in English (18%) , Pedagogy in Mathematics (11%), and Pedagogy in Natural Sciences (7%) of the Universidad del Bío-Bío, Chile. The type of sampling used was for convenience, using intact groups (courses); In terms of distribution by sex, 86% corresponds to women and 14% to men. The age of the participants ranged between 18 and 37 years (M = 20.6, SD = 2.66).

3.2 Instrument

The instrument constructed and analyzed is the questionnaire of teaching vocation for students of pedagogy (QTV-S), carried out ad-hoc by the researchers from a systematic review of the existing bibliography. The QTV-S is a self-report instrument, structured as a 5-point Likert scale, in which a rating goes between 0= Totally disagree to 4= Totally agree. The instrument considered an initial proposal of 55 items.

3.3 Procedure

The questionnaire was constructed based on the literature review about the concept of Teacher Vocation, which delineates a concept related to descriptors such as interest, motivation and the security of performing in the field of teaching (Sánchez Lissen, 2003). Based on this background, a first proposal of 55 items was generated, which was presented to 5 experts, three from the area of pedagogy and two from the area of psychology, who carried out a content analysis as well as an assessment of the relevance and clarity of the items.

From this first analysis, 9 questions, which were not clear enough in their wording or did not show sufficient agreement in their relevance to the concept, were discarded. A questionnaire proposal with 46 items was generated, which was submitted to the statistical analyzes presented in this study.

For the application of the instrument, the corresponding arrangements were made with the school directors of the indicated pedagogy programs and an application was coordinated in one

of the classes for the first-year students. The application lasted between 10 and 25 minutes. The participation was volunteer and anonymous. This was supported by the ethical aspect with a written consent signed by the students in which the purpose of the instrument was explained and requested their free and voluntary participation. Once the questionnaires were applied, the respective statistical analyzes were carried out.

3.4 Data analysis

Descriptive analyzes of the items were carried out, as well as an analysis of the main components to analyze the factors that could arise from the data, with a varimax rotation to see how the items were loaded in each factor. The factors selected were those whose values are equal to or greater than 1 and the items with factor loads equal to or greater than .30. This, following the criteria of Hair, Anderson, Tatham and Black (2008). The normality assumptions were also analyzed through the analysis of univariate asymmetry and kurtosis values.

Subsequently, a reliability analysis was carried out using Cronbach's alpha, both for the general instrument and for the factors. Finally, a bivariate correlation analysis (Pearson) was performed to analyze the relationship of the scales with the total instrument and between them. All these analyzes were performed using the statistical package SPSS-20.

4. RESULTS

4.1 Descriptive

The descriptive analysis of the items, as shown in table 1, raises a range of responses in general, within the appropriate parameters in terms of distribution with values of asymmetry and kurtosis between 2 and -2 which is expected for a distribution normal according to Bollen and Long (cited in Núñez-Alonso, Martín-Albo and Navarro, 2007).

Only in three of the items (items 9, 20 and 43) were inhomogeneous distributions with high values of asymmetry and kurtosis and two with high values only in kurtosis but not in asymmetry (items 27 and 35). These items were reviewed and corrected in their wording.

Table 1. Descriptive statistics

Items	*M*	*DE*	*Asymmetry*	*Kurtosis*
1	3.34	.725	-.707	-.501
2	3.19	.779	-.595	-.383
3	3.37	.805	-1.270	1.472
4	3.22	.884	-1.048	.796
5	3.44	.789	-1.417	1.865
6	1.48	1.237	.396	-.771
7	2.21	1.094	-.227	-.584
8	3.02	.799	-.728	.980
9	3.57	.830	-2.312	5.496
10	3.20	.898	-1.092	1.088
11	2.37	1.054	-.794	.091
12	3.00	.852	-.621	.304

13	3.26	.822	-1.099	1.379
14	2.81	.845	-.398	.121
15	1.25	1.237	.625	-.670
16	2.16	1.120	-.109	-.601
17	2.58	1.067	-.579	-.073
18	2.87	1.037	-.967	.581
19	3.06	.842	-.793	.739
20	3.62	.776	-2.513	7.011
21	2.94	1.183	-1.171	.686
22	1.65	1.113	.218	-.533
23	1.42	1.053	.273	-.747
24	3.17	.788	-.782	.627
25	2.45	1.042	-.637	.022
26	.72	1.196	1.577	1.300
27	.59	.907	1.777	3.082
28	2.20	1.090	-.285	-.414
29	2.60	.926	-.107	-.499
30	3.21	.888	-1.081	1.115
31	2.68	1.018	-.814	.474
32	2.65	1.091	-.334	-.681
33	1.54	.990	.216	-.449
34	2.25	1.147	-.105	-.819
35	3.18	.810	-1.266	2.606
36	3.44	.807	-1.452	1.852
37	2.03	1.439	-.059	-1.298
38	1.24	1.093	.528	-.435
39	3.39	.733	-1.049	.692
40	3.35	.979	-1.555	1.821
41	3.39	.837	-1.639	3.133
42	2.47	1.092	-.434	-.347
43	3.52	.809	-2.199	5.808
44	3.39	.740	-.847	-.421
45	2.00	1.101	.044	-.657
46	1.22	1.073	.694	-.060

An item-test correlation analysis (Rho Spearman) was also applied, which showed that 38 of the 46 questions showed a significant and positive correlation, from moderate to high with the global test, with values between .303 and .621; while five questions presented significant but low correlation (between .189 and .289). Two questions presented no significant correlation, being also low (.078 and .17), and one presented a negative and non-significant correlation (-.063).

On the other hand, from Factorization of Main Axes (FEP), applied to analyze the existence of some factors that define the construct, it was observed that adequate KMO indicators (.780) and Bartlet's sphericity were recorded ($X^2 = 3167.768$, $p = .000$), which indicates the acceptability of performing these analyzes.

The Kayser index, raised the possible existence of 9 factors. However, it was decided to limit them to 6 in order to agree with the criteria shown by the literature. The total variance explained by the 6 factors is 42.40%. The factors were named according to the conceptual characteristics gathered in the literature review and according to the orientation that the groupings of items in the factors showed. These are: Interest for teaching, motivation of academic achievement, self-determination, intrinsic motivation, disciplinary interest, and a scale of lies.

Table 2 shows the factor loads with which the items are organized in these six components according to the varimax rotation applied. It should be noted that not all the items showed the factors adequately. Those that presented weak or nonexistent load (0.2 or less) and those that charged three or more factors were eliminated. Some items charged two different factors, showing their ascription to a factor in the first place, when there was a difference greater than 0.2 in the load value, as well as according to conceptual criteria (Lloret-Segura, Ferreres-Traver, Hernández-Baeza and Tomás-Marco, 2014).

Despite the good distribution found for the items, there was an item that did not significantly load in any of the dimensions (I study many times to prove to myself that I am intelligent).

Subsequently, when analyzing the values, dispersion was observed that negatively influenced these reliability values, reducing said difficulty if they were eliminated. In this way, the eight items that showed low correlation were removed, as well as, difficulties in the factor load, among them the one mentioned above that did not load in any of the dimensions. All this left the questionnaire with 37 items, and a high reliability level ($\alpha = .833$) for the global test.

Table 2. Saturation of the items in the 6 factors

Factor	Item	Saturation
Interest for teaching	I like to look for explanations and information about those thing that I do not understand	.706
	I like to express my ideas and that others understand them	.635
	Studying allows me to communicate my ideas to others and I like that	.610
	I like to explain and teach others	.575
	If someone does not understand what I explain, I look for different ways to make him/her understand	.495
	I like to learn to be able to teach	.395
	I chose to study this career because my teachers at school or at high school motivated me or positively marked me	.340
Academic achievement Motivation	I study because I find satisfaction when learning new things	.710
	I study for the pleasure I get when I discover new or unknown things	.630
	I like to do challenging academic activities	.575
	I study because I am interested in knowing and not only because I have to do it	.540
	I like to see that I surpass myself in my studies	.445

Self-determination	Most of the time I am free to do or say what I think or feel	.721
	I feel that I am authentic (myself) most of the time	.631
	Most of the time I feel confident about what I do	.613
	I usually realize my emotions and how I express them to others	.527
	When I achieve something positive I always feel that I was the one who achieved it	.520
	I am usually free to decide what I want to do	.517
	Most of the time I know what I want	.412
	Most of the time I am aware of the decisions I make and the things I do	.401
Intrincic Motivation	I study pedagogy because I believe I have the capacity to teach	.569
	I'm in this program, basically, because of the score I got	.554
	I decided to study this degree because it is what I can pay	.553
	Many times I think it will be very difficult for me to be a teacher	.503
	I am usually happy and satisfied to study pedagogy	.438
	I am studying pedagogy because I had to do it, although sometimes I would prefer to do other things	.389
Disciplinary interest	I prefer to design or build things that are explaining knowledge	.674
	I like more to know how people think or do things to know how they learn	.642
	I prefer community work to work in the classroom	.436
	I feel better doing artistic or manual things than teaching	.430
	I prefer to help others live well, to be teaching or reviewing tasks	.303
Scale of lies	I have never lied	.698
	I have always respected others	.647
	I have never felt sad	.629
	I have never regretted something	.527
	I am always happy and calm	.506
	I have never mistrusted or mistrusted someone	.341

Moreover, the components found showed good reliability indicators, presenting adequate levels in five of them (alpha between .799 and .660) and low value in only one component (.419). Table 3 shows the Cronbach's alpha values of each one of the factors found and the items contained in each of them.

Table 3. Instrument factors with its items and reliability

Factor	Name	Confiability (α)	Nº items
1	Teaching interest	.723	7
2	Academic achievement motivation	.751	5
3	Self-determination	.799	8
4	Intrinsic Motivation	.693	6
5	Disciplinary interest	.419	5
6	Scale of lies	.660	6

In this way, the instrument refers to the construct Teacher Vocation in relation to five factors that allow evaluation:

• Teaching Interest: Refers to personal satisfaction for delivering content or helping to develop a skill.

• Academic achievement motivation: interest in learning and performing adequately for intrinsic reasons.

• Self-determination: Ability to decide based on personal needs and reasons and in a conscious manner.

• Intrinsic motivation: Satisfaction and personal interest when developing pedagogical training activities.

• Disciplinary interest: Interest in developing activities related to pedagogy.

• Scale of lies: Everyday situations that are difficult to perform absolutely or completely, indicating social desirability or manipulation of the response.

Finally, a correlation analysis was carried out between the factors and the global test, finding significant correlations between all the factors and the overall result of the test, with three of these correlations being medium strong, and another three strong, as shown in table 4.

Table 4. Correlations between factors and the global test

		Teaching interest	Acad. achievement motivation	Self-det	Intrin. Mot.	Discip. interest	Scale of lies.	Total
Teaching interest	Pearson Correlation	1	,658**	,425**	,444**	,186**	,207**	,691**
	Sig. (bilateral)		,000	,000	,000	,007	,003	,000
Acad. achievement motivation	Pearson Correlation	,658**	1	,598**	,531**	,243**	,212**	,760**
	Sig. (bilateral)	,000		,000	,000	,000	,002	,000
Self-det.	Pearson Correlation	,425**	,598**	1	,426**	,272**	,321**	,749**
	Sig. (bilateral)	,000	,000		,000	,000	,000	,000
Intrin. Mot.	Pearson Correlation	,444**	,531**	,426**	1	,347**	,237**	,705**
	Sig. (bilateral)	,000	,000	,000		,000	,001	,000
Disciplinary interest.	Pearson Correlation	,186**	,243**	,272**	,347**	1	,250**	,574**
	Sig. (bilateral)	,007	,000	,000	,000		,000	,000
Scale of lies.	Pearson Correlation	,207**	,212**	,321**	,237**	,250**	1	,539**
	Sig. (bilateral)	,003	,002	,000	,001	,000		,000
Total	Pearson Correlation	,691**	,760**	,749**	,705**	,574**	,539**	1
	Sig. (bilateral)	,000	,000	,000	,000	,000	,000	,000

5. DISCUSSION

The evolution in the conception of the vocation has brought with it a difficulty in the management and study of this construct. Being subsumed as part of the concept of professionalization in the '90s (Ávalos, 2002, Esteve, 2009). This fact implied that it was undervalued, to the extent

that the concept of teacher professionalization focused more in the behaviors and beliefs of being a pedagogue than in the motivations or dispositions. The same happened with the concept of motivation, which generally focused only on generic dispositions of behavior, or on academic attitudes and expectations, allowing to measure only personal or environmental dispositions, diminishing the importance of the election as part of the interest for the teaching area.

The teaching vocation has traditionally been considered as a very subjective aspect and therefore difficult to conceptualize, which has led to different ways of understanding and valuing it (Tenti, 1999, Esteve, 2009). However, a central element related to intrinsic motivation and willingness to work has been recognized, aspects that are common in different definitions. As a result of the above, there are few proposals for instruments to measure this construct. The risk is to see it as a subjective process more than as an objective one. Therefore, very complex to be systematized and measured.

That is why this study aimed to develop and validate a questionnaire that measured this construct in students of pedagogy, based on an updated and relevant concept. In this study, an instrument with good indicators of reliability and internal consistency was developed, revealing within the conceptual aspects, self-determination as an area of own decision and within the framework of a rights approach, and the motivation for knowledge (related to the interest in teaching, learning and pedagogical discipline) as a factor that demonstrates the choice of a disciplinary area. On the other hand, an interesting aspect is the good reliability and significant relationship of the scale of lies proposed in the instrument as a measure against social desirability, even though it is a matter of debate regarding whether or not it contributes to quality of the answers, we believe it is important to establish a control mechanism that allows to know if the information is biased or not due to the need to generate a positive social image (Ferrando and Chico, 2000).

It is observed that two factors have less relation and coherence in the instrument (intrinsic motivation and vocational awareness), perhaps due to difficulties in understanding items, or because they are elements that are related to more general aspects of interest than the pedagogical field. However, the idea of keeping them in the instrument is defended because they are factors that can give relevant information about the personal disposition and the interest of the pedagogy students that have chosen this professional area.

Finally, we wish to point out that the evaluation of the teaching vocation as a disposition or competence of the professors is a relevant task for the Chilean educational policies, as well as for the strengthening of the pedagogical discipline itself (Ávalos, 2014). Although it is not an easy task, it is very important because it reflects one of the fundamental features of the teaching profession (Alliaud, 2015; Cárdenas, 2015) and allows determining which students show their own interest, based on their own determinations and interests and not on external tendencies or pressures. The teaching profession must be a field of conscious and self-determined professional performance.

6. CONCLUSIONS

The instrument has shown to have an adequate theoretical coherence with respect to the conceptual descriptors that served to define the teaching vocation, as a set of personal dispositions and interests for the activities in the field of teaching. Thus, the factors found are related to the two most relevant components of the concept, interest in teaching activities (interest in teaching, disciplinary interest, vocational awareness), and personal disposition (motivation of academic achievement, intrinsic motivation and self-determination). In the same way, the scale of lies, with adequate levels of reliability, presented a good level of correlation with the global instrument,

which reveals that it is a relevant component in the instrument and will also allow for a level of control of social desirability, a problem found in every scale of self-report (Ferrando and Chico, 2000).

We must point out that, as a limitation, this study shows preliminary results and therefore, different actions can be projected from it. For example, conducting a study of concurrent validity with other instruments already validated, as well as studies to determine the validity of construct. For this reason, it will be necessary to apply the instrument to more students to achieve a higher level of consistency and perform the evaluation of the answers.

Anyway, it is concluded that the instrument is reliable when informing about teaching vocation in future teachers. It will also help to promote and strengthen vocation in the professional training process, showing that it could be applied at different levels of the training in pedagogy programs. The good indicators of reliability and adequate levels of correlation presented by factors is the basis to indicate the relevance of the instrument when measuring this important characteristic in future teachers.

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