Chapter 4
Pre-service Teachers' Self-efficacy Beliefs on Their Role as Teachers During the *Practicum*

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Abstract Teachers' self-efficacy is typically understood as the inner beliefs on their capabilities to perform teaching tasks. Student teachers (STs) typically built it on academic achievement as they have little professional experience. The teaching *practicum* provides student teachers with authentic, hands-on experience teaching in classrooms, and thus, it offers the opportunity to rebuild their prior beliefs system by controlled in-school practice. A validated instrument, originally constructed by Kaldi and Xafakos (Teach Teach Educ 67:246–258, 2017), was applied to the Spanish context to measure self-competence, motivation, and sources of support. A sample of 116 pre-service Spanish student teachers participated in the study. Data analysis compared the STs' perceptions according to their prior experience, the teaching program, and determination. Main results indicate that STs with prior experience in practice were more motivated toward the profession as well as the elementary education students. Secondly, the STs who chose the teaching career as a first choice perceived the school teachers' and faculty advisors' guidance and support more meaningful. Teacher education needs to know STs' beliefs around their self-perceptions on the *practicum* to better understand their predispositions toward the teaching practice.

Keywords Student teachers' self-efficacy · Teacher education · *Practicum* experience

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4.1 Introduction

One of the long-lasting challenges of teacher education is reducing the theory–practice divide (Anderson & Freebody, 2012). Researchers often scrutinize teaching and schools from an outsider view even though the action-research paradigm has been predominant in teacher education for around four decades. The teaching learning processes are by nature more complex than those teacher educators and educational researchers can assume because the student teacher learning does not only result from accumulating valuable concepts from educational theories. Conversely, it results as a part of an anthropological process rooted in participation in social practice (Korthagen, 2010) that combines theoretical approaches, personal traits, contextual factors, and dynamic transformations.

When pre-service teachers enroll in the teaching degrees, they carry prior beliefs, assumptions, or expectations. During the first months, they moderately adjust these inner aspects, through theoretical subjects, but when they go to the *Practicum*, they changed them. Usually, they emphasize the contact with the school students as the most positive aspect, and they also stress the relationship with their school mentors as positive. Nevertheless, they also witness teachers' working conditions: busy schedules, difficulties for coordination, increase of the teaching hours, lack of time to participate in research projects, etc. All of it configures the pre-service teachers' mind and their sense of efficacy toward the profession.

Teachers' self-efficacy beliefs, understood as a set of personal attitudes toward how good they see themselves as teachers, play an important role in determining their professional identity, especially in the Initial Teacher Education (ITE) phase. Self-efficacy appears to be central to coping with stressful situations (Bandura, 1977; Beltman et al., 2011; Chan, 2008; Kaldi, 2009; Poulou, 2007; Yost, 2006) in which intrapersonal emotional skills could positively intervene. Bandura and Adams (1977) found that reducing subjects' levels of anxiety and fear contributed to improving their sense of self-efficacy. Similarly, a slight overestimation of our capabilities can have a positive effect on our professional performance. In addition, the efficacy beliefs of pre-service and in-service teachers are believed to be resistant to change.

The *practicum* gives opportunities to practice teaching under controlled conditions at the schools. This meaningful experience has an impact on student teachers' reconstruction of prior belief systems that were mostly based on academic achievement or classroom experiences as pupils. The classroom interaction schemes bring the opportunity to access an array of strategies to recognize, categorize, and predict typical situations in the classroom and cope with practical problems through transforming instruction (Heikonen et al., 2017). However, the teaching practicum is highly dependent on a presence-based modality. In fact, the COVID-19 pandemic has put universities to the test to find online solutions for face-to-face teaching. The search and designing of digital tools for this purpose is also enriching current programs nowadays.

The Bologna process implementation in Europe represented a juncture for the configuration of teacher education in Spain since it implied a new reorganization

of the teacher training programs. The higher education degrees were configured in three: Bachelor, Master, and Ph.D. In the first two professional training opportunities to (under)graduate students (Bologna Declaration, 1999) are provided by promoting the internship periods with enough duration and recognized places (e.g., schools, companies, etc.)

The teacher training model that stands in Spain for early childhood education and primary education is concurrent, whereas for secondary education the model is consecutive. The concurrent model combines theoretical knowledge about pedagogy and the teaching practice (practicum) in a four-year bachelor's degree of 240 European Credit Transfer and Accumulation System (ECTS). The teachings are organized into three modules: basic, pedagogical, disciplinary, and the Practicum.

Thus, the teaching practicum organization is subjected to the educational reforms that occur at several levels. First, as a member of the European Union, Spain follows the European Parliament and European Council legislation. The Law 2018/958 (European Parliament, 2018) establishes the right for each member country to define the teaching profession although it recommends a harmonization following the principles of proportionality and non-discrimination. Second, the Ministry of Education in Spain adapts the European norms to the specificities of the country. Currently, the teaching profession at the ITE phase is regulated by two educational standards: (1) the preschool teachers degree framework, guidelines, and the syllabi that allow the undergraduates to complete the degree are described in Order ECI/2854/2007 (Ministerio de Educación y Ciencia, 2007a); (2) the primary school teachers degree is regulated by the order ECI/3857/2007 (Ministerio de Educación y Ciencia, 2007b). Both norms establish 50 ECTS equivalent to 500 h for the Practicum subjects to graduate as preschool or primary school teacher. These two regulations also standardize the competences that teachers should acquire during such period: 'knowing the subject areas and/or the objectives, curricular contents and evaluation criteria of the corresponding stage; acquiring practical knowledge, classroom management; design, plan and evaluate teaching and learning processes individually and in collaboration with other teachers; knowing and applying the processes of interaction and communication in the classroom and master the necessary skills to promote a classroom climate that facilitates learning and coexistence; control and monitor the educational process and, in particular, the teaching–learning process by mastering the necessary pedagogical strategies; participate in the teaching activity and learn how to act and reflect on practice; participate in the improvement proposals in the different areas of action that may be established in a center; regulate the processes of interaction and communication for elementary school students; know the school organization diversity; and learn about ways of collaborating with the different sectors of the educational community and the social environment' (Flores et al., 2022, p. 7).

Thirdly, the national regulation framework is adapted to the culture, language, and idiosyncrasy of each of the seventeen Autonomous Regions that have legislative power in education. Those regions' parliaments control student teachers' access and stays at the practicum schools during their internship periods. Each Region organizes their own procedures to manage the universities demands for their students. As a commonplace procedure, at the beginning of each academic year the schools and

their teachers notify the receiving schools to admit pre-service teachers in their classrooms. The administrative services of the Regional Government inform about these posts to the Faculties of Education that eventually offer these positions to the enrolled undergraduate students. When a particular Faculty of Education demands positions in jurisdictions outside of its Autonomous Region, a special procedure should be followed. Given the high levels of mobility among Spanish students and the fact of the low number of Practicum vacancies available in some regions, this issue might be problematic and therefore agreements among universities and faculties from different regions are scarce.

The main objective of this work is to describe Spanish student teachers' beliefs (Autonomous Region of Castille and Leon) about their teaching efficacy during the *practicum* experience (not before or after it) to better understand their predispositions 'in action' toward the teaching practice. In this regard, these attitudinal stances would remain closer to practice and therefore more meaningful in relation to learning to teach. The study presented is based on a survey-research that sheds light on aspects such as motivation, emotions, challenges, mentoring support, and teaching during the *practicum* period. Particular methodological assumptions were taken to accomplish the objectives set out in this work. The results obtained are organized into different topics such as demanding subjects of the teaching degrees, previous practical experience, perceptions of self-efficacy, or the student teachers' level of determination. Finally, the discussion and conclusion section wrap up the most important ideas that have characterized this study.

4.2 Theoretical Framework

4.2.1 Self-efficacy Beliefs as a Way to Forge Teachers' Professional Identity

Self-efficacy is often understood as one's perceived capability to execute behaviors that do not necessarily match the ability to perform a task (Artino, 2006). Dellinger et al. (2008) defined self-efficacy in the educational context, as 'teacher's individual beliefs in their capabilities to perform specific teaching tasks at a specified level of quality in a specified situation' (p. 752). From this definition, self-efficacy beliefs are thus linked to specific situations in such a way that these beliefs should not be considered as inner attributes. A growing number of educational researchers have highlighted the connections between teachers' efficacy beliefs and educational variables. For instance, they are positively correlated with decreased burnout, increased job satisfaction, student achievement, student sense of efficacy, and student motivation (Aydin & Woolfolk Hoy, 2005). Besides, teacher efficacy beliefs among in-service and pre-service teachers are thought to be resistant to change. Peacock (2001) carried out a research study where 146 student teachers did not experience any significant change after a three-year instructional program. However, there are several

works reporting changes in the pre-service teachers' beliefs after taking *practicum* subjects (Pendergast et al., 2011; Qiu et al., 2021) which is consistent with the principles of experiential learning that consider learning as a process mainly mediated by experience (Kolb, 1984). Since beliefs appear to play an important role in teachers' prospects (Bandura, 1986), and they tend to stay relatively stable, it seems important to address this issue in the education degrees syllabus to build awareness among the students' teachers. In this sense, experienced mentors and advisors can play an important role and it could be necessary to include specific tasks to help their students to recognize patterns when struggling with their own efficacy beliefs.

Nonetheless, little is known about the sources of higher efficacy. Teachers' personality traits have been related somehow to common sources of teacher stress. Self-efficacy appears to be fundamental to coping with stressful situations (Bandura, 1977; Beltman et al., 2011; Chan, 2008; Kaldi, 2009; Poulou, 2007; Yost, 2006) in which intrapersonal emotional skills could intervene positively. Observations of other teachers might construct their own sense of effectiveness as their actions can serve as 'vicarious experience'. For that reason, Bandura (1997) pointed out the importance of feedback and support from the environment in the cultivation of efficacy. He defined a self-efficacy model based on four sources of information: enactive mastery experiences, vicarious mastery experiences, verbal persuasion, and physiological and affective states. The information received from situations that provide a successful experience is considered more powerful than that obtained from vicarious experiences; thus, it contributes to strengthening self-efficacy beliefs (Bandura, 1997). Similarly, Poulou (2007) found that teaching experience was considered an important source of efficacy for the student teachers, whereas vicarious experiences were not considered as important as mastery experiences. Verbal persuasion also plays an important role in this issue. Receiving feedback on their performance helps student teachers to adjust their sense of efficacy. As for the fourth source of information, Bandura and Adams (1977) found that lowering the anxiety and fear levels of the subjects contributed to improving their self-efficacy sense. In the same way, a slight overestimation of our capabilities may have a positive effect on our professional performance. The practicum subjects can be meaningful sources of positive or negative enactive experiences for student teachers. Even if they seem to be negative, they can also be an opportunity to go beyond the initial feelings and to delve into those events to help them to develop new strategies and to build understanding for future situations. Reflecting on insecurity feelings when facing difficult situations during practicum can help pre-service teachers to reframe their beliefs system.

Student teachers' self-efficacy is also influenced by the fact of choosing the teaching profession as their professional career (Chong & Low, 2009). Research suggests that most of the student teachers choose to teach based on internal motivations, such as the ability to teach, or altruistic reasons (shape children's life, make a social contribution) (Chong & Low, 2009; Watt et al., 2012) rather than external motivations (salary, job security, social respect, poor grades for other academic options). The Global Teacher Status Index 2018 (Dolton et al., 2018), which surveyed primary school teachers' beliefs from 35 countries, reported that the participants considered their profession as moderate status with 6.4 points and less than six points in Spain

(being 1 the lowest and 14 the highest). One of the main conclusions reported is that the higher perception of primary school teachers' status inside each country, the more probability for parents to promote an interest in their children choosing this career path. Consequently, it promotes inner motivation to become a teacher, which in turn results in better levels of satisfaction and, accordingly, commitment and positive career trajectories (Beltman et al., 2011). Nevertheless, this data should be read carefully, because some students may have chosen educational degrees as their first option taking into account their real options after their grades. In recent years, an interest in scientific or health fields have increased significantly, making the social sciences somehow less appealing for newcomers, although the pandemic might have raised a new interest in the educational degrees.

4.2.2 The Practicum as Meaningful Learning Experience Impacting Student Teachers' Beliefs

Many student teachers usually base their expectations on their academic performance prior to their first experiences in practice as teachers. However, the immersion in the school activity seems to be fundamental to the perceived changes in their teachers' beliefs (Qiu et al., 2021). As Williams and Sembiante (2022) affirm reflective teaching has an influence in developing a professional identity, as well as in modulating and modifying pre-service teachers' beliefs. The teaching *practicum is precisely structured to* provide student teachers with authentic, hands-on experience teaching in the classroom, offering them the opportunity to apply their knowledge of child development and curriculum content (Kim, 2020). In general, prospective teachers and teacher educators consider the teaching at the *practicum* to be the most beneficial component of their preparation, although the professional identity construction might start from the immersion at the school dynamics and from the open discussions with expert teachers. In this sense, the *practicum* offers the student teachers the opportunity to objectify and rebuild their prior beliefs system by reflection after controlled in-school practice. The practicum subjects are generally structured to offer pre-service teachers opportunities to build successful teaching experiences under their mentors' support and supervision. Eventually, they usually reflect on their experiences by writing on portfolios or holding critical discussions with their mentors. This path might lead them to delve into their own beliefs system and modulate their self-perceived sense of efficacy being more positive than expected for a particular topic, and more negative for others.

As for this work, Kaldi and Xafacos (2017) partly considered for their questionnaire the theory of the situated learning, postulated by Lave and Wenger (1991). From this perspective, situated learning requires: (1) content, mainly by reflection or problem-solving, (2) context, providing a platform to delve into experiences, (3) a community, and (4) participation, mostly through negotiation and renegotiation. All these aspects are key in the *practicum* subjects for the student teachers' learning

processes. The teaching *practicum* is often regarded as a crucial stage for student teachers to experiment with their classroom strategies, test what they know and can do, and try out working as a teacher in the classroom. Experimenting with classroom strategies requires that the teaching *practicum* provides safe surroundings and opportunities to practice the skills and strategies that are needed for successful teaching and management of classroom situations. In this safe and constructive environment, student teachers are more likely to try out novel strategies and test various approaches in classroom interaction. Learning proactive classroom strategies needs to be facilitated before, during, and after teaching *practicum* through using case descriptions, classroom simulations, and authentic problem-solving situations in which student teachers can observe their own and pupils' actions, collaboratively discuss alternative strategies, and actively experiment with new classroom practices. Furthermore, lesson study has been suggested to contribute to student teachers' understanding of the complexities of teaching in a holistic and situated way and enhance their classroom strategies by moving their focus from themselves to their pupils and the pupils' learning (Heikonen et al., 2017). In practice, mentor teachers play the most important role in supervision, and they are perceived as the most significant support in the student teacher's experiences (Aydin & Woolfolk Hoy, 2005). However, teaching internships can have both negative and positive influences. Poorly chosen internships lead to feelings of inadequacy, low teaching effectiveness, and an unfavorable attitude toward teaching; whereas extensive and well-planned field experiences can help prospective teachers develop confidence, self-esteem, and increased awareness of the profession. For the student teachers who are about to begin their university education, the expectations, thoughts, and previous knowledge create a set of beliefs on which the new contents to be learned during their education will be based. Since they begin their teacher training, they are already told about the presence and importance of the *practicum*, making them see that this is one of the most enriching experiences of their entire teacher training. They also tend to reject certain theoretical knowledge, giving greater importance to everything they can learn through practice and experience (Shkedi & Laron, 2004). Therefore, it is important to guide these future teachers from the beginning of their training, delving into the reasons they contemplate for choosing teaching, which can give us information to anticipate their future level of satisfaction in their training.

Additionally, La Paro and Crosby highlight the relevance of socio-emotional components, such as: intrapersonal feelings, general internship satisfaction, or the sense of teaching effectiveness. These are found to be highly influential in changing prior beliefs during the practicum since they automatically activate personal response and connection to previous experiences. According to Palmer (2006), who tested the durability of those changes in beliefs regarding insecurity feelings when facing sciences classes during practicum, changes remain after 8–11 months. Enactive experiences during practicum help student teachers to lessen their anxiety feelings when thinking about teaching sciences.

Another aspect to consider within the *practicum* period during these last years is online learning, as distance education has become ubiquitous because of the COVID-19 pandemic. Based on this situation, we must also consider this period as part of

an educational process that takes place through the internet as a form of distance education (Kim, 2020). In recent years, we have been able to see how online teaching and learning an indispensable role in education programs around the world have, although there is a debate as to whether it is beneficial for a certain part of the student body or students in early childhood education, as it involves prolonged exposure to Information and Communication Technologies (ICT) (Konca et al., 2016). Finally, it is worth considering that online teaching experiences provided these trainee teachers with opportunities to interact with children when there was no other way to do so, which fostered the creation of a virtual space dedicated to reflecting on how best to promote students' development and learning with online communication tools (Kim, 2020).

All things considered, we should keep in mind that, as Qiu et al. (2021) asserted, '*the change from a student role to a teacher role can be one of the most abrupt and stressful transitions in working life*' (p. 3). Therefore, the objective of this chapter is twofold:

1. Describe student teachers' perceptions about their preferred teaching course in the *practicum* and the most challenging subjects (and related concepts) to teach in the *practicum.*
2. Compare whether there are significant differences in teaching self-efficacy in the five instrument dimensions between (a) student teachers with experience in the *Practicum* and those who do not; (b) student teachers from the elementary school education degree and the early childhood education program; and (c) student teachers who chose the teaching profession as their first choice (more determined) university studies versus those undergraduate students who chose it as a second or third choice (less determined).

4.3 Methodology

4.3.1 Context of the Study

Student teachers in Spain follow a concurrent model of teacher education for both early childhood education and elementary education. However, each one follows a different syllabus program within a four-year degree. This initial decision is important because each degree qualifies only to the chosen stage. Nowadays, student teachers can also enroll in a dual five-year degree program that qualifies them to teach at both educational levels.

The *Practicum* is a compulsory subject in each degree program. The *Practicum* at the University of Salamanca (Spain) is divided into two periods. The first *Practicum* is taken in the first semester of the third-year degree course. In the academic course 2019–2020, 197 student teachers (36.6% from early childhood teacher education degree and 63.4% from elementary teacher education degree) were enrolled in it.

During seven weeks, they were immersed in real school practices and were guided by one school mentor following the school schedules and daily teaching routines. This first year of the *practicum* is called the observational *Practicum* as it represents the first contact with the teaching practice, even if the student teachers prepare occasional lessons plans under mentoring supervision. At the same time, the student teachers are also assigned to a faculty advisor that helps them to reflect on their observations, revisit their beliefs, or understand their emotions during their first contact with the reality of a learning group.

In their fourth year, 186 student teachers (55.9% from elementary teacher education degree and 44.1% from early childhood teacher education degree) took the second period of the *practicum*, named *Practicum II*. The basics of this *Practicum* are the same as *Practicum I*. The student teachers are assigned to a school mentor and to a faculty supervisor. During nine weeks, the pre-service teachers stay in their internship schools closely collaborating with their mentors. It is considered as the 'action *Practicum*' as the student teachers must teach most of their time, demonstrate initiative, develop their ability to analyze and reflect on their own practice, and assess a teaching unit in collaboration with the teacher mentors. For both *Practicums,* the student teachers must attend a series of seminars conducted by faculty advisors at the Faculty of Education to reflect on critical issues related to their practice in the classrooms. Along with those seminars, they attend group meetings with the faculty advisor addressing key aspects such as classroom management, teaching experiences, school coordination, or educational events. Finally, they must complete a final assignment: write a portfolio about their school experience that is evaluated by the faculty advisors.

In Spain, the Regional Governments control the non-university education institutions. The University of Salamanca, as any other higher institution, must partner with the Regional Government to regulate the pre-service teachers' *practicum* experience. A Regional Education Board opens an annual call for schools to inform whether they will be opened to receiving student teachers. Concurrently, another call for teachers is waved to all the teachers' region working force to find expert teachers who volunteer to be school mentors. Once both calls are finished, the Regional Educational Board organizes a list with all the teachers willing to accept student teachers in their classrooms. The list included 114 public or private schools, from rural or urban areas and a total of 769 teachers willing to mentor pre-service teachers. Unfortunately, some teachers do not receive students, due to a variety of reasons such as lack of public transport to small villages, or long distances from the Faculty of Education to the destination school.

Moreover, a committee with representatives from the Regional Educational Administration, the universities, and the schools has been recently created to monitor the development of the *Practicum*, to suggest any improvements, manage possible conflicts, and act when required. The Regional Committee integrates representatives from all sectors, and it is composed of nine Province Committees. This structure makes the Province Committee highly managerial, being focused in the short term, whereas the Regional Committee is more long-term oriented, focusing on general orientations and paying attention to the big picture on how the *practicum* should

be better organized. This *Practicum* organization indicates a deep interest in guaranteeing the quality of the pre-service teachers' instruction because the Regional Government, as a future employer of part of those student teachers, boosts the transference of knowledge among professional teachers and future teachers.

4.3.2 Instrumentation

The instrument utilized in this study was a verbatim translation to Spanish of a questionnaire published by Kaldi and Xafakos (2017) to evaluate student teachers' beliefs about their *practicum* experiences. The instrument has been considered to construct the practicum profile tool within the PRAC3 ERASMUS+ project. We chose this tool because it extensively explores student teachers' self-efficacy beliefs according to the theory of situated learning and self-determination. The scale was originally composed of 43 items on a Likert scale (five degrees of response from 'agree' to 'completely disagree') and explores five dimensions: orientation during the time of the *practicum* (16 items), teachers' self-efficacy (31 items), challenges during teaching (13 items), motivation to teach (15 items), and management of emotions (with 40). The dimensions are based on a previous work by Kaldi (2009) in which the author highlights that the main aspects to be considered when exploring student teachers' perceptions are: self-competence in teaching; emotions, reactions to stress, and resilience; and the link between teaching practice and expectations.

4.3.3 Participants

A total number of 116 student teachers participated in this study (52 belonging to an elementary education teacher education program and 64 of early childhood teacher education program) in the Faculty of Education at the University of Salamanca (USAL) in Spain. The student teachers joined the *practicum* in primary and kindergarten schools for three months during the school year 2019–2020.

4.3.4 Data Collection and Analysis

The student teachers belonging to both programs participated on a voluntary basis in the study. The questionnaires were delivered in Google Forms to some participants as well as they were printed off for others who preferred to take it during a lesson at the Faculty of Education at the University of Salamanca, Spain. Data was used for the PRAC3 ERASMUS+ to ground the basic frame of one of its tools: the Practicum Profile Tool.

The responses collected were analyzed using the statistical software SPSS, v.21. Both descriptive (e.g., gender, number of students, programs, etc.) and inferential analysis were conducted. Data was also revised in the PRAC3 ERASMUS+ project to test the usefulness of the questionnaire for the (online) practicum.

Both elementary school and early childhood programs were compared using t-tests and Welch tests—when unequal variances were assumed or unequal group sample sizes—around the five dimensions of the questionnaire: student teachers' perceived teaching self-efficacy beliefs in relation to motivation to teach, emotional intelligence, and sources of support during school *practicum.*

4.3.5 Validation

Reliability analyses were conducted for the translated scale into Spanish. Cronbach Alpha showed consistency between the Spanish instrument and the original one used in Kaldi and Xafakos (2017). See Table 4.1.

As shown in Table 4.1, the overall Cronbach alpha was $a = 0.828$. The dimensions where reliability scores were higher are self-efficacy and challenges, whereas motivation was the lowest ($a = 0.604$) but acceptable.

4.4 Results

A total number of 116 student teachers participated in the study. Out of them, 52 (45.2% of the sample) belonged to the elementary school teacher education program at the University of Salamanca, whereas the other 63 (54.8%) at the early childhood education program at the same higher education institution. Most of the participants were female student teachers ($n = 103$) representing 88.8% of the sample. In the

Table 4.1 Reliability scores (Cronbach alpha)

	Cronbach's alpha	*N*	Percentage (%)
Part A—Orientation	0.794	100	86.2
Part B—Self-efficacy	0.930	102	87.9
Part C—Challenges	0.945	107	92.2
Part D—Motivation	0.606	105	90.5
Part E—Emotions	0.866	102	87.9
Total score	0.828	103	88.9

Taken from Mena et al. (2019)

Note Reliability scores for the self-reported questionnaire by Kaldi and Xafakos (2017). Part A: Orientation during the time of the *practicum.* Part B: Teacher's self-efficacy. Part C: Challenges during teaching. Part D: Motivation to teach. Part E: Management of emotions

elementary education school teaching program, 36.2% ($n = 42$) were women while 8.6% ($n = 10$) were men. A similar ratio was found in the early education school teaching program where 95.3% ($n = 61$) were females and just 4.7% ($n = 3$) were males. This is consistent with other data pointing out that, even among teenagers, girls are much more prone than boys to choose education degree programs (Sikora, 2021).

4.4.1 School Teaching Grade in the Practicum Versus Preferred Teaching Grade

As it is shown in Table 4.2, most of the Elementary School Student teachers taught in the 3° and 4° grades (26; 40.6%) when they preferred to be at the first level (27; 46.6%). For Early Childhood student teachers, many of them taught to four-year-old students (29, 43.3%) when the preferred level was in the three-year-old classrooms (33, 23.9%).

Finally, regarding the number of school student they taught per classroom we obtained the following numbers: up to 10 school pupils = 2 (1.7%); 11–15 = 10 (8.6%); 16–20; 27 (23.3%); 21–25 = 63 (54.3%); and 25 above = 14 (12.1%).

Table 4.2 Current teaching grade in the *practicum* versus preferred teaching grade by the student teachers

		Current teaching grade		Preferred teaching grade	
		f	%	*f*	%
Elementary school	1 (1°–2° grades)	17	26.5	27	46.6
	2 (3°–4° grades)	26	40.6	14	24.1
	3 (5°–6° grades)	21	32.8	17	29.3
	Subtotal	64	100	58	100
Early childhood	1 (3 years)	16	23.9	33	50
	2 (4 years)	29	43.3	22	33.3
	3 (5 years)	22	32.8	11	16.6
	Subtotal	67	100	66	100

Adapted from Mena et al. (2019)

4.4.2 Most Challenging Subjects in the Degree Where They Do the Practicum

The participants responded to the question ($n = 109$): 'Which curriculum subject did you find more difficult to prepare your lesson plans during the school teaching practice?' The main results indicated that the most difficult concepts to explain to the classroom students were natural sciences (41; 37.6%), followed by math (25; 22.93%), Spanish Language (11; 10.09%) and foreign language (7; 6.42%), and social sciences (4; 3.66%). A total of 15 student teachers indicated to have no problems with any. Other concepts from disciplines such as physical education, arts, and ethics had marginal scores (2 and 1) representing less than 2%. It is interesting to note that early childhood education student teachers majorly reacted to sciences as difficult to be taught at their level (40 out of 59; 67.79% of the sample), whereas only one student teacher signaled this subject in the elementary education teaching program.

4.4.3 Prior Practicum Experience

We compare those student teachers with experience in the *Practicum*, that is, the student teachers who enrolled in the *Practicum* II (they all had at least one year of previous *practicum* experience) and the ones who were in the Practicum I with no prior experience as school teachers apart from their current year at the *practicum.* Main results are shown in Table 4.3.

Table 4.3 Perceived teacher self-efficacy between student teachers with no teaching experience versus prior experience

	Practicum I (no prior experience)			*Practicum* II (prior experience)			Welch	Sig.
	N	Mean	Sd	*N*	Mean	Sd		
Part A—Guidance and Support	17	3.360	0.486	82	3.719	0.531	7.420	0.012*
Part B—Teaching efficacy	18	3.869	0.217	84	3.869	0.404	2.644	0.111
Part C—Challenges	19	3.408	1.052	87	3.408	1.039	0.045	0.834
Part D—Motivation	20	3.206	0.383	85	3.189	0.333	0.036	0.041*
Part E—Emotions	17	3.963	0.354	84	4.051	0.314	0.909	0.851

Note Part A: Orientation during the time of the *practicum.* Part B: Teacher's self-efficacy. Part C: Challenges during teaching. Part D: Motivation to teach. Part E: Management of emotions (Kaldi & Xafakos, 2017)

* Significant at the level $p < 0.05$

Data from Table 4.3 indicates that there were statistical differences in the dimensions of guidance and support (Welch = 7.420, df = 1; $p = 0.012$) and motivation (Welch = 0.20; df = 1; $p = 0.041$). The student teachers with prior experience felt they were better guided and advised during the *practicum* than their counterparts who had recently been immersed in the *practicum* I at the schools. Conversely, the student teachers with no prior experience in the *practicum* felt more motivated to accomplish teaching and other school tasks.

4.4.4 *Elementary School Education Program and Early Childhood Education Program Self-efficacy Perceptions*

Student teachers belonging to the two programs held different views on the *practicum.* The statistical analysis showed that significant differences (t test) were found in motivation ($p = 0.039$; $t = 1.359$). Results are shown in Table 4.4 where the mean scores (from 0 to 5) and standard deviation for each of the questionnaire dimensions are shown.

It is interesting to note that there were no significant differences on the rest of the dimensions which may indicate that either the early childhood or elementary school student teachers have similar perceptions of their efficacy as teachers when they are in the pre-service period of their education.

Table 4.4 Mean scores and standard deviation of the student teachers' responses to the items of the questionnaire

	Elementary school education group			Early childhood school education group			Sig.
	N	Mean	Sd	*N*	Mean	Sd	
Part A—Guidance and support	44	3.603	0.565	56	3.704	0.085	0.605
Part B—Teaching efficacy	44	3.858	0.365	58	4.036	0.375	0.304
Part C—Challenges	47	3.711	0.943	60	3.261	1.064	0.213
Part D—Motivation	46	3.243	0.400	59	3.152	0.284	0.039*
Part E—Emotions	47	3.523	0.489	59	3.601	0.332	0.483

Taken from Mena et al. (2019)

Note Part A: Orientation during the time of the *practicum.* Part B: Teacher's self-efficacy. Part C: Challenges during teaching. Part D: Motivation to teach. Part E: Management of emotions (Kaldi & Xafakos, 2017)

* Significant at the level $p < 0.05$

Table 4.5 Perceived teacher self-efficacy according to students teachers' determination (as measured by choosing the teaching career as their first choice)

	Teaching career (first choice)			Teaching career (second choice)			Welch	Sig.
	N	Mean	Sd	*N*	Mean	Sd		
Part A—Guidance and support	73	3.734	0.541	23	3.453	0.517	5.036	0.031*
Part B—Self-efficacy	74	3.984	0.356	24	3.876	0.452	1.147	0.292
Part C—Challenges	78	3.532	1.041	25	3.350	0.952	0.659	0.421
Part D—Motivation	78	3.212	0.330	25	3.138	0.386	0.746	0.393
Part E—Emotions	75	4.067	0.307	23	3.963	0.332	1.800	0.189

Note Part A: Orientation during the time of the *practicum*. Part B: Teacher's self-efficacy. Part C: Challenges during teaching. Part D: Motivation to teach. Part E: Management of emotions (Kaldi & Xafakos, 2017)
* Significant at the level $p < 0.05$

4.4.5 Student Teachers' Determination

In this chapter, we use the term determination as the student teachers' capacity to achieve the goal of becoming a teacher. One measure to materialize this attribute was asking them whether they chose the teaching career degree as a first or second choice of their tertiary studies, and assuming that those who did it as the first choice could be more determined to complete their studies. Practically, two-thirds of the sample chose to enroll in a teacher education program as their first option for their studies ($n = 84$; 75.6%), whereas one-third ($n = 27$; 24.3%) chose it as their second or third choice. As shown in Table 4.5, the results obtained from the questionnaire items indicated that only the dimension 'Guidance and Support' differed significantly from both groups (Welch = 5.036; df = 1; $p = 0.031$).

Slight differences can be seen in challenges and motivation as the group who chose the teaching career as their first choice felt more motivated when teaching but at the same time perceived more difficulties when performing regular teachers' duties.

4.5 Discussion and Conclusions

The subjects the student teachers considered more complex to teach during the *Practicum* were those related to natural sciences (41%), followed by contents of mathematics (almost 25%). This may lead to think that behind this difficulty may be underlying a low level of training competence in the Spanish context to address the development of tasks related to science and math and more mastery in social sciences

and humanities. Probably the student teachers' difficulties in math and sciences are due to lack of enough background during high school, aspects that are highlighted in the last TIMSS report (OECD, 2020) where the Spanish students' achievement in maths was of 502, under the OECD mean score (527) or the EU (513). This is also in line with Sikora's (2021) review results on the teacher career plans in high school education students in Australia. She found that those who chose a college education degree did not take mathematics in their last two courses of schooling.

The early childhood education cohort pointed out science as the most difficult content to teach (67.79%), probably because in the early childhood education program there are no specific subjects related to science or math education. According to the ENCIENDE report about Science Education for Early Childhood in Spain (COSCE, 2011) and financed by the Spanish Ministry of Science and Innovation, five transversal proposals should be implemented in teaching to improve science knowledge in students: (1) the need to support and promote a renewal of the teaching of sciences, not only of the contents or methodologies of the classroom, but also of the approach of internal and external evaluation; (2) need for a rethinking of science teacher training in line with the renewal of science education that is being pursued; (3) promote scientific culture in Spain through the promotion of actions that involve the approach of science to society, in particular, in the family and leisure sphere, as well as scientific communication; (4) promote the opening of the scientific community to society in general and to children in particularly early ages; and (5) create, maintain, and stimulate a meeting point between the various agents involved in education and scientific culture, in particular of children of early ages.

Another relevant result highlights that a quarter of the sample chose the teaching career as a second choice, indicating that it is not considered by undergraduate students as an intrinsic way of professional development, but rather to obtain a permanent job. This result aligns with the adequacy rate for the year 2019–2020 where 73.9% undergraduate students enrolled in the first-choice degree in Spain (Ministry of Universities, 2021) out of a total number of 1,296,379 who initiate their studies at the university for the first year (MEFP, 2022). Those students in our study who chose the teaching career as their first option (75.6%) felt slightly motivated toward the profession as well as they also perceived more difficulties when teaching. This might indicate that they are more conscious of the importance of the teachers' role to engage students in multiple learning experiences. Havlík (1995) revealed that one-third of the newcomers to the education degree would have chosen other options if their grades had been good enough to choose it. For that reason, they might be more prone to bring knowledge to the classroom and have a proactive attitude toward the teaching practice. However, other researchers offer a different explanation for this choice. Scio found that students who chose education as the first option did it because they perceived the degree as less demanding than others. Nonetheless, in recent years, the required grades to enroll in an educational degree at the USAL has significantly risen, making them a first choice rather than a second option. Over the last five years, these grades have grown by 39.53% in the primary school degree (they have increased from 7.40 to 10.33 out of a maximum of 14 points), and by

32.97% (from 7.23 to 9.61 out of 14 points) to the preschool degree in the Faculty of Education, breaking a softer prior increase tendency in the last decade.

Thirdly, significant differences between *Practicum* I (no prior teaching experience) and *Practicum* II (prior teaching experience) were found in the dimensions of guidance and motivation. The fact that the student teachers from *Practicum* I felt more supported by their mentors and other schoolteachers and showed more motivation and interest in their practice, has to do with the fact of having had previous teaching experiences, as they usually increase their confidence when facing the teaching practice. On a different level, Malmberg et al. (2014) reported that experienced teachers' lessons were basically driven by their performance and the influence on their students' learning (intrinsic motivation) rather than by their sense of suitability, as it occurred in pre-service teachers' lessons. In this regard, it is worth noting that student teachers do not always go through positive experiences. Taking into account the aforementioned Bandura's model (1997) where enactive positive experiences are the most powerful way of increasing the sense of self-efficacy, this could be problematic for student teachers. However, in this situation, the role of mentors and advisors is revealed as key to help their student teachers to go beyond the situation and build knowledge for future events.

It is also interesting to note that most of the student teachers, regardless of the training program, preferred to teach in the lower grades of primary and early childhood classrooms, but most of them ended up going to the *Practicum* in intermediate levels (third to fight grades—9 to 11 years old). This result is important to know as the student teachers' training preferences in the *Practicum* period might define their priorities. Many of these students conduct their training practices in contexts in which they do not feel identified or are not related to their needs, interests, and motivations, which in turn make them lose interest in their future profession. Consequently, this aspect should be taken into consideration for future teacher education programs.

Finally, regarding inferential analysis, no statistical differences were found between the two groups (primary education vs. early childhood education) in the dimensions of the test. Only in the case of motivation, the primary education group felt more committed than their infant education counterparts. With respect to the rest of the dimensions, no significant differences were observed, which may indicate that students in both groups have similar perceptions, for example, about their effectiveness as teachers and their feeling of training for practice.

This study highlights the relevance for teacher education of student teachers' self-perceptions on how they see themselves as teachers. These subjective stances might be determinant to face the profession in future and to handle challenging situations. In fact, self-efficacy beliefs might be one of the factors that explain student teachers' successful graduation rates: 27,857 students finished the education studies (80.7%) (MEFP, 2022). For this reason, teacher educators should understand the importance of teacher self-efficacy and the ways to improve it. For instance, Kavita and Dahiya stated that the use of multimedia in teachers' instruction can significantly improve their mastery experience. Therefore, promoting the use of digital sources in the student teachers' lessons can be determinant to boost their confidence. On the other hand, there is a need for the educational administrations to professionally support

their teachers as they fail to fully believe in their potential without that assistance (Hong, 2010).

A major limitation of the results of this study is that they are highly dependent on the jurisdiction context of the University of Salamanca, Spain. Other results might be expected in other universities or countries. Besides, determining self-efficacy as a component of teachers' effectiveness is a complex task as it entails many aspects to be taken into account: mastery experiences, vicarious experiences, verbal persuasion, and somatic and emotional states (Bandura, 1977). Trying to have a portrait of the student teachers' self-efficacy would require the use of more instruments than one questionnaire.

Further studies would require studying other *practicum* contexts to check whether student teachers' perceptions identified differ from the ones collected in the present study. Secondly, a more in-depth analysis of the student teachers' self-efficacy would be required, that is, not only measuring it according to their beliefs but according to teaching performance. This last should be investigated through observational research.

4.6 Implications

In Spain, the educational system is decentralized, being directly managed by the Autonomous Regions' Governments. Nevertheless, each jurisdiction must follow the national legal framework, established by the ECI Order 3854/2007 for the preschool degrees, and by the Order 3857/2007 for the primary school degrees. These orders determine that both degrees must dedicate 50 ECTS out to 240 for the Practicum subjects and the final degree project, which, in turn, underlines the importance of those subjects to train the future teachers. Moreover, the legal system stresses the importance of teachers reflecting on their own ways of teaching as one of their main professional competences. Research also suggests the relevance of strengthening cooperation between academia and schoolteachers that promote and deepen knowledge, and it results in improvements in teaching skills. Although some teachers would want to participate in research projects, their schedule allows no margin for engaging such projects unless they wanted to do it in their free time. During the last years, some adjustments in their working conditions have led to increasing their teaching hours following the global neoliberal pattern. Work regulations for primary school teachers do not include any time or remuneration to do research while staying in the educational institutions. As for the Practicum areas, to date, mentors voluntarily request for student teachers to guide them during their practicum, without any economical compensation, with little work recognition and no freed time to address specific issues with their student teachers. Conversely, faculty advisors are assigned to this task by their departments assuming small student teacher cohorts' guidance for the practicum experience at the schools. Both, school mentors and faculty advisors carry out their work without any previous schedule adjustment making it more difficult for coordination purposes. This is one of the most criticized issues relating

to the practicum management, and it should be addressed in future policy adjustments. Coordinating both school mentors and faculty advisors would help student teachers to work specifically in increasing their sense of self-efficacy. Additionally, it could be interesting including specific case scenarios in the teacher education programs syllabi to allow for jointly work between school mentors and faculty advisors. Student teachers are affected by the mentioned aspects, as they engage their classrooms with their mentors in their regular schedules, with little time to discuss doubts or key aspects for their training and suffering the same schedule constraints as their mentors. They also claim for improvements in the coordination of mentors and advisors, whom they meet separately either in school or college. Finally, public administrations will eventually hire the current student teachers in years to come, so there is a joint interest in managing the teaching practicum in cooperation with universities. Nevertheless, allowing teachers to engage in research projects or to analyze teaching scenarios with their student teachers and faculty advisors would require increasing the workforce by investing more funds. This last is unlikely to occur in a decade marked with cutbacks in education.

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Appendix: Questionnaire About Teaching Experiences During the School Teaching Practice

By Kaldi and Xafakos (2017)

PART A—Guidance during school teaching practice

	Level of agreement ⇨ During my teaching in the school teaching practice:	Totally disagree	Disagree	I am not sure	Agree	Totally agree
1	I was systematically guided by my professors at the university	❑1	❑2	❑3	❑4	❑5
2	Class teachers guided me importantly	❑1	❑2	❑3	❑4	❑5
3	I received feedback about my teaching from my professors at the university	❑1	❑2	❑3	❑4	❑5
4	I received feedback about my teaching form the teacher of the class I taught	❑1	❑2	❑3	❑4	❑5
5	I had fruitful discussions and exchanged ideas about teaching with my course peers	❑1	❑2	❑3	❑4	❑5
6	I was encouraged about my teaching from my professors at the university	❑1	❑2	❑3	❑4	❑5
7	I consider professors' supervision during teaching very effective	❑1	❑2	❑3	❑4	❑5
8	I was systematically guided by the teacher-mentors	❑1	❑2	❑3	❑4	❑5
9	I received feedback about my teaching from the teacher-mentor	❑1	❑2	❑3	❑4	❑5
10	I consider the supervision of the teacher of the class I taught very effective	❑1	❑2	❑3	❑4	❑5
11	I consider teacher-mentors' supervision during teaching very effective	❑1	❑2	❑3	❑4	❑5
12	I was encouraged about my teaching from the teacher-mentors	❑1	❑2	❑3	❑4	❑5
13	I was encouraged about my teaching from the teacher of the class I taught	❑1	❑2	❑3	❑4	❑5
14	I was encouraged about my teaching from my communication with the course peers	❑1	❑2	❑3	❑4	❑5
15	I had easy access to materials and audio-visual means needed for my teaching as provided by the course	❑1	❑2	❑3	❑4	❑5
16	Teachers-mentors facilitated the process of teaching practice in schools	❑1	❑2	❑3	❑4	❑5

PART B—Teaching self-efficacy

	Level of agreement ⇨ After my teaching in the school teaching practice I think that	Totally disagree	Disagree	I am not sure	Agree	Totally agree
1	I can use a variety of assessment strategies	❑1	❑2	❑3	❑4	❑5
2	I can explain further when students face difficulty in understanding	❑1	❑2	❑3	❑4	❑5
3	I can ask students appropriate questions	❑1	❑2	❑3	❑4	❑5
4	I can use a variety of instructional strategies (i.e. brainstorming, diagrams etc.)	❑1	❑2	❑3	❑4	❑5
5	I can use a variety of child-centred teaching approaches (i.e. group work, Project-Based Learning, etc.)	❑1	❑2	❑3	❑4	❑5
6	I can respond to students' difficult questions	❑1	❑2	❑3	❑4	❑5
7	I can incorporate students' experiences, previous knowledge and interests during the lesson effectively	❑1	❑2	❑3	❑4	❑5
8	I can take into consideration students' readiness level when preparing lessons (i.e. students with learning disabilities or gifted students).	❑1	❑2	❑3	❑4	❑5
9	I can assess students' learning tasks daily	❑1	❑2	❑3	❑4	❑5
10	I can present to students new concepts/skills effectively	❑1	❑2	❑3	❑4	❑5
11	I can direct students to independent learning tasks	❑1	❑2	❑3	❑4	❑5

12	I can coordinate a class discussion	❑1	❑2	❑3	❑4	❑5
13	I can use attractive learning tasks for the students	❑1	❑2	❑3	❑4	❑5
14	I can give students' the appropriate guidelines before they carry out learning tasks	❑1	❑2	❑3	❑4	❑5
15	I can control disorderly behavior in the class	❑1	❑2	❑3	❑4	❑5
16	I can raise and maintain students' interest during the lesson	❑1	❑2	❑3	❑4	❑5
17	I can convince students to follow the class rules	❑1	❑2	❑3	❑4	❑5
18	I can manage bad behavior in the class	❑1	❑2	❑3	❑4	❑5
19	I can distribute routine roles to all students effectively	❑1	❑2	❑3	❑4	❑5
20	I can apply an effective discipline system in the classroom	❑1	❑2	❑3	❑4	❑5
21	I can stop situations where few students with improper behavior try to interrupt the flow of the lesson	❑1	❑2	❑3	❑4	❑5
22	I can respond effectively to students with disorderly behavior	❑1	❑2	❑3	❑4	❑5
23	I can make clear what my expectations are about students' social behavior	❑1	❑2	❑3	❑4	❑5
24	I can improve the performance of students with learning disabilities	❑1	❑2	❑3	❑4	❑5
25	I can develop students' critical thinking and exploratory skills	❑1	❑2	❑3	❑4	❑5
26	I can develop students' creativity	❑1	❑2	❑3	❑4	❑5
27	I can get all students be engaged in the learning process regardless of their readiness level	❑1	❑2	❑3	❑4	❑5
28	I can help students to enjoy learning	❑1	❑2	❑3	❑4	❑5
29	I can provide students with opportunities to be engaged in learning tasks according to their interests and talents	❑1	❑2	❑3	❑4	❑5
30	I can provide students with learning disabilities sufficient time to carry out learning tasks	❑1	❑2	❑3	❑4	❑5
31	I can respond to learning needs and interest of students from various cultural backgrounds	❑1	❑2	❑3	❑4	❑5

PART C—Challenges during teaching

	Level of agreement ⇨ **During my school teaching practice I faced difficulties in teaching regarding the following:**	**Totally disagree**	**Disagree**	**I am not sure**	**Agree**	**Totally agree**
1	Classroom discipline	❑1	❑2	❑3	❑4	❑5
2	Collaborating with the class teacher	❑1	❑2	❑3	❑4	❑5
3	Collaborating with the students	❑1	❑2	❑3	❑4	❑5
4	Collaborating with the Head teacher	❑1	❑2	❑3	❑4	❑5
5	Lesson plans	❑1	❑2	❑3	❑4	❑5
6	Carrying out teaching	❑1	❑2	❑3	❑4	❑5
7	Finding A/V aids and materials	❑1	❑2	❑3	❑4	❑5
8	Finding information sources	❑1	❑2	❑3	❑4	❑5
9	Using A/V aids and materials	❑1	❑2	❑3	❑4	❑5
10	The school's infrastructure	❑1	❑2	❑3	❑4	❑5
10	Teaching in classes with students with immigrant background	❑1	❑2	❑3	❑4	❑5
11	Teaching in classes with students with learning disabilities	❑1	❑2	❑3	❑4	❑5
12	The content in some curriculum subjects I taught in senior primary school classes (i.e. Science, Maths, Language, History, etc.)	❑1	❑2	❑3	❑4	❑5

PART D—Motivation to teach

	During my school teaching practice: Level of agreement ⇨	Totally disagree	Disagree	I am not sure	Agree	Totally agree
1	I consider carrying out teaching a pleasant task	❑1	❑2	❑3	❑4	❑5
2	I consider teaching as an important task to do	❑1	❑2	❑3	❑4	❑5
3	I consider my teaching as an important task for the academic success of the students	❑1	❑2	❑3	❑4	❑5
4	I think that if I don't carry out teaching, I will feel bad	❑1	❑2	❑3	❑4	❑5
5	I would feel guilty not carrying out teaching	❑1	❑2	❑3	❑4	❑5
6	It is my duty to teach because my course demands it	❑1	❑2	❑3	❑4	❑5
7	I consider teaching an interesting task to do	❑1	❑2	❑3	❑4	❑5
8	I like teaching	❑1	❑2	❑3	❑4	❑5
9	I consider teaching as a task that allows me to attain work objectives which I think are important	❑1	❑2	❑3	❑4	❑5
10	I don't know, I don't always see the relevance of carrying out teaching	❑1	❑2	❑3	❑4	❑5
11	I don't know, sometimes I don't see purpose in teaching	❑1	❑2	❑3	❑4	❑5
12	I used to know why I was carrying out teaching, but I don't see the reason anymore	❑1	❑2	❑3	❑4	❑5
13	Teaching is my duty because I am paid for it	❑1	❑2	❑3	❑4	❑5
14	I would not feel bad if I did not carry out teaching	❑1	❑2	❑3	❑4	❑5
15	I am obliged to teach because the school(s) collaborating with my course expect me to teach	❑1	❑2	❑3	❑4	❑5

PART E—Management of emotions

	Concerning feelings I believe that Level of agreement ⇨	Totally disagree	Disagree	I am not sure	Agree	Totally agree
1	My feelings are clear to me at any given moment	❑1	❑2	❑3	❑4	❑5
2	Emotions play an important part in my life	❑1	❑2	❑3	❑4	❑5
3	My moods impact the people around me	❑1	❑2	❑3	❑4	❑5
4	I find it easy to put words to my feelings	❑1	❑2	❑3	❑4	❑5
5	My moods are easily affected by external events	❑1	❑2	❑3	❑4	❑5
6	I can easily sense when I'm going to be angry	❑1	❑2	❑3	❑4	❑5
7	I readily tell others my true feelings	❑1	❑2	❑3	❑4	❑5
8	I find it easy to describe my feelings	❑1	❑2	❑3	❑4	❑5
9	Even when I'm upset, I'm aware of what's happening to me	❑1	❑2	❑3	❑4	❑5
10	I am able to stand apart from my thoughts and feelings and examine them	❑1	❑2	❑3	❑4	❑5
11	I accept responsibility for my reactions	❑1	❑2	❑3	❑4	❑5
12	I find it easy to make goals and stick with them	❑1	❑2	❑3	❑4	❑5
13	I am an emotionally balanced person	❑1	❑2	❑3	❑4	❑5
14	I am a very patient person	❑1	❑2	❑3	❑4	❑5
15	I can accept critical comments from others without becoming angry	❑1	❑2	❑3	❑4	❑5
16	I maintain my composure, even during stressful times	❑1	❑2	❑3	❑4	❑5
17	If an issue does not affect me directly, I don't let it bother me	❑1	❑2	❑3	❑4	❑5
18	I can restrain myself when I feel anger towards someone	❑1	❑2	❑3	❑4	❑5
19	I control urges to overindulge in things that could damage my well being	❑1	❑2	❑3	❑4	❑5
20	I direct my energy into creative work or hobbies	❑1	❑2	❑3	❑4	❑5

21	I consider the impact of my decisions on other people	❑1	❑2	❑3	❑4	❑5
22	I can tell easily tell if the people around me are becoming annoyed	❑1	❑2	❑3	❑4	❑5
23	I sense it when a person's mood changes	❑1	❑2	❑3	❑4	❑5
24	I am able to be supportive when giving bad news to others	❑1	❑2	❑3	❑4	❑5
25	I am generally able to understand the way other people feel	❑1	❑2	❑3	❑4	❑5
26	My friends can tell me intimate things about themselves	❑1	❑2	❑3	❑4	❑5
27	It genuinely bothers me to see other people suffer	❑1	❑2	❑3	❑4	❑5
28	I usually know when to speak and when to be silent	❑1	❑2	❑3	❑4	❑5
29	I care what happens to other people	❑1	❑2	❑3	❑4	❑5
30	I understand when people's plans change	❑1	❑2	❑3	❑4	❑5
31	I am able to show affection	❑1	❑2	❑3	❑4	❑5
32	My relationships are safe places for me	❑1	❑2	❑3	❑4	❑5
33	I find it easy to share my deep feelings with others	❑1	❑2	❑3	❑4	❑5
34	I am good at motivating others	❑1	❑2	❑3	❑4	❑5
35	I am a fairly cheerful person	❑1	❑2	❑3	❑4	❑5
36	It is easy for me to make friends	❑1	❑2	❑3	❑4	❑5
37	People tell me I am sociable and fun	❑1	❑2	❑3	❑4	❑5
38	I like helping people	❑1	❑2	❑3	❑4	❑5
39	Others can depend on me	❑1	❑2	❑3	❑4	❑5
40	I am able to talk someone down if they are very upset	❑1	❑2	❑3	❑4	❑5

References

Anderson, M. J., & Freebody, K. (2012). Developing communities of Praxis: Bridging the theory practice divide in teacher education. *McGill Journal of Education/Revue des Sciences de L'éducation de McGill, 47*(3), 359–377. https://doi.org/10.7202/1014864ar

Artino, A. R. (2006). Self-efficacy beliefs: From educational theory to instructional practice. *Qualitative Research in Psychology,* (2), 47–54.

Aydin, Y. C., & Woolfolk Hoy, A. (2005). What predicts student teacher self-efficacy. *Academic Exchange Quarterly, 9*(4), 123–127.

Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review, 84*(2), 191.

Bandura, A. (1986). The explanatory and predictive scope of self-efficacy theory. *Journal of Social and Clinical Psychology, 4*(3), 359–373. https://doi.org/10.1521/jscp.1986.4.3.359

Bandura, A. (1997). *Self-efficacy: The exercise of control*. W.H. Freeman and Company.

Bandura, A., & Adams, N. E. (1977). Analysis of self-efficacy theory of behavioral change. *Cognitive Therapy and Research, 1*(4), 287–310. https://doi.org/10.1007/BF01663995

Beltman, S., Mansfield, C., & Price, A. (2011). Thriving not just surviving: A review of research on teacher resilience. *Educational Research Review, 6*(3), 185–207. https://doi.org/10.1016/j.edurev.2011.09.001

Bologna Process Committee. (1999). Joint declaration of the European Ministers of Education convened in Bologna on 19 June 1999 (The Bologna Declaration). https://ec.europa.eu/educ5ation/policies/educ/bologna/bologna.pdf

Chan, D. W. (2008). Emotional intelligence, self-efficacy, and coping among Chinese prospective and in-service teachers in Hong Kong. *Educational Psychology, 28*(4), 397–408. https://doi.org/10.1080/01443410701668372

Chong, S., & Low, E.-L. (2009). Why I want to teach and how I feel about teaching—Formation of teacher identity from pre-service to the beginning teacher phase. *Educational Research for Policy and Practice, 8*(1), 59–72. https://doi.org/10.1007/s10671-008-9056-z

COSCE. (2011). *Informe ENCIENDE: Enseñanza de las Ciencias en Didáctica Escolar para edades tempranas en España* [ENCIENDE report: Science education for early ages]. Ministerio de Ciencia y Formación.

Dellinger, A. B., Bobbett, J. J., Olivier, D. F., & Ellett, C. D. (2008). Measuring teachers' self-efficacy beliefs: Development and use of the TEBS-self. *Teaching and Teacher Education, 24*(3), 751–766. https://doi.org/10.1016/j.tate.2007.02.010

Dolton, P., Marcenaro, Ó., De Vries, R., & She, P.-W. (2018). *Global teacher status index*. Varkey Foundation. https://www.varkeyfoundation.org/media/4833/gtsi-brazil-chart-findings.pdf

European Parliament. (2018). Directive (EU) 2018/958 of the European Parliament and of the Council of 28 June 2018 on a proportionality test before adoption of new regulation of professions. *Official Journal of the European Union, 2018*(November 1995), 25–34. https://eur-lex.europa.eu/eli/dir/2018/958/oj#ntr3-L_2018173EN.01002501-E0003

Flores, M. A., Mena, J., Marcondes, M. I., & Rincon-Flores, E. G. (2022). Teacher education perspectives in the Ibero-Latin American context: A comparative view. In *The Palgrave handbook of teacher education research.* Palgrave Macmillan. http://doi.org/10.1007/978-3-030-59533-3_38-1

Havlík, R. (1995). The motivation for the choice of teacher's profession. *Pedagogika, 45*, 154–163.

Heikonen, L., Toom, A., Pyhältö, K., Pietarinen, J., & Soini, T. (2017). Student-teachers' strategies in classroom interaction in the context of the teaching practicum. *Journal of Education for Teaching, 43*(5), 534–549.

Hong, J. (2010). Pre-service and beginning teachers' professional identity and its relation to dropping out of the profession. *Teaching and Teacher Education, 26*, 1530–1543.

Johnson, A. V. S., La Paro, K. M., & Crosby, D. A. (2017). Early practicum experiences: Preservice early childhood students' perceptions and sense of efficacy. *Early Childhood Education Journal, 45*(2), 229–236. https://doi.org/10.1007/s10643-016-0771-4

Kaldi, S. (2009). Student teachers' perceptions of self-competence in and emotions/stress about teaching in initial teacher education. *Educational Studies, 35*(3), 349–360. https://doi.org/10.1080/03055690802648259

Kaldi, S., & Xafakos, E. (2017). Student teachers' school teaching practice: The relation amongst perceived self-competence, motivation and sources of support. *Teaching and Teacher Education, 67*, 246–258. https://doi.org/10.1016/j.tate.2017.05.019

Kim, J. (2020). Learning and teaching online during Covid-19: Experiences of student teachers in an early childhood education practicum. *International Journal of Early Childhood, 52*(2), 145–158.

Kolb, D. A. (1984). *Experiential learning: Experience as the source of learning and development* (pp. 20–38). Prentice Hall, Inc. http://doi.org/10.1016/B978-0-7506-7223-8.50017-4

Konca, A. S., Ozel, E., & Zelyurt, H. (2016). Attitudes of preschool teachers towards using information and communication technologies (ICT). *International Journal of Research in Education and Science (IJRES), 2*(1), 10–15.

Korthagen, F. A. (2010). Situated learning theory and the pedagogy of teacher education: Towards an integrative view of teacher behavior and teacher learning. *Teaching and Teacher Education, 26*(1), 98–106.

Lave, J., & Wenger, E. (1991). *Situated learning. Legitimate peripheral participation* (18th ed.). Cambridge University Press.

Malmberg, L. E., Hagger, H., & Webster, S. (2014). Teachers' situation-specific mastery experiences: Teacher, student group and lesson effects. *European Journal of Psychology of Education, 29*(3), 429–451. https://doi.org/10.1007/s10212-013-0206-1

MEFP. (2022). *Igualdad en cifras MEFP 2022*. Ministerio de Educación y Formación Profesional. Secretaría General Técnica.

Mena, J. H., Rodríguez, G., & Peinado (2019). Student teachers' perceived teaching self-efficacy beliefs in relation to motivation to teach, emotional intelligence and sources of support during school practicum in a Spanish primary education degree program. In D. Mihăescu & D. Andron (Eds.), *Proceedings of the 19th ISATT Biennial Conference: "Education Beyond the Crisis: New Skills, Children's Rights and Teaching Contexts"* (pp. 154–159). "Lucian Blaga" University Publishing House.

Ministerio de Educación y Ciencia. (2007a). Orden ECI/3854/2007a, de 27 de diciembre, por la que se establecen los requisitos para la verificación de los títulos universitarios oficiales que habiliten para el ejercicio de la profesión de Maestro en Educación Infantil. Boletín Oficial Del Estado, 312, 53735–53738.

Ministerio de Educación y Ciencia. (2007b). ORDEN ECI/3857/2007b, de 27 de diciembre, por la que se establecen los requisitos para la verificación de los títulos universitarios oficiales que habiliten para el ejercicio de la profesión de Maestro en Educación Primaria. Boletín Oficial Del Estado, 312, 53747–53750.

Ministry of Universities. (2021). *Datos y cifras del Sistema Universitario español. Publicación 2020–2021* [Facts and figures of the Spanish University System. Publication 2020–2021]. Secretaría General Técnica del Ministerio de Universidades.

OECD. (2020). *TIMSS 2019. International study on mathematics and science: Spanish report*. Ministerio de Educación y Formación Profesional.

Palmer, D. (2006). Durability of changes in self-efficacy of preservice primary teachers. *International Journal of Science Education, 28*(6), 655–671. https://doi.org/10.1080/09500690500404599

Peacock, M. (2001). Pre-service ESL teachers' beliefs about second language learning: A longitudinal study. *System, 29*(2), 177–195. https://doi.org/10.1016/S0346-251X(01)00010-0

Pendergast, D., Garvis, S., & Keogh, J. (2011). Pre-service student-teacher self-efficacy beliefs: An insight into the making of teachers. *Australian Journal of Teacher Education, 36*(12), 4.

Poulou, M. (2007). Personal teaching efficacy and its sources: Student teachers' perceptions. *Educational Psychology, 27*(2), 191–218. https://doi.org/10.1080/01443410601066693

Qiu, Q., Xie, Z., Xiong, Y., & Zhou, F. (2021). Belief change before and after the teaching practicum among Chinese pre-service ELT teachers. *SAGE Open, 11*(1). http://doi.org/10.1177/21582440211004934

Shkedi, A., & Laron, D. (2004). Between idealism and pragmatism: A case study of student teachers' pedagogical development. *Teaching and Teacher Education: An International Journal of Research and Studies, 20*(7), 693–711. https://doi.org/10.1016/j.tate.2004.07.006

Sikora, J. (2021). Does teenage interest in a teaching career lead to becoming a teacher? Evidence from Australia. *Teaching and Teacher Education, 101*, 103315. https://doi.org/10.1016/j.tate.2021.103315

Watt, H. M. G., Richardson, P. W., Klusmann, U., Kunter, M., Beyer, B., Trautwein, U., & Baumert, J. (2012). Motivations for choosing teaching as a career: An international comparison using the FIT-choice scale. *Teaching and Teacher Education, 28*(6), 791–805. https://doi.org/10.1016/j.tate.2012.03.003

Williams, L., & Sembiante, S. F. (2022). Experiential learning in U.S. undergraduate teacher preparation programs: A review of the literature. *Teaching and Teacher Education, 112*, 103630. http://doi.org/10.1016/j.tate.2022.103630

Yost, D. S. (2006). Reflection and self-efficacy: Enhancing the retention of qualified teachers from a teacher education perspective. *Teacher Education Quarterly, 33*(4), 59–76.

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