

## ERD 2020

### Education, Reflection, Development, Eighth Edition

# ATTITUDES TOWARDS CAREERS IN EDUCATION OF PRE-SERVICE TEACHERS OF SCIENCE AND HUMANITIES

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## Abstract

This study aims to explore the perception and attitudes of the pre-service teachers enrolled in initial teacher training program and to identify possible patterns of differences between participants from Art and Humanities and Math and Science fields of studies. The sample included 195 undergraduate students. For this study, an analysis of the specialized literature was made. Particularly the conceptual foundation of the attitude is made in the specialized literature starting from the social psychology. In the context of our study, we define the teaching attitudes as representing the teacher's predispositions to assess - as favourable or unfavourable - various issues relating education process. This can include liking, enjoyment, availability, enthusiasm, dedication to each student, to learning and to teaching itself. To identify the level of attitudes towards the teaching profession of the pre-service teachers, the participants were asked to fill in a questionnaire that had 34 items designed to assess participants' perceptions and attitudes regarding teaching careers like: perception about the teacher career and the motivation and self-efficacy regarding their future profession in education. The findings show that the students have motivating perceptions and attitude towards their future career as teachers, with the highest percentages on teacher career self-efficacy, where most of the students reported increased trust in their abilities to perform well as teachers. Also, the results showed that, in general, there were no significant differences between the two categories of students from the point of view of the teaching attitude.

2357-1330 © 2021 Published by European Publisher.

*Keywords:* Pre-service teachers' perceptions, teaching attitude, career in education, teachers of science, teachers of humanities



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## 1. Introduction

The conceptual foundation of the attitude is made in the specialized literature starting from the social psychology, especially based on the theories of Gordon Allport. So, most authors consider attitude as a person's predisposition, feeling, prejudices or bias to evaluate any specific topic (fact, event, person) and considering it favourable or unfavourable, and manifest a certain behaviour to it (Andronache et al., 2014; Doron & Parot, 1999; Eagly & Chaiken, 1993; Kartz, 1960; Mueller, 1986). An attitude towards any topic is formed and manifested by three fundamental dimensions: cognitive, affective and behavioural (Brock & Shavitt, 1994; McGuire, 1989; Wood, 2000). The cognitive dimension of attitudes includes perceptions, beliefs and assumptions to facts and events, the affective dimension describes the emotional experiences and emotional responses, and the behavioural dimension shows intentions of the way that a person can act in relation to a fact or an event (Andronache et al., 2014, p. 629)

Based on the theoretical foundation of the attitude, we can define the teaching attitudes as representing the teacher's predispositions to assess - as favourable or unfavourable - various issues relating education process. This can include liking, enjoyment, availability, enthusiasm, dedication to each student, to learning and to teaching itself. Thus, it is important to point out that the teacher attitude is an important variable because it not only influence the teaching and instructional effectiveness, but there are a significant correlation between teacher attitude and student learning outcomes (Bolhuis & Voeten, 2007; Bonner, 2006; Cantrell et al., 2012; Cook, 2002; Mensah et al., 2013; Scrivner, 2009; Witt et al., 2004). For all that reasons is very important that pre-service teachers develop positive attitude regarding the teaching profession, because that have a powerful impact on their future students' perceptions and effectiveness of learning, and also on the general classroom ethos, because the instruction process is influenced by what teachers think and believe (Vartuli, 2005).

## 2. Problem Statement

Because the attitude towards teaching profession is an important construct that shapes the quality of the teaching and learning process, our study aims to identify the level and characteristics of the pre-service teachers attitude and, specifically to analyse the possible differences between the attitude of pre-service teachers from Math and Sciences and from Arts and Humanities.

Differences between pedagogical attitude, pedagogical thinking or practices of Mats and Science and Arts and Humanities teachers can be attributed to their pre-service professional training (Lacey, 1977), because they are subjected to different epistemological experiences and beliefs. Thus, depending on the specifics of the study academic field, pre-service teachers of Mats and Science or Arts and Humanities could have different pedagogical approaches depending on the specifics of the curriculum content or its structure and unifying concepts. For example, humanities teachers tend to express different opinions from those of Mats and Science teachers regarding issues such as the relationship between knowledge and personal experience, the process of acquiring knowledge, and the interrelationships among different bodies of knowledge (Rich & Almozlino, 1999, p. 615). Thus, we can conclude that the way in which teachers are related to their own subject could influence their attitude towards teaching and, therefore, the general approach of the instructional process.

Another variable that can influence the attitude of pre-service teachers of Math and Science or Arts and Humanities is the self-efficacy (Dellinger et al., 2008; Evers et al., 2002; Klassen & Chiu, 2010). To judge self-efficacy there are four sources of information used: successful performance attainment, observing the performances of others (vicarious learning), verbal persuasion indicating that one possesses certain capabilities, and physiological states by which one judges capability, strength, and vulnerability. Although performance accomplishments are considered to be the most robust source of self-efficacy information, vicarious learning is also a powerful source (Bandura, 1986; 1997; as cited in Wang et al., 2004, p. 232). Relating with these four sources of information, Dellinger et al. (2008, p. 752) defined the teacher self-efficacy beliefs as a teacher's individual beliefs in their capabilities to perform specific teaching tasks at a specified level of quality in a specified situation. Starting from this definition, we can consider that the attitude of pre-service teachers of Math and Science or Arts and Humanities could be influenced not only by the specifics of the curriculum content of the subject, but also by their beliefs about capability to manage the instructional strategies, the students' behaviour, the assessment process, the didactic design and so on. Thus, because self-efficacy beliefs are situation specific (Bandura, 1997), so they depend on the context, we explore in our study the differences between pre-service teachers of Math and Science and Art and Humanistic field.

The literature review highlights the fact that the attitude of pre-service teachers is determined by the specific content of the subject (Math and Science or Arts and Humanities) (Koszinski et al., 2019), on the one hand, and the extent of the relationship between their personality characteristics (such self-efficacy beliefs, love of learning, proactivity, career satisfaction), on the other hand. Specifically, from the perspective of our study, the interaction between these two variables would assure an effectiveness that would lead to a better understanding of the ways towards effectiveness of the pre-service teachers and to their future students' outcomes.

### **3. Research Questions**

The present study proposes an exploration of preservice teachers attitudes toward their future careers and attempts to address the following research questions:

Which are the perceptions and attitudes of the students enrolled in initial teacher training program toward teaching career?

Are there any difference regarding perceptions and attitudes toward teaching career between students from Math and Sciences faculties and the ones from Arts and Humanities faculties?

### **4. Purpose of the Study**

The aim of the study is to explore the perception and attitudes of student enrolled in initial teacher training program and to identify possible patterns of differences between participants from Arts and Humanities and Science and Math fields of studies.

## 5. Research Methods

### 5.1. Participants and procedure

195 students from Babes-Bolyai University participated in the study. They were undergraduate students, mean age was 19.1 years (SD=.7). A slight majority were females (86.1%) and 13.9% were males. 66.2% of the participants were living in urban areas and 32.3% in rural areas. The sample was composed from 44 students from Math and Science specialisations and 151 from students enrolled in Arts and Humanities specialisations.

The research instruments were applied in class, during the Pedagogy courses. Participation was voluntary.

### 5.2. Research instruments

The participants were asked to fill in a questionnaire developed for the purpose of this study. The questionnaire had 34 items designed to assess participants' perceptions and attitudes regarding teaching careers. More specific, the items explored general perception about teacher career, motivation and self-efficacy regarding their future profession in education, perception about person-environment fit, effort motivation to become a teacher etc. Some examples of items are: *I think teaching is the ideal profession for me*, *The fact that I will learn all my life in order to improve myself, is very motivating for me*. The Alpha Cronbach of the scale was .95.

## 6. Findings

We have used the SPSS 23.0 software. In order to identify positive and negative perception and attitudes toward teaching career, we performed some descriptive analyses. Since the questionnaire we used is not standardised, we used a cut-off point of -1/+1 mean standard deviation performed with Visual Binning in SPSS for setting the cut-off points. Then we performed a frequencies analysis. Table 01 presents the frequencies of responses:

**Table 1.** Frequencies percentages

Question	Percent of students with positive perceptions and attitudes (above +1 mean SD)
I think teaching is the ideal profession for me	48.2 %
I think I will enjoy more being a teacher when I will have more experience	71.5 %
I think being a teacher fits with my personality	62.8%
I chose to become a teacher because I like to educate others	34.2%
I will work hard to have success in teaching career	70.8%
I think I will do good at this job	77.2%
I am excited I will become a teacher	60.8%
Teaching is an honorable profession	50%
The fact that I will learn all my life in order to improve myself, is very motivating for me	63.1%
FI am ready to teach in schools which are considered less performant	44.6%

As we can observe in the table displayed above, the students have motivating perceptions and attitude towards their future career as teachers, with the highest percentages on teacher career self-efficacy, where more than 77% (77.2%) of students reported increased trust in their abilities to perform well as teachers. This response is strongly related to the proactive effort they are willing to make in order to succeed (70.8% are proactively engaged). On the other hand, a significant smaller percentage are oriented to others in the sense of enjoying educating others (34.2%) or being motivated to teach in less performant schools (44.6%)

In order to identify the differences between students from Math and Sciences specializations and those from Arts and Humanities, we performed a t test for independent samples. The results showed that on most of the types of attitudes analyzed, there were no significant differences between two categories of students. So we did not find significant differences on self-efficacy (*I think I will do good at this job*), positive perception about teaching (*I think teaching is the ideal profession for me, Teaching is an honorable profession*), love of learning (*The fact that I will learn all my life in order to improve myself, is very motivating for me, I chose to become a teacher because I like to educate others*), willing to sacrifice for teaching career (*I am ready to teach in schools which are considered less performant, I will work hard to have success in teaching career*), person-environment fit (*I think being a teacher fits with my personality*). Even though the differences were not significant, the students from Math and Science had slightly higher mean scores than the others (See Table 02). Although, we did find some statistically significant differences, as follow: students from Arts and Humanities were more oriented to the future and responded that they will like more being teachers when they will have more experience than those from Math and Sciences ( $t=2.571$ ,  $p=.0011$ ). Also, students from Math and Science were more excited and satisfied with the idea of being teachers ( $t=2.274$ ,  $p=.002$ ).

**Table 2.** Mean differences between students from Arts and Humanities and Math and Science

<b>Mean differences</b>				
	<b>Faculty</b>	<b>N</b>	<b>Mean</b>	<b>Std. Deviation</b>
I think teaching is the ideal profession for me	MS	43	3.558	.7959
	AH	152	3.309	1.1172
I think I will enjoy more being a teacher when I will have more experience ( $t=2.571$ , $p=.0011$ )	MS	43	3.581	1.0742
	AH	150	3.980	.8392
I think being a teacher fits with my personality	MS	43	3.791	.9401
	AH	151	3.662	1.0321
I chose to become a teacher because I like to educate others	MS	43	4.140	.8614
	AH	149	3.946	.9211
I will work hard to have success in teaching career	MS	43	3.977	.8588
	AH	152	3.882	.9624
I think I will do good at this job	MS	43	4.047	.6154
	AH	150	3.947	.7215
I am excited I will become a teacher ( $t=2.274$ , $p=.002$ )	MS	42	4.000	.7651
	AH	152	3.618	1.0095
Teaching is an honorable profession	MS	42	4.476	.5942
	AH	150	4.420	.6374
The fact that I will learn all my life in order to improve myself, is very motivating for me	MS	43	3.814	.9324
	AH	152	3.809	.9260
I am ready to teach in schools which are considered less performant	MS	43	3.488	1.0088
	AH	152	3.138	1.1739

\*MS = Math and Science, AH = Arts and Humanities

## 7. Conclusion

The exploratory study we conducted revealed important positive perceptions and attitudes toward teaching displayed by student enrolled in initial teacher training program. At the same time, the findings showed some interesting differences regarding teaching career between students from Arts and Humanities and those from Math and Sciences.

More specific, more than 2/3 of the participants reported high self-efficacy in their teaching career, this aspect being a relevant component involved in their motivation to set career goals related to education. Also, almost 2/3 from the students in the sample reported they were willing to engage in proactive effort actions in order to become successful in their future teaching career. Those findings lead to the conclusion that the beliefs of self-efficacy are strongly related to teaching career engagement and motivation to perform well in one's profession. More, the frequencies of responses we discussed in the findings section can be discussed considering the students' orientation to their own development versus the orientation to others. It seems that in this stage of their education and vocational path, students enrolled in initial teacher training program value more their own learning, than they enjoy educating others. They are more self-involved and are less willing to make the effort to teach in less performant schools. Regarding the participants' perceptions and emotions about being a teacher, more than a half reported the belief that this profession is an honourable one and they have positive emotions about it. We think that seeing teaching as social valued is important for increasing pre-service teacher motivation to perform it. Our results are in line with previous research studies, showing that teachers perceiving their career as meaningful, personal, and socially relevant, are more engaged and motivated to follow this vocational path (Dumulescu et al., 2020).

Other important conclusion of our research is that students in Math and Sciences reported more positive perceptions about teaching career than those from Arts and Humanities. Even though only two differences were statistically significant, on all the dimensions analysed there were some differences on the means scores. On the other hand, it is interesting to mention that students from Arts and Humanities were more cautious on reporting positive attitudes and perceptions about their present motivation and self-efficacy and were more oriented to future telling that they think they will do better when they will have more experience in the field. Those findings revealed that students in Math and Sciences are more optimistic about every aspect of future teaching career, which can be explained through their previous experiences with different instructors in their initial training program, as other authors have previously concluded (Şener, 2015). A second explanation can be related to the participants' gender, Math and Sciences having many more male students which usually are more satisfied with their career, have higher self-efficacy and positive expectation regarding their performance (Antoniou et al., 2006; Klassen & Chiu, 2010.)

Our current study has some limitations. First, it is limited by the absence of validity test of the questionnaire we used, even though, the scale was piloted before the study and evaluated by two independent educational experts. Second, the sample was a convenient one and was quite small, which negatively influence the generalisations of the results.

Future research should investigate the students' enrolled in initial teacher training vocational path on a longitudinal design in order to reveal the trends and the factors underlying career decisions, the fluctuation in motivation and well-being.

To conclude, we can argue that the higher education institutions have a great responsibility for preparing trainee teachers by focusing on developing positive attitudes and perceptions about teaching career before students experience bad attitude example. Effective attitudes and actions of instructors who teach in initial teacher training programs can model trainees' perceptions and attitudes.

## References

- Andronache, D., Bocoş, M., Bocoş, V., & Macri, C. (2014). Attitude towards teaching profession. *Procedia - Social and Behavioral Sciences*, 142, 628-632. <https://doi.org/10.1016/j.sbspro.2014.07.677>
- Antoniou, A.-S., Polychroni, F., & Vlachakis, A.-N. (2006). Gender and age differences in occupational stress and professional burnout between primary and high-school teachers in Greece. *Journal of Managerial Psychology*, 21, 682– 690. <https://doi.org/10.1108/02683940610690213>
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. Freeman.
- Bolhuis, S., & Voeten, J. M. (2007). Teachers' conception of student learning and own learning: *Teachers and teaching. Theory and Practice*, 10(1), 77-98. <https://doi.org/10.1080/13540600320000170936>
- Bonner, P. (2006). Transformation of Teacher Attitude and Approach to Math Instruction through Collaborative Action Research. *Teacher Education Quarterly*, 33(3), 27-44. <http://www.jstor.org/stable/23478892>
- Brock, T., & Shavitt, S. (1994). *Psychology of persuasion*. Freeman.
- Cantrell, S. C., Almasi, J. F., Carter, J. C., & Rintamaa, M. (2012). Reading intervention in middle and high schools: implementation fidelity, teacher efficacy, and student achievement. *Reading Psychology*, 34, 26-58. <https://doi.org/10.1080/02702711.2011.577695>
- Cook, B. G. (2002). Inclusive attitudes, strengths, and weaknesses of pre-service general educators Enrolled in a curriculum infusion teacher preparation program. *Teacher Education and Special Education*, 25(3), 262–277. <https://doi.org/10.1177/088840640202500306>
- Dellinger, A., Bobbett, 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>
- Doron, R., & Parot, F. (1999). *Dictionar de psihologie* [Dictionary of psychology]. Humanitas.
- Dumulescu, D., Necula, C. V., & Opre, A. (2020). Profiles of career calling on a Romanian teachers' sample: A Cluster Analysis. *European Proceedings of Social and Behavioural Sciences*, 79, 44-56. <https://doi.org/10.15405/epsbs.2020.06.5>
- Eagly, A. H., & Chaiken, S. (1993). *The psychology of attitudes*. Harcourt Brace Jovanovich.
- Evers, E. J. G., Brouwers, A., & Tomic, W. (2002). Burnout and self-efficacy: A study on teachers' beliefs when implementing an innovative educational system in the Netherlands. *The British Psychological Society*, 72, 227–243. <https://doi.org/10.1348/000709902158865>
- Kartz, D. (1960). The functional approach to the study of attitude. *Public Opinion Quarterly*, 24, 163-104
- Klassen, R. M., & Chiu, M. M. (2010). Effects on teachers' self-efficacy and job satisfaction: Teacher gender, years of experience, and job stress. *Journal of Educational Psychology*, 102(3), 741-756. <https://doi.org/10.1037/a0019237>
- Koszinski, A. S., Dulamă, M. E., Ilovan, O.-R., Scridon, I., Toderaş, A., & Popa, A. R. (2019). Regional geography and graphic organisers. Geography-specific and didactic competences in university. *European Proceedings of Social and Behavioural Sciences*, 63, 389-397. <https://doi.org/10.15405/epsbs.2019.06.48>
- Lacey, C. (1977). *The Socialization of teachers*. Methuen.
- McGuire, W. J. (1989). The structure of individual attitudes, and attitude systems. In A. R. Pratkanis, S. J. Breckler, & A. G. Greenwald (Eds.), *Attitude Structure and Function*. Erlbaum.
- Mensah, J. K., Okyere, M., & Kuranchie, A. (2013). Student attitude towards Mathematics and performance: Does the teacher attitude matter? *Journal of Education and Practice*, 3, 132-139.
- Mueller, D. J. (1986). *Measuring social attitudes: A handbook for researchers and practitioners*. Teachers College Press.

- Rich, Y., & Almozlino, M. (1999). Educational goal preferences among novice and veteran teachers of sciences and humanities. *Teaching and Teacher Education*, 15(6), 613-629. [https://doi.org/10.1016/S0742-051X\(99\)00010-4](https://doi.org/10.1016/S0742-051X(99)00010-4)
- Scrivner, C. M. (2009). *The relationship between student achievement and teacher attitude: A correlational study*. Dissertation. ProQuest Dissertations Publishing. 3351416.
- Şener, S. (2015). Examining trainee teachers' attitudes towards teaching profession: Çanakkale Onsekiz Mart University Case. *Procedia - Social and Behavioral Sciences*, 199, 571-580. <https://doi.org/10.1016/j.sbspro.2015.07.550>
- Vartuli, S. (2005). Beliefs: The heart of teaching. *YC Young Children*, 60(5), 76-78, 80-86. <https://search.proquest.com/docview/197696272?accountid=8013>
- Wang, L. W., Ertmer, P. A., & Newby, T. J. (2004). Increasing preservice teachers' self-efficacy beliefs for technology integration. *Journal of Research on Technology in Education*, 36(3). <https://doi.org/10.1080/15391523.2004.10782414>
- Witt, P., Wheelless, L. R., & Allen, M. (2004). A meta-analytical review of the relationship between teacher immediacy and student learning. *Communication Monographs*, 71, 184-207. <https://doi.org/10.1080/036452042000228054>
- Wood, W. (2000). Attitude change: Persuasion and social influence. *Annual Review of Psychology*, 51, 539-570. <https://doi.org/10.1146/annurev.psych.51.1.539>