

The Readiness of Pre-service Teachers to Work in Inclusive Settings with Deaf Students

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Abstract

Inclusive education has been a major policy for the education of students with disabilities, including the deaf, in a number of European countries. Several factors related to child, and teacher variables seem to contribute to the successful inclusion of deaf students in mainstream classrooms. Pre-service and in-service teacher's education and training in special and deaf education together with their attitudes towards inclusion of students with disabilities, seem to be major factors for successful inclusion (Avramidis & Norwich, 2002). The aim of this study was to investigate the attitudes and concerns of pre-service teachers from the University of Patras, Greece, and the Palacky University of Czech Republic, towards the inclusion of deaf students in mainstream classrooms, and their readiness to work in inclusive settings.

A total of 282 pre-service teachers from the departments of Primary Education of two European Universities participated in this study. The 175 of the participants were from the University of Patras, Greece, and 107 from the Palacky University of the Czech Republic. Data were collected through the Sentiments, Attitudes and Concerns about Inclusive Education Scale (SACIE) by Loreman, Earle, Sharma & Forlin (2007). The statistical analysis revealed a number of teacher's related factors that predict their sentiments towards inclusion of deaf students, like academic training, confidence in teaching, interaction with people with disabilities or deaf people, experience, knowledge of legislation, gender and age. Greek pre-service teachers were more positive towards inclusion of deaf students in mainstream schools, and seemed to be more ready to work in inclusive setting, than the Czech teachers. This result might be explained by the fact that Greek teachers had taken more courses in special and deaf education, than the Czech ones. The results of this study indicate the importance of providing a number of courses in special education and deaf education, as well as in inclusive education, to teacher's through their education programs, in order for them to be prepared to work successfully with deaf students in inclusive settings.

Introduction

Inclusive education has been a major education policy goal for students with disabilities, including the deaf, in a number of European countries. The world we live in has diversity as an essential aspect and a definitive characteristic of the field of special education (Patton Terry & Irving, 2010). When looking at the issue of inclusive education within the prism of diversity, there are several factors related to child and teacher variables which seem to contribute to the successful inclusion of deaf students in mainstream classrooms. Pre-service and in-service teacher's education and training in special and deaf education together with their attitudes towards inclusion of students with disabilities, seem to be major factors for successful inclusion (Avramidis & Norwich, 2002). The aim of this paper is to further the discourse on the subject of pre-

service teacher's readiness to work in inclusive settings with deaf students. Towards this end we discuss the need for teacher readiness and present our study findings. Our study sought to examine the attitudes and concerns of pre-service teachers from the University of Patras, Greece, and the Palacky University of Czech Republic, towards the inclusion of deaf students in mainstream classrooms, and their readiness to work in inclusive settings.

Inclusion

Educational inclusion has been promoted as a central practice in special education. However, in the last few decades, inclusion has aroused debates regarding its effectiveness and adequacy when implemented with some children with special needs, such as the deaf students.

Powers (2002) suggests that there is no right or wrong answer to the dilemma 'inclusion or special school' for the deaf students. However, special schools for the deaf serve an important role as by providing access to sign language and communication they often seem to be a more appropriate choice to facilitate future inclusion of deaf students in society. The goal of inclusion remains the same for deaf students; it is the full participation-membership according to Antia, Stinson, & Gaustad (2002), not just the placement in a mainstream class.

One of the indicators of successful inclusion seems to be evidence of the teachers' positive attitudes towards students with special needs (Antia et. al. 2002; Avramidis, & Norwich, 2002; Powers, 2002). According to Avramidis and Norwich's (2002) review, there are a number of factors which influence teachers' attitudes such as child-related variables, the severity of the disabling condition, teacher-related variables such as gender, age, years of teaching experience, experience of contact, beliefs, socio-political views, and educational environmental-related variables, such as the support from specialists. Their review concludes with supporting the priority for pre- or in-service teachers' training in special education in order to modify their attitudes by having more teaching experiences and knowledge (Avramidis & Norwich, 2002).

Attitudes and Concerns of Pre-service Teachers towards Inclusion

Various studies examine the attitudes of pre-service teachers towards students with special needs, however, there are few surveys on teachers of deaf students.

The findings from three Queensland universities regarding pre-service teachers' attitudes towards people with disabilities indicated that only four percent of pre-service teachers had undertaken any compulsory courses and only 18 percent had taken elective courses in teaching children with special needs. Pre-service teachers who had at least weekly contact with people with disabilities perceived less discomfort with such interactions than did those who had less contact (Forlin, Tait, Carroll & Jobling, 1999).

Another study in the United Kingdom revealed that the pre-service teachers held positive attitudes toward the general concept of inclusion, but their perceived competence dropped significantly in relation to the severity of children's needs. Moreover, children with emotional and behavioral difficulties

were seen as potentially causing more concern and stress than those with other types of special needs. (Avramidis, Bayliss, & Burden, 2000).

Sharma, Forlin, Loreman, and Earle (2006), investigated the concerns and attitudes of pre-service teachers in Australia, Canada, Hong Kong, and Singapore regarding inclusive education and their degree of comfort on interaction with people with disabilities. Results indicated significant differences between the students of different cultures, for instance, participants in the Western countries tended to have more positive sentiments and attitudes towards students with disabilities, and more concerns than their Eastern counterparts. The study also suggested that pre-service teachers have more positive attitudes towards people with disabilities and inclusion, and more confidence in implementing inclusive practice when they have had additional training or experience with people with disabilities.

A similar intercultural study by Loreman, Forlin, and Sharma, (2007) examined pre-service teachers' attitudes towards inclusive education in relation to three factors: academic and physical, social, and behavioral. The results showed that pre-service teachers were most positive about including students with social difficulties (e.g. shyness), than those with academic and physical problems, and they were least positive about students with behavioral disabilities (e.g. aggression). These results also indicated that training in inclusive education is as essential as the experience and contact with people with disabilities. Moreover, in the field of education of the deaf, according to Powers (2002), regular classroom teachers have very little knowledge about special education issues and education of deaf students with this being an obstacle to successful inclusion. Knowledge is also related to expectations of teachers of deaf students. Antia et al. (2002) suggest that teachers tend to have low expectations from deaf students and as a result to ignore them, they underestimate the students potential or they overprotect them and thus deaf students do not participate fully in classroom activities.

Eriks-Brophy and Whittingham (2013) examined mainstream classroom teachers' perceptions of inclusion of deaf students. They measured teachers' attitudes towards deaf students, their skills and knowledge about inclusive education and their readiness and confidence to teach deaf students in inclusive settings. Thus, all these factors, according to these researchers, are important for effective inclusion. The results showed that while the teachers' attitudes were positive towards inclusion of deaf students and the participants had confidence in teaching them, there remains insufficient emphasis on teacher preparation programs to educate them on inclusion of different groups of students.

Another study in Portugal by Freire and César (2003) examined the attitudes and the practices of five mainstream teachers who had deaf pupils in their classroom. Not having had any prior specialization, teachers had different ideas concerning inclusion, however, they all identified the same difficulties related to communication difficulties and their lack of pre- or in-service training to teach deaf children.

There is only one study regarding Greek teachers by Lampropoulou and Padeliadu, (1997). This study examined and compared teachers' attitudes towards disability and inclusion of three groups of teachers working in different placements. These three groups consisted of a) teachers of the deaf, b) special education teachers, and d) mainstream education teachers. The results revealed that attitudes of teachers varied, for example, while teachers

of the deaf had more positive attitudes than the other groups of teachers towards people with disabilities, their attitudes towards mainstreaming was the most negative. For the teachers of the deaf, attitudes towards inclusion were related to their knowledge about the pupils' needs and the possible problems and constraints that would occur in general schools. In contrast, for mainstream education teachers, their years of experience and their age seemed to be important factors in relation to their attitudes. For example, teachers with more years of experience had more negative attitudes. However, their lack of knowledge and contact with deaf persons seem to explain their positive attitudes towards inclusion of the students mostly on the basis of humanistic reasons.

Potmesil (2011) examined the attitudes of Czech mainstream education teachers towards inclusion of pupils with disabilities and found that teachers had positive attitudes towards them. In addition, teachers were willing to have a student with disabilities in their class and possibly even co-operate with an assistant. Moreover, they were willing to teach based on an Individualized Educational Plan and regarded it as beneficial. However, more than half of them were concerned about the insufficient support they received in the mainstream classes, and the commensurate rise in their workload.

This research was followed up by Potměšilová, Potměšil, and Roubalová (2013), noting that while on the one hand mainstream education teachers held positive attitudes towards integrating pupils with disabilities, on the other hand, in the context of inclusion they expressed a number of concerns. These concerns could be divided into four categories: a) fear of non-teaching activities beyond the conventional education, b) fears of pedagogical activities beyond the conventional education, c) fears of increased demands on the preparation and implementation of educational work, and d) concerns about a lack of skills and tools beyond the conventional education.

Preparing teachers for mainstream education

In both Greece and the Czech Republic, as in a number of European countries, while not obligatory, initial teacher education programs may include special education university courses, which varies from country to country (Vitello & Mithuag, 2010, p. 159). In Greece, during their initial teacher training, mainstream early-childhood and primary school teachers complete an eight semester university degree in departments of education. Their undergraduate program of studies often offers them various courses in special education and may include courses in specific areas of disabilities (European Agency for Special Needs and Inclusive Education, 2015). There are also postgraduate programs in Special Education. The deaf studies unit of the department of Primary Education of the University of Patras is unique in Greece by offering a number of undergraduate courses in deaf education as well as a postgraduate program in deaf education and deaf studies. In the Czech Republic, all university teacher training programs include modules on the education of pupils with special needs. It should be noted that while Czech teachers within inclusive education settings have the opportunity to meet children and pupils with disabilities, they are not obligated to be special education graduates. To be placed in a special education setting, both

countries have different and specialized university teacher training requirements.

Teacher Preparation about Inclusion

Stella, Forlin, and Lan (2007) examined the effectiveness of an inclusive education training module in attitude change of pre-service secondary school teachers in Hong Kong. Findings indicated that, after taking the course, the students had more confidence to include children with disabilities in their classroom, they had changed their attitudes and they felt less concerned about inclusive education.

Sharma, Forlin, and Loreman (2008) found similar results in an international study that included Australia, Canada, Hong Kong, and Singapore about the attitudes of pre-service teachers on inclusive education after their training. The pre-service teachers seemed to be feel more comfortable and more positive towards people with disabilities, but their levels of concern about teaching in an inclusive setting remained high in some cases.

In 2007 Loreman, Earle, Sharma, & Forlin developed by a scale for measuring sentiments, attitudes and concerns about inclusive education in pre-service teachers. This scale was a modified version of three other scales, the Interactions with People with Disabilities scale (IPD), the Concerns about Inclusive Education Scale (CIES), and the Attitudes Toward Inclusive Education Scale (ATIES). The scale was based on data gathered from 996 pre-service teachers from five universities who they answered in IPD, CIES and ATIES scales. After the analysis of results, a new scale, the Sentiments, Attitudes and Concerns about Inclusive Education scale (SACIE), was developed, which according to the authors was *“a single brief, reliable, and valid instrument which can be easily used and interpreted”* (Loreman et al., 2007, p.151). In 2011 the SACIE was revised into its final version, consisting of a 15-item scale and was validated using 542 pre-service teachers from nine universities in four countries: Hong Kong, Canada, India, and the United States of America. The aim of the SACIE-R scale is to provide valuable information for assisting universities and colleges in preparing more specific training to address the needs of pre-service teachers for working with diverse student populations (Forlin, Earle, Loreman, & Sharma, 2011).

Using the SACIE-R, Oswald and Swart (2011) examined the effectiveness of courses about inclusive education for pre-service teachers in South Africa. In their study the SACIE-R was used to compare the pre and post scores of 180 pre-service teachers with their results indicating positive outcomes after attending the courses. For instance, the participating teachers formed more positive attitudes and sentiments about inclusion and they seemed more concerned, confident and comfortable to provide inclusive teaching for any student.

Ahsan, Sharma, and Deppeler, (2012) also examined pre-service teachers' readiness for inclusive education in Bangladesh through measuring their perceived teaching-efficacy, concerns and attitudes towards inclusive education. Using two scales, SACIE-R and TEIP with 1,623 pre-service teachers, they found that variables such as length and level of training, gender, interaction with persons with disabilities, and knowledge about local

legislation had a significant relationship with participants' perceived teaching-
efficacy, attitudes and concerns.

The aim of the present study was to investigate the attitudes and concerns of
pre-service teachers of two European Universities- Greek and Czech- in
relation to deaf students and their readiness to teach in inclusive settings.

Method

Participants

The participants of the study were 282 pre-service teachers from the
departments of Primary Education of two European Universities; 175 were
from the University of Patras, Greece, and 107 from the Palacky University of
the Czech Republic. Participation was predicated on the students' have
attended at least one course in deaf education.

Instrument

The instrument used for this study is the Sentiments, Attitudes and Concerns
about Inclusive Education scale (SACIE) in its 19-item format (Loreman,
Earle, Sharma, & Forlin, 2007). It is made up of two parts: the first includes
questions about the participants' demographic variables and the second is the
SACIE scale.

The first part included variables which may influence the teachers'
responses such as: age, gender, level of interaction with a person with a
disability and a deaf person, level of training about special education, level of
knowledge about legislation and policy concerning special education,
confidence in teaching a deaf pupil, number of courses about special
education and deaf education that have been attended, and level of
experience in teaching deaf pupils.

The second part included the 19 statements of the SACIE scale. This
scale measured three aspects of teachers' perceptions about inclusion which
are the Sentiments subscale (items 1-4), the Attitudes subscale (items 5-12),
and the Concerns subscale (items 13-19) in a Likert scale format from 1
(strongly disagree), 2 (disagree), 3 (agree), to 4 (strongly agree). For the
majority of the scale items a higher score indicated more positive perceptions
towards inclusion. This was not the case for items 2, 4, and 13-19 which
were, therefore, reverse coded. In addition, a Total score presented more
positive sentiments and attitudes towards inclusion and fewer concerns. The
Cronbach's α for the subscales range from ok to very good, with the Total
Scale having an ' α level' of .803.

After securing permission to use the instrument, it was translated from
English to Greek as well as back translated and then some modifications were
made in order to be adapted to education of the deaf. In each item of the
SACIE scale where the phrase "children with disabilities" was referenced, it
was replaced with "deaf children". Also, some adaptations were made to the
demographics section concerning the courses. We decided to include the title
of every course about special education and deaf education provided in the
curriculum of the universities, because it would be easier for the participants
to choose which one he/she have attended and additional comparisons could

be made between those who have attended only special education courses and those who have attended courses in deaf education.

Procedure

The questionnaires were administered to pre-service teachers during their course in academic year 2014-2015 with directions provided by the researcher during the procedure. Once the questionnaires were collected, data were transferred to SPSS 20 database for analysis.

Results

The Greek participants ($N = 175$) were mainly female (81%) with the majority being about 21 years old ($M = 21.9$, $SD = 2.3$). More than half the participants had interactions with people with disabilities (64.6%) and a third had interactions with deaf people (33.2%). The level of knowledge about deaf education tended to be low to average ($M = 1.85$, $SD = .65$), which is similar to their legislation knowledge ($M = 1.71$, $SD = .60$) and level of confidence in teaching which was very low to low ($M = 1.69$, $SD = .63$). Moreover, the participants seemed to have limited experience in teaching deaf pupils ($M = 1.77$, $SD = .83$).

With respect to the Czech participants ($N = 107$), men accounted for 9.3% of the sample, women the 87.9% and 2.8% of respondents did not specify their gender. The respondents' ages ranged between 21 years to 60 years. The group aged 21-30 years made up 66% of respondents. The groups 31-40 and 41-50 years of age corresponded to 13% of respondents, respectively, 4% of the respondents fell in the group of 51 -60 year olds, whereas the remaining 4% of respondents did not record their age. Of the 107 respondents, 84% said that they had had the opportunity to work with persons with disabilities. Eleven percent said they had not had the opportunity to work with these people. The remaining 5% did not respond. With respect to whether or not they had some interaction with deaf pupils 38% of respondents answered affirmatively. More than half of respondents (53%) had not yet had the opportunity to work with deaf students. The remaining 9% of respondents did not respond to the question.

The academic knowledge of the respondents was rather low ($M = 1.69$, $SD = .609$). Similar values were achieved by respondents in the area of knowledge of legislation ($M = 1.74$, $SD = .971$). The respondents confidence in relation to the education of deaf pupils was higher than the aforementioned items ($M = 2.03$, $SD = .516$). About their level of skills acquisition for educating deaf pupils, respondents rated it low ($M = 1.93$, $SD = .661$). Overall, it can be said that respondents assessed their readiness to teach deaf students from low to medium.

Concerning the courses, almost all the Greek participants have attended at least one special education course (99.4%), which is compulsory in the curriculum, and 42.3% participants had attended two courses (this is the maximum number of special education courses; one compulsory and one elective). In addition, 12% of participants had attended at least one course about deaf education and 20% had attended two optional courses. Most of the participants had attended 2 courses in special education, deaf education included ($M = 1.94$, $SD = .08$).

Only one-third of all Czech respondents attended more than one course in special education. All respondents completed only one course focused on the education of deaf pupils. Within the curriculum is set one special education course and one special education course focused on deafness. As indicated above, in the Czech Republic, there is no obligation for mainstream education teachers to be educated in special education. It depends, therefore, on the teachers themselves.

Greek pre-service teachers' SACIE mean Total Score was 2.47 ($SD = .32$) which indicated that they have created neutral to positive attitudes towards inclusion of deaf children. The SACIE mean Sentiments, Attitudes, and Concerns subscale scores were 3.04 ($SD = .41$), 2.38 ($SD = .46$), and 2.26 ($SD = .44$) respectively.

Table 1A. Means and standard deviations for scores on the SACIE Scale for Greek teachers

Item	M	SD
Sentiments	3.04	0.41
It is rewarding when I am able to help deaf people.	3.56	0.49
I am grateful that I am not deaf.	1.92	0.74
I feel comfortable around deaf people.	3.03	0.64
I am afraid to look a deaf person straight in the face.	3.60	0.59
Attitudes	2.38	0.46
Deaf students who have difficulty expressing their thoughts verbally should be in regular classes.	2.26	0.67
Deaf students who need assistance with personal care should be in regular classes.	2.11	0.72
Deaf students who are physically aggressive towards others should be in regular classes.	2.16	0.65
Deaf students who need an individualized academic program should be in regular classes.	2.21	0.74
Deaf students who communicate with sign language should be in regular classes.	2.40	0.77
Deaf students who are inattentive should be in regular classes.	2.57	0.72
With appropriate support all deaf students should be in regular classes.	3.07	0.71
Deaf students who frequently fail exams should be in regular classes.	2.26	0.69
Concerns	2.26	0.44
I am concerned that my workload will increase if I have deaf students in my class.	2.59	0.78
I am concerned that there will be inadequate resources/staff available to support inclusion of deaf students.	1.71	0.58
I am concerned that I do not have knowledge and skills required to teach deaf students.	1.89	0.72
I am concerned that it will be difficult to give appropriate attention to all students in an inclusive classroom.	2.09	0.68
I am concerned that deaf students will not be accepted by the rest of the class.	2.42	0.72
I am concerned that the academic achievement of students without disabilities will be affected.	2.89	0.65
I am concerned that I will be more stressed if I have deaf students in my class.	2.24	0.76

The bivariate correlations between the variables were explored using Pearson's correlation. Significant correlations have been found between the Total Score and academic knowledge ($r = .32, p < .01$), confidence ($r = .34, p < .01$), special education courses ($r = .23, p < .01$), deaf education courses ($r = .28, p < .01$), and experience ($r = .33, p < .01$).

The total SACIE test score for Czech participants was $M = 2.36$ ($SD = .218$). Scores for each subscale were $M = 1.94$ ($SD = .278$) for the Sentiments subscale, for the Attitudes subscale $M = 2.41$ ($SD = .415$) and for the Concerns subscale $M = 2.56$ ($SD = .367$). For more details, see Table 1B. These values indicate that overall attitudes towards inclusion of deaf students are fairly neutral to positive.

Table 1B. Means and standard deviations for scores on the SACIE Scale for Czech teachers

Item	M	SD
Sentiments	1.94	.278
1. It is rewarding when I am able to help deaf people.	1.75	.525
2. I am grateful that I am not deaf.	1.33	.591
3. I feel comfortable around deaf people.	1.32	.467
4. I am afraid to look a deaf person straight in the face.	3.42	.612
Attitudes	2.41	.415
5. Deaf students who have difficulty expressing their thoughts verbally should be in regular classes.	2.18	.699
6. Deaf students who need assistance with personal care should be in regular classes.	1.83	.595
7. Deaf students who are physically aggressive towards others should be in regular classes.	2.75	.668
8. Deaf students who need an individualized academic program should be in regular classes.	2.13	.688
9. Deaf students who communicate with sign language should be in regular classes.	2.69	.654
10. Deaf students who are inattentive should be in regular classes.	2.64	.651
11. With appropriate support all deaf students should be in regular classes.	2.03	.609
12. Deaf students who frequently fail exams should be in regular classes.	2.98	.601
Concerns	2.56	.367
13. I am concerned that my workload will increase if I have deaf students in my class.	2.13	.733
14. I am concerned that there will be inadequate resources/staff available to support inclusion of deaf students.	2.37	.700
15. I am concerned that I do not have knowledge and skills required to teach deaf students.	2.20	.794
16. I am concerned that it will be difficult to give appropriate attention to all students in an inclusive classroom.	2.40	.626
17. I am concerned that deaf students will not be accepted by the rest of the class.	2.58	.708
18. I am concerned that the academic achievement of students without disabilities will be affected.	3.12	.697
19. I am concerned that I will be more stressed if I have deaf students in my class.	3.06	.712

Significant correlations were found for the Czech participants between the total score and slight knowledge of legislation ($r = .230, p < .05$), and the level of facilities for education ($r = .416, p < .01$). Other correlations were found between the subtest scores concerning legislation and the level of knowledge ($r = .209, p < .05$) and age ($r = .270, p < .01$).

Multiple regression analysis was conducted in order to determine the significant predictors of each inclusive disposition among pre-service teachers (see Table 2A, 2B).

Table 2A. Predictors of inclusive disposition for Greek teachers

Variable	Model	R^2	F
Sentiments	Academic knowledge, gender, interaction, confidence	0.21	15.58***
Attitudes	Training, age, experience, knowledge of legislation, confidence	0.04	7.25**
Concerns	Confidence, training	0.18	19.26***
Total	Confidence, training, interaction	0,19	13.55***

Table 2B. Predictors of inclusive disposition for Czech teachers

Variable	Model	R^2	F
Sentiments	Knowledge of legislation, confidence, training	.048	.715
Attitudes	Training	.060	.926
Concerns	Knowledge of legislation, gender	.254	7.135***
Total	Knowledge of legislation, training	.076	.736

Beginning with the Sentiments subscale for Greek participants, the combination of gender, interaction, confidence and academic knowledge seemed to predict sentiments among pre-service teachers, $R^2 = .21, F(3, 170) = 15.58, p < .001$. Gender and knowledge about teaching deaf students ($\beta = .26, p < .001, \beta = .25, p = .001$) were the most important predictors of positive sentiments towards inclusion. Also, the pre-service teachers who had attended more courses in deaf education had more positive sentiments towards deaf students ($\beta = .12, p = .004$).

In the Sentiments subscale for Czech participants [$R^2 = .048, F(6, 87) = .715, p > .05$] the most important factors seemed to be the degree of knowledge of legislation, the level of confidence, the level of facilities for learning and gender ($\beta = .206, \beta = .279, \beta = .292, \beta = .246, p > .05$).

In the Attitudes subscale for Greek participants, the combination of training (number of courses in special education), knowledge of legislation confidence, age, and experience were the most significant factors, $R^2 = .04, F(1, 172) = 7.25, p = .008$. A more detailed analysis of the results indicated that pre-service teachers who have attended more courses in special education have more positive attitudes towards inclusion of deaf students ($\beta = .18, p = .008$), and the same model was also explained by the age of participants ($\beta = .14, p = .004$).

In the case of Attitudes subscale for Czech participants [$R^2 = .060$, $F(6, 87) = .926$, $p > .05$], the only significant factor found was that of training ($\beta = .144$, $p > .05$).

In terms of the Concerns subscale for Greek participants, the factors which were statistically significant were training (number of courses in deaf education) and confidence, $R^2 = .18$, $F(2, 171) = 19.26$, $p < .001$. Only confidence in teaching deaf students ($\beta = .21$, $p < .001$) was a significant predictor of inclusive. Also, the pre-service teachers who had attended more courses in deaf education have less concerns towards inclusion of deaf students ($\beta = .10$, $p = .01$).

For Czech participants the best model was for the Concerns subscale explaining 24% of its variance ($R^2 = .254$, $F(4, 84) = 7.135$, $p < .01$), with the most important factors being knowledge of legislation, gender and previous experience working with individuals with special needs and hearing impaired ($\beta = .116$, $\beta = .009$, $p < .01$, $\beta = .221$, $\beta = .145$, $p < .05$).

For the Sentiments and Attitudes subscales the models were rather poor (explaining between 5% and 6% of the variance) and we opted not to draw any conclusions.

Future teachers from the Czech Republic appear to allow for the inclusion of pupils with disabilities, correspondingly with deaf pupils, but also they have concerns, which were confirmed in previous research (Potmesil 2011; Potmesilova, et al, 2013). Respondents completing one course indicated that they have a basic awareness of the issues of people with disabilities. They appear able to admit the possibility of inclusion, but that it also leads to particular concerns about inclusion. The results thus suggest that there is a need to include a greater number of courses about inclusion, so to possibly eliminate the above-mentioned concerns.

Comparison of results

The first step towards comparing the results of respondents from the Czech Republic and Greece was to compare mean education level values, knowledge of legislation, measures of confidence, and extent of facilities for education. Only to the extent of confidence did we find a statistically significant difference between mean values. Greek respondents perceive their confidence in connection to teaching students deaf students, as very low, while respondents from the Czech Republic, as low.

The respondents from Greece and the Czech Republic have the same beliefs, attitudes and concerns in relation to individuals with disabilities, and correspondently for deaf individuals.

For the Sentiments subscale, there was statistically significant difference between mean values of each group. Respondents from the Czech Republic expressed higher agreement with those statements, whereas respondents from Greece more disagreement, which may be associated with higher levels of knowledge about work with deaf individuals in Greece.

That analysis suggests that respondents from Greece having taken a greater number of courses have a more realistic idea of inclusion of pupils with disabilities and as such are aware of the problems associated with the inclusion of deaf pupils. As already mentioned, the respondents from the Czech Republic demonstrated concerns, but acknowledge inclusion.

Discussion

This study aimed to examine the pre-service teachers' sentiments, attitudes and concerns towards inclusion of deaf students in Greece and the Czech Republic. In addition, an attempt was made to study the factors that seem to influence their perceptions in order to construct positive or negative attitudes about inclusion.

The statistical analysis revealed a number of teacher's related factors that predict their sentiments towards inclusion of deaf students, such as academic training, confidence in teaching, interaction with people with disabilities or deaf people, experience, knowledge of legislation, gender and age. Greek pre-service teachers were more positive towards inclusion of deaf students in mainstream schools, and seemed to be more ready to work in inclusive setting, than the Czech teachers. This result might be explained by the fact that Greek teachers had taken more courses in special and deaf education, than the Czech ones. The results of this study indicate the importance of providing a number of courses in special education and deaf education, as well as in inclusive education, to teacher's through their education programs, in order for them to be prepared to work successfully with deaf students in inclusive settings

This study revealed that pre-service teachers in Greece had positive sentiments, neutral to positive attitudes and moderate concerns about inclusion of deaf students. Similar to other studies (Avramidis & Norwich, 2002; Loreman, et al., 2007, Sharma, et al., 2006) factors such as training, knowledge of policies or experience and interaction with people with disabilities seemed to reduce anxiety and concerns and enhance confidence in teaching.

These results, which were slightly higher than those in other studies, could be explained by the nature and the severity of the disability. As Avramidis, et al (2000) suggested, the severity of disability could cause differing stress levels to teachers. As such teachers of the deaf who seemed to have more positive attitudes (Eriks-Brophy & Whittingham, 2013; Freire & César, 2003; Lampropoulou & Padeliadu, 1997) may be as a result of deafness often being referred to as an invisible disability and one which causes mostly communicational obstacles.

Thus, these communicational issues may be the main reason for the demand for more specialized training, experience and interaction with deaf people. This study revealed the need for more training through the provision of different courses about special education and inclusion in a training program for pre-service teachers. As an example, the study showed that more courses about inclusion could help pre-service teachers develop more positive attitudes about inclusion of deaf students. In addition, more courses about deaf education are more suitable for reducing concerns and negative sentiments and for building positive attitudes. These implications could be very useful for training programs in universities or other institutions, designed for pre- or in-service teachers and school personnel in order to support inclusive settings.

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