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Attitudes of Mathematics Teachers Towards the Inclusion of Students with Learning Disabilities and Special Needs in Mainstream Classrooms

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Attitudes of Mathematics Teachers Towards the Inclusion of Students with Learning Disabilities and Special Needs in Mainstream Classrooms

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ABSTRACT

The aim of this study is to examine the attitudes of 36 elementary school teachers towards the inclusion of students with learning disabilities in Mathematics in mainstream classes. The research related to three aspects: teachers' knowledge of learning disabilities, teachers' perceptions of the physical inclusion of these students, teachers' perceptions of their responsibility towards the curricular inclusion of students with learning disabilities and towards curricular adaptations. Findings indicate that teachers' knowledge of the topic is partial, whereas teachers' attitudes towards inclusion are positive with regard to the three aspects of the research. The study yielded a need to incorporate the topic of learning disabilities into existing training programs for pre-service teachers.

THEORETICAL BACKGROUND

INTRODUCTION

In the last decade, the number of special needs students in mainstream classes has greatly increased. At present, half of the students with learning disabilities learn in mainstream frameworks (National Center for Educational Statistic, 2005). The law "No Child Left Behind" (UNESCO, 2001) stipulates that all special needs students (except for extreme cases) should attend mainstream

curriculum, including taking tests according to standards. Hence, it has become necessary to examine the effectiveness of inclusion from different aspects. According to the 2002 figures of the Department of Special Education in Israel, 39,000 students learnt in separate frameworks of special education (special education classes and special schools). Moreover, 73,500 students, most of them with minor learning difficulties, studied in mainstream classes and received support from the "Inclusion Programme"[1[1]]. The Ministry of Education reported that the number of special needs students, who receive educational services in mainstream frameworks, is rising and the number of students in special classes and special schools is declining (Ronen, 2007). All this is a function of the amendment to the Special Education Act (Ministry of Education, 1988)[2[2]].

When we examine effective teaching in inclusive classes, one of the first steps is checking teachers' attitudes towards inclusion. Teachers' attitudes towards the inclusion of special needs students is a key issue in studies of inclusion and is perceived as a crucial factor in the assimilation of this change in school (Ballone and Czerniak, 2001). Exploring teachers' attitudes is essential as far as effective implementation of the inclusion is concerned. However, it is also significant in the case of students with a specific learning disability (SLD), i.e. mathematics, so that insights obtained from the examination of teachers' attitudes facilitate the development of wellness curricula in mathematics teachers' training. Review of the literature illustrates that there is no extensive empirical body of

[1[1]] The programme includes teaching, learning and systematic therapy given by law to special needs children, including physical therapy, speech therapy, occupational therapy and other therapies as well as other services, in accordance with the children' needs.

[2[2]] The Special Education Act of 1988 (amended in 2000) aims to promote and develop special needs children's skills and capabilities, improve their physical, cognitive, mental and behavioural functioning, inculcate knowledge, competences and habits and teach them to behaviour according to the norms of society in order to facilitate their inclusion both in society and in work places.

knowledge relevant to inclusion in mathematics and, most particularly, in junior high schools (DeSimone and Parmar, 2006).

Today, there is no acceptable definition of learning disabilities in mathematics. According to the Ministry of Education (2004), characterisation of learning disabilities is grounded on two definitions. The first definition has been conceived by the NJCL (National Joint Committee on Learning Disabilities, 1994), referring to a significant gap between students' academic attainments in practice and those expected of them according to the class level and their age, as well as to the gap between their achievements in practice and their IQ level. The second is the definition made by the DSM-IV (1994), relating to a specific learning disability, manifested by difficulties or inability to learn and understand mathematics or by mathematical skills that are lower than the expectation in relation to age, teaching and cognitive competence. This learning disability is demonstrated by difficulties to comprehend, remember or perform arithmetic rules (performing-calculating ability) or to understand the abstract meaning of numbers (cognitive ability). Students suffering from a learning disability in mathematics encounter problems with verbal exercises, comprehension of the concept of quantity, sequences and time concepts as well as with getting organised to write an exercise on a page. The Position Paper (NJCLD, 1998) specifies the recommendations with regard to making assessments in mathematics.

Teachers' attitudes towards inclusion

Studies conducted at the end of 1990s, investigating teachers' attitudes towards the inclusion of special needs students in the education system, were inconclusive. For example, the study of Monahan, Marino and Miller (1996), which encompassed 364 teachers, showed several important findings: 1. 72% of the teachers believed that the inclusion would fail due to the objection of mainstream education teachers. 2. 75% of them argued that mainstream education teachers had no tools or educational experience required for coping with special needs students. 3. 67% of them maintained that mainstream education teachers prefer sending special needs students to special education classes instead of relying

on the assistance of inclusion teachers in their classes. Nevertheless, 51% contended that mainstream education teachers were responsible for the special needs students in their classes. Furthermore, the study conducted by Cook, Tankersley, Cook and Landrum (2000), which explored teachers' attitudes towards their included students rather than towards inclusion in general, showed mixed findings: 1. in the "concern" category, perceived as an essential element from the inclusion teachers' point of view, there is a high representation of students with learning disabilities. The concern is manifested by over-investment in these students, based on the conviction that they would succeed. 2. Also in the "indifference and rejection" categories, perceived as negative elements by the inclusion teachers, there is a high representation of students with learning disabilities.

Indifference and rejection are expressed by the teachers' limited interaction with these students and their lack of motivation to help them. Further studies of inclusion indicate teachers' positive attitudes (Villa, Thousand, Meyers and Nevin, 1996) whereas others found negative attitude and objection to inclusion (Vaughn, Schumm, Jallad, Slusher and Samuell, 1996). Numerous teachers support the concept of inclusion but object to an extensive inclusion and advocate individual inclusion according to need (Wigle and Wilcox, 1997).

In Israel, studies of teachers' attitudes were initiated at the beginning of the 1990s, following the Special Education Act (1988). Studies of Israeli teachers' attitudes towards inclusion, as compared to other countries, found that Israeli teachers adopt less positive attitudes than their peers (mainly in the United States). Even here the findings are mixed. One study conducted by Shechtman, Reiter, and Schanin (1993) showed that two thirds of 202 teachers in 18 schools were in favour of inclusion. Conversely, findings of another study (Reiter et al., 1998) illustrate that teachers are against inclusion and prefer to have separate special education classes. It seems that the picture emerging from contemporary studies (the beginning of the years 2000) both in Israel and abroad indicates a growing support of inclusion among teachers (Timor and Burton, 2006). A study conducted among high school

teachers illustrated teachers and counselors' positive attitudes towards inclusion. However, it also found frustration, wariness and cynicism resulting from the exaggerated number of assessed students and from the extensive investment in these students without any compensation on the part of the education system. Moreover, the study showed that teachers felt isolated and without any support by the head teachers for their daily handling of special education students (Timor, 2008).

In a study they conducted in Greece, Avramidis and Kalyva (2007) found positive attitudes towards inclusion, which were affected by the severity and type of the disability. Biddle (2006) points out a direct relation between positive attitudes of science teachers and the learning environment conditions, which allow an effective inclusion: 40% of all the participants, who expressed positive attitudes towards the inclusion, were teachers whose learning environment allowed them an effective use of concessions and adjustments for students with learning disabilities. On the other hand, 42% of the participants, who expressed "less positive positions" (Biddle, 2006, p. 53), were those who lacked these conditions.

A study conducted in Cyprus (Koutrouba, Vamvakari, and Steliou, 2006) illustrated teachers' positive attitudes, combined with a sensation that the process had not yet been terminated. Lambe and Bones (2006) found positive attitudes both towards the concept of inclusion and the implementation of the change among mainstream and special education head teachers in North Ireland. The latter consider that their goal is to assist their students so that they can be included in mainstream schools.

Talmor (2007) specifies the factors affecting teachers' attitudes towards inclusion: 1. factors associated with the included students (type and severity of the disability); 2. factors associated with the teacher (gender, age and seniority, level of schooling, level of the class, previous experience with inclusion, teaching subject, training, practice and knowledge, teacher's beliefs); 3. educational environment (atmosphere at school, head teacher's attitude, assistance and support).

Further on, we will focus on three factors.

1. Teachers' beliefs and attitudes as a factor affecting inclusion

Teachers' beliefs evolve at an early stage of their teaching career and are not easy to change. Researchers (e.g. Kochhar, West, and Taymans, 2000) found that negative attitudes and feelings towards inclusion are one of the three main barriers of effective inclusion. Scruggs and Mastropiere (1996) show that over two thirds of the teachers advocate the concept of inclusion and half of them believe that inclusion benefits special needs students. Nevertheless, only less that one third maintains that teachers have insufficient resources, training and time for a successful implementation of the inclusion. A study conducted in Slovenia by Pecek, Cuk and Lesar (2008) illustrates that teachers perceive special needs students as helpless and as having low capabilities. Hence, they are willing to lower academic and behavioural standards for these students. They feel, however, inefficacy in coping with the difficulties of these students.

Talmor (2007) indicates two major teachers' attitudes towards students with special needs: those who maintain that the disability is inherent in the students and, consequently, they should receive special education. Others consider that the problems stem from the environment-student interaction, believing that these students can learn in mainstream frameworks. Teachers who assume responsibility for the teaching of students with some differentiation will successfully implement the inclusion (Stanovich and Jordan, 1998). Another factor found to be associated with attitudes towards inclusion is the teachers' sense of professional efficacy. Teachers with a high sense of efficacy tended to assume responsibility and professed inclusion in mainstream classes (Sodak and Podell, 1994).

DeSimone and Parmar (2006) explored the attitudes of junior high mathematics teachers towards the success of inclusion, finding that approximately 50% of them perceived inclusion as effective. All the teachers did not see themselves directly responsible for the academic progress of special needs students. When asked to describe the role of teachers in an inclusive class, none of them

related to teaching adapted to the special needs but rather to the teacher as "facilitating the learning", "being a friend" or "helping".

2. Training, practice and knowledge as a factor affecting inclusion

A study of attitudes towards the inclusion of special needs students in the education system underscores the gap between the positive tendency towards inclusion and the apprehension during the implementation of inclusion that stems, among others, from insufficient training and practice. Consequently, one could assume that knowledge acquired by teachers during their training and practice will affect their attitudes towards the issue. Studies of this issue show that the opinions of teachers, who indicated training in the field of special education or experience in working with these students, were more positive with regard to inclusion (Avramidis and Norwich, 2002; Avramidis and Kalyva, 2007), even if they attended only one course (Shade and Steward, 2001). Other studies found no relation between training and attitudes (Reiter et al, 1998; Talmor, Ehrlich, and Eldar, 1999). Talmor et al. (1999) argue that courses must be experiential beyond knowledge in the cognitive area in order to change attitudes and evoke empathy for learner populations with special needs.

The study conducted by DeSimone and Parmar (2006, pp. 341-343) illustrated that the majority of mathematics teachers in junior high school defined specific learning disabilities in a similar way. Below are examples of their answers:

"Difficulty to distinguish what you are saying the first time that you say it", "a very slow information processing".

"Difficulty to answer in time because the student still ponders the question", "reading comprehension problems; students having difficulties in the field of language and now also in mathematics", "students who find it difficult to concentrate and focus and need many reinforcements".

Regarding their training, teachers participating in the present study felt they had not received sufficient training for coping with special needs students during their training as mathematics teachers.

Their pedagogical training did not encompass reference to special needs students or to inclusion itself. Some of the participants pointed out that they had accumulated their knowledge through experience ("on-the-job-training"). The findings of the present study corroborate the findings of a previous study (Rao and Lim, 1999).

3. The relation between the teaching subject and the attitude towards inclusion

The empirical knowledge accumulated so far about this issue is scant. Talmor et al. (1999) specify several studies. A study conducted among teachers of core subjects (English and mathematics in junior high schools) found that these teachers had less positive attitudes than their peers as to the inclusion of students with special needs (Ellins and Porter, 2005). A further study found no relation between the teaching subject and teachers' attitudes (Avramidis and Norwish, 2002).

Researchers in St. Jone's University in the USA (Authors, 2004) explored the attitudes of 228 junior high mathematics teachers in 19 states. The findings show that, although most teachers were in favour of the inclusion concept, they felt that mainstream education was not the ideal framework for special needs students. The teachers said they were under pressure to finish delivering the material according to the curriculum and did not feel responsible for the success of the included students. Moreover, they complained about a low degree of management support regarding inclusion as well as about being unprepared for the function of inclusive teachers[3[3]].

Research objectives

The research aimed to investigate the attitudes of inclusive female-teachers, teaching mathematics at elementary school and undergoing a professionalisation process for teaching this discipline, towards the inclusion of students with learning disabilities and special needs in mathematics in mainstream classes during mathematics lessons.

[3[3]] Elementary and junior high school teachers with special education training who assist the included children in a mainstream class.

Research questions

1. Do teachers possess knowledge regarding the definition of learning disabilities in mathematics and have they received training in this field?
2. What are their attitudes towards the inclusion of students with special needs and learning disabilities in mainstream classes. These attitudes were examined from three aspects:
   - 2.1 What are the teachers' attitudes towards keeping these students in mainstream classes?
   - 2.2 What are their attitudes towards the adaptation of the curriculum to these students?
   - 2.3 What is the teachers' perception of their extent of responsibility and ability to cope with the academic inclusion of these students in mainstream classes?

Research procedure

Research population

The research participants were 36 currently in practice female-teachers with a teaching experience of more than 3 years. All are employed in elementary schools, teaching mathematics in more than one heterogeneous class, in which students with different levels of learning disabilities are also studying. The teachers' age ranges between 25 and 50. In recent years, the teachers have been specialising in mathematics courses and mathematics teaching methods.

Research tools

The research tools chosen for the present study consisted of a written questionnaire comprising 12 questions (see Appendix A). The first two questions were open-ended. The first question referred to the participants' knowledge of the concept "learning disabilities in mathematics". The second question was informative and related to the teachers' schooling in the field of learning disabilities. All the other 10 questions were close-ended, based on a questionnaire conceived by Timor (2003). These questions dealt with the following topics: teachers' attitudes towards keeping the students in mainstream classes (questions 4, 5, 6), teachers' attitudes towards the adaptation of the curriculum

(questions 8, 11, 12) and their perception of their extent of responsibility for and capability of teaching students with learning disability in mathematics in mainstream classes (questions 7, 9, 10). It is important to point out that 9 out of 10 questions (4-12), dealing with attitudes towards the inclusion of special needs children in the mainstream education system, were multiple choice questions, whereby participants had to rank from 1 – I totally disagree and to 5 – I agree to very great extent. One question (question 3), which related to the inclusion of students with learning disabilities in mathematics in mainstream classes, had only 2 optional answers.

Research method: data processing, analysis and validation

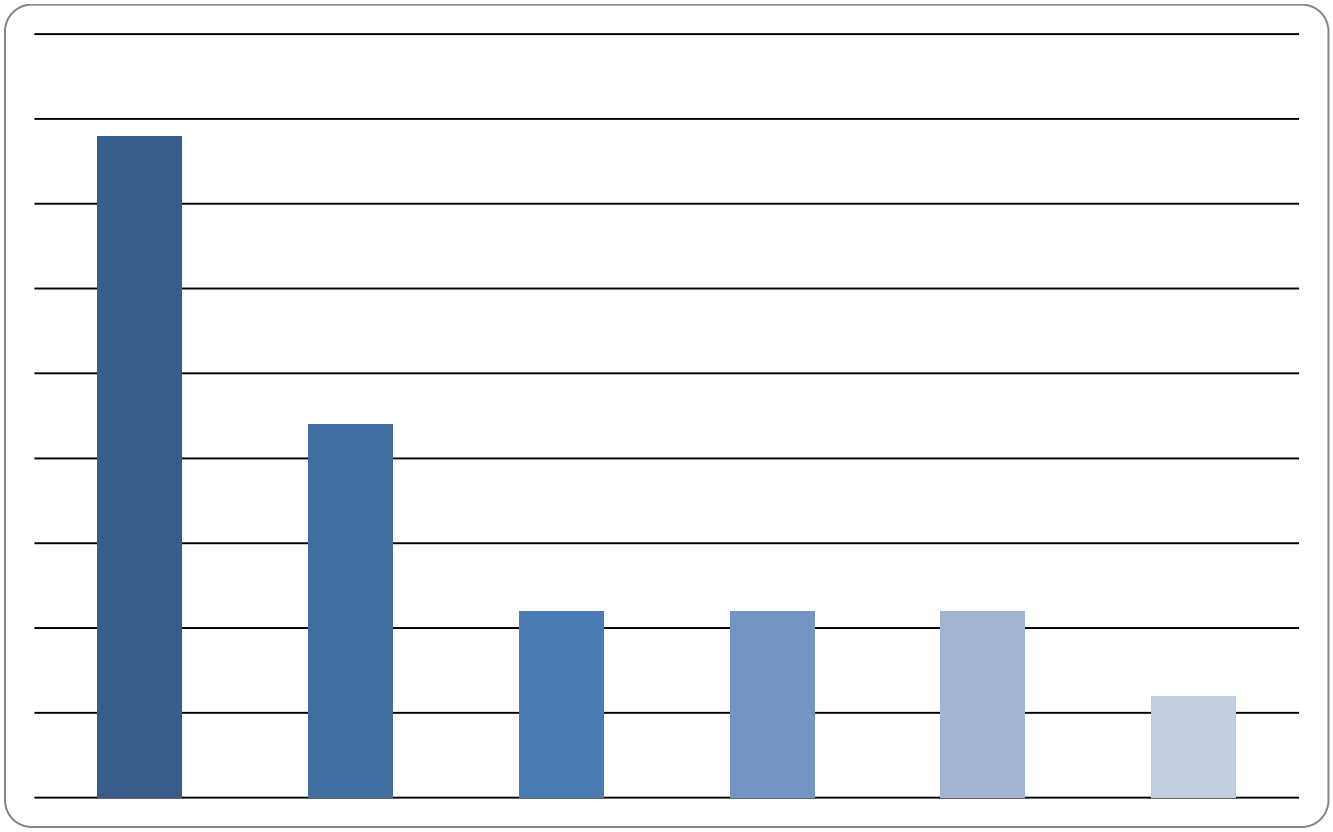
The data collected in the questionnaire regarding the two open-ended questions (1 and 2) were processed and analysed qualitatively, based on the categories that emerged from the interviewees' answers. The two researchers validated the analysis by means of an experts' judgment procedure. Each researcher analysed separately the answers and, then, the data obtained by the two researchers were compared, illustrating that the rate of consensus was above 84%. All the other questions (3-12) were quantitatively analysed.

Findings

a. The teachers' knowledge about the concept "learning disabilities in mathematics"

Analysis of the question illustrates that there is not one uniform definition for the concept of learning disabilities in mathematics. The answers can be classified into six categories, two definitions being particularly prominent: about 39% of the teachers perceive disabilities as problematic in the understanding of the process. The second category related to memory problems, or inability to retrieve previous knowledge for using and implementing in new contents (22%). The other answers were classified in accordance with the four other categories (11%, 11%, 11%, & 6%).

Diagram 1 shows a graphical distribution of these answers.



Analysis of the second question, which examined the teachers' schooling in the field of learning disabilities, illustrates that 67% of the participants (24 teachers) indicated that they had never attended any course about learning disabilities in mathematics. The other 12 teachers (33%) specified that they had attended such a course, 10 out of them mentioning that they had taken such a course during their studies for a degree in special education. The two other teachers pointed out that they had attended such a course a long time ago (one of them – 30 years ago) during an in-service training course given by a calculus teacher who specialised in the teaching of the learning-disabled.

b. Teachers' attitudes towards the inclusion of students with learning disabilities in mathematics in mainstream classes.

b.1 Attitudes towards keeping these students in mainstream classes.

The third question related to the issue of "should learning-disabled students study mathematics in mainstream/special classes" (circle your choice). Twenty-three teachers (64%) replied that these students should learn in mainstream classes. However, half of these teachers added the reservation "depending on the degree of disability and whether it is specific". The other teachers advocated learning in special classes.

Table 1 shows the distribution of teachers' attitudes towards keeping the students in mainstream classes

table 1: distribution of attitudes towards keeping the students in mainstream classes

Question No.	**5** (agree to very great extent)	**4** (agree to great extent)	**3** (agree)	**2** (agree to small extent)	**1** (do not agree at all)	**Average (S.D.)**
4. Learning-disabled students should learn mathematics in mainstream classes with academic assistance	19	5	5	2	5	**3.86 (1.46)**
5. Students with learning disabilities in mathematics should be exempt from mathematics studies		2		2	32	**1.22 (0.72)**
6. Students with learning disabilities in mathematics are entitled to more of the mathematics teacher's time than "regular" students	13	11	5	7		**3.83 (1.13)**

Questions 4, 5, 6, dealing with learning-disabled students in the education system, illustrate that the teachers believe the students should not be exempt from learning mathematics (an average of 1.22) but are entitled to study in adjusted conditions (i.e. additional teacher's time and more appropriate academic assistance (an average of 3.83 and 3.86 respectively). About 67% of the teachers agree to great extent and very great extent that it is better for learning-disabled students to learn in mainstream classes

with assistance and that those students are entitled to more time of the mathematics teacher than regular students.

b.2 Teachers' attitudes towards the current curriculum and the need for training teachers in this field (questions 8, 11, 12)

Table 2 shows the distribution of teachers' attitudes towards the current curriculum and the need for training teachers in this field.

table 2: distribution of attitudes towards the current curriculum and the need for training teachers in this field

Question No.	**5** (agree to very great extent)	**4** (agree to great extent)	**3** (agree)	**2** (agree to small extent)	**1** (do not agree at all)	**Average (S.D.)**
8**.** Every mathematics teacher should attend courses about the issue of learning disabilities	22	7	5	2	5	**4.36 (0.82)**
11. The mathematics curriculum at school is sufficiently flexible as far as learning-disabled students are concerned		4	9	5	18	**1.97 (1.1)**
12. Students with learning disabilities in mathematics receive sufficient assistance at school			5	9	22	**1.53 (0.72)**

The teachers believe that the curriculum is not flexible enough and is insufficient for learning-disabled students (average 1.53 and 1.97 in questions 11 and 12 respectively). They attribute great importance to training and believe it is highly needed (average 4.36, question 8). 81% of the teachers concur to very great extent with assertion No. 8 that "every mathematics teacher should attend in-service training courses dealing with learning disabilities".

b.3 Teachers' perception of their extent of responsibility and ability to cope with the academic-curricular inclusion of these students in mainstream classes (questions 7, 9, 10)

Table 3 shows the distribution of teachers' perception of their extent of responsibility and ability to cope with the academic inclusion of these students in mainstream classes

table 3: distribution of teachers' perception of their extent of responsibility and ability to cope with the academic inclusion of these students in mainstream classes

Question No.	**5** (agree to very great extent)	**4** (agree to great extent)	**3** (agree)	**2** (agree to small extent)	**1** (do not agree at all)	**Average (S.D.)**
7. The academic functioning of students with learning disabilities in mathematics must be entrusted to teachers specialised in special education rather than to mathematics teachers	4	2	13	7	9	**2.5 (1.3)**
9. It is more difficult to treat learning disabilities in mathematics than any other learning disability	2	5	9	7	13	**2.33 (1.25)**
10. I frequently hesitate to what extent I understand the learning disabilities in mathematics of a certain student	9	13	7	6	2	**3.61 (1.16)**

The answers to questions 7 and 9 show that the teachers believe teachers specialised in special education have no preference or advantage over mainstream mathematics teachers for learning-disabled students. Moreover, the teachers do not perceive learning disabilities in mathematics as more difficult than other disabilities. Nevertheless, the answer to question 10 indicates that 61% of the teachers frequently hesitate to what extent they understand the learning disabilities in mathematics of a certain student (22 teachers agreed to a very great extent and to great extent with this assertion).

Discussion and conclusions

The research objectives were to investigate the attitudes of inclusive teachers, who teach mathematics in elementary school and are undergoing a professionalisation process regarding the

inclusion of students with learning disabilities in mathematics in mainstream class during mathematics lessons.

The first research question related to knowledge, training and practice. The teachers' answers attest to partial knowledge of learning disabilities. They gave partial definitions for the concept of learning disabilities in mathematics and related in their answers to certain aspects of learning disabilities in this subject. This finding is in line with the study of DeSimone and Parmar (2006), in which the investigated teachers also related to certain aspects only. The participants in the present study pointed out that most of the teachers (67%) had no training in the field of learning disabilities in mathematics. This finding corroborates the study of Rao and Lim (1999), whereby the investigated teachers indicated that they felt they had not received sufficient training for coping with special needs students. They added that most of their knowledge came from experience accumulated during their work with these students.

The second research question related to the teachers' attitudes towards the inclusion of these students in mainstream classes. Regarding the question whether these students should remain in mainstream classes, the findings show that the teachers maintain that students who find mathematics studies difficult, should not be exempt from these lessons. They advocate keeping them in mainstream classes with added academic assistance. This finding does not support the study of Monahan et al. (1996), whereby most of the teachers preferred taking these students out from the mainstream classes and placing them in special classes. Moreover, findings of Reiter et al. (1998) and Authors (2004) illustrate that teachers maintain that learning-disabled students should study in special education classes. This finding could perhaps be explained by the fact that all the teachers are actually working and have experience in teaching heterogeneous classes. Hence, the presence of learning-disabled students is familiar to them and they find it easier to contain the students' difficulties.

Analysis of the findings as to the teachers' attitudes towards the adaptation of the curriculum to students with learning disabilities and special needs shows that the teachers do not perceive the current curriculum as flexible enough for learning-disabled students in mainstream classes. Similarly, they argue that these students do not receive sufficient assistance at school. Regarding teachers' training in the field, they certainly attribute great importance to teachers' training in the field of learning disabilities in mathematics. These findings are in line with other studies (Scruggs and Mastropieri, 1996). Furthermore, the findings of the present study corroborate other studies that found a positive relation between training in the field of special education and a successful inclusion (Shade and Stewart, 2001).

The present study found that most of the teachers deemed that teachers specialized in the field of special education have no advantage over mathematics teachers in the teaching of mathematics to learning-disabled students, although most of them doubted their ability to do it. Thus, one can conclude that mathematics teachers consider themselves responsible for the academic functioning of learning-disabled students. They do not always feel, though, that they are capable of doing it. This finding supports the study of Monahan et al. (1996), whereby only half of the mainstream teachers viewed themselves as responsible for special needs students. Conversely, it contradicts the study of DeSimore and Parmar (2006), which showed that no teachers perceived themselves directly responsible for the academic progress of these students. The researchers from St. John's University, USA (Authors, 2004) indicated teachers' low extent of responsibility for these students, due to pressure and stress to deliver all the material required by the binding curriculum.

Summary and recommendations

The present study explored mathematics teachers' attitudes towards the inclusion of students with learning disabilities and special needs in mainstream classes. The research findings illustrate the teachers' positive attitudes towards the three examined aspects: keeping these students in mainstream classes, the need to adapt the mathematics curriculum to these students and the teachers' perception

of themselves as responsible for the academic inclusion of special needs students in their classes. Nevertheless, in addition to the positive attitudes, the research conclusions indicate that, in order to implement the inclusion policy more effectively in mathematics, some changes should be introduced to the training program.

1. It is necessary to expand mathematics teachers' professional training, enabling them to cope with students with learning disabilities and special needs, with an emphasis on observation and visits to inclusive classes in order to learn in practice the issue of inclusion.
2. Within the framework of in-service and other training courses, teachers should acquire tools for adapting the curriculum to these students.

Since the present study examined the attitudes of currently in-practice teachers, we recommend conducting a further study of two teacher-student groups, in order to investigate to what extent experience benefits teachers' attitudes towards inclusion vis-à-vis or parallel to training programs.

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Appendix A

Learning disabilities in mathematics questionnaire

The questionnaire includes also multiple-choice questions, where you have to rank the answer from 1 – I totally disagree to 5 – I agree to very great extent.

1. How would you define learning disabilities in mathematics?

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   _____

2. Have you even attended any lecture / in-service training course on the subject of learning disabilities in mathematics? Yes / No (circle your choice). Please specify:

   _____

3. It is recommended that learning-disabled students learn mathematics in mainstream/special classes (circle your choice).
4. It is recommended that learning-disabled students learn mathematics in mainstream/special classes with academic assistance 1 2 3 4 5
5. Students with learning disabilities in mathematics should be exempt from mathematics lessons 1 2 3 4 5
6. Students with learning disabilities in mathematics are entitled to more time of the mathematics teacher than "regular" students 1 2 3 4 5

7. The academic functioning of students with learning disabilities in mathematics must be entrusted to teachers specialised in the field of special education and not to a mathematics teacher 1 2 3 4 5
8. Every mathematics teacher should attend in-service training courses dealing with learning disabilities 1 2 3 4 5
9. It is more difficult to treat learning disabilities in mathematics than other learning disabilities 1 2 3 4 5
10. I frequently hesitate to what extent I understand the learning disabilities in mathematics of a certain student 1 2 3 4 5
11. The mathematics curriculum at school is sufficiently flexible as far as learning-disabled students are concerned 1 2 3 4 5
12. Students with learning difficulties in mathematics receive sufficient academic assistance at school 1 2 3 4 5

diagram 1: definition of learning disabilities in mathematics according to the teachers' perception

table 1: distribution of attitudes towards keeping the students in mainstream classes

table 2: distribution of attitudes towards the current curriculum and the need for training teachers in this field

table 3: distribution of teachers' perception of their extent of responsibility and ability to cope with the academic inclusion of these students in mainstream classes