

# Teachers' Perceptions Regarding the Factors of Implementing Differentiated Instruction to Students with Learning Difficulties: Empirical Research in Primary Education

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## Abstract

The main purpose of the present study was to explore the perceptions of primary school teachers of all specialties in the Dodecanese regarding the factors of implementing differentiated instruction to support students with learning difficulties in the classroom. Particularly, this study examined teachers' perceptions regarding: a. the factors that help teachers' ability implementing differentiated instruction in their classroom; g. the factors that hinder teachers' ability implementing differentiated instruction in their classroom. The research was conducted in the context of the quantitative approach using an anonymous electronic questionnaire and the sample consisted of 174 primary school teachers of all specialties in the Dodecanese, from February 13, 2021 to April 28, 2021. According to the main findings, regarding the perceptions of the participants concerns the importance of the factors that enhance their ability to apply differentiated instructions in the classroom, it appears that teachers consider as the most important factors: the knowledge and experience,

the staff development, the amount of planning time, the availability of materials, the range of diversity in classroom, the support of other staff, the administration/school leadership and finally, parent expectations. Additionally, in terms of the sample's perceptions concern the importance of the factors that hinder their ability to implement differentiated instruction in the classroom, the teachers consider as the most important factors: the amount of planning time, the availability of materials, the range of diversity in classroom, the staff development (education/training), their knowledge and experience, the support of other staff, the administration/school leadership, and finally parent expectations.

**Keywords:** differentiated instruction, enhancing factors, learning difficulties, primary education, restraining factors

## 1. Introduction

Teaching in mixed ability classrooms has never been easy and inventing ways to address students' individual differences and learning difficulties is a major challenge for all teachers. The instructional methods and practices needed for effective inclusion are easier to identify than to implement (Yuen et al., 2005).

The increase of class size due to budget cuts have increased student diversity in classrooms (Robinson, 2013). In addition, the educational policy aims at inclusion by opening the general education school, so as to include all students and to a greater extent to include those who face mild difficulties, as students with learning difficulties (Tzouriadou, 2011), who can have a smooth academic record with the application of appropriate educational interventions (Trikou, 2012). Focusing on the part of learning difficulties which constitute the largest category of special educational needs (Pandeliadou & Botsas, 2007), differentiated instruction is proposed as an effective approach, since learning difficulties are one of the most basic reasons that affect the academic performance of students, but also make difficult for them to socialize in the school context (Bellou, 2019).

From the study of the relevant literature, it appears that differentiated instruction can respond to the needs of all students, since it is at the same time a creative and enjoyable process for both involved, teachers and students. Additionally, positive results have been found from its implementation in terms of the improvement student performance (Tsotsou, 2019).

Encouragingly, teachers seem to increasingly recognize the use of effective differentiation to meet the needs of each student and this is encouraging (Taylor, 2017). However, despite the fact that differentiated instruction seems to be an effective option, it does not seem to be applied often as it requires more preparation time and its implementation in the classroom is quite time-consuming (Papadakis & Ziskos, 2015). Additionally, the literature on differentiation points out that teachers are reluctant to implement differentiation in their practice and that few teachers are able to meet the learning needs of their students due to their limited understanding of differentiation and their lack of relevant training (Kovtiuh, 2017).

Indeed, there are reports from teachers about how challenging and difficult is to implement differentiated instruction and therefore, more research is needed to confirm the challenges that teachers face in using these strategies. Furthermore, there is little literature that

specifically investigates the effect of factors such as teachers' experience and qualifications about their perceptions of differentiated instruction (Shareefa et al., 2019).

According to the abovementioned, it is considered necessary to investigate the factors that prevent the implementation of differentiated instruction to students with learning difficulties, as well as those that contribute to the reinforcement of teachers' ability to implement it, as learning difficulties are a major problem encountered in Greek educational reality and is of great concern to parents and teachers (Tsitou, 2017).

The knowledge of these factors is expected to contribute to the adoption of differentiated instruction and its effective implementation if the difficulties are removed and the skills of teachers are strengthened in various ways. This is also the purpose of this paper, which attempts to investigate the perceptions of primary education teachers regarding the factors of implementing differentiated instruction to students with learning difficulties in the classroom.

## **2. Necessity of the Research**

From the study of the relevant research literature regarding the implementation of differentiated instruction to students with learning difficulties, specific findings emerge, which are presented below. Specifically, from the study of the Greek and international literature, it appears that in the field of differentiated instruction, issues related mainly to attitudes (Rontou, 2012; Mavroudi, 2016; Tatsioka, 2016; Mengistie, 2020), opinions, perceptions (Roiha, 2014; Tatsioka, 2016; Fotopoulou, 2017; Filippatou & Vendista, 2017; Davis, 2020; Moutlas, 2021) and teachers' intentions (Argyropoulou, 2018) regarding the implementation of differentiated instruction have been investigated.

Also, a relatively small number of studies examined the implementation of differentiated instruction strategies and the frequency of their use (Siam & Al-Natour, 2016; Psarianou, 2019; Papadopoulou, 2019; Tadesse, 2020), while other studies examined the level of understanding of the differentiated instruction strategies compared to the degree of their implementation (Ismajli & Imami-Morina, 2018; Bellou, 2019; Mengistie, 2020; Yetnayet, 2020; Moutlas, 2021), the factors that prevent the implementation of differentiated instruction (Roiha, 2014; Siam & Al-Natour, 2016; Mavroudi, 2016; Psarianou, 2019; Bellou, 2019; Papadopoulou, 2019; Mengistie, 2020; Yetnayet, 2020; Moutlas, 2021), the factors that strengthen it (Valianti, 2015; Fotopoulou, 2017; Argyropoulou, 2018) and the effects of differentiated instruction on students (Valianti, 2015; Papadopoulou, 2019). Additionally, research was identified that examined the understanding of the term differentiated instruction (Strogilos et al., 2017) and teachers' perceptions of some educational software designed for differentiated instruction (Cannon, 2017).

Moreover, the levels of education in which the issues of differentiated instruction were studied are, mainly, primary education (Roiha, 2014; Valianti, 2015; Mavroudi, 2016; Siam & Al-Natour, 2016; Cannon, 2017; Ismajli & Imami-Morina, 2018; Dinaki, 2019; Bellou, 2019; Papadopoulou, 2019; Davis, 2020; Mengistie, 2020; Tadesse, 2020; Yetnayet, 2020; Moutlas, 2021), followed by secondary education (Rontou, 2012; Filippatou & Vendista, 2017; Argyropoulou, 2018), primary intercultural education (Fotopoulou, 2017) and primary and

secondary intercultural education (Tatsioka, 2016).

In particular, factors that prevent the implementation of differentiated instruction include lack of resources (Mavroudi, 2016; Siam & Al-Natour, 2016; Mengistie 2020), lack of support from the administration (Mavroudi, 2016; Siam & Al-Natour, 2016) ) as well as from colleagues (Mavroudi, 2016) or from parents (Siam & Al-Natour, 2016), the structure of the educational system (Mavroudi, 2016), the lack of time (Roiha, 2014; Siam & Al-Natour, 2016; Bellou, 2019; Papadopoulou, 2019; Mengistie, 2020; Yetnayet, 2020; Moutlas, 2021), the insufficient training of teachers (Mavroudi, 2016; Papadopoulou, 2019; Yetnayet, 2020) in differentiated instruction (Valianti, 2015; Bellou , 2019; Mengistie, 2020), the lack of educational material (Roiha, 2014; Papadopoulou, 2019; Yetnayet, 2020; Moutlas, 2021), the physical environment in the classroom (Roiha, 2014), the diversity of the students and the large class (Yetnayet, 2020). Finally, the factors that strengthen the implementation of differentiated instruction include the readjustment of educational policy (Photopoulou, 2017), the cooperation (Valianti, 2015), the training (Valianti, 2015; Fotopoulou, 2017; Ismajli & Imami-Morina, 2018) and the support of teachers (Valianti, 2015).

Although the need to use differentiated instruction strategies for students with learning difficulties is likely to continue to increase as more and more students with learning difficulties are placed in inclusive settings (Gibson, 2013), a review of the research literature regarding the factors of implementation of differentiated instruction to students with learning difficulties in primary education shows that they have not been sufficiently investigated. Consequently, the need for further research in this field is imperative. Particularly, from the study of the Greek literature regarding the factors of the implementation of differentiated instruction to students with learning difficulties in primary education, a relatively small number of studies, especially in recent years, with related topics is found.

Specifically, the misconceptions regarding what constitutes differentiation in teaching practice, the limited implementation of differentiated instruction, as well as the confirmation of the effectiveness of its implementation in mixed ability classrooms point out the need to study and identify various factors or different variables that affect its implementation. Among these factors, there are also factors that prevent the implementation of differentiated instruction to students with learning difficulties, as well as those that contribute to the reinforcement of teachers' ability to implement it.

### **3. Theoretical Framework**

Differentiated instruction is considered a different way of thinking compared to a standard teaching method (Tomlinson, 2000; Evans-Hellman & Haney, 2017). It is an approach used to meet the diverse needs of students (Light, 2012). One of the elements of the diversity of students is learning difficulties, which are a developmental disorder, which shows a greater frequency in the school period and manifests itself as a special difficulty in various areas (reading, writing, spelling, mathematics), while based on the definition and the approach chosen each time, its occurrence rates within the student population are from 15% to 30% (Tzouriadou, 2011).

Specifically, within the context of learning difficulties studied in this paper, differentiated instruction is defined as an educational input that takes into account: (a) the readiness of students with learning difficulties to learn, (b) instruction that optimizes student learning, (c) teachers' response to variables through different types of instructional approaches, (d) curricula involving different instructional methods, and (e) continuous adaptation of curricula, procedures, learning materials, outcomes, and assessment (Siam & Al-Natour, 2016).

Therefore, the use of differentiated instruction in a diverse student population has led to the training and adoption of practices such as the implementation of differentiated instruction within traditional school structures (Ordoover, 2012). However, teachers, especially young teachers, often misinterpret differentiated instruction and they implement it as a form of "scaffolding" for weak students or as a teamwork strategy (Hertberg-Davis, 2009; Taylor, 2017). Furthermore, teachers find differentiation to be complex and difficult to implement (Weber et al., 2013; Taylor, 2017). Moreover, it seems to be routinely used without full consideration of its importance, while its implications are often misinterpreted (Taylor, 2017).

Additionally, according to Tomlinson's (2014) model, teaching experience (years of experience) and qualifications (education) are some of the variables associated with differentiated instruction. Specifically, a high correlation between teachers' knowledge and the implementation of differentiated instruction is noted (McMillan, 2011; Brentnall, 2016; Yetnayet, 2020), while gender seems to play a decisive role, since there is a significant difference between male and female teachers regarding the use of differentiated instruction (Tadesse, 2015).

Although, as Munro (2012) points out, differentiated instruction is recognized as an approach that meet the individual needs of all students, especially those with learning difficulties, and is increasingly considered as the responsibility of classroom teachers, differentiated instruction does not seem to be widely and frequently used (Tomlinson, 2003; Kiley, 2011).

Regarding the intention and attitude of teachers towards differentiated instruction, it is underlined that while teachers seem hesitant towards differentiated instruction, they do not refuse to use it, while their positive attitude towards it can be strengthened under some conditions/factors, such as the existence of supporting material, the reduction of teaching material, information about the positives of differentiated instruction, the flexible working time and curriculum, and the class management as an undifferentiated whole (Argyropoulou, 2018). In addition, there are teachers who have a positive attitude towards differentiated instruction and seem to have adopted several of differentiated instruction strategies, which, however, do not require special preparation time, such as flexible grouping (Mavroudi, 2016).

Using effective strategies can reduce the stress for teachers who are unfamiliar with the difficulties these students face. Therefore, the success of differentiated instruction depends on how well teachers are prepared to assess students' needs and adjust their instructional approach to provide the appropriate instructional context. The challenges of effectively teaching students with learning difficulties can be mitigated by providing teachers with the training and resources they need to implement differentiated instruction strategies. These resources include access to robust professional development and adequate staffing ratios to

manage the demands in inclusive classrooms. If differentiated instruction is implemented as intended, it can be a powerful tool for the success of all students. However, without proper support and resources teachers may lose faith in these strategies and write them off as another educational fad that will eventually die out (Gibson, 2013).

In particular, in countries where differentiated instruction has been implemented, it has been shown that teachers have great difficulty implementing differentiated instruction strategies, and especially sustaining their use over time. Key barriers to differentiation include limited preparation time, large classes, workload, lack of resources, teachers' lack of differentiation skills, and teachers' lack of motivation to differentiate (Yuen et al., 2005).

Additionally, according to Carolan and Guinn (2007), many teachers hesitate to implement differentiated instruction strategies in the classroom because they believe they lack time, administrative support, and necessary resources for professional development, while some teachers see differentiated instruction as another bureaucratic mandate heaped onto their already burgeoning workloads.

In general, differentiated instruction is considered an important but complex teaching skill that many teachers have not mastered and feel unprepared to implement (van Geel et al., 2019). Therefore, it can be a daunting task for teachers as it requires a new way of thinking about curriculum and teaching (Tobin & Tippett, 2014).

Specifically, the reasons given by teachers to justify the non-use of differentiated instruction in their classes for students with special educational needs and, therefore, for students with learning difficulties are the following:

- Planning and preparing for differentiated instruction are extremely time-consuming processes.
- It is not easy to implement different processes in the class for certain individuals, while teachers try to maintain other students on task, and at the same time manage the classroom.
- Simplifying the lesson content and slowing the pace may compromise the needs of higher-achieving students.
- The use of different approaches and different resources requires more attention to students with learning problems.
- Special support and making things easier does not prepare students for the 'real world' where few accommodations will be made for an individual's problems (Westwood, 2001).

## **4. Methodology**

### *4.1 Purpose and Research Questions*

The main purpose of the present study, which is part of a wider research, is to explore the perceptions of primary education teachers of all specialties in the Dodecanese (Greece) regarding the factors of implementing differentiated instruction to students with learning



difficulties in the classroom. In particular, this paper aims to investigate the perceptions of the sample regarding a. the factors that enhance teachers' ability implementing differentiated instruction in their classroom and b. the factors that hinder teachers' ability implementing differentiated instruction in their classroom.

This study tries to answer the following research questions:

1<sup>st</sup>: What are the perceptions of the teachers of the research sample regarding the factors that enhance teachers' ability implementing differentiated instruction in their classroom?

2<sup>nd</sup>: What are the perceptions of the teachers in the research sample regarding the factors that hinder teachers' ability implementing differentiated instruction in their classroom?

#### 4.2 Sample

The sample of the quantitative research was a sufficient number of teachers of all specialties, who teach in elementary schools of the Dodecanese in Greece. In particular, the research sample consisted of 174 primary school teachers, i.e. 12.3% of the total number of teachers of various specialties who teach in public primary schools in the Dodecanese.

Table 1 presents the number of primary school teachers in the Dodecanese based on the records of the Directorate Primary Education of the Dodecanese. Kindergarten teachers and special education teachers are not included in the table because they are not part of the population from which our sample was selected.

Table 1. Table of primary school teachers of Dodecanese

Code of specialty	Main specialty	Total
PE05	French teachers	17
PE06	English teachers	100
PE07	German teachers	20
PE08	Art teachers	44
PE11	Physical Education teachers	108
PE70	Teachers	1.022
PE79.01	Music teachers	42
PE86	Computer teachers	45
PE91.01	Theater teachers	28
PE91.01	Drama teachers	3
Total of all specialties		1.412

Approximately 12.3% of the total number of primary school teachers of the Dodecanese are used for this study. Specifically, about 15.4% of teachers, about 8% of English teachers, about 13.3% of computer teachers, about 3.8% of theater teachers, about 0.9% of physical education teachers and about 2.3% of art teachers responded. The questionnaires were distributed from February 13, 2021 to April 28, 2021.

#### *4.3 Description of Research Process*

The research was conducted within the framework of the quantitative research approach using an anonymous electronic questionnaire as the main research tool. Initially, a pilot survey was carried out from 25/01/2021 to 01/02/2021 and seven teachers of different specialties participated in order to ensure that the questionnaire is clear and understandable. The selection of the teachers of the pilot research was done in such a way as to ensure their similarity with the final sample, while these teachers did not participate in the main research.

After conducting the pilot survey, some small corrections were made in some questions and then the electronic distribution of the questionnaire started gradually to the schools via email on 13/02/2021. In addition, the questionnaire was also posted on social media sites concern primary school teachers, such as: "Primary school teachers", "Substitute teachers", "Substitute teachers in Dodecanese" and "Primary school teachers on Facebook".

The questionnaire had an introduction for the identity, the purpose of the survey and the approximate time required to complete it. It also ensured the anonymity of the participants and the possibility that the participant had at his disposal the results of the survey. Also, it was short enough to encourage the participant to complete it (Creswell, 2011). The teachers completed it online based on the instructions of each question and submitted it through the Google Forms. The research was conducted from February 13, 2021 to April 28, 2021.

#### *4.4 Research Tool: Formulation of the Questionnaire*

The questionnaire consisted of two groups of variables: The first group of variables included the demographic characteristics of the respondents, namely the independent variables. Specifically, questions with two or more alternative answers and an open-ended question with a short answer were used. The second groups of variables consisted of two ranking-hierarchy questions that investigate the factors that influence teachers' ability to implement differentiated instruction (8 factors).

Rodriguez's questionnaire (2012) was used to formulate the questionnaire. Two multiple-choice questions, the seventh and eighth questions, were used from the specific questionnaire, which were turned into ranking-hierarchy questions for the needs of this research. In addition, Rodriguez's (2012) questionnaire were translated by researchers and then given to an English teacher to make all the necessary corrections and improvements, and reverse translation was done. Finally, all the necessary adjustments were made to be used in this research.

#### *4.5 Data Collection and Analysis*

Data were collected using a questionnaire distributed through Google Forms. The responses to the questionnaire were processed using Microsoft Excel and IBM SPSS Statistics 20, performing descriptive statistical analysis. The research data were analyzed as follows:

a) General data of the group of variables, which included school district, gender, age, teaching experience, specialty, school's organization, qualifications as well as data related to training on special education or differentiated instruction. Frequencies and relative frequencies were calculated for the above variables which are the individual characteristics of



the sample.

b) The questions on the second group of variables are ranking-hierarchy questions for which the mean and standard deviation were calculated.

## 5. Results

### 5.1 Demographic Characteristics of the Sample

In relation to the composition of the sample of teachers who participated in the research, the following can be noted:

The highest percentage of participants work in schools located in urban areas (45.6%), while fewer teachers work in semi-urban and rural areas (36.8% and 17.2% respectively). Regarding gender, the sample is not evenly distributed as 2/3 of all participants are female teachers (69.5%), while 30.5% are male teachers. Regarding age, not all age categories are equally represented in the sample of the present study. The highest percentage (34.5%) is in the 31-40 age group, followed by the 41-50 age group (32.8%), the 30 and younger age group (27%), and finally, the 51 and 60 age group (5.7%).

Regarding the total number of years of teaching experience in education, the percentages were higher in the categories 0-10 years (51.1%) and 11-20 years (42.5%), while the smallest percentage (6.3%) included teachers with 21-30 years of teaching experience. Regarding specialty, it is noted that the highest percentage (90.2%) is related to teacher specialty, and this is reasonable since this particular specialty covers the largest percentage in primary education, followed by English teacher specialty (4.6%), while the percentages of participation in other specialties are also very low, such as computer teachers (3.4%), art teachers (0.6%), drama teachers (0.6%) and physical education teachers (0.6%).

Regarding school's organization, the highest percentage (60.3%) of teachers in the sample work in schools with 7-12 classes, followed by 36.2% who work in schools with 4-6 classes, and finally, only 3.4% work in schools with 1-3 classes. Regarding the employment status, the highest percentage (55.2%) is substitute teachers, followed by teachers who have a permanent teaching position (39.1%), and seconded teachers (5.7%). In terms of qualifications, it can be noted that 8% of teachers have an additional college degree, 29.9% of teachers have a master's degree, while only 1% of teachers have a doctoral degree.

As for training in the field of special education, a very high percentage (86.2%) had training in the field of special education. Finally, regarding training on differentiated instruction, a high percentage (69%) had trained on differentiated instruction.

### 5.2 Factors that Enhance Teachers' Ability to Implement Differentiated Instruction in their Classrooms

Table 2 presents the evaluation of the importance of factors that enhance teachers' ability to implement differentiated instruction to students with learning difficulties in their classrooms and specifically presents the means and standard deviations. The ranking based on importance of factors starting from the most important (1) to the least important (8).

Table 2. Table of means and standard deviations of the evaluations of the importance of factors that enhance teachers' ability to implement differentiated instruction in the classroom

Evaluation of the importance of factors that enhance teachers' ability to implement differentiated instruction in their classroom	M	SD
Administration/School leadership	5.7	2.060
Range of diversity in classroom	4.71	2.150
Availability of materials	3.71	1.932
Amount of planning time	3.51	1.686
Parent expectations	6.53	1.749
Support of other staff	5.38	1.829
Knowledge and experience	3.17	2.137
Staff Development (training/education)	3.29	2.126

### 5.3 Factors that Hinder Teachers' Ability to Implement Differentiated Instruction in their Classrooms

Table 3 presents the evaluation of the importance of factors that hinder teachers' ability to implement differentiated instruction to students with learning difficulties in their classrooms and specifically presents the means and standard deviations. The ranking based of importance of factors starting from the most important (1) to the least important (8).

Table 3. Table of means and standard deviations of the evaluations of the importance of factors that hinder teachers' ability to implement differentiated instruction in the classroom

Evaluation of the importance of factors that hinder teachers' ability to implement differentiated instruction in their classroom	M	SD
Administration/School leadership	5.25	2.325
Range of diversity in classroom	4.08	2.178
Availability of materials	3.37	1.909
Amount of planning time	3.18	1.997
Parent expectations	5.30	2.249
Support of other staff	5.25	1.872
Knowledge and experience	4.80	2.258
Staff Development (training/education)	4.76	2.377

## 6. Discussion

From the overall consideration of the individual findings, specific findings regarding the factors of implementing differentiated instruction to students with learning difficulties in the classroom emerge, which are presented in more detail below.

More specifically, according to the results of this study, in terms of the participants' perceptions of the evaluation of the importance of the factors that enhance their ability to

implement differentiated instruction in the classroom, the respondents consider as most important factors: the knowledge and experience ( $M = 3.17$ ), the staff development ( $M = 3.29$ ), the amount of planning time ( $M = 3.51$ ), the availability of materials ( $m = 3.71$ ), the range of diversity in the classroom ( $M = 4.71$ ), the support of other staff ( $M = 5.38$ ), the administration/school leadership ( $M = 5.7$ ) and finally, parent expectations ( $M = 6.53$ ).

So, teachers consider that the two most important factors that enhance their ability to implement differentiated instruction in the classroom are the knowledge and experience they have as well as the staff development. Whereas, they stated that the two least important factors are the administration/school leadership and parent expectations.

Indeed, experience and knowledge as well as staff development play an important role in teachers' decision to implement differentiated instruction in their classroom, while these two factors also affect its effective implementation (Filippatou & Vendista, 2017). Furthermore, in addition to staff development through trainings, the increase in available materials is a factor that strengthens the ability of teachers and, therefore, their intention to apply differentiated instruction (Argyropoulou, 2018).

In addition, other researchers (Ismajli & Imami-Morina, 2018) underline staff development through trainings as a factor that reinforces the implementation of differentiated instruction, as it has been found that it can contribute to the successful implementation of differentiated instruction in the classroom. Similarly, Papadopoulou (2019) emphasizes that training is an important factor that contributes to the implementation of differentiation, while Fotopoulou (2017) also points out the need for substantial training of teachers in differentiated instruction. At the same time, Valianti (2015) in addition to the training that notes as one of the factors that contributes to effective differentiation, also she mentions the support of other staff.

Regarding the perceptions of the sample for the evaluation of the importance of the factors that hinder teachers' ability to implement differentiated instruction in the classroom, the respondents stated that they consider as the most important factors: the amount of planning time ( $M = 3.18$ ), the availability of materials ( $M = 3.37$ ), the range of diversity in the classroom ( $M = 4.08$ ), the staff development ( $M = 4.76$ ), the knowledge and experience ( $M = 4.80$ ), the support of other staff ( $M = 5.25$ ), the administration/school leadership ( $M = 5.25$ ) and finally, the parent expectations ( $M = 5.30$ ). Therefore, participants consider that two most important factors that hinder their ability to implement differentiated instruction in their classroom are the amount of planning time and the lack of materials. While, the least important factors are the administration/school leadership and parent expectations.

The lack of time that teachers have to work individually with each student and to plan and design their teaching so that it meets the different needs of students is the most basic factor that makes difficult to implement differentiated instruction and this is a finding of our research, which agrees with the findings of another related research (Psarianou, 2019). Moreover, both the lack of time and the insufficient training of teachers in differentiated instruction are the most basic difficulties for the implementation of differentiated instruction and these findings are also confirmed by the findings of another related research (Bellou, 2019).

Furthermore, the lack of time, insufficient training and the lack of appropriate teaching materials are highlighted as problems related to the implementation of differentiated instruction (Papadopoulou, 2019). Also, Moutlas (2021), Roiha (2014) and Sakellariou, Mitsi and Konsolas (2018) mention the lack of time and materials as the biggest difficulties or challenges regarding the implementation of differentiated instruction, while Mavroudi (2016) notes among others the lack of materials, inadequate training, limited time and lack of support of colleagues and administration.

In addition, Yetnayet (2020) except for the lack of time and materials, also highlights the lack of training, as well as the range of diversity in the classroom as the main difficulties faced by teachers in their efforts to implement differentiated instruction. Furthermore, Siam and Al-Natour (2016) note the lack of time as one of the main challenges faced by teachers and, among other things, mention the lack of learning resources, as well as weak administrative and parental support. Also, Ismajli and Imami-Morina (2018) underline the lack of time and materials, as well as the insufficient knowledge of teachers, while the large classes that implies a wide range of diversity in the class hinders the effort of the teachers to implement differentiated instruction.

Finally, Rontou (2012) and Valianti (2015) underline that teachers' lack of knowledge makes difficult for them to achieve their goals for differentiation. The same findings are supported by Tadesse (2020), who, except for the lack of knowledge and training, also notes the weak support from the administration as well as Tatsioka (2016), who underlines that the lack of training and support of teachers are factors that make the task of implementing differentiated instruction in the classroom difficult.

## **7. Conclusion-Proposals**

Based on the findings of this research and the previous analysis, we can formulate the following conclusions. Regarding the perceptions of the participants concerns the importance of the factors that enhance their ability to apply differentiated instructions in the classroom, it appears that teachers consider as the most important factors: the knowledge and experience, the staff development (education/training), the amount of planning time, the availability of materials, the range of diversity in classroom, the support of other staff, the administration/school leadership and finally, parent expectations.

Additionally, in terms of the sample's perceptions concerns the importance of the factors that hinder their ability to implement differentiated instruction in the classroom, the teachers consider as the most important factors: the amount of planning time, the availability of materials, the range of diversity in classroom, the staff development (education/training), their knowledge and experience, the support of other staff, the administration/school leadership and finally parent expectations.

Regarding the practical implications of the research, it appears that it is necessary to train teachers to acquire the necessary knowledge related not only to differentiated instruction but also to special education (providing courses at undergraduate level, training actions of the Ministry of Education, etc.). In addition, it is also necessary to raise the awareness of teachers

through informing them about the way to use differentiated instruction and its benefits for students with learning difficulties (information from education authorities: ministry of education, universities, school counselors, school directors, etc.). It is also proposed to provide incentives for knowledge acquisition and training (linking incentives with professional development, development, recognition and reward of effort). Furthermore, it is also necessary to provide the necessary materials to teachers in order to implement differentiated instruction in their classes.

Regarding the proposals for further research, it is proposed to investigate the knowledge and the implementation of differentiated instructions and the challenges faced by teachers as well as the factors that help teachers to implement differentiated instruction at a national level in primary education in order to have the generalizability of the results. Furthermore, the above research is proposed to be carried out in other levels of education and on specific learning difficulty, using both qualitative methods such as interview and observation and quantitative methods in order to triangulate the results and finally, using a different methodological approach such as action research.

Finally, the limitations of the present research include the use of a one-dimensional approach to the subject (use of only a quantitative method), the geographical limitation, the small sample, the very small participation of specialties and the inability to complete the questionnaire in person due to the pandemic of COVID-19.

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