

Teachers' Attitudes and Beliefs on Differentiated Teaching in the Greek Kindergarten, Primary and High School: A Comparative Research

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Abstract

In the modern multicultural and multifunctional educational reality, differentiated teaching is a new and innovative pedagogical approach, of the whole learning process (Smit & Humpert, 2012), which respects diversity and meets the needs of all students (Valiandes, Koutselini & Kyriakides, 2011). The differentiation of teaching as an “anthropocentric” pedagogical proposal (Valiandes & Neophytou, 2017) promotes equality in learning opportunities and efficiency, enriches the cognitive level, while at the same time enables all students to experience success (Koutselini & Agathagelou, 2009; Valiandes, 2015). Concerning the teacher's crucial role in achieving the above, the training and development of teaching skills in the theory and practice of differentiation is a prerequisite (Valiandes, 2015; Koutselini, 2008). The purpose of this proposal is to investigate the teachers' attitudes and beliefs in the Greek Kindergarten, Primary and High School on the theoretical framework and practical implementation of differentiated teaching in daily teaching practice. The number of participants is 296 teachers working in kindergartens, primary and high schools in the region of Epirus. The methodology follows a quantitative research approach and the structured questionnaire was used as our research tool. The findings of the research showed divergences concerning the awareness of theoretical framework and the practical implementation of differentiated teaching to teachers of all levels. While the research findings are limited, although they highlight the need for further practical training on innovative and alternative teaching approaches at all levels of education in order to maximizing the learning outcomes and upgrade the educational quality.

Keywords: differentiated teaching, beliefs, teachers, kindergarten, primary school, high school.

1. Introduction

The element of “otherness” within the contemporary educational reality redefines and updates the role of the educator, putting it forward before the concepts of cosmopolitanism and diversity (Beck, 2009; Arvaniti & Sakellariou, 2014). In the educational reality urgent becomes the need for acknowledging the diversity of the students' population, manifesting the inadequacy to address it in a common manner which shall be effective for everyone (Tomlinson & Imbeau, 2010). Differentiation of instruction constitutes perhaps the most realistic proposal on the demand for implementation of child-centered individualization practices and it seems to powerfully correspond at the need for educational effectiveness within modern school classes (Vastaki, 2010).

The necessity as well as the dictates of Pedagogical Science put forward differentiated instruction, not as a panacea but as a channel of connection between teaching and social justice along with an occupational moral commitment in order for the obviation of students' inequities and maximization of cognitive results to be accomplished with regards to all (Valiandes & Neofytou, 2017). According to Tomlinson (2003) "differentiation" stands for adaptation of teaching so that it can meet all different needs of students. It is about the reformation of the cognitive process by the implementation of alternative instructional methods in order for it to become satisfying towards cognitive readiness, requirements and cognitive profile of the students. It is stressed out, however, that differentiated instruction is not a ready-to-apply strategy; it is not merely "another" educational model, but moreover it is, in fact, a "different" way of thinking on the actual educational practice, which affects the educators' way of approaching instruction, learning rules within the class, management of teaching time, implementation of the curriculum and evaluation of teaching assignments (Tomlinson, 2014). Differentiated Instruction aims at building knowledge and seeks the activation of incentives towards learning and the formation of cognitive and meta-cognitive abilities (Koutselini, 2008). Differentiated Instruction is a process of optimal level, that requires flexibility, alternativeness and innovation towards teaching, adhering to the curriculum and presenting knowledge to the students, by taking under account diversity in terms of knowledge, experiences, demands, potentiality and interests (Tomlinson, 2014-Santamaria, 2009).

- There are divergences concerning the awareness of theoretical framework and the practical implementation of differentiated teaching to teachers of all levels.
- The practical application of differentiation inside the daily educational process is limited.
- Teachers reported the most prevalent inhibitions for the practical implementation of differentiated teaching.
- The eagerness of the educators on both levels of Education to be retrained and to attend conferences and training programs concerning differentiation issues.

So, the need for redetermination and upgrade of the educational quality emerges, through the quest for pioneering teaching alternatives, reshaping and re-orientation of school and learning, no less than the improvement of expertise, training and retraining of the educators. The effectiveness of the teaching assignment is inextricably connected to and enhanced by the professional evolution of the educators, the constant self-reflective as well as participative orientation of their retraining and the espousal of appropriate pedagogical methods and teaching practices that focus on all students.

Diversified ways of approaching each student or group of students by the educator, constant evaluation and flexibility during grouping, constitute basic elements of differentiated instruction, a key feature of which is that the educator through their teaching style addresses each of the students as a separate biography and not as a plain copy of the same image, aiming thus at fulfilling every student's cognitive needs (Koutselini, 2006).

Differentiated instruction, under the provision of a high-quality teaching, offers the educators the ability to form and implement a socially orientated teaching, based upon the principles of equality by guaranteeing equal cognitive opportunities (Porter, 2014).

On the basis of differentiated instruction the educators enrich their knowledge on educational strategies, acquire experiences, exploit alternative and innovative educational approaches, and optimize their role on the correspondence route of contemporary educational reality demands (Tomlinson, 2014).

Regarding the shaping and organizing of their educational process within the context of differentiated instruction, educators must make adjustments on the content of the curriculum (as to what they are to be teaching), the procedure (as to how the students shall process the newly

presented knowledge) the final outcome (what the students actually know, the result of teaching) and the cognitive domain (atmosphere within the classroom, spatial configuration, ways of class-work, the settings' aesthetics, etc.) (Koutselini & Pyrgiotakis, 2015).

Regarding the implementation of differentiated instruction, the educators cease to be strictly orientated towards the content and the cognitive object, the fulfillment of cognitive gaps and dealing with shortfalls; they focus on the needs, interests and individual profile of all students (Koutselini & Patsalidou, 2015). Transition from theory to action has cultivated skills on formation and implementation of differentiation, as well as has endorsed self-esteem, satisfaction and enthusiasm among the educators, all these stemming from the maximization of cognitive outcomes (Stavrou Erotokritou & Koutselini, 2016). Self-reflection of the educator regarding the shaping and actual implementation of differentiation has led to a thrust on the evolution of awareness, concern and drilldown of the cognitive path, cultivation of meta-cognition towards educational planning as well as on the effectiveness of educational practices. Through a research that was conducted on the effectiveness of the implementation of differentiated instruction in mixed-ability classrooms, the educators reported that after implementing differentiation, they concluded that they had further developed and cultivated their own skills of analytical shaping of teaching (Valiandes, 2015).

During the implementation of differentiated instruction, the educator holds a multi-dimensional role which is eminent for its creativity, adaptability, and acknowledgment of students as being individual entities (Tomlinson, 2014).

Based on the above, the role of the educators is readjusted under the prism of them being conveyors of changes which are possible to be accomplished through reforms regarding the educators' initial training, introduction of new curricula, but also the actualization of retraining programs on the purpose of a more effective correspondence of the educator towards the ever changing social, cultural and financial demands (Sakellariou, 2002: 13).

On the present study it is attempted that the aspects of elementary and Secondary Education teachers are investigated, in relevance to the theoretical awareness but also to the practical implementation of differentiated instruction within the day-to-day educational practice. A wide range of studies scrutinize the educator's attitude on issues concerning teaching and learning, teaching of specific cognitive objectives, communication and interaction, the pedagogical atmosphere itself (Gritzios, 2010). Attitude, as a psychological characteristic of human beings, manifests one's way of acting within the social domain, deeply affected by stereotypical beliefs and constituting of cognitive, emotional and behavioral information related to the attitude's object, and can be assessed through cognitive, emotional and behavioral self-reported responses (Cheung, 2009).

The basic axis of our research thus, is to establish whether or not the attitudes of the instructors of both educational levels contain knowledge about the philosophy and the theoretical background of differentiated instruction and, if such a data is showcased, there will be an attempt to evaluate the degree on which it is implemented within day-to-day educational process.

2. Methodology of the research

2.1 *Purpose of the research*

The following investigational approach endeavors to investigate on the attitude of primary and Secondary Education teachers towards the theoretical framing and practical implementation of differentiated instruction in the daily educational praxis.

2.2 Investigational inquiries

More specifically, the investigational inquiries of the current study pertain to:

- On what degree are the Primary and Secondary Education teachers aware of the theoretical context of differentiated instruction?
- Which is the degree of practical implementation of differentiated instruction within Kindergarten, Elementary School, Junior and Senior High School of Greece?
- On which educational domains is differentiated instruction more extensively implemented?
- What would be the limiting factors of implementing differentiated instruction on the educational praxis?
- What would be the proposals of the educators themselves about their retraining on differentiation issues?

2.3 Sample

Teachers of Primary and Secondary Education participated on the research, all of which hold positions on schools of the Epirus region, Greece. In particular, of a total of 296 subjects, 163 were Primary Education teachers – 75 Kindergarten educators and 88 teachers – while the remaining 133 teachers serve in the Secondary Education – 70 in Junior High Schools and 63 in Senior High Schools of the sampling region (Figure 1). For the extraction of the control group the technique of random sampling was used, according to which every one of the population subjects has the same probability of being selected.

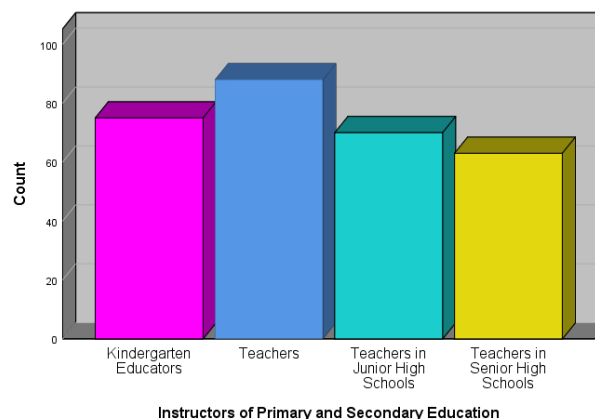


Figure 1: Research Sample

2.4 Period of the research conduction

The research was carried out from May 2019 to October 2019.

2.5 Limitations of the research

At the case of the current study, the main limitation is the fact that the sample was taken only from one Greek region, that of Epirus.

2.6 Means of data collection

A structured questionnaire was used as a means of assessment, consisting of “closed-type” as well as some explanatory “open-type” questions and was arranged on the basis of the following four (4) categories:

- (a) Demographics of the control group,
- (b) Retraining of the educators,
- (c) Familiarization with differentiated instruction,
- (d) Implementation of differentiated instruction.

The duration of filling out the questionnaire would not exceed 15 minutes. After the forms were collected their encoding took place, while their statistical processing was conducted with the use of SPSS v25.0 for Windows statistical program. The statistical analysis of the data was done with the use of Descriptive Statistics-Correlations and Cross tabulations which was chosen as the most appropriate, regarding the specific investigational approach.

2.7 Presentation of the study results

2.7.1 Demographics

Regarding the sample profile, it is established that from a total of 296 educators, 65.3% were of female gender while the remaining 37.7% are males. In particular, per educational level, 81.2% of the Primary Education teachers are women whereas regarding the Secondary Education teachers 51.4% are men while 48.6% are women. In terms of age, the majority of the subjects belong in the 41-50 group comprising thus 40.1% of the sample. Within Primary Education the majority refers to 31-40 years of age (34.3%) and 41-50 years (34.9%). Within the Secondary Education level, 54.2% belong to the 51-60 group and a 59.4% belong to the 41-50 years group, in terms of age. From the research it is also shown that within Primary Education the teachers that hold a Masters’ Degree (PGCE- Post Graduate Certificate in Education) comprise a 59.4% of the sample, as opposed to the Secondary Level teachers of whom a mere 12.2% have completed any post-graduate studies (Table 1).

Table 1. Level of studies of the sample subjects

Level of Studies				
	Primary Education		Secondary Education	
	Valid Percent Kindergarten Educators	Valid Percent Elementary School Teachers	Valid Percent Junior High Teachers	Cummulative Percent Senior High Teachers
Second Degree	0.45	0.75	0.8	1.1
Masters’ Degree	26.2	33.2	12.2	1.1
PhD	1.3	2.1	0.45	0.75
Total	100.0	100.0	100.0	100.0

2.7.2 Retraining of the educators

Considering the questionnaire category that refers to the Retraining of educators, the majority of the sample, on the enquiry whether or not do they wish to undertake further training on issues concerning their work, responded “always” by a 54.6%, and “frequently” by a 29.3% - a respectable amount so to speak. In relevance to whether or not do educators attend conferences or seminars that regard education, a 34.5% replied “frequently” and a 32.6% “occasionally”. Regarding the ways in which the educators are informed about upcoming conferences, seminars or training courses, the vast majority of the educators answered “via service” (93.5%), “via Internet” (70.2%), “by friends, colleagues or kin” (56.8%), “via daily press” (13.2%), “via trade union” (13.5%) and “via media” (4.6%). Regarding the reasons that incite the educators in attending conferences, meetings or training seminars, the majority of the sample (54.9%) reported as their first choice being the desire to enrich their knowledge on teaching, second choice was reported to be the need of adding qualifications on their résumé thus facilitating their professional evolution (23.2%), their third choice was that attending seminars is compulsory by their service (13.2%) and their fourth choice was reported to be the eagerness to improve their social and professional intercourse (8.7%). Regarding the question of who would be the appropriate training provider for educators, the majority responded (31.3%) the Institute for Educational Policy and 29.4% from University teachers specializing in educational issues. Regarding the frequency of teachers wishing to undergo retraining, 35.3% of them reported every quarter. Completing the questions in this category of the questionnaire, in the question about the format that teachers would like their retraining to have the majority (53.4%) said they would like to attend a training program in which the theoretical framework will be taught but will includes workshops and (36.8%) would like to attend sample tutorials (Figure 2).

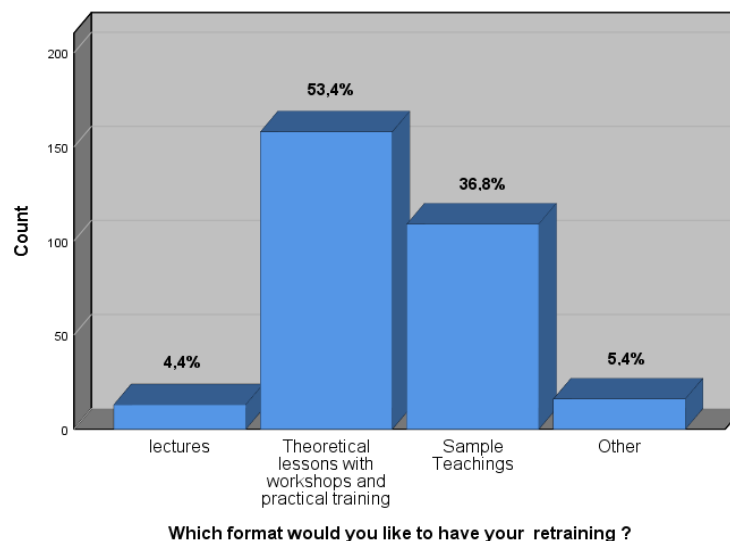


Figure 2. Format of teachers’ retraining

2.7.3 Familiarization with differentiated instruction

Regarding the third inquiry of the questionnaire which refers to the extent of the educators’ familiarization with differentiated instruction it seems that the participants are quite knowledgeable of differentiated instruction in a percentage that reaches 54.8%. However, the Primary Education teachers, to a remarkable 89.6% are up-to-date with differentiated instruction, whereas 83.2% of the Secondary Education teachers possess no such awareness (Figure 2).

Basic resources of acquiring information about differentiated instruction on account of the educators, are: seminars and conferences (74.4%), internet and pertinent sources (67.9%), articles that concern the issue (61.9%), books (60.1%) and finally, university lectures (47.0%). Out of the Primary Education teachers, a high percentage of them are aware on differentiated instruction, particularly 81.6% of the Kindergarten educators and 82.4% of the teachers. Secondary Education teachers showed no awareness related to differentiated instruction, except for a 10% of them, of which 5% are within the philologists' territory followed by a mere 2%, belonging to the territory of theologians.

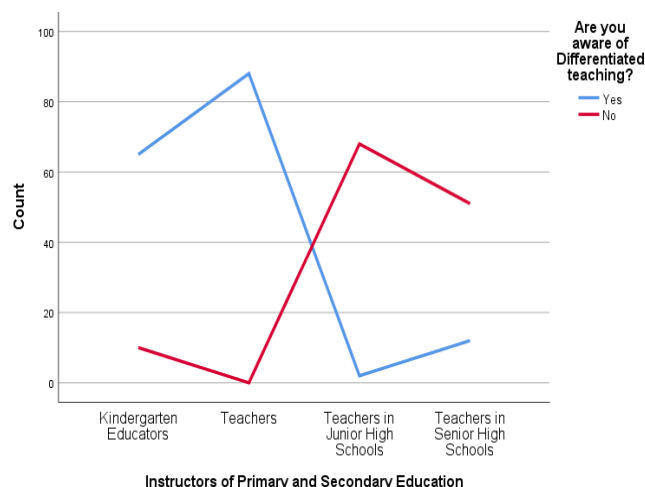


Figure 3. Instructors and awareness of differentiated teaching

2.7.4 Implementation of differentiated instruction

With regards to assessing the degree of implementation of differentiated instruction, our study shows that of the 168 educators who reported being adequately aware not only of the theoretical context of differentiated instruction but of its practical actualization as well, only 6 (2.3% that is) always implement it. The main reason to such a limited practical implementation of differentiated instruction within the day-to-day educational process is reported to be the scarcity of teaching time (47.4%); the replies of the sample subjects are nonetheless listed below, in terms of the reasons that inhibit practical implementation of differentiated instruction (Table 2).

Table 2. Reasons leading to limited implementation of differentiated instruction

Reasons leading to limited implementation of differentiated instruction	Percentage (%)
Scarcity of teaching time	47.4%
Following a familiar teaching model	42.5%
Preoccupation about parental reactions	11.4%
Feeling of insecurity about the outcome of teaching	13.4%
Inability of the students to work as a team	4.3%
Lack of awareness on collaborative processes	4.1%
Scarcity of supportive infrastructure	3.9%
Demanding preparation	3.4%

Regarding the inquiry relevant to which school subject the educators chose to apply differentiated instruction on, it was established that concerning Primary Education, the subject of Vocabulary (Glóssa) was favored by 91.5% of the sub-group, while with regards to Secondary Education sub-group, the subject of History (Istória) was preferred to an amount of 65.7%

(annotating however that the differentiation was accomplished on the terms of the conduction of a project – regarding 80% of the relevant responses).

3. Conclusive discussion

In the present study the aspects of Primary and Secondary Education teachers were evaluated, concerning the theoretical contextualization as well as the practical implementation of differentiated instruction in the day-to-day educational praxis. More particularly, from the processing of the research results, it was established that the majority of Secondary Education teachers pertain to the age group of 51-60 years and this is due to the non-renewal of the educational personnel over the last years. Financial crisis along with the increased rate of educators' quietuses without the parallel existence of a policy on fillings by permanents on one side, and the continuous hiring of supply educators of older age- an aftermath of high unemployment rates – on the other, provide a clear explanation of the fact that mainly Secondary Education teachers pertain to older age groups than the Primary Education teachers (Metochianaki, 2017; Papadimas et al., 2016).

A deduction of the current research is the recording of a comparatively limited awareness on the theoretical context as well as on the practical implementation of Differentiation among the Secondary Education teachers towards their Primary Education colleagues. This conclusion is directly dependent upon investigational data which concern the pedagogical and educational expertise of the major core of Secondary Education teachers – philologists, mathematicians and physicists – whose University Curricula on the respective Departments are, preponderantly, incapable of ascertaining their pedagogical and educational proficiency since most Curricula are structured mainly on the body of explicit and specialized scientific discourse relevant to the studies subject.

Investigational data clearly stressed out the limited practical application of differentiation inside the daily educational process even by those educators who reported being fully aware of not only the practical framing of differentiated instruction but of its implementing context as well. The aforementioned conclusion is confirmed by numerous worldwide studies, which accentuate the remarkable deviation that is observed between the positive aspects of the educators and the actual implementation of differentiated instruction (Philippatou & Ventista, 2017; Nicolino, 2007; Ordober, 2012; Robinson, Maldonado & Whaley, 2014; Wan, 2016, 2017; Wang et al., 2008; Wertheim & Leyser, 2002).

Deficient training of educators on issues concerning differentiation was represented as a fact in the current study which is something that converges with other investigations in which the training and re-education of educators on differentiation issues comes forward as of crucial importance in order for the educators to be able to better respond at the contemporary educational reality demands (Papazoi, 2016; Mcleod & Robert, 2016).

From the present research surfaced the desire of the educators to participate in retraining programs of not as much theoretical as mainly practical content that involves practical lessons and sample teaching. Continuous renewal and self-improvement towards the empowerment and endowment of the educator's modern role seems to be achieved through procedures that comprehend an experiential character and practical implementation, by no means through only lectures and theories.

From the study it was established that the Secondary Education teachers possess limited knowledge about differentiated instruction. This is a fact which comes in absolute alignment with the investigatory results of Rodriguez (2012) who reports the deficient familiarization of the Secondary Education teachers on differentiated instruction methods, but is also in accordance with the research conducted by Minke et al. (1996), Logan (2011), Rodriguez

(2012) and Joseph (2013), where the incapacity of the majority of Secondary Education teachers to implement differentiated instruction is underlined.

Shortage of preparation time, exacting organization of teaching realization, lack of guidance, limited degree of collaboration among the educators as well as of the cooperation between educators and parents, difficulty in groundwork and material accommodation along with the absence of supportive means, all these were hereunto reported as the most prevalent inhibitions. These findings are in full accordance with investigational data that depict the factors leading to limited implementation of the differentiated instruction (Humphrey, Bartolo, Ale, Calleja, Hofsaess, Janikova, Mol Lous, Vilkiene & Wetso, 2006; Robinson, Maldonado & Whaley, 2014; Ruys, Defruyt, Rots & Aelterman, 2013; Wu, Wan & Wong, 2015; Wan, 2017). However, one of the vital presuppositions for implementing differentiated instruction is the formation of appropriate supportive material towards the conduction of activities – prioritization worksheets, graded difficulty assignments, etc. – a quite demanding and time-consuming task (Christensen, 1993; Valiandes & Koutselini, 2008). For the implementation to become practically effective, anything trivial, conventional and easy is rejected while time, devotion and patience are required (Valiandes & Koutselini, 2008). Among the reasons justifying the moderate or even low level of implementing differentiated instruction, the educators argue that they usually follow a teaching style which is more familiar to them, whereas, in fact, they are simply unaware of the actual process of implementing differentiated instruction (Yenmez & Ozpmar, 2017). Lack of motivation is also a significant inhibiting factor towards the comprehensive implementation of differentiation and this is a datum which is by investigative means confirmed by Adlam (2007), who accentuates it as being a key prerequisite.

The eagerness of the educators on both levels of education to be retrained and to attend conferences and training programs concerning their educational work and further orientation on differentiation issues is established as an important finding in the current research. This fact aligns perfectly with the results of studies which bring forward the insufficient informing of the educators on issues regarding differentiation and their desire to be more comprehensively trained (Logan, 2008; Nicolae, 2013; Sakellariou & Mitsi, 2017, 2018).

However, from the present research it becomes obvious that the more the educators' age increases, the more their interest on being retrained about issues concerning innovative instructional approaches, decreases. Studies carried out by Kirkcaldy and Maritn (2000), Cross and Carroll (1990) and Kinnunen, Parkatti and Rasku (1994) attest that older educators possess a lower degree of occupational well-being since they experience higher amounts of work stress, show symptoms of physical fatigue without relishing social recognition, present diminished professional capability, stick to stereotypical beliefs that concern aging professionals as well as their scornful attitude towards anything groundbreaking and alternative.

An investigation area was also the experience and level of studies of the educators with regards to the difficulties they came across during the implementation of differentiation. It was discovered that educators with occupational experience and post-graduate studies faced a shorter number of difficulties on implementing differentiated instruction. According to the study of Rodriguez (2012), the span of knowledge as well as educational experience, are prerequisites crucial to the successful implementation of differentiation. It was also recorded that educators who have completed an MSc curriculum apply differentiated instruction on the day-to-day educational praxis more frequently, as it is established by the research of Affholder (2003), on which it was manifested that differentiated strategies are put into action by the most experienced of the educators who are fully aware of the curriculum's content and who have been adequately trained upon implementing alternative strategies and teaching techniques. In the current study, nonetheless, the limited amount of post graduate studies' completion among the Secondary Education teachers sub-group emerged as a fact. Post-graduate titles seem to be held by the educators who originate from the positive sciences' field, a fact that could justify their inadequate

knowledge on issues of pedagogical and teaching approach. Pedagogical and teaching effectiveness, as it turns out by the research, is not evaluated as a qualification on the degree that is required in order for them to be placed in work and which the educators themselves would desire towards their appointment in Secondary Education faculties (Liakopoulou, 2009).

The findings of the present research but of previous investigational data as well (Sakellariou & Mitsi, 2017, 2018; Yenmez & Ozpmar, 2017; Robinson et al., 2014) record the satisfaction level of the educators from the implementation of differentiated instruction; they clearly report that they would be keen on implementing it again in the future (Sakellariou & Mitsi, 2017, 2018; Aftab, 2015).

The greatest amount of pre-school and school educators, as established by the current research, chose to implement differentiated instruction on the subject of Vocabulary (Glóssa). International studies on the implementation of differentiated instruction report that a linguistic subject is more favored since it provides opportunities of developing multiple skills and offers a practically infinite range of activities planning towards mixed-abilities students (Zola, 2017; Boeve, 2009; Geisler et al., 2009). Within Secondary Education, on the restricted amount where differentiated instruction was implemented, such an action would take place among only the philologists, concerning the subject of History (Istoría), with the annotation that on the vast majority of cases the implementation was conducted in the context of actualization of a certain project. It is frequently observed, through research, among the educators to claim that they do implement differentiation only by just teaching with a different style, by simplifying the material or even by altering their teaching in a variety of ways (Vlachou, Didaskalou & Voudouri, 2009; Valiandes, 2010; Koutselini, 2008; Blozowich, 2001) elements that absolutely do not reflect the philosophy of differentiated instruction.

4. Conclusion

Finally, the current investigative study evaluated on the attitudes of Primary and Secondary Education teachers regarding the theoretical framing and practical implementation of differentiated instruction within the daily educational praxis, an issue that raises remarkable investigatory interest among the scientific and educational community of Greece. The investigational data of the study clearly accentuated a significantly deficient awareness and knowledge of Secondary Education teachers in comparison to their Primary Education colleagues, concerning the theoretical and implementing context of differentiation. In completion of the hereunto study, we strongly propose the provision of incentives upon the educators on the purpose of them to be further informed, to participate, and to be retrained towards the reimbursement of their educational task. In addition, continuous re-educating of the Primary Education teachers on differentiated instruction is vital. It is of crucial importance, on behalf of the State that instructors of every educational level are provided with appropriate training upon contemporary educational approaches in order innovation and alternativeness that aim at strengthening the effectiveness of teaching and learning, to be promoted. It is suggested that prospective educators regardless of field of expertise, regardless of educational level, should be trained on a practical ground towards issues of differentiating the educational process so as to be capable of connecting theory to the actualization of teaching itself. Lastly, an additional investigatory perspective could be the one anchored on the thesis of proposals and hypotheses in order the State and competent Bodies to be organized on the common goal of re-orientating their attitude towards the direction of enhancing their effectiveness, through the continuous training and informing of the educators on issues that concern their educational work.

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