FROM CONCEPTIONS TO PRACTICES OF PEDAGOGICAL DIFFERENTIATION IN BASIC EDUCATION

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Abstract

At the present time, it is evident the diversity of students who attend classes in our schools. Diversity in knowledge, in the field of language, in the styles and rhythms of learning, in the competences and interests, leads to the need for innovative teaching practices that respect these differences and gives everyone the right to educational success.

According to this diversity that characterizes the current school context, a fundamental question emerges: what is and what should be the role of the teacher?

This study aimed to inquire the conceptions and practices of Portuguese teachers of the 1st and 2nd Cycle of Basic Education on pedagogical differentiation.

In accordance with the aim of the study, it was used a methodology of a quantitative nature, with a questionnaire survey as the data collection technique. The data analysis was processed with Statistical Package for Social Sciences v23 software.

In summary, the analysis and discussion of the results allow us to conclude that, although the majority of respondents refer to implement pedagogical differentiation devices and to plan considering the diversity of students (as advocated in the literature), the practices indicated by the teachers as being developed in the classroom suggest that only a small percentage of these teachers do it.

Keywords: Pedagogical differentiation; Conceptions of teachers; Teaching practices; Educational success.

1 INTRODUCTION

Presently in school, it is evident the diversity of students in the classroom. If we observe the classrooms, there will be multiple differences among the students, some of them easily perceived, such as gender, age, nationality, culture and mother tongue. Other differences may be not so easily understood and require a deep knowledge of the student, such as motivation, representations and expectations regarding learning and the school, as well as the student's greater or lesser availability to learn and the greater or less self-confidence in their ability to learn. Students who differ in terms of socioeconomic background and family support, learning interests and needs, cognitive abilities, and even learning styles, that is, how they process the learning process and how they behave in learning situations, will also be observed. [1] [2] [3]

This diversity appeals to new, attentive and critical teachers' views, leading to the need to take into account individual differences in the context of the classroom. Nonetheless, the question teachers face the most is: how to do it? How to differentiate teaching for so many different students, ensuring their school success? Which strategies should be preferred?

Knowing the students in depth, knowing how to organize the teaching-learning process so that everyone can learn with quality and have progress at their own pace, as well as evaluate them in a differentiated way, are requirements, but also challenges, for the quality of the teacher's performance and the success of students. On the other hand, the existing literature reiterates that teachers' conceptions influence both the way they teach and the quality of students' learning. [4]

In this context, it appears as a general objective of the study to research the concepts and practices of pedagogical differentiation of teachers in the 1st and 2nd Cycle of Basic Education (CEB). In accordance with this objective of the study, the following research questions were identified:

1 What is pedagogical differentiation?
2 What is the purpose and relevance of the teaching-learning process?
3 What are the constraints identified by teachers in the implementation of practices of pedagogical differentiation?

4 What strategies of pedagogical differentiation do teachers use in their practices?

5 What are the evaluation practices developed by teachers?

6 Is there a relation between the practices of pedagogical differentiation and the conceptions presented by teachers?

As a result of the research questions, the study's specific objectives are:

1 Describe the conceptions of teachers of the 1st and 2nd CEB on the process of pedagogical differentiation;

2 To identify the practices of pedagogical differentiation enunciated by these teachers;

3 To compare the conceptions of the teachers about the processes of pedagogical differentiation with the practices enunciated.

It is now needed to summarize the main ideas derived from the theoretical foundation and from the literature review.

Pedagogical differentiation consists of making the curriculum accessible to all students, respecting the time and the way each child has to learn, using meaningful strategies and mechanisms. [5] This implies breaking with the idea of the same lesson, with the same exercises for all the students at the same time, replacing it with a form of work organization that contemplates different strategies, in order to place each student before a favorable learning situation. [6]

The differentiation of the teaching-learning process is fundamental to the educational success of the students, since it contributes to a strong motivation of the students and, consequently, to a positive classroom climate. In addition, teachers develop a student-centered intervention, considering, among other characteristics, the students' rhythms and learning needs, as well as their interests. Pedagogical differentiation also allows a better follow-up of the student's course and enables a fairer evaluation process, taking into account not only the student's starting point, but also his/her effort to achieve the objectives proposed. [1] [4] [7]

Although it is evident today in the discourse of teachers and others responsible for teaching the need to differentiate teaching and the associated advantages, pedagogical differentiation is still little considered in teachers' practices. The teacher's pedagogical culture focuses more on the way how it is taught than in the way it is learned. [4] In this regard, differentiation strategies are essential to shift the focus from teaching to learning. [8]

The answer to the characteristics and educational needs of the students should be guided by principles that contribute to an effective differentiation of teaching processes, namely:

- flexibility in the process of pedagogical intervention, taking into account as teachers and students understand that time, materials, teaching methodologies, ways of grouping students, ways of expressing and evaluating learning are tools that can be used in multiple ways to achieve learning objectives;
- effective and continuous assessment of student needs. Differences among students are expected and analysed as a basis for work planning, with a close relationship between assessment and educational intervention;
- flexibilization in the organization of work groups according to the objectives and activities to be developed;
- the adequacy of school tasks. Differentiation does not presuppose different activities for each student, but rather a flexible and adequate management of the challenges to be proposed to the students;
- close collaboration between students and teachers within the framework of the teaching-learning process. [7]

The implementation of the curriculum presupposes different scopes of teacher intervention. The teacher must be able to act in the management and the differentiation of the curriculum, making decisions regarding the objectives and contents to be developed, as well as the planning of teaching strategies that contemplate the diversity of needs, interests and individual characteristics.
The elements of the curriculum susceptible of differentiation are the contents (what), the process (how) and the products (the final results of learning). [2]

In terms of content, these can be differentiated in terms of value or focus on certain concepts or skills that teachers considers to be more meaningful, according to the needs of their students. The selection of contents should therefore be based on the results of the students’ diagnostic evaluation.

Regarding the process, this is the way each student learns a given competence, which is variable from student to student due to different factors. Thus, although the contents to be taught are the same, the teacher can adapt the process used, modifying it according to the initial situation and the progression of the students, for example, adjusting the degree of complexity of a task or of support provided to the student.

Regarding the products, such as portfolios of student work, a project to finish a thematic unit or even a challenging test, they reflect what students have learned and are able to apply.

In short, teachers can differentiate content, processes and products according to the receptivity, interests and learning profiles of the students, using a set of pedagogical strategies.

The teacher who implements pedagogical differentiation assumes the role of facilitator, in that it establishes differentiated learning opportunities, organizing the learning process, based on a flexible management of time, content, materials, adapting activities and modalities respecting students’ rhythms and learning styles and involving them in the regulation of their own learning. [2] In addition, the teacher assumes the role of collaborator, in the sense that he develops his work in cooperation with the students (encouraging them to cooperate with each other), their families and other teachers. [2] [7]

Diversity of students requires that the school does not just offer equal opportunities for access to education, but also presents a diversity of responses in the teaching-learning process.

Thus, for pedagogical differentiation to take place, it is necessary to put together a structure of pedagogical organization in the classroom, in the organization of materials, activities and tasks, the organization of time and space. [9] Only then, the teacher is able to identify and implement the teaching strategies that best fit the students' learning strategies.

Some pedagogical strategies that facilitate the differentiation of the teaching-learning process are:

- the planning of tasks / activities, jointly, by the teacher and the students;
- the establishment of work contracts with students, when appropriate, to differentiate learning objectives, syllabus content and the type of work to be developed through short and medium term work plans (daily, weekly and/or biweekly plans);
- the differentiation of support materials, in particular the creation of files and different working guides, and making them available to students for autonomous use;
- the organization of space in order to allow the differentiation of the activities and their modalities of realization (individually, in pairs, in small groups and in collective);
- the differentiation of teaching-learning strategies, namely through work on projects, autonomous study, the time of individual support by the teacher for the students and the tutorial support of colleagues;
- the differentiation of the evaluation of the learnings carried out by the students, in particular the modalities, such as formative evaluation (which also includes self-assessment and cooperative evaluation), and evaluation products (e.g., through portfolios of students' work or a test challenging for the student). [1] [6] [7]

Due to the teacher's role in the implementation of pedagogical differentiation provision, difficulties arise in putting into practice some of the strategies mentioned above.

These difficulties can be related to the management of the program and its extension, the orientations of the educational institution or the class size, since, in this respect, the larger the class, the greater the number of students with different characteristics and learning needs that the teacher should respond to. [4] [6]

Another constraint may be the lack of human resources, didactic resources or space. The existence of a teacher of educational support, as well as teaching materials for autonomous use of the students, allows the teacher to be freed to support the students who, at any given moment, need help. The implementation of strategies of pedagogical differentiation in which the students carry out diverse
activities adapted to the capacities and needs of each one presupposes an organization and some resources of support to the learning substantially different of the expository and simultaneously teaching. [6]

The difficulty in implementing strategies of pedagogical differentiation can also be related to time management to plan and implement a differentiated teaching-learning process. Planning for differentiation requires the teacher to spend time getting to know their students, as well as in the construction of didactic resources.

In addition to these factors, the pedagogical practices depends on personal factors, such as teaching experience, knowledge and the degree of confidence and security in the procedures adopted. [4]

Finally, it should be pointed out that, since the students have different characteristics and different learning paths (both at the level of contents and at the level of the processes), in order to have equity in the evaluation process, it should also be considered the differentiation of evaluation. [1]

A differentiated teaching-learning process assumes an effective and continuous evaluation, which privileges the diagnostic and formative evaluation, since it is evaluated not to classify, to discriminate, to select, to penalize, but to help students and teachers to make better decisions and finding better answers to the educational needs detected. [1]

2 METHODOLOGY

2.1 Study nature

Taking into account the object of study and its purposes, a quantitative methodology was chosen, both in data collection and processing, using statistical techniques, with a view to avoid possible distortions of analysis and interpretation. [10]

2.2 Data collection technique

Regarding data collection techniques, the questionnaire survey was chosen, since the presentation of the same questions to different people is a strategy to obtain a variety of perspectives on these same issues. [11] In addition, the use of structured questions related to a specific theme allows to standardize the information and to carry out comparisons.

The questionnaire developed for this study is composed of three distinct parts: (i) characterization of teachers; (ii) teachers' conceptions; and (iii) practices of pedagogical differentiation carried out in an educational context.

The questionnaire presents, mostly, closed-ended questions, making it easier to apply statistical analyses to analyse the answers. [12] In the second part of the questionnaire, a Likert scale was used, and the respondents indicated their level of agreement with the 26 statements presented (1 = totally disagree, 2 = partially disagree, 3 = undecided, 4 = partially agree; 5 = totally agree). In the third part, which consists of 35 statements, a frequency scale is used, asking teachers to indicate the frequency with which they implement the presented practices (1 = never, 2 = rarely, 3 = sometimes, 4 = often, 5 = always).

The construction of the questionnaire was based on two exploratory interviews with teachers from the 1st and 2nd CEB with innovative practices in the context of pedagogical differentiation, the content analysis data of these interviews and the theoretical references about the subject. After the questionnaire was drafted, it was tested with four teachers with characteristics close to the subjects of the sample, contributing to the reformulation and improvement of some questions of the questionnaire.

Data collection was performed between April 11 and May 30, 2017.

2.3 Data analysis techniques

The analysis of the data collected through the questionnaire survey was carried out using the Statistical Package for Social Sciences v23.

The descriptive and frequency analysis was carried out, as well as the analysis of relations between variables, using different tests. For a more careful choice of the tests to be applied in this study, the distribution of the dependent variables was analysed. It was verified the existence of a large number of variables whose distribution is normal or symmetrical (z <=1.96). For this reason, parametric tests were
predominantly used, namely: (i) the T-Test to analyse the conceptions and practices of the respondents according to sex, academic qualifications, teaching cycles, type of school where they teach, given that they were independent variables with two response groups; and (ii) the ANOVA test to analyse differences according to the age and the teachers' experience, since they were independent variables with three response groups.

For the remaining variables, the non-parametric, were used the Mann-Whitney test (used for the variables indicated as having two response groups) and the Kruskal-Wallis test (when variables had three response groups).

With regard to the tests carried out to investigate the conceptions and practices of the respondents on pedagogical differentiation according to the different independent variables, the following groups were considered: (i) regarding sex – female teachers and male teachers; (ii) academic qualifications – teachers with a degree and teachers with a master's degree; (iii) the teaching cycle where they teach – 1st CEB teachers and 2nd CEB teachers; (iv) the type of school – teachers in public schools and teachers in private schools.

The conceptions and practices of the respondents were also analysed according to age and length of teaching service, which implied the adjustment of the data. As a result, each of the two variables was decomposed into three groups, generated by convenience according to their frequencies. With regards to age, the following age ranges were created: [23; 36], [37; 43] and [44; 62], with absolute frequencies of 25, 23 and 23, respectively. For the variable years of teaching service, the following intervals were considered: [1; 10], [11; 17] and [18; 38], with absolute frequencies of 23, 25 and 23, respectively.

In all tests, the significance level of 5% (p <= .05) was used.

2.4 Sample characterization

The study was attended by 71 teachers, 56% of the 1st CEB and 44% of the 2nd CEB, who taught in the 2016/2017 school year. Of the teachers interviewed, 76% teach in public educational institutions and the other 24% in private institutions.

The teachers interviewed are aged between 23 and 62 years (on average 41 years), with 75% being female. With regard to academic qualifications, 70% have a degree and 30% have a master's degree.

On average, teachers interviewed have 16 years of teaching experience, ranging from 1 to 38 years. The majority of respondents teach in the region of Lisbon (80%).

3 RESULTS

Statistical analysis of the data allowed us to identify significant differences in the teachers' responses according to the type of school, the teaching cycle in which they teach, and the experience and age they have.

With regards to the type of school, it has been found that teachers who teach in public educational institutions tend to favour collective work and individual work more frequently for all students in the classroom than private institutions. Nevertheless, these are also the teachers who work in public institutions that indicate that the task or work sheets are more frequently adapted to the individual characteristics of the students and to their level of learning, identifying objectives and the sharing of assessment results with students.

It was also observed a very significant effect of the type of school in the preference for the modality of summative evaluation. Teachers who teach in public schools tend to favour this type of assessment more often than private school teachers.

Regarding the influence of the teaching cycle on the answers obtained, it was verified that the teachers of the 2nd CEB indicate that they perform more frequently the speech adjustment according to the students for a better understanding of the activity, the adequacy of tasks to each of the students, the adaptation of the level of demand of the tasks or worksheets to the individual characteristics of the students and their level of learning. It was also observed that this group of teachers favours, more frequently, the summative evaluation.

As for the effect of the number of years of service, a significant effect was observed with regards to diagnostic evaluation, with more experienced teachers doing it more frequently than the less experienced ones.
Finally, with regard to the variable age, it was verified that it influences the level of sharing with the students of the results of the evaluation. Older teachers do it practically always, while the younger ones do it less frequently.

Aiming at comparing the teachers’ conceptions of the processes of pedagogical differentiation and the indicated practices, the last two questions of the questionnaire were analysed. Regarding the question *Do you consider the practices of pedagogical differentiation implemented in the class(es) that you teach?,* it was verified that 92% of the respondents considered that it accomplishes this type of practices.

An overall analysis of teachers’ practices was also carried out. For this purpose, the practices that meet theoretical frameworks for effective pedagogical differentiation are considered, and the average of the frequency with which teachers indicate implement them. From this analysis, it was found that the average frequency of these practices is below 4 (corresponding to "many times", on a scale of 1 to 5). Of the 71 teachers surveyed, only fourteen respondents demonstrate practices that are in line with an effective differentiation of the teaching process.

Although the majority of respondents consider that the implementation of strategies of pedagogical differentiation allows the teacher to better adapt the teaching to the characteristics and needs of the students and it is fundamental for all the students to achieve success in school, it was verified that not always classwork takes into account the diversity of students.

On the other hand, regarding the evaluation, there were very contrary opinions of the teachers regarding the statement *Although differentiate the learning process, the teacher should evaluate all students according to the same criteria meets the practices analysed.* Indeed, it has been found that the average frequency with which teachers indicate that different students are assessed differently in order to be fair is not very different from the average with which they evaluate all pupils in the same way to be fairer (both on the "sometimes" scale).

4 CONCLUSION

At the conceptual level, teachers interviewed generally agree that pedagogic differentiation consists in using the means to make the common curriculum accessible to all students. These results meet the definition of pedagogical differentiation. Nevertheless, there was clear indecision about whether differentiation consists in teaching each student individually. Differentiated teaching is not confused with individualized teaching, rather, it is about the adequacy of teaching-learning strategies taking into account the characteristics, needs and interests of each child in a group situation.

It was also found that teachers from the 2nd cycle and those who teach in public institutions are more in agreement with the fact that in some classes it is not justified to differentiate teaching. This conception is contrary to the idea suggested by Pires (2001) that "we often hear teachers complain that their classes are heterogeneous and question themselves about what to do with this situation" (p.35).

Regarding the relevance of pedagogical differentiation, most teachers are of the opinion that this is fundamental for all students to achieve school success. They recognize it as a practice that allows the teacher to better adapt teaching to the characteristics and needs of students and provide individual or small group support to students with learning difficulties. These results are in agreement with the ideas defended by Morgado (1999), who argues that the development of schools capable of sustaining successful educational paths for all students inevitably goes through the definition of a differentiated educational action in its operative aspects.

Nevertheless, when comparing the conceptions and practices of pedagogical differentiation enunciated by the interviewed teachers, it was possible to verify that not everyone plans the class work taking into account the diversity of students. Indeed, this comparison made it possible to perceive that teachers’ practices are still somewhat distant from the practices evidenced in theoretical references as practices leading to an effective pedagogical differentiation.

As for the aspects that may condition the implementation of differentiated work in the classroom, the interviewed teachers agree that it requires a deep knowledge of the students and also implies an increase in their work load. This last aspect was considered more significantly by the teachers who teach in private schools. In addition, the results indicate that the high number of students in the class is also perceived as a constraint to the practice of pedagogical differentiation, especially by the 2nd CEB teachers.
With regards to evaluation, it has been found that the frequency with which teachers evaluate all students equally or differently to be fair is very similar. This may be related to the fact that the evaluation products are a reflection of a conception of education and teaching/learning. Thus, different conceptions give rise to different evaluation practices. [4]

Also regarding the evaluation practices in the field of teaching differentiation, it is important to highlight the fact that teachers indicate that they prefer formative rather than summative evaluation. In a context where pedagogical differentiation is developed, the procedures of formative evaluation constitute privileged instruments for the regulation of both the student’s work and the teacher’s work. [13]

It is also worth noting that teachers often carry out a diagnostic evaluation and share the evaluation results with the students, as suggested in the literature. [4]

REFERENCES