



Pedagogical practices in a bilingual education context

Práticas pedagógicas num contexto de imersão bilingue

Prácticas pedagógicas en un contexto de educación bilingüe

Sara Andreia Ali Monteiro¹.

ABSTRACT

Aim: To report, from a pedagogical point of view, on the experience of a science teacher with an 8th grade class marked by great linguistic and cultural diversity, by sharing pedagogical practices and reflecting on the challenges faced. It also addresses the influence of a pedagogical approach that values the students' mother tongues, considering their influence on development and learning. **Experience report:** The experience took place in a private school in the Setúbal district of Portugal. The class in this case had several students who were not fluent in the school languages (English and Portuguese), and teaching-learning strategies were adopted which sought not only to promote the learning of concepts associated with scientific knowledge around science, but also the acquisition of vocabulary from the school languages, using the students' mother tongues to this end. **Final considerations:** The students felt that their linguistic and cultural identities were valued, which contributed to greater motivation and involvement in teaching activities; this valuation was also reflected in the development of the students' scientific and linguistic competences, as well as in their academic performance and confidence to participate in the activities proposed in the classroom context.

Keywords: Cultural and linguistic diversity, Pedagogical practices, Multilingualism.

RESUMO

Objetivo: Relatar, do ponto de vista pedagógico, a experiência de uma professora de ciências com uma turma do 8.º ano do ensino básico marcada por grande diversidade linguística e cultural, através da partilha de práticas pedagógicas e da reflexão sobre os desafios enfrentados. Abordar também a influência de uma abordagem pedagógica que valoriza as línguas maternas dos alunos, considerando a sua influência no desenvolvimento e aprendizagem. **Relato de experiência:** A experiência decorreu num contexto escolar de carácter privado, localizado no distrito de Setúbal, em Portugal. A turma em questão contava com vários alunos que não dominavam as línguas de escolarização (inglês e português), sendo que foram adotadas estratégias de ensino-aprendizagem que procuraram, não só, promover a aprendizagem dos conceitos associados aos saberes científicos da área das ciências, como também a aquisição de vocabulário das línguas de escolarização, recorrendo, para isso, à valorização das línguas maternas dos alunos. **Considerações finais:** Os alunos sentiram que as suas identidades linguísticas e culturais foram valorizadas, o que contribuiu para uma maior motivação e envolvimento nas atividades letivas; esta valorização refletiu-se ainda no desenvolvimento das competências científicas e linguísticas dos alunos, bem como no desempenho escolar e confiança para participar nas atividades propostas em contexto de sala de aula.

Palavras-chave: Diversidade cultural e linguística, Práticas pedagógicas, Multilinguismo.

¹ Instituto Superior de Educação e Ciências (ISEC), Portugal.

RESUMEN

Objetivo: Informar, desde un punto de vista pedagógico, sobre la experiencia de una profesora de ciencias con una clase de 8º grado marcada por una gran diversidad lingüística y cultural, compartiendo prácticas pedagógicas y reflexionando sobre los desafíos enfrentados. También aborda la influencia de un enfoque pedagógico que valore las lenguas maternas de los estudiantes, considerando su influencia en el desarrollo y el aprendizaje. **Informe de experiencia:** La experiencia tuvo lugar en un colegio privado del distrito de Setúbal en Portugal. La clase en este caso contaba con varios estudiantes que no dominaban los idiomas escolares (inglés y portugués), y se adoptaron estrategias de enseñanza-aprendizaje que buscaban no sólo promover el aprendizaje de conceptos asociados al conocimiento científico en torno a la ciencia, sino también la adquisición de del vocabulario de las lenguas escolares, utilizando para ello las lenguas maternas de los alumnos. **Consideraciones finales:** Los estudiantes sintieron que se valoraba su identidad lingüística y cultural, lo que contribuyó a una mayor motivación e involucramiento en las actividades docentes; esta valoración también se reflejó en el desarrollo de las competencias científicas y lingüísticas de los estudiantes, así como en su rendimiento académico y confianza para participar en las actividades propuestas en el contexto del aula.

Palabras clave: Diversidad cultural y lingüística, Prácticas pedagógicas, Multilinguismo.

INTRODUCTION

The conflicts we are witnessing these days, combined with an increasingly globalized world, make the act of teaching ever more demanding (RODRIGUES P, 2013). In fact, from a pedagogical point of view, issues related to mass migration, resulting from war situations or the search for better living conditions, bring not only numerous challenges, but also many opportunities to school contexts characterized by this linguistic and/or cultural superdiversity (VERVAET R, et al., 2018).

Specifically, in the Portuguese context, the most recent data provided by the Migration Observatory (OLIVEIRA C, 2023) indicates that in the 2021/2022 school year, 86,4356 students of foreign nationality were enrolled in public primary and secondary schools, representing an increase of 14,784 students (+20.6%) compared to the previous school year, in which the number of foreign students was 71,652. Specifically, in terms of the lower secondary school, in the 2021/2022 school year there were a total of 1,536 children of foreign nationality enrolled in public schools in Portugal - considering the size of this number and the fact that there are no official Portuguese documents mentioning the number of foreign students enrolled in private and co-operative education, it is estimated that this figure is much higher.

As evidenced by PISA data Cerna L, et al. (2019), immigrant students tend to have lower school results compared to their native peers in their host countries, and this disparity in performance can be attributed to various factors, including socio-economic conditions and the language barrier.

Specifically, about socio-economic reasons, it should be noted that, in many countries, the parents of these immigrant students usually have a lower level of education and are therefore employed in less prestigious professions, with fewer resources, which limits the opportunities for educational support outside the school environment. In addition, the fact that immigrant students tend to be in less favored socio-economic situations also leads them to live in poorer areas which, in turn, are also served by schools with fewer resources - both in terms of infrastructure and teaching resources - factors which inevitably compromise the teaching-learning process of these students (ARAÚJO E SÁ MH, 2016; CERNA L, et al., 2019; CERNA L, 2019).

In terms of the language barrier in particular, this represents a significant additional obstacle since, in addition to difficulties in following the content taught, a lack of proficiency in the host country's language jeopardizes students' integration into the school community, leading to a lower sense of belonging and participation in school life (CERNA L, et al., 2019; LUCIAK M, 2010; WISSINK I and HAAN MD, 2013).

Faced with this reality, authors such as Casa-Nova M and Palmeira P (2008) stress that the school, as an institution and organization, must be able to deal with cultural diversity, regardless of whether it is of endogenous origin (such as the Portuguese with Portuguese culture) or of exogenous origin (such as immigrants or Portuguese with Cape Verdean or Indian cultural roots, among others).

In this context, national and international studies have pointed to difficulties and insecurities on the part of teachers from different areas of specialism in their educational practice in contexts characterized by linguistic and cultural diversity. These challenges stem from various factors: from superficial understandings of (education for) diversity and inconsistencies between teachers' beliefs and practices (AGIRDAG O, et al., 2016; CIVITILLO S, et al., 2019; HAUKAS A, 2016), poor preparation to develop plurilingual and intercultural pedagogies (ARAÚJO E SÁ MH, et al., 2016, PINHO AS and MOREIRA G, 2012), as well as issues related to (the lack of) pedagogical leadership in schools that is attentive to linguistic and cultural diversity (HÉLOT C and Ó LOIRE M, 2011; VERVAET R, et al., 2018). In this respect, Salgado A, et al. (2009) emphasize the importance of education aimed at developing complex linguistic practices that cover multiple and diverse social contexts. According to these authors, teachers must be prepared to work with this linguistic and cultural diversity, which promotes enriching experiences in the classroom.

In this context, the aim of this article is to report - from a pedagogical point of view -, on the experience of a science teacher with an 8th grade class marked by great linguistic and cultural diversity, by sharing pedagogical practices and reflecting on the challenges faced. It also addresses the influence of a pedagogical approach that values students' mother tongues, considering their influence on development and learning. The context was a private school located in the district of Setúbal, in Portugal. This context is an international school characterized by an immersive bilingual regime - with a focus on teaching the Cambridge curriculum - namely through the constant exposure of students to the English language and the Portuguese language. The main purpose of this article is therefore to share pedagogical practices in a context of this nature, as well as to reflect on the challenges encountered and the influence of this approach on student development.

EXPERIENCE REPORT

As mentioned above, the school context in question is a private school and is characterized by an immersive bilingual pedagogy that is based above all on a project work methodology, with a focus on students' active learning. The group reported here was made up of 22 students aged between 13 and 15. From a linguistic and cultural point of view, the class was very heterogeneous, made up of students with very different linguistic and cultural backgrounds: one Spanish student, one Cape Verdean student, three students of Indian origin, one student of British origin, three Pakistani students, two students from the United Arab Emirates, one student from Bangladesh and ten students of Portuguese origin and nationality.

As far as proficiency in Portuguese is concerned, approximately half of the group had no proficiency in the language in question at the start of the school year. As far as proficiency in English is concerned, only five students had never had contact with this language during their school life. As a result, four students in the group did not understand or speak the languages of their schooling, and this scenario was both a pedagogical challenge and an opportunity to develop an innovative pedagogical approach centered on bilingualism and valuing linguistic diversity.

Specifically, with regard to the subject of Science, the main aim was to ensure that students understood scientific concepts, while at the same time fostering mastery of the languages of schooling, which is why, in parallel, a pedagogical practice was designed that aimed to recognize and integrate the students' mother tongues. In fact, although the school context favored the learning of Portuguese and English, the teacher attached great importance to the students' mother tongues, namely as a platform for the acquisition of a second language (or, in some cases, even for the acquisition of a third language). Thus, all the students were allowed to use their mother tongues whenever they wished, reinforcing the bridge between the different languages and Portuguese and English.

Within this framework, the classroom space was properly organized to reflect the cultural and linguistic diversity of the students: posters were put up on the walls with the vocabulary associated with the main concepts inherent to the subject being taught, namely in the various languages present in the classroom, with an emphasis on Portuguese and English. As for the strategies adopted by the teacher throughout the school year in question, these were based mainly on four main dimensions: (i) the creation of teaching materials to support linguistic diversity; (ii) the use of concrete and visual materials; (iii) the structured teaching of scientific vocabulary and (iv) project-based learning, with a focus on collaborative work between students.

With regard to the creation of teaching materials to support linguistic diversity, the teacher developed a blog where she shared, throughout the school year, various teaching resources (texts, presentations and videos) strategically designed to highlight the main concepts to be learnt in the subject (where possible, these were also translated into the students' mother tongues), thus seeking to promote an inclusive teaching-learning process from the point of view of the linguistic diversity found in the group.

About the use of concrete and visual materials, there was a great deal of investment in the use of concrete teaching materials, favoring, whenever possible, the use of three-dimensional models and practical and laboratory activities. Undoubtedly, the use of this type of approach became essential to ensure that students understood complexes without the immediate language barrier. As far as the structured teaching of scientific vocabulary is concerned, this was the centerpiece of the teaching process. Specifically, lists of scientific terms in English and Portuguese, respectively, were constructed with the students, accompanied by translations into other languages, and this practice was particularly useful in ensuring that the students could gradually integrate the new vocabulary into their linguistic repertoire.

Specifically, regarding project-based learning, with an emphasis on collaborative work between students, the teacher intentionally planned the organization of work groups with linguistically heterogeneous students, so that the groups were made up of speakers of different languages. In this sense, the students worked in groups to solve problems or investigate scientific topics, being encouraged to use their mother tongues during research and internal group discussions, with the final presentations to the large group being made in the languages of schooling - this strategy, carried out numerous times throughout the school year, allowed for a smooth transition to the use of Portuguese and English in the students' academic discourse.

At the end of the school year in question, as the culmination of the pedagogical journey developed in the 8th grade Nature Sciences class, a science fair was held, integrating all the students and teachers involved in the bilingual teaching process. This fair, as well as being an event to celebrate the knowledge acquired, proved to be a crucial moment to consolidate the educational objectives outlined throughout the year, offering a space for the practical application of the scientific and linguistic knowledge worked on in the classroom. The science fair was of unique importance in promoting meaningful learning, enabling students from different linguistic backgrounds to apply the scientific concepts explored in class and present them publicly in Portuguese and English, reinforcing the bilingualism practiced throughout the year.

The science fair also allowed students to put their scientific knowledge into practice. By developing their projects and presenting the results of their research, the students had the opportunity to deepen their understanding of natural phenomena and develop scientific communication skills, which are essential for their academic progress. Presenting in two languages not only encouraged the improvement of Portuguese and English, but also boosted the students' confidence when speaking in public, particularly for those whose mother tongue was not Portuguese. This practical and public experience reinforced their mastery of scientific terms in both languages and consolidated the learning process. Finally, the organization of the science fair allowed for an authentic and formative assessment of the students' work. Undoubtedly, by presenting their projects, the students not only demonstrated the knowledge they had acquired, but also revealed their research, problem-solving, collaboration and communication skills. For the teachers, the fair served as an opportunity to reflect on the pedagogical practices adopted throughout the year and to observe in practice the results of a bilingual and inclusive teaching approach that values the cultural and linguistic diversity of the students.

DISCUSSION

As Lau S and Viegen S (2020) urge us, rethinking language and issues of linguistic diversity leads us to question: what is the nature of language that underpins our approach to teaching and learning; what is the role of the teacher; what is our understanding of the student(s) in front of us?

In fact, the questions posed by the authors (LAU S and VIEGEN S, 2020) do not have a definitive answer, but invite each of us, as teachers and researchers, to continuously engage with the changes we have seen in our society (GOODWIN AL, 2020; ILLIE O 2019). Challenging these notions, these changes draw special attention to how teachers act in school contexts that are now so linguistically and culturally diverse (ANGELIDES P et al., 2018; KULTI A and PRAMLING N, 2020; MARTINS M, et al., 2019; RODRIGUES P, 2013).

Undoubtedly, the experience report(s) shared here easily lead us to realize that the configuration of this learning environment aimed not only to facilitate the understanding of the contents and concepts associated with the sciences, but also to promote a feeling of inclusion and respect for each student's linguistic identity. In fact, the classroom became a space of linguistic and cultural confluence, in which bilingualism and multilingualism enriched the teaching and learning process, ensuring that every voice, regardless of its language, was heard and valued.

The valuing of the students' mother tongues was undoubtedly one of the most positive aspects of this educational project, since instead of restricting the classroom to a space exclusively dominated by Portuguese and English, a "pedagogical policy" was created that encouraged the use of other languages as an integral part of the teaching and learning process. This approach had a remarkable influence on the motivation and involvement of the students, who came to feel that their linguistic and cultural identities were respected and included in the school space.

Furthermore, one of the most enriching practices in the classroom was the introduction of collaborative work between students, namely through the creation of linguistically heterogeneous working groups. Students who were more fluent in Portuguese and/or English were encouraged to act as linguistic mediators, helping their classmates to understand the scientific content in Portuguese and facilitating the translation of key terms into other languages.

On the other hand, it is also important to emphasize that, in addition to collaborative strategies, the use of technology was equally crucial. Thus, the use of online translation applications, the blog built by the teacher to share videos and other materials, became an asset to this whole process. In addition to the above, we must also emphasize the importance of the school-family relationship, helping the students in the process of inclusion in the classroom. However, despite the notable progress made over the course of the school year, there were also considerable challenges: one of the main obstacles centered mainly on the initial resistance of some students to using Portuguese and/or English in classroom interactions - especially those who were not proficient in these languages.

In conclusion, although the teacher did not rely on any specific pedagogy for linguistic and cultural diversity, recognizing that there is no single approach that is suitable for all contexts and students, she always kept in mind throughout the school year during her teaching practice with these children that they are better able to learn when they are taught in their mother tongue - a conception that is in line with numerous studies carried out in this field (BEACCO J, et al., 2016; LAU S and VIEGEN S, 2020; MARTINS M, et al., 2019; PINTO M, 2013). In fact, as authors such as Beacco J, et al. (2016) and Lau S and Viegen S (2020) elucidate, although the acquisition of language skills in the language of instruction in a school context is essential for the academic success of all students, the development of language-related skills, knowledge, dispositions and attitudes also contributes to the construction of individual and collective cultural identities, which are characterized by their awareness, diversity and openness. It is therefore important to emphasize that plurilingual and intercultural education not only promotes equity in the school environment, but also prepares students for democratic citizenship.

In the end, implementing bilingual teaching practices in a school that values Portuguese and English proved to be an exercise in creative adaptation to the needs of a diverse class. The approach that integrated the students' mother tongues as a pedagogical tool not only facilitated the understanding of scientific content, but also promoted an inclusive learning environment where everyone felt valued. The success of this project was reflected not only in the learning of science concepts, but also in the development of the students' linguistic and social skills, as they came to see the classroom as a place of cultural and linguistic confluence.

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