THE INTEGRATION OF TEACHING RESOURCES IN THE CONTEXT OF THE SUPERVISED TEACHING PRACTICE IN PRESCHOOL*
EDUCATION

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Abstract

The training of kindergarten teachers in Portugal is carried out in two ways: A Master's degree in Early Childhood or a Master's program in which the Preschool education and the 1st cycle of Basic Education are articulated (Master's degree in Early Childhood and 1st Cycle of Basic Education).

Within the framework of the competences that students are expected to develop throughout their training, special attention is given to the issue of integration of teaching resources in three areas they will have to work in as future kindergarten teachers: personal and social development, communication and expression and knowledge of the world.

In this work, we present a study conducted in the context of the supervised teaching practice (internship) in preschool education of the Master's Degree in Early Childhood and 1st Cycle of Basic Education. It took place in a public teaching institution in the North of Portugal, in the academic year 2016/17, with the participation of fourteen trainees. Looking to work in a balanced way all content areas, we consider that the main objective of this research is to evaluate the performance of future kindergarten teachers regarding integration of teaching resources in these three areas, with the support of the legal documents that regulate Preschool Education, in particular, the Curricular Guidelines for Preschool Education.

The methodology adopted was qualitative following a case study design, and the data collection instruments were the non-participant observation, document analysis and the portfolios that each of the students developed during their internship. As a technique of data analysis, we chose content analysis that allowed us to define categories of analysis in the corpus.

In general, the results point to an integration of the educational resources very carefully and systematically, along the tasks performed in the various content areas, showing a very structured and adequate educational practice on the part of the trainees.

Keywords: Teaching resources, Preschool Education, Supervised teaching practice.

*Also called Early Childhood.

1 INTRODUCTION

The investigation we did focused on the use of media and educational resources in the supervised teaching practice of students enrolled in the Master's degree in Early Childhood and 1st Cycle of Basic Education, offered by a public institution of higher education in Northern Portugal. The internship was carried out in two institutions of basic education, one private and one private in the public institution, they hosted ten trainees in ten kindergarten rooms; in the private institution, they hosted four trainees in four kindergarten rooms. Both institutions are in the same municipality and district.

The teaching internship done by the fourteen student trainees opens an important path for research into practices, providing relevant indicators on how the content areas of preschool education are addressed, how to organize the environment checking that it corresponds to the most appropriate way to respond to the learning projects and, at the same time, that the means and educational resources are chosen for the development of such projects.

In this work we seek to address first the organization of the Master's from which the study was done and discuss the concept of the means and educational resources. Secondly establish the...
methodology chosen for the development of research, discuss the main results and draw up some conclusions.

2 MASTER'S DEGREE IN PRESCHOOL EDUCATION AND 1ST CYCLE OF BASIC EDUCATION

In Portugal the training of future teachers in Early Childhood and 1st Cycle of Basic Education is done using three types of specialization in Second Cycle courses: Master’s degree in Preschool Education, Master’s degree in 1st Cycle of Basic Education, and a joint Master’s that combines training in both areas (Master’s degree in Preschool Education and 1st Cycle of Basic Education). The legal structure of the Master’s program established by the Decree-Law 79 of 2014, published on 14 May, establishes four training components that students will have to perform during their training: General Educational Training, Training in the Teaching field, Specific Didactics and Introduction to Professional Practice. These components are part of the study plan and intend to respond to an output profile of professionals able to develop their activity in conformity with the requirements of the Curricular Guidelines for Preschool Education in Portugal [1] and at the same time, for the areas set out in the curriculum for the 1st Cycle of Basic Education. The Master’s lasts two years; it is divided into 4 semesters, and the internship is done during the last two semesters. The completion of the Master’s is done when the student defends publicly his/her supervised teaching practice report, in the presence of a jury.

As regards to the third specialization of the Master’s degrees which enables teaching, we have an output profile that points to two areas of recruitment (Preschool Education and 1st Cycle of Basic Education) in which, unlike all other groups, certified teachers fit into what can be called “one category teaching”. The certified teacher in Preschool Education takes the full orientation of the activities in the context of nurseries and kindergarten rooms, developing them in compliance with the curriculum guidelines [1] that advise that they should follow the three content areas and fields in which they are structured. The methodology of the project work is advised as being more inclusive for all contents. Of course, the information submitted by the Curricular Guidelines for Preschool Education is not subject oriented.

In the case of graduates of 1st Cycle of Basic Education something similar happens. Although in this study cycle, the content to be organized is clearly identified, not by subject. Please note that, except for English teaching in the 1st Cycle of Basic Education, all subject content areas are fully assumed by the lead teacher of the class. The subject contents of Portuguese, Mathematics, Natural Science (including knowledge in Humanities and Social Sciences and Natural Sciences, that is, History and Geography of Portugal as well as Natural Sciences), as well as the areas of expressions (Drama, Music, Art, Physical expression, Dance). As part of the Departmental organization of the School and, in respect for this specificity both the Preschool Education and the 1st Cycle of Basic Education, have an autonomous space in the organizational framework of the school.

In the context of the component/dimension of the supervised teaching practice, students do an annual internship, which in terms of their practice, establishes that they do two semiannual internships: one in a Preschool and one in a school of 1st Cycle of Basic Education. Regarding the assessment of the internship in Preschool Education, the student trainee must elaborate a portfolio that clearly shows all the activities and projects developed by him/her during his/her supervised practice throughout the internship in Preschool Education.

The preparation of the portfolios in the Preschool Education stage must naturally apply to a non-subject perspective. The practice of supervised teaching in the Master’s degree in Preschool Education and 1st Cycle of Basic Education focuses in all content areas (Personal and Social Development, Communication and Expression, Knowledge of the World), involving all fields and subfields associated with these content areas. Thus, the portfolio of the internship in Preschool Education has as an essential mission to register a practice developed during the second year, in the annual Curricular Unit of Supervised Teaching Practice in Preschool Education. The internship is organized in three moments: observation, cooperation and accountability. The period of the student’s accountability during the internship is in connection with the guidelines established in the structuring documents of the school in the framework of the class’ curricular project (1st Cycle of Basic Education), the organization and planning of the educators and teachers, looking at all the content areas of Preschool Education and the subject areas of the 1st Cycle of Basic Education.
The essential indication is that the practice of student trainees is guided by an extra effort, to direct the "Learning Projects" [1], effort which evidently might start from a specific field, other fields and subfields are involved in this practice, evidencing a practice based on a logic of methodology of project work and respecting the requirement of organizing integrated learning contexts. In the Curricular Guidelines for Preschool Education ([1], p. 11) defines:

Observing and engaging in children’s play, without interfering in their initiatives, allows the educator to know better their interests, encourage and put challenges to their explorations and discoveries. This observation also allows the planning of proposals that are based on the interests of the children, broaden and deepen them. Thus, the curiosity and desire to learn from the child will give way to intentional processes of exploration and understanding of reality, in which various activities interconnect with a common purpose, through learning projects progressively more complex. By integrating different areas of development and learning and mobilizing various forms of knowledge, these promote the foundation of a lifelong learning process 1.

The organization and exploration of spaces in the Preschool kindergarten rooms should be facilitators of this holistic strategy and facilitating a broader learning, always nourishing the child's curiosity [2].

3 INTEGRATION OF MEANS AND TEACHING RESOURCES

In this research, the practices in Preschool education confirmed the work of organization of spaces to better respond to the requirements set out in the legal framework that governs the education of children and, at the same time, the presence and use of a variety of means and educational/didactic resources.

There has been some diversity of assignments to address the media, devices, instruments that educators use in their daily intervention in kindergarten. Over time, several definitions have been presented. Cid Sabucedo in [3], among others, compiled and discussed some of the most frequent concepts when talking about supports, devices and tools for educational action. Of the various definitions of means and resources from the proposals which we are faced with, we would like to highlight those of Allen (1970), Cebrián de la Serna (1991), Alonso and Gallego (1993) and Moreno Herrero (2004).

Allen cited by Cid Sabucedo ([3], p.28) defines means considering that.

A means is an instructional resource that represents all aspects of the mediation of instruction through the use of reproducible events. It includes the materials, the instruments that carry those materials, the students and the techniques or methods used 2.

Cebrián de la Serna, cited by Cid Sabucedo in [3] proposes a consistent definition and, simultaneously covering a broader horizon, of the means and resources, not limiting them to the instrumental dimension to which they have been associated with, but at the same time connecting them to the geographic spaces and cultural contexts which may facilitate the (re)construction of knowledge:

The means and didactic resources are all objects, equipment and technological devices, spaces and places of cultural interest, environmental programs or itineraries, educational materials ... which, in some cases, use different forms of symbolic representation, and in others, they are direct referents of reality. Being always subject to the analysis of didactic contexts and principles and introduced in a teaching program, they promote the reconstruction of the knowledge and the cultural meanings of the curriculum 3.

The authors Alonso and Gallego, cited by Cid Sabucedo [3] propose a design of means in which can be integrated any object or technological resource, which is facilitator of structuring, through a specific language, messages that pretend to achieve an aim of teaching. The authors wrote: “Un medio es cualquier objeto o recurso tecnológico que articula, en un determinado sistema de símbolos, ciertos mensajes en orden a su funcionamiento instructivo” ([3], p.28).

1 Translation of the citation made by the authors.
2 Translation of the citation made by the authors.
3 Translation of the citation made by the authors.
Moreno Herrero ([4], p.3) argues that resource is a broader concept, comprising or including the concepts of means and didactic materials, confronting both definitions:

(...) resource is a way of acting, or rather the ability to decide on the type of strategies that will be used in teaching processes; it is, therefore, a characteristic inherent to the capacity of action of people.

The didactic means could be defined as the instrument that we use for the construction of knowledge; and, finally, the didactic materials would be the products designed to help in the learning processes.\(^4\)

From the concepts that we explored and in line with Cid Sabucedo ([3], p.51), it is legitimate to identify some structural dimensions for the conceptualization of means. In this sense, we considered that the means must be transmitters of information, facilitators of indirect experiences of reality, mediators and, at the same time, facilitators in the process of learning/teaching process and, finally, they should be associated with both the technical equipment and the didactic organization of messages.

In this research, we considered the issue of the organization of the teaching practice of the student trainees in the Master's degree in Preschool Education and wanted to understand if in that context there was an integrative approach of content areas, as provided for in the Curricular Guidelines for Preschool Education ([1], if the organization of spaces was a facilitator of that same practice and what kind of means and resources were integrated into the planning. Even if multiple sources of data collection were used, student trainees’ portfolios constituted the essential basis for the identification, analysis and discussion of the practices.

4 METHODOLOGY

The methodology that we chose to conduct this research is of a qualitative nature and is also descriptive [5], [6]. We establish as objectives 1) to describe the way how in the internship of Preschool Education, students, in their planning, used teaching resources in all three content areas; 2) to understand if they gave importance, to the problem of the use of technologies [3], 3) to identify the options in terms of organization of spaces; 4) to identify the means and educational resources integrated into teaching practices; 5) to check if there was a link between all contents areas in the learning projects.

The participants of this study were fourteen trainees (here designated by the acronyms T1, T2,..., T14) of the group that carried out their Supervised Teaching Practice (internship) in fourteen kindergarten rooms, in a public school grouping and in a private institution, with the Institution of higher education has a collaboration protocol. The research ran during the second semester of the academic year of 2016-17, from February to June 2017. The students spent three days a week at the school/institution, between 9h00 and 16h00 or between 9h30 and 16h30, with a two hours lunch break (from 12h00 to 14h00).

As data collection instruments, we gave preference to non-participant observation, document analysis and the portfolio elaborated by each student during their supervised teaching practice [7], [8], [9]. We adopted the technique of content analysis to target the documental analysis and the analysis of written work in the individual portfolio. We established a set of \( \text{a priori} \) categories and that established a posteriori resulted from the fluctuating reading of this corpus. The categories of analysis were as follows: means and resources of traditional teaching, games as educational strategy, technological devices/ ICT, media education, relationship between content areas.

5 ANALYSIS AND DISCUSSION OF THE RESULTS

5.1 Organization of the spaces

The answer to the demands of the Curricular Guidelines for Preschool Education, the educational project of the institution, the curricular project of the group, the organization of space in the kindergarten rooms where student trainees perform their internship is so relevant and offers valuable information for understanding the practice during the training. We wanted to identify the spaces formally established by the head teacher, that is who follows the internship, and the student trainee in

\(^4\) Translation of the citation made by the authors.
training, for the development of activities and projects. Although educators must increment in a balanced way all content areas (Personal and Social Development, Communication and Expression, Knowledge of the World) the curricular project of the group and the planning of the activities impose some important options on moments to give priority to each school year. For the fourteen kindergarten rooms (here denoted by the acronyms KR1, KR2, ..., KR14, corresponding, respectively, to the room where each one of the trainees, T1, T2, ..., T14, held its Supervised Teaching Practice), and for a better analysis, we considered 12 categories in relation to the effective organization of spaces of these fourteen kindergarten rooms: A) Mathematics (Maths)/Sciences (Sci); B) Library/Reading area; C) Writing; D) Painting; E) Drama/Play; F) Technological Area; G) Games Area; H) Workspace in big group; I) Area for Paper cutting/Glueing and Glueing/Modeling; J) Area for Construction Games/Construction; K) House, and, finally, L) Outdoor Space.

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The obtained results provide us important elements: The Library/Reading Area, the Workspace in Big Group and the Outdoor Space are constant categories in fourteen training contexts. In the case of the Library space, we have the existence of a library that serves several kindergarten rooms in two institutions. In the other cases, there is a clearly defined space within the kindergarten room where the student trainees have a series of books dedicated to childhood, especially literature for children. In some kindergarten rooms there is the practice of children bringing books to room and checking books out of the library for the weekend so parents or a legal guardian can read to them. Children’s literature plays an extremely relevant role in the development of the area of communication and expression. Storytelling, Narration, Illustration, Dramatic Game Proposals from stories and tales are very frequent in the practices of the educators. These are, in some cases, the mobilizer element of learning projects that are more comprehensive and integrating in the fields and subfields of the Communication and Expression Area, but also in the Personal and Social Development Area or even in the Knowledge of the World.

In which took place this study, we have identified the presence of tables that allow children to be gathered in large group, whether it is to carry out activities that require the presence of all elements of the group, as well as for others, when these do not have autonomous spaces. One of these examples is the painting activities. Of the various institutions, only one kindergarten had an autonomous space for painting serving all kindergarten rooms of the building, refraining from its use when inside the room.

All fourteen kindergarten rooms had a Game Area, which unequivocally suggests the importance of games in the practices of Early Childhood Teachers [10], [11].
In all institutions where student trainees performed their internship, there are outdoor spaces where children play, interact, perform some activities in large group. These spaces play an essential role in the development of children’s motor skills, but also in promoting rules, developing a collaborative spirit, respect for others especially when playing collective games or even when using outdoor playground equipment. The respect for the order of arrival, sharing, support of youngsters are good examples of use. The use of slides, stairs, Web/String mesh, The Log, allows the development of motor skills, balance, power, overseen by the educators and assistants of educational activity, the development of the Personal and Social Area. There are broad spaces so children can run in a safe environment or do collective games. The wooden houses made available to children on the playground are also an important source of learning possibilities.

We would like to highlight the existence of outdoor spaces that are commonly referred to as educational garden. There are pedagogical gardens in three buildings, serving nine of the kindergarten rooms where the fourteen student trainees held their internship. The projects involved the use of this space. A private institution, where four of the student trainees perform their internship, did not have that privilege.

It is considered as the Drawing, Paper cutting/Glueing, Modeling Area, the kindergarten rooms that have their own space or the ones that do not have their own space but have tables for activities in large group and make a wide use of these in all tasks that take place, particularly those related to plastic expression.

The House Area, with a very good presence in the various rooms of kindergarten, shows how attention was given to symbolic game. In the free activities, children frequently chose these spaces as well as the space of the buildings. The assumption of roles (kitchen, living-room, bedroom with beds and cribs for dolls, grocer’s, car garage) is done with great regularity by the children.

In the organization of spaces in the context where the internship of the Preschool Education took place, there is a dimension that matters to highlight in this study, the existence of specific spaces for the development of activities in the area of Mathematics and Sciences. If the Library/Reading Area is present in all institutions and is a constant reality in the organization of most Preschool rooms, the presence of spaces intended for Mathematics and Sciences was a lot less common. We are convinced that there are two aspects that help explain these data: the number of final reports, which take Mathematics as an element that gives greater emphasis to these areas of practice and helps to explain that choice. The existence of spaces related to Mathematics and Sciences helped to focus more the possibilities of interest and contact of children with learning material. The greater attention in recent years has been given to the experimental teaching of Sciences by General Inspection of Education and Science, in the last assessment cycle of schools, gave greater attention to the problem and the departments of Preschool Education, Schools, led to the need to open a space for activities in this field.

The negative finding of a small number of spaces intended for the Drama/Play. Only three in fourteen kindergarten rooms gave a special space for this field. However, if we analyze in detail the portfolios of student trainees, it becomes less problematic since we find that in this area lots of activities were entered and that it was possible to observe a great connection with other fields and subfields.

We noticed the existence of specific spaces for technology, as well as a computer being used by the teacher in many activities that were developed but also shared with the children. Nonetheless, we believe that this field deserved more attention since we live in a technological civilization.

5.2 Developed activities

More than accounting for the activities performed by all the student trainees, what was intended in this investigation was to identify the type of means and didactic of traditional teaching, the integration of games as a didactic strategy, the integration of Technological Devices/ ICT, the use of activities for media education and the confirmation of the articulation between all the content areas in the learning projects.
Thus, we could verify that the student trainees performed various activities using either the more traditional resources, resources didactic means and materials, always revealing the concern with the articulation of all content areas. The existence of spaces dedicated to games and the existence and easy access to games facilitated its use in outdoor activities, but also as a strategy to support learning in oriented activities [10].

The activities related to media education are present in the portfolios of six of the fourteen student trainees, which is obviously too little, given the first recommendations of the curricular guidelines for Preschool Education published of the year 1997 and the recent existence of a referential on Media Education in Portugal and contemplate activities for Preschool Education [12].

With regard to the organization of the activities, we have identified national oriented projects, involving all public institutions of Preschool education in the Municipality where the study took place. We would like to highlight the eco-schools project focused on environmental issues and sustainability, with a set of proposals which focuses on environmental protection (problems of water, garbage, pollution, recycling, respect for environmental values). Even though more directly focused in the content area of the knowledge of the world, it also involved the areas of Communication and expression and Personal and Social training. The project "the Human Body" held in partnership with the Douro Museum in the city of Régua.

For the promotion of reading and appreciation of literature we highlight the project of three kindergarten rooms, carried out in the library, every Monday, entitled "Monday with stories" or in another room, every week, "The hour of the tale". The integration of games, especially the digital ones, had an important increase in the project that involved all the rooms of the Preschool education, that allowed the children, once a week, to go to the library and, with a tablet to try out games. The project had an original name "One game a day, may do you good". We present just a few examples of projects in which the link between the areas can be seen. The project "Hand in hand with nature", developed by the trainee T9, involved the research work on plants (cinnamon and garlic). The children were assisted to conduct research on both. As a result of the research, we discussed in large group the information obtained in an effort of active construction of knowledge. Culinary activities were held, and they became the basis for making some recipes (cinnamon cake, cinnamon cookies, cinnamon tea, garlic bread). The contact with real objects, the handling of kitchen utensils, the exploration of the field of mathematics in weighing ingredients and counting were some of the activities. The children were challenged to explored the senses, that is, the smell of garlic and cinnamon, to taste what they

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had cooked, diving into a realm of flavors, they accessed the information that allowed them to build on knowledge about the characteristics of the plants, their possibilities of use, the relationship of these with more distant places and cultures where, for example, cinnamon was produced. Naturally it was sought to promote the language development of the children, to promote their communication skills, ICT integration in the processes of research, elaboration of the information leaflet about cinnamon and garlic, elaboration of the poster or written materials to be included in the poster of the research (Science). This project led to the children’s involvement in the organization of a lecture by a guest connected to the Park of Alvão (protected area), a study visit to the Center of Alvão and a study visit to the University of Trás-os-Montes and Alto Douro.

In the case of trainee T13, involving also the culinary issues, one of the projects was centered on the use of an educational garden. Crops were planted and children cared for them and followed their growth. The promotion of skills within the construction of scientific knowledge. The observation of the growth of plants and vegetables, the register of changes, the description of the features linked to the development of the crops, the relationship with the maturation time and weather, were some of the activities developed, among others. This activity ended with a luncheon where the children of the classroom ate their produce grown from their educational garden. In the same classroom, the student trainee, on world water day, performed a set of activities in a number of areas: the area of Communication and expression, the field of Music (by using YouTube and listening to the song "Droplet the droplet"; seeing the video support, starting a motor activity and a dramatic game, imitating the gestures of the video.

Exploring, through dialogue, the message conveyed, discussing what was seen and heard. Drawing activities, and clipping of a drop, which will later be painted and where it will be written a quote about the importance of water, showing an awareness of the protection of natural resources and preservation of the environment, in an effective reaction with the knowledge of the world, and personal and social training, with regard to the values associated with the activity). Children, exploring what could be called experimental teaching of Sciences conducted an experiment "The capillarity of water”.

The creation of specific spaces for activities/projects carried out in the field of mathematics was also very relevant, the ability to enable the student trainees involved and responded creatively in all the content areas. The group management tools (attendance map, activities map, time map, among others), associated with the practices performed in all classrooms that entered in this study were used to develop the field of mathematics.

6 CONCLUSIONS

In conclusion, we found that all participants developed all content areas in their activities during their internship in Preschool education, being legitimate to affirm that they did so adequately, maintaining a good balance and an interdisciplinary perspective. All content areas deserved attention in the organization of the activities.

All participants gave relevance to the most traditional means and teaching resources but also integrated in their practice ICT. We verified the use of computers, supported by multimedia projector, for the use of presentation software (PowerPoint, Prezi), access to YouTube to identify songs and to use them in other moments of activities, access to children’s series chosen for the development of activities in the field of media education, video playback programs. Computer technology was not only used to help research activities or information organization, but also for children to play. It should be noted the important and positive use of mobile communication devices, such as tablets or even mobile phones (use of snapchat in a photographic session to develop some of the planned activities).

It was possible to confirm the articulation between all the content areas where we identified learning projects in which the participants explored in a holistic way the connections between the various content areas. We identified proposals in which the connection was intentional and obvious such as Portuguese and Mathematics, Motor Expression and Mathematics, Cooking and Mathematics. Even the management instruments of the room and of the group, attendance, behavior, tasks, among others, were being used in conjunction with Mathematics for organization and data processing. The experimental teaching of Sciences and Childhood Literature, the latter and Plastic Expression and Drama/Play were connected.

We believe that it would be desirable to use even more the tools of the web 2.0, for the possibilities they offer in terms of the digital literacy they are expected to promote. Although devices of the web 2.0 were used by the cooperating educators, they were not used by all the study participants.
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