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DIGITAL DOCUMENTATION IN EARLY YEARS

Abstract. In early childhood education, there are several techniques to understand children's development in kindergarten. One of these techniques is based on Portfolios that, in early childhood education, allows the understanding of the progress of the child, allowing a shared reflection with the child, teachers, and the child's parents towards the understanding on the child's learning process. This is an imminently theoretical study based on research on evaluation in children's education, and its main objective is the development of a web application, which allows support for the construction of a platform for the storage and sharing of digital portfolios for early childhood education. In addition, it is intended that an access control of users be made so that it is possible to manage access to certain portfolios or sub-parts of them. The system has features such as: creating portfolios, creating notes, and managing user permissions. After the application was implemented, usability tests were carried out, with the participation of teachers. Through the techniques and methodologies used, it was possible to create a web tool to aid in the creation of portfolios for early childhood education, allowing the registering of audio, video, or image files. In addition, the system allows the sharing of portfolios with different users of the system who, in turn, can perform actions in the portfolio according to their role in the system.

Keywords: digital portfolios, childhood education, evaluation, learning development, childhood educators, evaluation tool.

Introduction. This article aims to highlight the reasons that justify the development of a web application, which allows support for the construction of a platform for the storage and sharing of digital portfolios for early childhood education. Methodologically, it is an imminently theoretical study, which seeks to find, in a prime part of the arguments that justify the evaluation in childhood education, as well as the reasons why childhood educators do not feel committed to this function. Secondly, the portfolio is defined as a tool that allows a more authentic and holistic assessment of the child's development and learning. Finally, the reasons for creating a web application are justified, which allows support for the construction of a platform for the storage and sharing of digital portfolios for early childhood education. The authors' arguments about the advantages of such an application in the context of childhood education are also presented.

Evaluation in early childhood Education: importance and difficulties. As Silva [1] state, early childhood education, has a set of peculiarities that distinguish it from other levels of education and teaching such as: the absence of an official program managed by the Ministry of Education; the pedagogical action based on the organization of space and materials as resources for learning, which are generally arranged by areas of activities and accessible to children; the kindergarten teacher considered as a determining factor in the educational environment, establishing a close relationship with children, facilitating and regulating the social interactions of the group and mediating the process of learning

and socialization of children; the absence of a classification-based assessment, valuing the process of learning over the product.

These characteristics have enabled the pedagogical innovation that this sector of education has demonstrated over the past decades but, at the same time, act as constraints to educational action, since the absence of standards and the lack of uniformity of criteria in the procedures, particularly regarding planning and evaluation processes, mean that kindergarten teachers develop practices more by intuition than based on scientific and pedagogical principles.

Taking child-centered approach and the characteristics of early childhood education as a reference, many educators express distaste for the function of assessment, even when they are professionals who are truly committed to their work. The reluctance to evaluate in early childhood education is often associated with the label that a teacher's value judgment can have on a child's schooling, in a period when all their skills are under construction. Thus, assessment is considered by many to be "a kind of black spot in this blue sea that could be the craft of teaching, if we were excused from performing it" [2].

Considering that early childhood education preferably values the children's spontaneous learning in the interaction with their peers, in the direct action with the materials, in the appropriation that they make of the space whenever they act on it, and that they progressively dominate, in the cooperative relationship with the educator, the mechanisms of observation, reflection, even if informally, are present in the professionals' action. For the process to make sense, it is important to make it more intentional, it is important that each one of us appropriates tools for action and analysis that express this intentionality.

In agreement with the perspective of Leite and Fernandes [3], we argue that the existence of moments of reflection on the work developed helps children to understand what knowledge they are building as well as the means that facilitated their construction. The awareness of the construction of knowledge itself, through the reflective act, transforms it into effective learning. This line of analysis leads us to another broader discussion about the way the curriculum is structured in early childhood education. Since this level of education is generalist in nature which advocates the integral development of the child in all areas, implies that the evaluation process developed by early childhood educators should not only focus on cognitive knowledge, but on all dimensions of their development. In this sense, the choice of assessment instruments becomes particularly important, since they must allow for a comprehensive collection of all areas of learning, and through mechanisms of self and heteroreflexion help the child to situate himself in all dimensions of his development.

Our readings of Herbert [4], Leite and Fernandes[3], and Parente [5] led us to consider that portfolios would be an assessment tool that could serve the two functions stated: help the child to reflect on his/her own learning process; and provide data on all dimensions of the child's development.

Herbert [4] states that the portfolio as an assessment tool enables critical reflection and awareness on the part of the child about the work developed and the entire learning process. He also considers that what the educator wants is to understand the child's development, stating that occasional observations of the child's actions in spontaneous situations provide a more individualized, and more accurate picture of the child's growth. The introspections that children can make, together with the work they produce and select, can be elements for both their own and the kindergarten teacher's evaluation.

This evaluation tool takes as a reference idea that all actions are potential moments of data collection that translate into a more globalizing survey of the child's path. We accept for this study the elements found by Parente [5] in referencing that assessment portfolios are systematic and intentional collections of evidence made for the purpose of demonstrating learning and progress over time. Understanding the portfolio solely as a collection of assignments is a failure both from the standpoint of the concept and from the standpoint of its potential, hence the importance of reflection and selection throughout the process. The goals underlying the process of selecting work or selecting evidence transform the portfolio of work into a portfolio of evidence, with reflections on the child's goals, objectives, and achievements.

It is in this sense, that we believe that the functions and processes of implementation of portfolios should be very well understood. This statement implies that early childhood educators must have the courage to break away from the educational stereotypes that underlie some of their practices and to organize their work in ways that favor the child's learning, by themselves, with adequate resources and tasks that help them that help them build new knowledge, through discovery and problematizing the way they acquire this knowledge.

In contrast with other education levels, where Learning Management Systems (LMS) [6-8], even if supported with virtual assistants [9], are the standard tools to support recording and assessing students' progress, these tools are not in use in early childhood education.

To assist in recording the development of children in early childhood education, the portfolio includes a collection of items and information that illustrate and represent the different aspects of the development of the child [10]. It supports the child's education, enabling the reflection of themselves, teachers, and parents, helping them to understand the development process and allowing them to keep a record that can serve as a basis for the continuity of the work even if by another teacher [11]. Typically, portfolios are physical files of objects, including text, images, collages, photographs, or videos. These, due to their characteristics, do not allow easy access to parents or the community, as it would be necessary to be physically close to being able to explore and understand it. Digital portfolios, on the other hand, allow to store observations, comments, videos, photographs, and children's work, as a basis for pedagogical documentation. Thus, the development of a safe and free platform for the national community of kindergarten teachers is of great importance.

The Portfolio as Pedagogical Documentation. The evaluation of quality of learning requires obtaining a considerable amount of data through several techniques. Data is obtained through detailed observations of children and adults, performing interviews of parents, practitioners and children, documentary analysis. This will contribute to minimize the subjectiveness of the procedure.

Data is gathered and systematically organized in research portfolios, that will be used in a cyclic process of thinking-do-thinking to research and create change [12]. The process of change is constituted as a dynamic, interactive and open process that includes the following phases: (1) a flexible plan; (2) act; (3) reflect; (4) evaluate/validate, where data is described and analyzed, and decisions are evaluated, and the effects observed; (5) dialog in order to share the view with other partners (colleagues, or others).

This process of quality assessment is enhanced by the use of observation techniques which measure the effectiveness of the learning and teaching processes, such as the Child Involvement Scale, an observation technique which measures the

level of a child's involvement in an activity, the Adult Engagement Scale, to evaluate the interaction between the practitioner and the child [13] or the Child Tracking Observation Schedule, to gain a snapshot of the child's day and providing information of learning experiences [14].

Learning to observe is another challenge, because the signs are not always evident, and observers must be well trained to identify them. Besides, the observation process should be systematic requiring that kindergarten teachers find time in their daily routine to observe the children and understand how they are learning.

The portfolio, beyond storing and organizing material, also has the purpose of stimulating reflection on the child progress, including all the actors, such as parents, children, teachers, and staff.

A Digital Portfolio. In the previous section we presented an overview of the process for quality enhancement in preschool education. One of the steps consists in gathering data from the daily routine of children through specific observation techniques. Several resulting parameters are usually recorded in a paper-based form, filled by the observer, and stored in the portfolio. Other materials also find their way, such as children work, photos, comments, etc.

Paper-based portfolio has several drawbacks. It is not practical to store video records, pictures, and sounds. Moreover, the sharing and distributed access is not easy, and it usually happens only at the end of the year. A digital portfolio can overcome these, providing anytime, anywhere access to the information within, if it is properly secured and protected against unauthorized access.

A digital portfolio should be web-based, meaning that it should be a platform for the storage and sharing of digital portfolios for early childhood education available through the Internet. Access control of users should be made so that it is possible to manage access to certain portfolios or sub-parts of them. It should allow creating portfolios, creating notes, and managing user permissions, registering audio, video, or image files. In addition, the system allows the sharing of portfolios with different users of the system who, in turn, can perform actions in the portfolio according to their role in the system (Fig. 1).

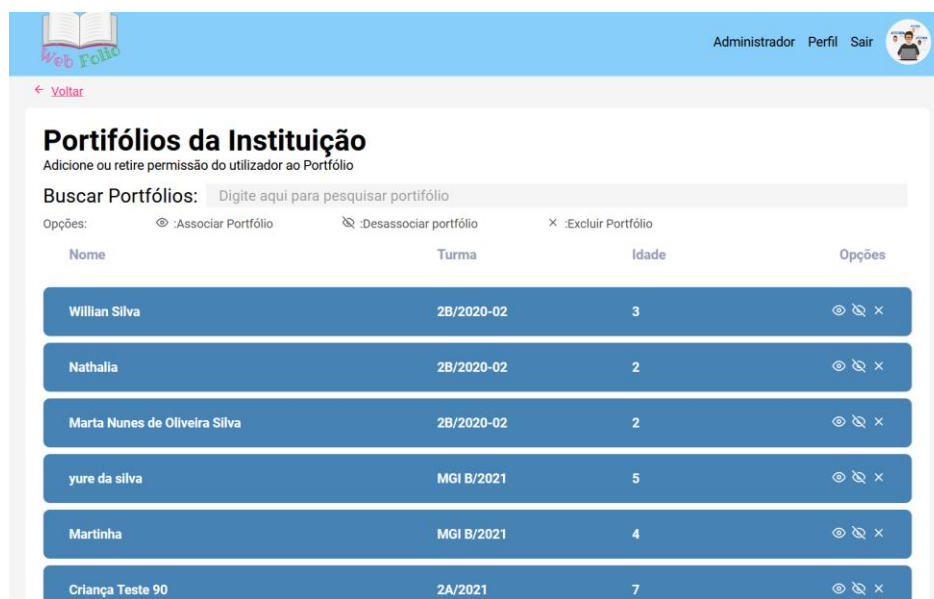


Figure 1. Perspective of a digital portfolio

The interface should also allow access through mobile phones, adjusting the interface according to the restrictions of a smaller screen.

Digital portfolios can promote a holistic view of the child's development and learning. Since the platform allows the organization by categories and supports different formats of content, the digital portfolio allows the creation of an overview of the child's learning development.

Among the advantages we can highlight that information will be available almost immediately. Educators, parents, and children can share information that will be accessible immediately and safely. For example, if parents go for a walk with their children and the child makes some discovery, parents, via mobile phone, can capture and add photos and comments to the portfolio. The child, accompanied by adults, may also share work that he considers relevant in his/her learning. The also allow childhood educators to quickly organize the material, favoring the creation of a more realistic view of the child's learning, their interests and needs, and can sustain their plans from the analysis performed. In addition, when documenting projects or activities in large groups, there is also the possibility of registering only once for multiple children.

Conclusions. Evaluation in childhood education is a challenge for childhood education professionals. Often these professionals do not feel prepared or motivated for this task.

Within the concept of evaluation, supported by a holistic view of the child, this article advocates the use of portfolios, while systematic and intentional collections of evidence made for the purpose of demonstrating learning and progress over time. The goals underlying the process of selecting work or selecting evidence transform a portfolio of work into a portfolio of evidence, with reflections on the child's goals, objectives, and achievements.

In this sense, the development of a portfolio is a complex process that involves several actors, such as children, childhood educators and parents, in cooperative action. In addition, to have a complete view of what the child is learning and how he is learning it is necessary to have a clear structure, organized by sections and that allows the use of different instruments.

It is therefore relevant that we invest in the creation of a platform that can support childhood educators in the creation of digital portfolios that can ensure shared, accessible use and ensure the security of information placed there.

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АЛҒАШҚЫ ЖЫЛДАРДАҒЫ САНДЫҚ ҚҰЖАТТАМА

Аннотация. Мектепке дейінгі білім беруде балабақшадағы балалардың дамуын түсінудің бірнеше әдістері бар. Осы әдістердің бірі мектепке дейінгі білім беруде баланың үлгерімін түсінуге мүмкіндік беретін портфолиоға негізделген, бұл баланың оқу процесін түсіну туралы баламен, мұғалімдермен және ата-аналармен бірлесіп ойлауға мүмкіндік береді. Бұл балалардың білімін бағалау бойынша зерттеулерге негізделген теориялық зерттеу және оның негізгі мақсаты мектепке дейінгі білім беру үшін сандық портфолиоларды сақтау және бөлісу платформасын құруға мүмкіндік беретін веб-қосымшаны әзірлеу болып табылады. Сонымен қатар, пайдаланушылардың кіруін бақылау белгілі бір портфельдерге немесе олардың бөлімшелеріне кіруді басқаруға болатындай етіп жүзеге асырылады деп болжанады. Жүйеде портфолио құру, жазбалар жасау және пайдаланушылардың рұқсаттарын басқару сияқты функциялар бар. Қосымша енгізілгеннен кейін мұғалімдердің қатысуымен пайдалану ыңғайлылығы бойынша тесттер өткізілді. Пайдаланылған әдістер мен әдістемелердің арқасында аудио, видео немесе графикалық файлдарды тіркеуге мүмкіндік беретін мектепке дейінгі білім беру портфолиосын құруға көмектесетін веб-құрал жасауға мүмкіндік туды. Сонымен қатар, жүйе портфельдерді жүйенің әртүрлі пайдаланушыларымен бөлісуге мүмкіндік береді, олар өз кезегінде жүйедегі рөліне сәйкес портфельдегі әрекеттерді орындай алады.

Тірек сөздер: цифрлық портфолио, балалар білімі, бағалау, оқытуды дамыту, бала педагогтары, бағалау құралы.

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ЦИФРОВАЯ ДОКУМЕНТАЦИЯ В ПЕРВЫЕ ГОДЫ

Аннотация. В дошкольном образовании существует несколько методов для понимания развития детей в детском саду. Один из этих методов основан на портфолио, которое в дошкольном образовании позволяет понять прогресс ребенка, позволяя совместно размышлять с ребенком, учителями и родителями ребенка о понимании процесса обучения ребенка. Это теоретическое исследование, основанное на исследованиях по оценке в образовании детей, и его основной целью является разработка веб-приложения, которое позволяет поддерживать создание платформы для хранения и обмена цифровыми портфолио для дошкольного образования. Кроме того, предполагается, что контроль доступа пользователей будет осуществляться таким образом, чтобы можно было управлять доступом к определенным портфелям или их подразделам. В системе есть такие функции, как: создание портфолио, создание заметок и управление разрешениями пользователей. После того, как приложение было внедрено, были проведены тесты на удобство использования с участием преподавателей. Благодаря использованным методам и методологиям стало возможным создать веб-инструмент для помощи в создании портфолио для дошкольного образования, позволяющий регистрировать аудио-, видео- или графические файлы. Кроме того, система позволяет обмениваться портфелями с различными пользователями системы, которые, в свою очередь, могут выполнять действия в портфеле в соответствии со своей ролью в системе.

Ключевые слова: цифровые портфолио, детское образование, оценка, развитие обучения, педагоги детства, инструмент оценки.