

Interactive Software for Preschool Level

Software Interactivo para nivel Preescolar

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Abstract

The objective of this project is to create a tool that is support for teachers in the teaching of different training fields needed and agreed by SEP (Secretaria de Educación Pública), so that students have a meaningful learning. This is a graphic software that interacts with the student, is based on activities that the child be held and includes use of colors, letters, sounds, everything you need for students to acquire the necessary skills. The methodology is based on the quasi-experimental research, and is made up of variables constructs, indicators and indices. As part of the constructs it is that students can relate geometric shapes such as circles, triangles, rectangles, etc. It is hoped that this project, students have easier access to knowledge and tecnología management approach. As well as any student of any social level can access it through this software

Learning, Competence, Software, Preschool, Educational fields

Resumen

El objetivo de este proyecto es el de generar una herramienta que sea un apoyo para los docentes en la enseñanza de los diferentes campos formativos necesarios y acordados por Secretaría de Educación Pública (SEP) para que el alumno tenga un aprendizaje significativo. Se trata de un software gráfico que interactúa con el alumno, está basado en actividades que el menor llevará a cabo y que incluye uso de colores, letras, sonidos, todo lo necesario para que el alumno adquiera las competencias necesarias en el nivel básico de preescolar. La metodología está basada en el investigación cuasi-experimental, y esta constituida por constructos variables, indicadores e índices. Como parte de los constructos está el que el alumno pueda relacionar las figuras geométricas como círculos, triángulos, rectángulos, etc. Se espera que con este proyecto los alumnos tengan un acercamiento más sencillo al conocimiento y al manejo de la tecnología. Así como también que cualquier alumno de cualquier nivel social pueda tener acceso a ella mediante este software.

Aprendizaje, Competencia, Software, Preescolar, Campos formativos

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Introduction

In the 1950s, teaching assisted by computaora, understood as the application of computer technology to provide teaching. This is how it can be seen that the concept of teaching using technological means is not new, as is the case of Interactive Software for Preschool Level.

The development of this Software complies with the commitment that was generated on May 15, 2008 [5] where the Alliance for Quality in Education is generated, among other commitments, those aimed at modernizing schools were generated in order to strengthen their infrastructure and modernize the equipment of school facilities. All this in order to train citizens with greater opportunities to learn and develop successful educational paths in terms of their conditions and particular interests.

It is important to note that this software was developed based on the curriculum map of Basic Education 2011 [5], which in turn is made up of Curricular Standards. These standards are organized into four school terms of three grades each. These cuts correspond in an approximate and progressive way to certain key traits or characteristics of the students' cognitive development. The Training Fields are part of the Curricular Standards, these Training Fields regulate and articulate the Curricular Spaces.

In addition, in each Training Field the gradual processes of learning are expressed in a continuous and integral way, these frictions of child development and learning have an integral and dynamic character based on the interaction of internal (biological and psychological) and external (social and psychological) factors. cultural).

Likewise, by participating in educational experiences, girls and boys put into practice a set of capacities of a different order (affective and social, cognitive and language, physical and motor) that reinforce each other.

In general and simultaneously the learning covers different fields of human development; however, depending on the type of learning in which they participate, the learning may be concentrated in a particular way in a specific field.

According to the SEP, the Preschool Education program is organized into six training fields named like this because in their approaches it highlights not only the interrelation between development and learning, but also the relevant role of teacher intervention to achieve that the types of activities in which girls and boys participate constitute educational experiences.

The Training Fields facilitate the educator to have clear educational intentions (what skills and learning she intends to promote in her students) and to focus her attention on the experiences that it is important for her to propose.

It is precisely these training fields on which each of the activities that the Software developed in this project is based is based. Table No. 1 shows the training fields that are part of the activities that are included in the design of the Interactive Software for Preschool level.

Campos Formativos	Aspectos en que se Organizan
Language and communication	– Oral language – Written language
Mathematical Thinking	– Number – Form, space and measure
Exploration and knowledge of the world	– Natural world – Culture and social life
Physical development and health	– Coordination, strength and balance – Health promotion
Personal and social development	– Personal identity – Relationships
	– Musical expression and appreciation – Body expression and appreciation of dance – Visual expression and appreciation – Dramatic expression and theatrical appreciation

Table 1

Currently there are some attempts to generate educational software for children of early ages but they are not standardized and do not comply 100% with the requirements determined by the Ministry of Public Education (SEP). The Preschool Interactive Software uses as a reference the activities of the competency-based model currently used in the teaching of children at the basic preschool level.

This means that the Preschool Interactive Software is specially developed for students who are Mexican, with Mexican games, with Mexican songs. All this causes the child to become more familiar with the handling of the software, and to accept it, which provides a greater familiarity between the child and the software.

With the above, the Interactive Software at the Preschool level becomes an option so that the Educational Institutions at the Preschool level have a tool that supports them in teaching the competencies required by the basic level curriculum required by the SEP. With the Preschool Interactive Software, the teacher can be sure that the content of each of the activities is 100% Mexican, this means that the system has everyday words from the region (specifically Guanajuato), which are surely words that the minors they know or have heard it at least. With the above, it is avoided that the teacher has to make excessive adjustments in the activities and that may confuse the students.

The Interactive Software for Preschool level is a software that is designed to be used by purely Mexican schools, since the language it uses and the other elements are totally from this region. It is also interactive software since the child must answer what each activity requests, as well as each activity will indicate whether the child got the answer right or not so that in this way the teacher has an idea of the degree of mastery of the competence that he obtained the younger.

Software development

For the design of the activities, a tool called Scratch which is a programming language that facilitates the creation of interactive comics, games and animations. In turn, the activities are organized through an interface using the object-oriented programming language called Java.

The reason for using these two tools is because they are completely free, they do not require licenses for their use, and this was precisely thinking that the Educational Institutions to which said software could be installed, do not have sufficient resources to purchase licenses .

All the activities of the software have written instructions, these are short and common phrases so that the student can read them easily since, in preschool, children are still learning to read. Also the instructions come in audio, so that the little ones relate what is written with what they are listening and with this they can easily understand the activity, in addition to the fact that with the written and heard phrase the student reinforces their learning in reading. The activities are designed as follows, according to the training fields described by the SEP for the basic level curriculum, specifically preschool, a number of activities were designed which are shown in table number 2.

Campo Formativo	Actividades
Language and	<ul style="list-style-type: none"> - Tell me your name - Germinators - What are you wearing? - Jungle
Communication	<ul style="list-style-type: none"> - The bird and the balloons - Dice and seeds - Logic blocks - Books and booklets
Thought	<ul style="list-style-type: none"> - Guess the song - Musical Mexico - The scarf
Maematic	<ul style="list-style-type: none"> - Crocodiles - Fast slow - Food wheel
Expression and	<ul style="list-style-type: none"> - What do I do? - What do you do?
artistic appreciation	<ul style="list-style-type: none"> - Hear that! - Rock And Roll

Table 2

Methodology

The methodological basis used for this project It is of a quasi-experimental research type, these are made up of constructs, variables, indicators and indices. As part of the constructs, the preschool child will be able to relate geometric figures such as circles, triangles, rectangles, rhombuses, etc. Through interactive software that has modules that refer to the training fields mentioned in the previous point. Therefore, the software will be made up of five modules which refer to the different fields of training such as: Language and Communication, Mathematical Thinking, Artistic Expression and Appreciation, Physical Development and Health, Personal and Social Development, Exploration and Knowledge of the World.

In general, these 6 modules include alphabet letter recognition, geometric figures, color differentiation, animal sound identification, object size appreciation, object identification, among others.

The student has to answer and do the activities indicated by the activity and it will indicate whether it was correct or not.

The variables that intervene in this project are the school level of the students, economic income, social condition and infrastructure of the Institution where it will be implemented.

Some indicators will be the list of Educational Institutions, an interview with them, and a study of the computer equipment that each one of them has.

The way to test the software is through tests of its use by a preschool student. A group of students will be chosen to whom minimal instructions will be given and the activities to be developed will be indicated. A record will be kept of the results obtained by the minors who carried out said test. The index that will be monitored will be the group average according to the evaluations made to the different students.

Results

The software was tested in two groups of 2nd and 3rd grade preschool children from a public school in a community called Valencia in Santa Cruz de Juventino Rosas Gto. The children were given the minimum instructions and on their own initiative they began to move the mouse to interact with the different activities.

The following are the results that were obtained when the preschool children used the Interactive Software at the Preschool level, said survey was applied to the teachers of that level to know how accepted the software would or would not be in the level institutions basic preschool:

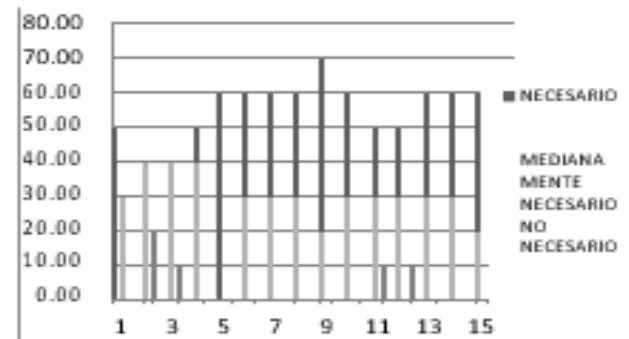


Figure 1

Figure 1 shows that the preschool teaching staff considers that if it is necessary to implement a software that supports them in their daily work with preschool students.

Conclusions

As already mentioned in the previous sections, the objective was to have a software that was Mexican, with Mexican terms and idioms as well, that would support the student in learning by competencies at the basic preschool level. And indeed, a product was achieved that involves simple terms for the explanation and understanding of the activities.

I believe that the above was fulfilled, since at the time of carrying out the tests with the preschool students, we were able to verify that technology is no longer alien to them, they learn quickly, they liked the activities since they wanted to continue playing.

So far, the software developed has audio and written phrases, in addition to the fact that when a student executes an activity it will indicate if his answer is correct or not, however, there is still work for the future, and this is regarding keeping a record of the score of each student, so that the teacher can visualize the progress or not of the competence of each student.

This software is intended to have a social impact, since it is not necessary for students to have to enter private schools so that they can have access to this software, the idea is that it can be implemented in public schools where these activities are part of his training.

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