

E learning system for autism children education essay



Abstract: – In this paper, we focus our research on the Autism students' learning environment before primary school. In our system, we presented a E-Learning System for Autism Children. We utilize the e-learning model to design an appropriate Teaching Platform for the Autism students and their teachers. Further fore, we also design the E-Learning System Application courses to more facilities for the teacher and student. Finally, we would promote the sharing of the Learning Platform toward the external environment and internal teaching resources. We also upgrade the teaching efficiency and open a great chance for the Autism student

Keywords – Autism, e-learning , ASD , alphabet , children

INTRODUCTION

“ Autism Spectrum Disorders (ASDs) are a group of neurodevelopment disorders characterized by core deficits in three domains: social interaction, communication, and repetitive or stereotypic behavior.”[1]

Any autistic child suffers from abnormal cerebral structure , and because of that the pattern of his/her thinking is quite different from a normal child in the same age.

While autism can give rise to problems in social interaction, communication, and cognitive and motor difficulties, there's so much that assistive technology can do to help people with autism live functional lives.

Temple Grandin, Ph. D., Assistant Professor, Colorado State University , said that he was an autism child , and gave an interesting teaching tips for autism children . One of the points was” Many autistic children have
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problems with motor control in their hands. Neat handwriting is sometimes very hard. This can totally frustrate the child. To reduce frustration and help the child to enjoy writing, let him type on the computer. Typing is often much easier” [2]

This is a very good point to start with teaching autism children. Beside that children with ASD have strong attraction to objects , pictures and colors.

The language they understand is objects and visible things not words , but each one of them differs from others in the “ object” that he/she most interest with .

Plus all mentioned points , we must not forget that most students with ASD prefer routine and predictability , in fact creating a schedule to them helps them manage their anxiety , and of course we must not forget that these children do not like noisy environments .

By putting all these points together, we reached to a confidence that designing an e-learning system for children at early childhood learning age can help very much in many ways .

Here we trying to introduce an e-learning school-base system for autism children for early children education age (between 4-6 years) , which we hope it will be an assistance tool for teachers dealing with this field. Getting such a child into structured behavior learning system can affect very much in improving his/her condition and skills.

Also such system will help teachers to divide their time among a larger

number of students and schedule each child learning according to his/her
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own database within the system , system will include a medical background for children and also will be available for parents by using a special password for their child , so they can keep tracking to their child's learning progress as well as they can cooperate with school by adding notes to database about their child s .

RELATED WORKS

Several previous studies and attempts were proposed within the field of teaching ASD children with the help of computers , but still they were not a school-based system to help teachers within their work .

One of the most interested designed systems was trying to improve the intelligibility skill in the speech of autism children by designing special interactive e-learning game for them which rewarding them for improving such skills.[1]

Another designed system , designed courses for Autism students by using multimedia skills . courses have independent units with simple content using clear audio to teach students topics of daily life , which is called environmental teaching mode. [3]

E-LEARNING SYSTEM FOR AUTISM CHILDREN

Figure 1 : E-learning system interface

E-learning system for autism children is proposed to help children with ASD at early school age (4-6)years , to teach the alphabet with the help of visual objects in an interactive way. Repeating the sound of letters to the child with

their shape accompanied with pictures , and also giving him/her a chance to practice writing these letters under the supervision of expert teachers , who should know the level of each child by a background database . All these points are put in together to increase the possibility of learning for the ASD children and also will be as a tool for teachers to document each child progress in the child's database .

Figure 2: Letter a with a properate object

This system is designed to be an e-learning assistance tool for teachers , as it will be a school -based system . A teacher can divide his/her time among three ASD children instead of one-to-one teaching all the time , which is required for such children.

The system in present form has been divided into three levels to cover the twenty six English alphabetic letters, every level with eight or nine letters to teach for a child with a repetitive capability for hearing and write practicing for each letter . Also the teacher can show the child within this system how each letter it can be written by hand . This step is given to the child after he/she had recognize the shape of a given letter. The child has the ability for move forward and backward to display the rest of letters and how they are written , if he/she wishes to do that.

Figure 3: Teaching alphabetical handwriting

The system has been designed to give a simple text for a child after each level if the teacher decide to do . A child's learning capabilities and improvement can be noticed and marked by teacher in the database

corresponding child information . This will help the teacher , even if another teacher take in charge this task , to decide whether or not go to the next level for this child .

Figure 4: a database table of children information

This system can be a hopeful tool for parents as well. They can have access to the system and see the progress of their child , plus the ability of adding their own remarks and recommendation to the database of their child to be considered by teachers , just by giving a password related to their child .

ASD children will learn more easily and quickly with the aid of this system, because they are not forced to draw the letters on a paper, which most of them face difficulties to do. Instead they just press the corresponding button of the required letter they are learning it , to appear on the screen and see , which will encourage them to proceed with learning other letters and words .

As teachers have control over the system, they could decide to give the child a selected behavior by teaching movies accompany within the system or upload other movies , whenever it is necessary to do this .

This can be represented to the child as an entertainment and also a teaching material , maybe , between one letter and another or after each finishing each level or after passing the exam , and so on, according to teacher decision which is based on background knowledge of each child's condition.

Figure 5: Teaching behavior movie

SYSTEM IMPLEMENTATION

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System has been developed E-learning System for Autism Children with using Java Script with My SQL because of the strength of these two languages in the development of web pages. When you browse the our system, which consists of two main parts, the first part special teacher and the second part the student and all of the parts are implemented by the teacher supervisor. When you are entering the button the teacher must enter a user name and password your teacher.

Figure 6: user name and password for teacher.

The cause for the is that it There may be a more of teacher in the Class, or when you change the teacher, after going to page the teacher and student consisting of (home, management student, exam, logout).

Figure 7: Page of teacher.

Upon entry to the button called management, which consists of (add, update, delete, view data).

Figure 8: Table of data.

After this exam button is selected by the teacher to determine the test levels through the implementation of the level or not implemented.

Figure 9: Table for exam.

Upon entry to the home page and select a button from the student by the teacher or supervisor of the student's family for the purpose of the audit of

the student in the house must enter the name of the student and the student's PIN number. After entering the student to the button.

Figure 10 : User name and password for student.

We will show the special education programs in our system which consists of lessons on the alphabet that contains lessons. Learning letters subdivided into three levels (a... z) where it is to hear the characters with an illustration for each letter with the shape of each character and when you go to the display of the alphabet and writing lessons and when selected will show us introduce the alphabet and writing lessons and when you choose all the presentations we will show the characters and how to write and Show audio formats with special characters to learn.

Figure 11: writing lesson and view all alphabet.

When you choose writing instruction will open a new spoken alphabet and after listening to a character you should test the student to write the letter and when the answer is correct will be the voice encouragement In the case of the wrong answer there will be a voice request retry. When you press the button on the exam the test will be on four stages. the first phase show his characters as well as hear the sound and when.

Figure 12: sound exam.

Answer is trying to student choose the correct letter

of the notation on those characters in the next stages

of change ways examinations, which shows a sound

only by writing that letter and when to pass examinations is successfully transferred to the next level automatically during the clarification in the database.

Figure 13: alphabet exam.

In addition to the foregoing there is a button in our so-called behavior where the Video tutorial to guide the student for the purpose of all aspects of the customs and culture through the daily life of student.

CONCLUSION AND FUTURE WORK

In this paper, an educational system that is designed for people with special needs and focused on learning the letters and spelled also written the most important features provided by this system is an abbreviation for the number of teachers as the autism class who suffer from autism or two every student needs a teacher. The development of this system in the future includes many applications such as learning numbers as well as start games help students unite in learning addition to securing the development of this system and introducing it into primary school as it leads to good results and develop the skills of children who suffer from autism as well as creates them good opportunities in The future in order to get a job and start a new life for them