

**INTERNATIONAL JOURNAL OF ENGINEERING SCIENCES & RESEARCH  
TECHNOLOGY****E-LEARNING FOR DYSCALCULIC CHILDREN****Asmita, Professor Priyaadharshini M.**\*Dept of Cloud Computing VIT University Chennai, India  
Dept of Computer Science VIT University Chennai, India**ABSTRACT**

E-learning is the use of electronic technology for education so that students can learn easily and can access the data without bothering about location and time. Therefore in this paper I am using moodle learning platform. In this paper I proposed learning method for children who is trapping by dyscalculia. Dyscalculia is an inability of math. Dyscalculic children have difficulties in math learning conception. Most of the time they got puzzled in math's operation, they can not memorize math's formulas easily, they puzzle in numbers. They can not find out difference into two two numbers. So in this paper I suggest a learning technique which will help dyscalculic students. So that they can overcome their math learning issue and live easily with another students.

**KEYWORDS:** e-learning, moodle, assessment dyscalculia, quiz, VARK**INTRODUCTION**

E-learning is education through the internet, network, or computer. E-learning is essentially the network-enabled transfer of skills and knowledge. E-learning refers to using electronic applications and processes to learn. E-learning applications and processes consist of Web-based education, computer-based learning, virtual classrooms and digital collaboration. Content is delivered via the Internet, intranet/extranet, audio or video tape.

**Benefit of using e-learning:**

- Scalable, Efficient and Fast
- Higher Learning Retention than traditional learning
- Class work can be scheduled around family, work.
- It reduces journey time and travel expenses for off-campus student.
- Students may have the option to select learning materials that meets their level of knowledge and interest
- Students can access to a computer and Internet connection from any location.
- Self-paced education part allows students to work at their own pace.

Dyscalculia is related to study of math inability. Pupil who is affected by dyscalculia have trouble in memorize math formula, recollect math facts. Students cannot deal with math problems. Some students have difficulties in math calculation (add, sub, multiple, division), math writing, math recollection.

There are many syndrome of dyscalculia:

- Baffled into two numbers.
- Complication with direction.
- Trouble in telling time.
- Disable to figure out math question.
- Difficulty grasping and rememorize math concepts.
  - Confused by math patterns.

There are various category of dyscalculia:

- oral (difficulty in analyze the math terms).
- Operational (not able to simple calculation).
- Linguistic (reading math terms).

- Graphical (symbol manipulation)
  - Ideognostic (mental calculations)

I select this topic because most of the people hadn't heard of dyscalculia until recently specially in India. Indian parents are not so much aware to this term. It isn't as widely discussed as dyslexia, and it's not as well understood. However some people think that dyscalculia is almost same as dyslexia. Scientists can't say for sure how many children or adults have dyscalculia. There is no central data bank for the research data on dyscalculia. That makes it hard to estimate how many people it affects.

#### Causes of Dyscalculia:

There are certain factors that indicate it's a brain-based condition. Some of the possible causes of dyscalculia:

- **Genes and heredity.**
- **Brain development.**
- **Environment**
- **Brain injury**

#### Skills affected by dyscalculia:

Dyscalculia affects child's ability to handle math class and to solve math homework. As we know math skills and concepts are used everywhere from the kitchen to the playground to the place of work. It's reasonable if you're anxious about the long-term impact of dyscalculia on your child's life. But once you identify child's weaknesses, you can find ways to work around them by building on strengths. Here are some everyday skills and activities child may find difficult:

**Social skills:** Failing repeatedly in math class can lead your child to assume failure is inevitable in other areas too. Low self-esteem can affect child's willingness to make new friends or participate in afterschool activities. He might also avoid playing games and sports that involve mathematics and maintenance score.

**Sense of direction:** Child might have dilemma in learning left from right. He may have trouble getting places by reading maps or following directions. Some kids with dyscalculia can't picture stuff in their minds. Child have trouble imagining how a building or other three-dimensional object would look if viewed from another angle?

**Physical coordination:** Dyscalculia can affect how the brain and eyes work simultaneously. So child may have trouble judging distances between objects. He may seem clumsier than other kids the same age.

**Money management:** Dyscalculia can make it difficult to stick to a budget, balance a checkbook and estimate costs. It can also make it hard to calculate a tip and count exact change.

**Time management:** Dyscalculia can affect child's ability to measure quantities, including units of time. Child may have trouble estimating how long a minute is or keeping track of how much time has passed. This can make it hard to stick to a schedule.

**Other skills:** Child may have difficulty in figuring out how much of an ingredient to use in a guidelines. He might have a hard time estimating how fast another car is moving or how far away it is.

#### PROPOSED WORK

In this paper I suggested a learning method which help dyscalculia children to reduce their incapacity In this paper i am using moodle platform for e-learning in which student have to first login then they can take a Quiz as shown in Figure1. Based on their results we find out that students come under which learning style. In this math learning method we provide practice and some task to the students.

After some days i take a assessments and check their performance. If performance is not so good then student should have to practice and task again. In this we use VARK model for learning. if students comes under kinesthetic category we provide them some puzzle type question. In visual category we ask them question based on an image. In Aural category we listen them a clip and then ask question.

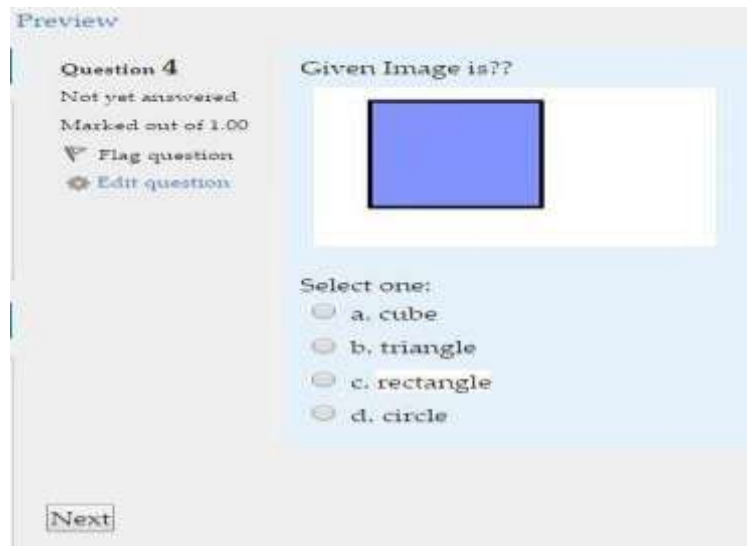
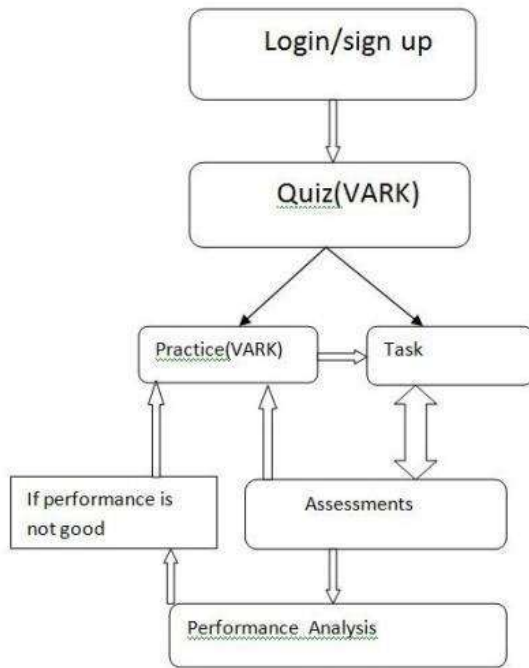


Figure 2

For visual student i added some image based question so that they can give the answer easily by seeing the image as shown in figure 2 and they can easily learn also by seeing the image.

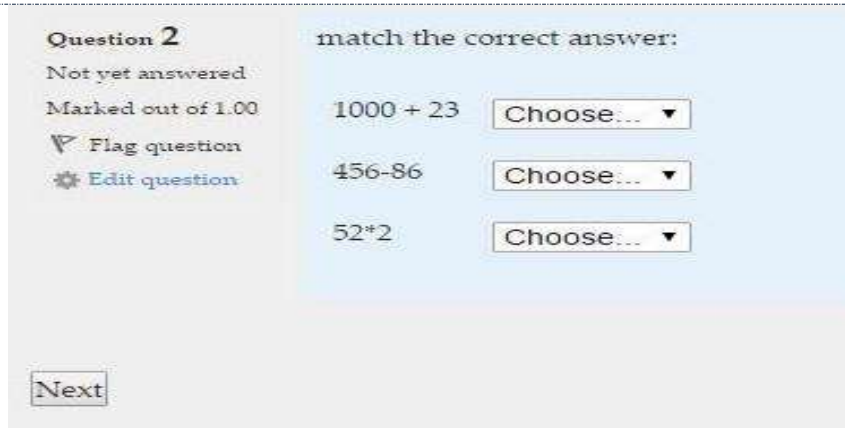


Figure 3

For reading learning style I add some question as shown in figure 3.

### EXISTING METHODOLOGY

As per by **Dr. T.NAGAVALLI, Mrs. P. FIDELIS PAULINE JULIET [1]** there are many Assistive technology like electronics math worksheets, math software- number race, talking calculator, digital pen etc. that can be used to help students to perform in the classroom There is a variety of assistive technology that can help students with different types of dyscalculia overcome these difficulties.

As per by **Zainab Pirani, Sasikumar [2]** they told about different type of accommodations e.g. Pedagogical Accommodation , Presentation Accommodation, Test Accommodation. Accommodations are alterations in the way tasks are presented that allow dyscalculic students to complete the same assignments as other students.

As per by **Onintra Poobraser, Waragorn Gestubtim [3]** they define some development of Assistive Technology for Students with Dyscalculia. They proposed a new way of learning and understanding math for students with dyscalculia.

As per by **Dr. Dharmendra Chourishi1 Dr. Chanchal Kumar Buttan, Abhishek Chaurasia, Anita Soni [4]** they told about Effective E-Learning through Moodle In this paper they explored the implementation of effective e-learning through moodle and also present how the various facilities of Moodle are used by tutors to provide interactive and stimulating learning experiences in providing higher education in various colleges of technology.

### REFERENCES

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