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Technological Revolution in Computer Aided Education

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Abstract: Computer-assisted education is a critical component in increasing the efficacy and quality of the training system. Computer education is a part of the school and college curricula since it is essential for today's child or adult. The intention of this article is to emphasise the role of computers in education especially for people who are suffering from Autism Disorder.

I. INTRODUCTION

The computer is a gadget that individuals use in their careers, and computers are currently benefiting an increasing number of people in the present period. In the 1960s, the advancement of semiconductor technology lay the groundwork for the creation of personal computers[1]. The introduction of personal computers transformed computer software in science, engineering, and business. The laptop, like other products of human ingenuity, may benefit education. Private computer systems are used in educational institutions ranging from top colleges to universities to teach writing, reading, arithmetic, art, science, mathematics, music, history, geography, economics, business, architecture, and engineering to all students. The number of pupils at all levels is rapidly increasing, school resources are scarce, and high-quality instruction is restricted by the lack of academic fabric and texts[2]. In many nations, the idea of enhancing both teaching and learning using new information technology has been the most significant aim and policy of the Ministry of Education, and it has been taken seriously. The current education system in secondary schools, colleges, and the workplace is discussed in this paper, as well as how computer systems can be used effectively.

II. DIVERSITY OF COMPUTER AIDED EDUCATION

Autonomy is a good way for college students to discover the acquisition of know-how and domesticate students' capacity to find and settle troubles in the method of autonomous learning.



Fig 2.1 Computer Animation of visual characters for easing the learning process

The process of creating animated visuals digitally is known as computer animation. The more common phrase computer-generated imagery refers to both static and dynamic visuals, whereas laptop animation solely refers to image transmission. Although 3D computer graphics are commonly used in modern computer animation, 2D laptop graphics are still used for stylistic, low bandwidth, and faster real-time renderings[3]. The computer is sometimes the objective of the animation, although movies are also used from time to time. With advancements in digital technology, the enthusiasm of teenagers towards digital technology is growing enormously.

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Fig 2.2 Various Methods of Computer Aided Education

Virtual Reality (VR) is the technological know-how to create a simulated environment, instead of viewing a display in front of them, customers are immersed and in a position to interact with 3D worlds. The major development of computer aided education in children is the computer assisted learning for autism kids.

III. IMPORTANCE OF COMPUTER-AIDED EDUCATION FOR KIDS WITH SYNDROME SPECTRUM DISORDER (ASD)

Many autistic teens find that using tools like visual communication systems, social memory, and observable timetables helps them communicate better with others around them. The majority of these are now available on any smart device. You can build all of the itineraries using apps for mobile phones and tablets with the Testimonies and symbols that your infant may require. Furthermore, due to the tiny size of today's technology, these sources may now be carried around without difficulty and invisibly[4]. However, technological advancements have progressed well beyond a few photographs on a screen! There are several applications available now that can aid folks who are non-verbal in communicating by providing them with a digital voice. The programme will speak the text out loud if the user truly needs to compose a statement using symbols. Of course, because audio-output applications are still in their infancy, determining their entire influence on the language development of youth with autism is difficult. It is really beneficial to choose discussion applications for your child with caution.

If your kid is still learning to talk, image verbal exchange applications that require your child to exhibit symbols to their conversational partner may be the best solution. Meanwhile, audio-output applications may be a better option if your child is a teenager who is wordless or has a limited vocabulary.

The majority of the papers reviewed for this overview focus on the usage of programmes designed specifically for the search mission, while only a small percentage discuss the design process for these technologies. Poorly designed computer aided learning can also lead to a lack of mastery, which incorrectly implies that computer assisted learning is a bad academic approach. It is critical to achieve the highest level of pleasure in design. There are few opportunities to disseminate effective sketching techniques[5], for example, in psychology publications that mostly publish experimental findings.

On a more specific level, there is minimal information available regarding the best CAL visual design for autism. For illustration, cartoon version characters for preschoolers frequently have unnaturally large eyes, but when designing for children with ASD, eyes should be at a more realistic scale in the face to reduce the potential for gaze aversion.

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One of the most important advantages of software development for people with autism is that it provides a regulated environment free of surprises. In theory, this is something that many autistic individuals will find useful. Ultimately, it's vital to keep in mind that, just as not all autistic teenagers are intellectuals[6], autism shouldn't prevent them from leading productive and prosperous lives. In terms of engineering, finding programs and applications that allow the autistic newborn to progress and grow naturally - anything that 'brings the extraordinary out' of the child – is critical. Some companies even hire autistic persons nearly exclusively, albeit not in professions that need a lot of interaction with others, including such HR and sales.

IV. MERITS

A. Through Computer Assisted Learning (CAL) individualised gaining knowledge of desires of the novices can be taken care of. Learner is free of the barriers of time, space, and other factors. Each learner can research freely barring being affected with the aid of the performances of other learners.

B. Computer Assisted Learning helps presentation of data in a structured and ordered manner which makes learning convenient and interesting.

C. Computer Assisted Learning influences the learner's participation in the studying process. On the other hand books fail to have an impact on this participation.

D. Computer Assisted Learning makes remarks and reports of learner’s development without difficulty and timely availability. Thus, the learner can work on his/her weaknesses properly in time.

E. Computer Assisted Learning makes use of a huge range of multimedia[7] the usage of audio and visual inputs that help the learner in reaching the know-how objectives. However, books are limited only to supply textual and picture statistics to learners.

F. Computer Assisted learning also makes drilling pretty effortless which can be quite beneficial in enhancing the gaining knowledge of output of students with low-altitude.

V. DEMERITS

A. Computer Assisted Learning is constantly in charge of being underused. If now not applied and utilised right it may additionally fail to help the learner attain studying objectives.

B. Though Computer Assisted Learning creates a digital atmosphere while teaching science subjects such as Chemistry, Physics, Biology, etc., college students might also leave out arms on a trip which they get in a true laboratory.

C. Computer Assisted Learning is quite high-priced as in contrast to everyday learning.

D. Learning Content used in Computer Assisted Learning desires well timed and ordinary upgradation, which once more is pretty expensive. Delay in upgradation and improvement of new content might make the historic content material useless with the passage of time.

E. Computer Assisted Learning requires surprisingly efficient teachers; efficient instructors are especially rare in our country. Inefficient coping with Computer Assisted Learning apparatus and content material can also similarly motive many problems.

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VI. SUMMARY

Technology-enhanced mastering has been used successfully to promote better learning of new academic, social and existence competencies in people with autism spectrum issues from predominant school to adulthood.

The approach is applicable both to the common preferences and ability sets of human beings with ASD, giving them a hazard to display their skills and reap peer respect. The discipline of CAL and autism research may additionally now be maturing. Increasing quantity of publications on the subject matter is being accompanied by using an amplifier in well-designed experimental research consisting of a handful of randomised controlled trials. To accompany this increase in measurement and stature, the discipline requires a better methodological and theoretical foundation. It is difficult to extract data about graphs and implementation[8] from research which focuses on reporting getting to know outcomes, but greater work needs to supply elements on these elements as well as trying to link CAL success with precise facets which can be replicated in future. Likewise, evaluation of CAL needs to encompass indirect outcomes as nicely as modifications in the goal skill.

As well as improving the proof base, future endeavour in this discipline should centre attention on developing high-quality products which can be accessed by using the neighbourhood that wishes them. Nevertheless, it needs to always be acknowledged that the aim for an individual with ASD is to allow them to function happily and successfully in our inevitably social, interpersonal world. This means developing bendy responses to altering situations, as a substitute than following rigidly rehearsed rules. For this reason, CAL ought to usually be simply one tool in the container of support for human beings with ASD.

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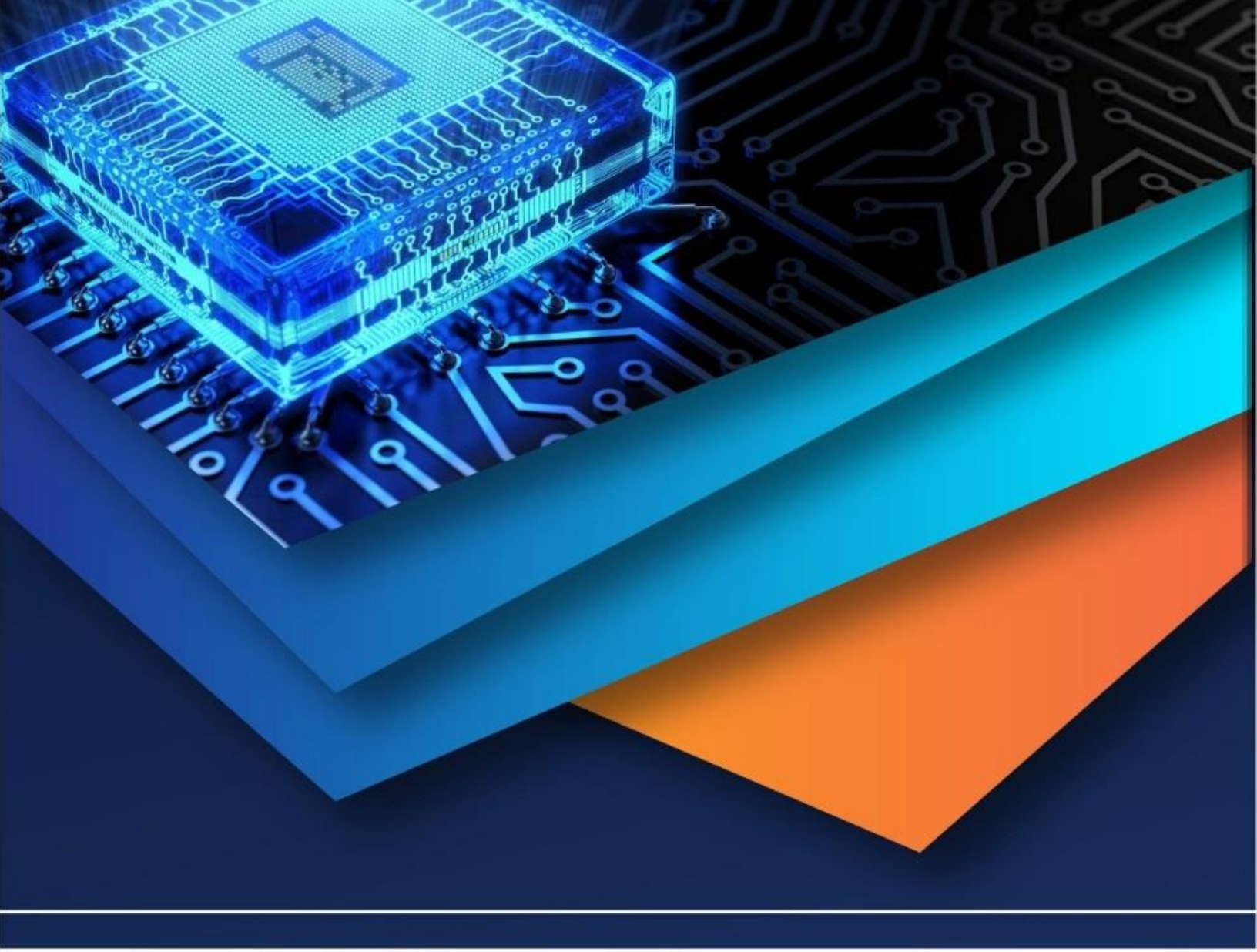
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