**Issues with Computer Assisted Education**

Computer assistance in education has many benefits, however it also creates several issues that can be detrimental to the overall intake of information in students. Whether it be the abundance of false information available on the internet, or the decrease in personal support and individual customisability of lessons for younger students, or perhaps the flawed correction systems of automated marking, it’s clear that computer assisted education has quite a few problems that should be resolved before total integration.

**Automation of Testing and Learning:**

As Computer Assisted Education becomes more commonplace across the world, it becomes easier to notice the continuous increase in automation of testing and learning. While this method of assigning work is quite fitting for colleges and large schools where automating the process of learning is important to the overall efficiency of the facilities, it’s with younger students that this process of automated testing and education with little to no differences between the ways each student is taught, that causes some issues.

Younger impressionable students do not have the required maturity to properly succeed while being self-sufficient. Generally, a teacher with younger students will have to isolate students that seem to be struggling and work with them to help them find a way to learn that is unique to them.

*“schools should help students learn about themselves, encouraging self awareness as a way of promoting cognitive development” (Schmeck, 1988) [1]*

Younger students require a more personalised approach than is possible to achieve with automated testing and learning. In the paper “Information and communication technology (ICT) in higher education: advantages, disadvantages, conveniences and limitations of applying e-learning to agricultural students in Iran”, which details the history of e-learning and it’s implementation in Iran had this to say regarding the importance of face to face learning.

*“Compared with traditional methods, face-to-face and lively communication does not exist in e-learning. This can cause negative effects on academic progression and characteristic development of students.”* (*Talebian, Hamid Movahead, & Rezvanfar, 2014) [2]*

**Automated Correction Software:**

Another issue with Automation of testing is the fundamentally flawed auto-correction systems that are often implemented with online testing. More educators are turning to automated correcting as the average number of students in a class causes manual correction to be tedious and time-wasting.

Automated testing can work quite well when using multiple choice exams, however that is extremely limiting the types of questions that educators can ask. Subject’s such as Maths, Accounting, and English focus much more heavily on the process that students take to achieve their answer than the answer itself, making automated correction an ill fit for their question style. This can be seen in the grade deflation This puts a strain on educators to fit their topics in a question style that allows automated correction, which often doesn’t work. For example, when staff at the University of Liverpool began using TRIADS, an assessment-based software, it introduced issues as the correction method of the software was difficult to work with using their already established syllabus.

“*they were unfamiliar with the new question styles and lacked confidence in writing suitable questions” (McLaughlin et al., 2004) [3]*

The limitations of the system itself can cause several issues also. If the educator chose to go with typed in answers rather than multiple choice questions, the automated correction software might not be capable of the same comprehension of answers as humans are. Grammatical errors or misspellings could cost the student marks as their answer might be rejected by the software. Even answers that are fully grammatically correct could be rejected for pedantic reasons. For example, if the answer is “Six electrons”, the following answers would be rejected by an unrefined correction system, “six electrons”, “6 electrons”, “Six Electrons” etc. This risk is minimised as the correction software becomes more advanced, but the possibility of an unfair marking is still possible.

These problems are slowly being circumvented as the software becomes more sophisticate. And online marking is becoming more prevalent in subjects that it is suited to. However, the initial implementation can be quite difficult, and it requires the full cooperation of staff and the full staff need to be educated on how to work the systems. When talking about the issues they encountered integrating computer assisted education in Turkey, the journal documenting their process stated

“*Successfully involving teachers in CAE did not occur. Selected teachers were not trained in an adequate fashion*” (Usun, S., 2006) [4]

**The Internet:**

The internet has undoubtedly had a large impact on education. This can be proved by simply taking into account the amount of colleges that employ online testing. In a recent research conducted in the US covering a sample of 990 educational institutions,

*“it is only 18.7% of all educational institutions in the USA that do not offer some of their study programs via e-learning”* (Radović-Marković, M., 2010)[5].

The internet has connected students and professors with their colleges and schools in many helpful ways, but the presence of the internet itself is not always beneficial to education. The internet is a collection of information easily accessible by the majority of students. Therefore, two major problems can stem from it that effect education in particular. The ease of cheating it provides, and the enormous wealth of false information it possesses.

The ease of internet allow students to cheat much easier than before. Plagiarism runs rampant in the modern era because of the availability of information and the ease of copying it. Of course, plagiarism was present before the internet, but this ease of use has caused it to become much more common. One author describes student use of the Internet as

*"a big study group and an endless archive of cut-and-paste essay components [where] the ability to easily scoop a little flotsam from the vast oceans of the Internet doesn't seem nearly as nefarious as pilfering a passage from a library book"* (Fritz, pars. 67)[6].

Software such as “Turnitin” is helping to deter this, but this shows how computer assisted education must be employed in certain situations to fix issues that the internet has caused. Aside from essay plagiarism, websites such as Chegg.com and quickmath.com are designed specifically for students to cheat on their assignments.

Another issue that effects education is the abundance of false information on the internet. The lack of prerequisites or proof of information needed for someone to post articles on the internet leads the vast majority of information on the internet to be biased, prejudiced, or just plainly false. The false information becomes hard to distinguish from the truth and thus has often caused intelligent students to be fooled by structured points and good referencing, manipulated into serving a false conclusion.

*“Both trained and casual readers get fooled into believing false information when it is well written, long, and is well-referenced”( Kumar S. and Shah N., 2018).[7]*

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