

Impact of E-Assessment at Middle School Students' Learning – An Empirical study at USA Middle School Students

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ABSTRACT:

Justice and the feeling of being dealt with justly is not only an anxiety reliever but also a great motivator for all human beings. Students appear in exams to get assessed about their academic learnings and understanding of concepts. Traditionally, such assessments were made through hard paper – pen tests conducted under exam conditions. Carrying out such assessments electronically is a not very old trend and such tests are termed as e-assessment, electronic assessments, and computer-based tests/ exams, etc. This paper studies impact of such tests on the academic learnings of middle school US students using scale used by (John Dermo, 2009). The main scale measured 6 dimensions using 30 indicators while this study is shrunk to only two dimensions of “Comfort in use” and “Learnings through e-tests” measured through 14 indicators. Results show a normal distribution of responses with little skewness both towards “Ease in usage” and “Learning”. No significant difference was found in the responses based on “Genders”. Still, the study suffers the limitation of sample size and sample frame. These must be increased and the study conducted at different areas students to make it more generalizable.

Keywords: E-Assessment, academic learning, Ease of computer usage in exams, US Middle Schools

INTRODUCTION:

The human being is always looking for opportunities to develop and progress (Habib et al., 2019). Still what motivates him the most is the feeling that I can do even better. Motivation comes to the students at every point in their process of learning and achievements thereon. Students' beliefs about if they are being assessed justly is also yet another important factor to let him/ her go ahead. Such feelings motivate students to put in more hard work and consider it worthwhile to put in their best efforts (Deci & Ryan, 1985). A similar finding was also made by (Pintrich, P. R, 2003) who found positive enforcement through realizing concreteness and

justice in assessments. Therefore, assessment is very important in any field of life, so it gives the idea of what to do and how to move further (Mahmood et al., 2014).

The idea of assessment has been defined in many ways but the one by (Ahlan, Atanda, & Shehu, 2014) is a composed procedure identified with the estimation procedure and its outcomes described through the attributes and characteristics explicit in nature. The reason for the assessment is also to form a database to resolve and to recognize the suitable evaluation procedures. However, it is very difficult at least, if not impossible to maintain objectivity in the assessments as human beings are subject to likings and disliking. In educational institutions, assessment of the students is similarly very important as well as very difficult (Abbas, Muzaffar, Shoaib, et al., 2014). So, different assessment tools are being used world over for assessment of students in class as well as on project assignments, presentations and discussions on projects tell the number of efforts put in a project (Imran & Abbas, 2020). For example, exams are used to assess the students' performances in the subjects. When paper-based exams and tests are used to assess the students' performance, we have different constraints because it becomes hectic for the teacher to check so many papers also in paper-based exams students have to be in the exam hall to give the exam so in this era a new idea of Electronic Assessment is being introduced in which technology is being used for assessment. The stages in which technology-based assessment came in education can be considered in three distinct generations or phases (Drasgow & Bennett, 2006)

The First Generation: In the first place, there is a need to design an infrastructure that can lay the foundation for testing under a changing environment. Such a system is generally low cost, economical and less complex and quite resembles how traditional system assesses. Such systems are also very good at assessing the institutional needs of school accountability but have somewhat differences from the traditional "paper-based assessment style"

The core of this framework building is the change from the old improvement and conveyance process into another, extensively extraordinary one. For such end clients as neighborhood institutions, that progress may include putting broadly in PC equipment (e.g., tablets, PCs, intermediary servers) and systems administration hardware, preparing innovation staff to set up and investigate the test conveyance programming, and preparing educators to oversee and delegate online assessments, incorporating how to manage innovation disappointment. For the advancement and conveyance office, thing creation, test gathering, quality control, and security will require embracing new procedures, permitting programming, and retraining staff (Chandler, M.A, 2013, May 20).

The Second Generation: In second-age tests, subjective (however steady) change and proficiency improvement become the driving objectives. On a fundamental level, second-age tests utilize less customary thing designs (e.g., ones including mixed media upgrades, shortly developed reactions, static execution undertakings like articles) and may make introductory endeavors to gauge new builds, starting to change what is surveyed (Abbas, 2020). These tests likewise endeavor to improve proficiency through means such as automatic item generation (Gierl, M.J & Haladyna, T.M, 2013) mechanized scoring (Shermis & J. Burstein, 2013). Likewise, the utilization of the Internet for a wide assortment of inward procedures for associations with test clients is also fairly required. In the light of its curiosity, the utilization of innovation in this age may now and then overshadow substantive contemplations (Abbas, 2014). That is, new thing types might be joined as much since they are not the same as customary numerous decision inquiries. Robotized scoring may correspondingly be utilized

because it predicts the scores that operational human raters allocate, paying little respect to how it makes those expectations and of whether the substantive premise utilized by the displayed raters in making their decisions are comprehended (Abbas, 2019).

In second generation tests, subjective and incremental change and effectiveness improvement become the driving force. Second-age tests utilize less conventional thing groups such as ones including interactive media upgrades, short developed reaction and assignments like papers and may make starting endeavors to quantify new reasons starting to change what is evaluated. These tests likewise endeavor to improve productivity through means, for example, programmed things bringing innovation (Irvine, S.H & Kyllonen, P.C, 2010). Another important factor of all this is the mechanized scoring and use of the internet for various other internal procedures that remove human elements (Shermis & J. Burstein , 2013)

The Third Generation: In the third generation, the reevaluation happening on various fronts at the same time. It is in this third-generation that what was, from the outset, an advancement driven fundamentally by innovation ends up driven by the substance (Bennett, R.E & Gitomer, D.H, 2009).

Such assessments serve both institutional and solitary learning purposes. Second, they are organized from emotional norms and speculation based space models. Third, the assessments use complex generations and other astute execution endeavors that copy noteworthy features of certified conditions, grant progressively standard joint effort with PCs, and review new aptitudes in dynamically present-day habits. Finally, the examinations are dynamically planned with direction, testing execution more than once after some time

Along these lines, in electronic evaluation, the data innovation is also being utilized in educational assessment. For instance, Online PC based tests are being led these days wherein we can give the online test to students just by sitting in our room on our bed. This means there is no test lobby or an exam hall with invigilators roaming around. In this way, it turns out to be simple for both assessor and the students who can even sit at two different continents of the world and take a test.

Additionally, on such a chance we see that electronic assessment is helping the educators. This is how the Electronic assessment can decrease the burden of the educators at both ends i.e teaching and the students and also helps in the better and more judicious assessment.

Literature Review:

In the United States, the Virginia Department of Education and many of the local school of districts gradually made the needed infrastructure investments, making the program to develop from the small pilot project in 2000 to about 2.7 million tests that makes almost 94% of the net number of tests (Chandler, M. A., 2013) this program made assessments that found were much closer in design, content, and form to the paper method they replaced (Abbas & Sağsan, 2019). However, once when the infrastructure looked as reliably in order and working place, it incorporated technological enhancement items and use of the Internet for Internal operations, developing from the first-generation starting point to the second-generation processes (Richmond, VA, 2012). A similar success was made with Graduate Record Examinations (GRE) and the General Test of Teaching English as a Foreign Language Internet-Based Test (TOEFL iBT), and the Graduate Management Admission Exam (GMAT) (Attali, Y., 2011).

Similarly, Essay Tasks were found workable with the automated assessment (Rudner, L.M, Garcia, V, & Welch,C, 2006).

(Millsap, C. M, 2000) was probably the first one who studied the effect of electronic tests on students' scholarly accomplishments. In such a manner, the investigation has included 227 students who go to 12 classes of the Apprentice Medical Specialist Resident Course. The study applied single direction ANOVA and t-test for investigating the information. From the findings, the investigation neglected to locate any noteworthy distinction between electronic test organization modes and scholarly accomplishment. (Hijazi, D., 2011) also did a comparison of students' performance in English grammar using cell phone-based, computer-based, and paper-based testing. He analyzed the utilization of PC based appraisal and paper-based evaluation systems to assess the scholastic accomplishment of students in the English syntax course. A sum of 209 male and female students in Jordanian colleges was chosen. The outcomes got utilizing two-way ANOVA and expressive measurements display the measurably critical contrasts in the PC based evaluation and scholastic accomplishment of students in the English language.

The idea of assessment is an organized procedure to measure the process and then its results defining qualities, characteristics, and various other issues (Abbas & Sagsan, 2019). Here we document what is empirically observed through various tests. These tests may be in hard shape on papers where students write their answers or can be conducted on computers i.e e-assessment. Thus we collect information of students on a standard topic and numerically grade these. However, the purpose of the assessment must be determined to use suitable assessment design tools for the collection of information on students' performance (Abbas, Muzaffar, Mahmood, et al., 2014).

The APA i.e. American Psychological Association's issued a list of Guiding principles CBAs or the Tests based on Computers. They recommended that the scores should be measured equivalent, or equivalent, only if the rank orders of respondents closely show similar results to one another. These should also have a similar score distribution and if not so, these must be made are approximately the same, or have been made around the same by rescaling (Abbas et al., 2015).

In another study, (Alzu'bi, M., 2015) examined the effect of electronic tests on students' accomplishments in an English course. The electronic test was evaluated on 58 students and when statistically analyzed, it was found that the scores of students were measurably critical on the academic progress. A viable measurable methodology displayed a huge distinction between the gatherings of the electronic test scores and inspiration scales among Jordanian students (Basaran, B., Yalman, M., & Gonen, S., 2016) demonstrated the significance of electronic evaluations or tests as far as employees. The examination has demonstrated that employees can obtain quick outcomes and improve instruction. From students, it enables them to spare time and cost, permit adaptability, increment the dependability by alleviating the errors made by a human, give satisfactory and quick input, and gather the reactions to the inquiries in the PC condition (Shahzad et al., 2019).

Associated Trends and Skills Required with e-tests and their Development

The aptitudes and skills that must be considered are the students' experience while dealing with computers, as the educational literature affirms that some of the students who were not earlier acquainted with the computers could not utilize it easily and subsequently it seriously

influenced students' performance that was assessed in electronic tests. As indicated by (Abdelaziz, H. A, 2012) in his study, the demeanors of certain understudies toward PC are especially negative. Conversely, there is a gathering of understudies who have PCs at home, and numerous examinations have demonstrated that nature with PCs assumes a significant job in execution.

Literature also shows at times that the results of Computer-Based Tests and the Hard Paper-Based Tests do not give the same scores. However, it may be due to many extraneous variables that could not be controlled during the experiment.

Similarity questions additionally emerge when we consider different PC platforms, which may differ physically from school to schools and class to class and also from differences in students. These all factors may then collectively make big differences and results may look even opposite at times (F. Drasgow & J. B. Olson-Buchanan, 1999).

However, while these analyses have commonly bolstered similarity, the examinations they inspected regularly utilized numerous decision tests; utilized little, unrepresentative students' tests; In such cases, the literature guides not only to consider the ranking order but must also look for the mean score differences.

Anxiety for using Computers

Computer users at times face a disturbing association of anxiety while using computers in the exam. The literature on the subject reveals some correlation between the two factors and show that the test anxiety is relaxed and reduced while employing computers in exam i.e. using e-assessment for education and academic purposes. Here the trend in using computers otherwise in routine life or not creates a feeling of anxiety amongst students. The trend of computers has come up as a more all-inclusive psychological idea and concept of mixtures of feelings and beliefs, whereas anxiety has been described as an emotional response negatively believed to deal with computers. (Amer, A. N. A. S., 2008).

Ability to revise the Answers in E-Exams

There is always a time when students need to revise their answers in exams. A second thought, however, in the e-assessments, a student is generally not allowed to do so. Our item at serial 6 measured students' response over this aspect. The respondents were asked to give their views about reviewing and revising the answers in e-tests. Literature reveals an inability to change and revise the answers in electronic exams hurts students' results. At the same time, it negatively impacts the time taken in exams. So, the students appearing in e-assessments favored reviewable and revisable e-tests (Simonson, M. R., Maurer, M., Montag-Torardi, M., & Whitaker, M., 1987)

Literature also relates anxiety of electronic testing by students with achieving results in exams i.e. the academic achievements. This was done by allowing students to appear either in a computer-based exam or a pen-paper test. When employing either type of test, the empirical results showed a correlation of the type of test with the average academic achievement of the students (Khuraibah, I.M.S, 2015).

One of the widely referred research studies is the one done by NAEP, the National Assessment of Educational Progress. It used samples from the whole US who were asked to appear in tests that were at the same Item level and used the same format of MCQs, Short response questions and technology-enhanced essay type items. The results were interestingly analyzed for differences between the groups as well as the differences amongst intra groups.

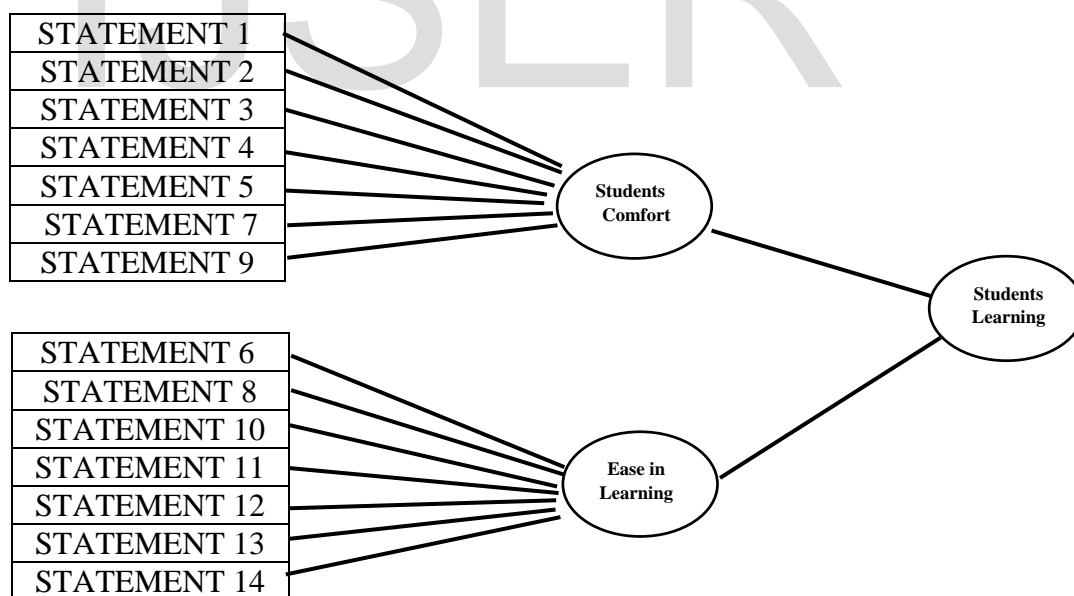
But the most interesting thing is that a lot of literature is available showing that much research has been carried about the instructors' and teachers' attitudes towards e-assessment at higher education levels (Bull & McKenna, 2004) but little could be found at lower levels of education. So, this paper is focused to find US middle school students' attitudes towards e-assessment.

Research Questions:

This paper focuses to answer the following research questions.

- Q-1: Are students comfortable with doing assessments on computers?
- Q-2: Do they consider that e-assessment will positively contribute to their learning?
- Q-3: Is there any effect of gender over comfort and learning through e-assessment?

Research model



Methodology

Student Perceptions of the e-Assessment Questionnaire (SPEAQ) was used to get US middle standard students' views on e-assessment and its impact on their learnings.

The research context:

The research was carried out at two of the schools selected at convenience by the researcher. Students were asked to give their views on a questionnaire (appendix-A). The SPEAQ covered the research questions stated in the introduction. This may probably best described as ‘Pseudo-Qualitative’ when we use the Likert Scale to convert attitudes and feelings into numbers. This is how we convert the ‘Human Emotions’ to numeric and then use this numerical data for decision making through research. (Cohen, L, Manion, L, & Morrison, K, 2003). This is what makes the research pragmatic (Biesta, G & Burbules, N. C, 2003)

As analysts in education, we need to find out commonly held convictions, and we need the information as fast and inexpensively as possible. This is particularly valid in the zone of instructive technology, if an excessive amount of time is spent here on the exploration, the technology can take all processes advance, rendering the findings obsolete before they are evenly distributed (Stephens, D. & Mascia, J., 1995)

However, we should stay mindful of the confinements of such a pragmatic approach. We should recognize that the information we are gathering is not hard scientific certainties and that feelings are not effectively communicated in a quantifiable structure. So, we must take extraordinary care when concluding inferences from this information. The researchers also remained conscious as viewed by (Verma, G.K. & Mallick, K., 1999) not to let the personal assumptions bias the analysis and results. This becomes extra challenging when the content is subjective.

The questionnaire was filled anonymously and mainly comprised of two groups: first, the demographic information that was restricted to only the gender of respondents as they were almost of the same age. The other part was based on various factual statements; some of those were even the negative i.e. the response to these questions was reverse. Such questions keep the respondents alert and avoid casual response from them (Fernando, E., Victor, M., & Gurrero, 2009). The respondents were required to give their agreement to the statements on 5-Point Likert Scale (Strongly disagree – Disagree – Neutral – Agree - Strongly Agree)

The responses of agreement or disagreement to the statements formed the central slice of the research data.

A lot of caution was taken during the questionnaire design. Efforts were made to avoid double-barreled questions, leading questions, ambiguous and puzzling statements. However, some of the reverse (negative) questions were included as discussed in the preceding paragraph. Experts advise were also sought to make the questionnaire visually professional and appealing in appearance. Respondents were informed that their responses and comments would help in making the right decisions in institutions (Oppenheim, A.N, 2000)

Data analysis and findings

The questionnaire was served to 172 students of 4 middle schools sampled at convenience. However, students were randomly selected to respond to the questionnaire. Random sampling has the advantage that each member of the sampling frame has equal and more than zero chance for being selected as a sample. The useable returned questioners were 130 out of 172 making a return rate of 75.6 % Middle School US Students. The sample comprised almost twice the

number of male (68.46%) than female (31.54%) students, that certainly does approximately show the gender balance in the schools where students have e-assessment.

Findings

The respondents came from four different middle schools, with mostly the same age. The overall response on the two dimensions was shaped by merging the 14-points rating gauge on a 5-point Likert Scale as discussed above. The qualitative response in the form of Strongly Disagree to Strongly Agree was de-coded to Quantitative nature weighing from 1 (Strongly Disagree) to 5 (Strongly Agree). The response has also been coded considering the nature of statements i.e. the negative statements have been coded in a reverse manner making 5 (Strongly Disagree) to 1 (Strongly Agree). However, in both cases, Neutral response (i.e. neither positive nor Negative) remained at code 3.

Dimension	N	Mean	SD	Median	Skewness	Kolmogoro v-Smirnov test	Significance (2-tailed)	Cronbach's alpha
Comfort	130	3.172	1.038	3.2	-0.124	0.803	0.541	0.807
Learning	130	3.363	0.903	3.4	-0.318	1.114	0.167	0.826

Separate Indicators Rating

If we consider the separate indicators, the total of 14 indicators on the 5-Point Likert Scale, 10 indicators out of the 14 were given positive response with a mean more than 3.0 (mean > 3.0) and four got a negative response with mean less than 3.0 (mean < 3.0).

If we put aside all mean appraisals inside the scope of 2.75 and 3.25 as “Neutral” reactions, there was in certainty just one significant understudy worry about re-evaluation: ie, students’ stress is more due to being unable to maintain continuous concentration. This was probably not fair to be tested under a condition when it is difficult to maintain concentration. A (mean rating = 2.66) for this is a point of concern both for students as well as for the evaluators and examiners. Contrary to this one, there were numerous positive reactions from students.

Teaching and learning: The students were of the view that e-evaluation was a positive attribute towards learning. The concept was also checked through a “Reverse Question” where students ‘ response to if e-assessment is a gimmick was asked. The response was little to the level of (3.45). However, yet an additional incentive to learning through e-assessment at the level (3.28) was also encouraging to find.

The response to the question about feedback also confirmed the bias of the majority of respondents in favor of the statement. This had a mean 0.41 to the positive side of (mean 3.0) i.e. at the level of 3.41

Effect of Demographics – “Gender”

Gender differences at times impact the relationship of some of the factors while studying. The literature on the subject of our study reveals that females are extra worried than males

while using computers. The study also shows that they (the females) are less anxious than males while using computers in application and training (Abdelhamid, I. S., 2002)

Our Research Questions also additionally manage how observations are influenced by the sexual orientation of respondents (students). We tried to separate the responses utilizing the survey statistics information against the “Gender” factor. Since this isn't exploratory research, and it is difficult to control the effects of the extraneous variable of factors like “Gender”. So although causality may not be established, some relationships and significant associations could be found. This is exactly what (Oppenheim, A.N, 2000) also recommends.

While examining the gender differences concerning the two dimensions. The Mann– Whitney U-test is recommended for nonparametric data by (Greasley, P., 2008). The normality statistical analysis confirmed that in some cases the Kolmogorov–Smirnov was significant for males while in others it was significant for the females. In all the cases the significance level was maintained at 0.05 i.e. at a 95% probability chance. We can thus inference from this that Males and Females do not show any significant difference in their responses to the e-assessment.

Since this review was about collecting students’ response in the shape of agreement level to the given statements, the response was qualitative and subjective but not any hard and objective facts, so, it may be contended that all the information accumulated in this survey are subjective. However, because a large portion of the information revealed in the above areas depended on examined measurements from Likert scales, they may best be alluded to as pseudo-subjective or even quantitative. In such cases, there is a risk involved in dealing with qualitative data as pseudo qualitative or dealing quantitatively. Therefore, an effort was made to get a “One-sentence statement on perception about e-assessment from the respondents. This allowed the respondents to word out their subjective views about e-assessment. Some of such perceptions are listed below; It may be noted that any process of coding, making nodes, etc out of statements recorded there in qualitatively for further analysis are beyond the scope of this paper, so these subjective qualitative responses are merely added to give out a more clear and general opinion of the respondents.

- E-assessment not only assesses us but does expand knowledge.
- Exams in other subjects can also be changed to E-exams
- I was not happy with e-tests until I was good at computers
- It is easy and convenient to appear in online tests
- I consider online quizzes as helpfully provided they are not too much tricky
- Only straightforward questions in e-tests are comfortably tackled
- E-assessments are quick and easy
- Why not do away with hard paper exams, e-tests are better
- I cannot have a continuous concentration on a computer screen

Implications and conclusions

No study is ever complete unless its implications are fully studied and results are fully analyzed to draw some concrete conclusions from it. This paper investigates the impact of e-assessment on middle school students. To be brief but at the same time to cover the requisite details, we have curtailed it to only two aspects i.e. comfortability of students and

assistance in learning. Underlying the same, there may be many other assumptions also which have not been included for the sake of brevity. However, we are cautious of the fact that if such like dimensions are not included at all so, these may induce some overwhelming negative and non-factual effects in the study, Therefore, despite being a quantitative study we have provided an opportunity to the respondents to include their subjective comments at the end of the questionnaire.

It was found that the study results generally indicate the distribution of attitudes in a normal range where a major number of students awarded feedback scores more than 3.0 thus indicating a slightly positive emotional state towards e-assessment, especially when we consider their expectations. Still, we do recognize that a small minority did not feel easy with the e-assessments but since the majority gives a positive response of comfort and ease in handling, e-assessment at least at the middle school level seems a students' favorite.

This research study also looked into if students consider e-assessment as positively contributing to their learning process or otherwise. If all other factors support e-assessment and mere this alone dimension was reacted as negative, it would have raised very serious question marks about the use of e-assessment in schools. However, it was luckily not the case and the students reacted mostly in a positive way to it. The results of this study reveal a normal range of attitudes distribution towards "learning" with a very small majority of respondents getting scores more than 3.0, thus indicating a slight positive tilt of students towards e-assessment. We must also consider, that with both the indicators coming out positively, the respondent students are mostly happy and comfortable with e-assessment and willing and ready to be assessed through computers during exams at the middle school level.

One of the major concerns students showed was that e-assessment did not assess structured exam papers. Contrarily, it randomly selects questions from the item (Questions) banks. there is a serious perception amongst students that such style and manner of making exam papers are unfair and we need to somehow take measures and steps to guarantee the quality of the Questions item banks. It also implies that there is a need to do item analysis to confirm the same difficulty level questions in the bank. This is certainly a good practice, but our study findings on mere this one aspect alone do indicate a serious risk of facing challenges by the students when appearing in e-exams in the future.

This study also looked for the difference in attitudes towards e-assessment considering the gender difference. Although, no preconceived notions or hypotheses on how these gender groups may respond, we approached to answer the research questions with an open mind.

While analyzing the gender difference in attitudes towards e-assessment, we found very interesting results, showing that gender did not affect the level of comfort or learning through e-assessment. Thus there seems no difference considering the gender of respondents. However, while analyzing the individual items, it was found that male students were more comfortable than the females in using computers as the male students were happier in appearing in exams that were conducted electronically.

Limitations of the study

The extent of Subjectivity of Responses

We must be cautious of the studies carried out using such a pragmatic style where the data is not based on “Hard Scientific Facts” and the responses are not in a purely subjective form. Here the responses are confined and limited to only what is being asked. So, there is a need to exercise great care while concluding such data (Mitchell, P. D, 1997). Therefore, it cannot be established that the study has uncovered some universal truths and can be conveniently generalized based on the studied facts here. These are merely tentative generalizations based on the context of this study alone.

Sample Frame and the Sample Size

The limited sample size and the sample frame were mainly due to the time constraints. So to make the results more generalizable, these must be enhanced in further studies.

Timeline

The cross-sectional nature of the study recommends conducting similar studies in the pre-post experiment way repeated over longer periods. Thus, longitudinal effects will bring better facts finding impact and therefore more generalization of the studied concepts.

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Appendix-A

Hi, This is an anonymous feed-back to E-Assessment and is asked from you as part of academic research by students of Education Technology. You have to just mark the respective box as you agree or disagree to the statement. This feed-back cannot be used against the respondents at any forum and at any level. Thank you for your time and support.

Gender: (Tick any) Male Female Don't want to disclose

Q. No	Question Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
C1	I expect computers to be used as part of assessment at schools	○	○	○	○	○
C2	Using a computer adds to the stress of exams	○	○	○	○	○
C3	I'd feel more comfortable if the exam was on paper, not online	○	○	○	○	○
C4	I find it hard to concentrate on the questions when doing an online exam.	○	○	○	○	○
C5	I'd rather do exams on a computer than on paper, because I am used to working online	○	○	○	○	○
L6	Online assessment denies the comfort of revising answers when attempted once thus badly impacts results.	○	○	○	○	○
C7	My subjects are too complex to be dealt with by on line multiple-choice questions.	○	○	○	○	○
L8	Marking is more accurate, because computers don't suffer from human error.	○	○	○	○	○
C9	The technology used in online assessments is unreliable	○	○	○	○	○
L10	The potential for immediate feedback with E-Exams could help me learn.	○	○	○	○	○
L11	Online assessment can do things paper-based exams can't	○	○	○	○	○
L12	Online assessment can add value to my learning.	○	○	○	○	○
L13	Online assessment is just a gimmick that does not really benefit learning.	○	○	○	○	○
L14	Online assessment randomly uses questions bank that harms learning	○	○	○	○	○

Extracted from "John Dermo. (2009). e-Assessment and the student learning experience: A

survey of student perceptions of e-assessment . British Journal of Educational Technology

Vol 40 No 2 , 203–214 ." (John Dermo, 2009)