A COMPARATIVE STUDY OF TECHNOLOGICAL IMPACT ON STUDENT'S MOTIVATION AND KNOWLEDGE PRESERVATION

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Abstract

The purpose of this examine turned into to look at the impact that generation has on a student's motivation to study new information and hold said data. The process concerned the entirety of two projects over the direction of a 9-week look at. One group changed into to create traditional storybook projects. A second organization changed into to complete pc-based totally projects. A 3rd organization became given the choice of which assignment to finish. A pre-submit-retention take a look at, likert scale surveys, and publish undertaking interviews had been used to gather the facts. The consequences of this examine assist the concept that when given the selection of project, students preserve expertise irrespective of which venture is chosen, traditional or pc-primarily based.

Key Words: Technology, Knowledge, Student's, effect, Teachers.

Introduction

In an ever changing technological world, computer systems appear to be at the leading edge of education. At the identical time, the exact effect of the usage of technology for preparation is still unknown. Some questions teaching groups grapple with are technology's position in student's desire to learn and how technology influences the retention of the facts. greater especially, it would be beneficial to recognize whether college students respond in a greater effective manner to participating in a social research class while the usage of web 2.0 equipment versus whilst the usage of paper-based totally methods. For an educator in the 21 critical to advantage a deeper knowledge of the impact of generation on training. The general 1st century, its far query that guided this study becomes "to what volume does era assist scholar motivation and retention of records in a seventh grade social research classroom? To this quit, for this investigation, the researchers mentioned 3 important goals. First, the reason of this have a look at is to uncover students' motivation for getting to know when enticing with era for the duration of the instructional time. The second goal is to degree the retention of statistics after the usage of two one of a kind techniques of teaching. The very last goal of this have a look at is to investigate a smaller unique needs group and how their motivation and retention are stricken by generation-based totally tasks.

Literature Review

Motivation is a fundamental challenge amongst teachers (linnenbrink and pintrich, 2003). Motivating students is a continual problem throughout schooling and even though there aren't any clear cut answers, there are several techniques to help teachers with the catch 22 situation (linnenbrink and pintrich). Motivation is commonly defined as an inner condition that initiates behavior ("motivation," 2009). Motivation gets human beings going. Motivation arouses pursuits. Motivation creates the want to obtain a intention. Teachers are usually looking to see what motivates their students. Motivation is the important thing to academic success in addition to selling lifelong studying (sanacore, 2008). The reluctance to research need to be became the want to learn.

There are reluctant inexperienced persons in each school room. Reluctant novices are the people that don't finish their assignments and, from time to time, keep away from duties. Reluctant learners are content material with just getting via. One common thread amongst reluctant learners is their perception of themselves, called self-efficacy (sanacore, 2008). If their self-efficacy is low, then their motivation to carry out can be low. When college students are constantly berated with bad comments, their shallowness and self-efficacy turn out to be dwindled. Scholar's reluctance to study is also tormented by the assignments teachers create. If an undertaking is just too easy or too hard, reluctant inexperienced persons are unmotivated to be successful. College students are encouraged when they sense enthusiastic about a task or feel that what they may be doing is profitable (linnenbrink and pintrich, 2003). Teachers ought to modify their coaching to healthy the motivations of their students.

In a traditional lecture room, instructors need to inspire college students' intrinsic motivation (sanacore, 2008). intrinsic motivation stems from factors which includes interest or interest (woolfolk-hoy and hoy, 2009). Extrinsic motivation focuses on rewards or incentives. So one can motivate, instructors have to encourage and project their students (sanacore, 2008). Students presented with too clean or too difficult material will subsequently lose interest and unmotivated. In a conventional lecture room, instructors ought to differentiate a sport that allows you to area a few electricity into the hands of the scholars (sanacore). This freedom can undoubtedly have an effect on the motivation for a student who's unwilling to take part. Splendid motivators in conventional school room ought to encourage college students to love learning and assist students hold high self-efficacy ideals (linnenbrink and pintrich, 2003). This often proves to be the maximum tough venture for some teachers. To encourage college students, teachers ought to rely on what hobbies college students and what they already understand and with which they're successful.

Developing activities that scholars revel in and respond to is a challenging task for teachers of all topics. Introducing generation infused lessons might also show to be a useful motivator for each grade level. Digital natives reply nicely to era-infused sports because of their familiarity with generation (prensky, 2001). Era and trainer motivation have fine results on scholar motivation (atkinson, 2000). Due to the fact students respond positively to technology and are stimulated through generation, instructors need to make aware efforts to create sports that embody a few form of technological tool. Stimulated students might be much more likely to perform at their maximum stages due to the possibilities that their instructors have made to be had.

Preservation

In place of memorizing data for a check, instructors need their college students to retain the statistics longer than per week. Teachers find it difficult to teach increasingly curriculum (wolfe, 2001).just overlaying the expanse curriculum does no longer construct robust connections in pupil's reminiscence (wolfe). Due to the pressures of standardized exams, instructors must discover one of a kind ways to educate the required curriculum and help college students hold the vital information.

In lots of conventional lecture rooms, instructors have interaction in traditional varieties of teaching. a few provide lectures in which students are expected to take copious notes, at the same time as others assign vocabulary in which students are anticipated to memorize definitions and spellings of important phrases. Those sorts of teaching fall beneath the class of rote practice session (wolfe, 2001). The repeated rehearsing of statistics may additionally help a pupil examine for a vocabulary test, but does not assist student hold information (wolfe). As an alternative, college students should use the approach known as elaborative practice session (nuthall, 2000). Once a student elaborates on information, they are more likely to keep the facts over an extended period of time (nuthall). As college students gather new records that are unexpected and relate that fabric to records they already know, then they will be able to keep these new records more without difficulty. Students want to see that means to be able to recall.

Due to the fact nowadays youngsters have grown up with a special digital panorama than their instructors (jukes, 2008), they, most probable, are stimulated and inspired by means of distinctive era. Today's digital natives speak an extraordinary language than their instructors do (prensky, 2001). For those motives, students of the 21st century may additionally retain extra records if it comes to them through a digital medium. In a greater virtual world, on-line teaching tools are better for a scholar's memory (miller, 2009). No longer best on line equipment, however virtual gears in preferred are higher for a scholar's reminiscence. Smart boards, virtual "clickers," and computers all spur interest in a child and are more likely to encourage a student to carry out at his or her highest degree (miller). Online tools that promote content creation among college students, which include motion pictures, audio podcasts, and web pages, are extra powerful strategies than traditional strategies (miller).

Learning with Technology

The effectiveness of getting to know with era has been tackled from each facet. There is evidence that the use of generation will increase fulfillment and self-efficacy (liu, hsieh, cho,and schallert, 2006), however a few studies indicate that the use of generation in certain areas isn't always beneficial to college students (cramer and smith, 2002). Nevertheless but, some research display no hyperlink between technology and success, however a high quality dating among technology use and area (garthwait, 2007). Technology use in faculties has had combined consequences. Generation integration needs to have a reason so as for it to be useful for generating high quality consequences (cramer and smith, 2002).

Materials and Methods

The quantitative methods that have been used included a sequence of assessments. College students took one pre-take a look at the start of the unit of study. This check consisted of 35 multiple preference questions. The reason of this pre-test changed into to see what the pupil formerly knew approximately ancient china. At the cease of the unit, students took a publish-

check. This check became same to the pre-check. The reason of this test turned into to measure the volume to which college students found out the content material of observe right away after the coaching. Ultimately, a retention test was given weeks after the take a look at was over. Once more, these tests become equal to the pre and submit-test, except for the order of the questions. this quantitative measure become given to college students so as to see how a great deal facts the students in both agencies remembered after the historical china unit changed into nicely over. The three exams allowed the researcher to peer whether or not or now not the students learned and then retained the facts.

One qualitative technique of records series covered a daily magazine. After each magnificence, the researcher wrote down what occurred in elegance that day. The researcher searched for discontent, motivation, excitement, engagement, and cognizance. this technique of amassing records changed into chosen because it allowed the researcher to study not most effective what the students did, but also how they felt approximately the procedure.

Due to the fact the triangulation of data become extremely crucial, a fourth qualitative device of measure was protected in this have a look at. The researcher conducted ten minute interviews of contributors. The members were allowed to problematic on numerous questions without judgment or encouragement from the researcher.

Participants

The members involved on this motion research study consisted of 102 7th grade college students enrolled in a global history direction in 5 social research instructions. All participants were between the ages of 12 and 13 years vintage. There were 50 boys and 52 women concerned with this action studies. There were 5 ethnicities worried with this motion research take a look at: 86 caucasian, 2 black, 5 asian, 2 indian, and 7 latin american. Six of the members had individualized schooling plans (IEP) and were categorized with unique training desires. 3 of the contributors held a 504 education plan.

The students within the examine were cut up into three groups: experiment organization a, test group b and a manipulate institution. Test institution a consisted of those students in the instructions that had history in the course of the periods 4 and 5. Test organization b changed into a set of students in an “in elegance aid” (ICS) magnificence that had a further special training trainer. The control groups of college students were the scholars inside the two last classes that met all through the periods 1 and three. Members had been broken up into 3 different companies for the duration of this challenge so as to test the original research query. Institution b was chosen as the test institution because of the want to differentiate assignments for the range of various newbies within the magnificence. The have a look at passed off in a St. Xavier Senior Secondary School, Lucknow, Uttar Pradesh and JNU Delhi. The teacher in all 5 instructions what the first author of this study.

Procedure

For the duration of the path of these studies, the three businesses of students have been worried with projects. Experiment organization a finished those two tasks in a computer lab. Test group b students had a preference of whether or not to use generation whilst working at the task or no longer. Finally, the manage institution did all their paintings inside the study room without the use of era, never visiting the laptop lab at some stage in this studies.

On the first day of examine, all college students inside the have a look at took the pre-check to evaluate their preceding expertise of ancient India. After fourteen days of coaching, college students entered right into a venture week. Over the route of 5 faculty days, students created a storybook. The test group a created a digital tale using voice thread inside the pc lab, the members inside the experiment institution b had the choice whether to use the generation or not, and the manage institution created a paper-based totally storybook. At some point of the first two weeks of February, students re-entered the lecture room for ten extra days of guidance. After ten greater days of education, college students entered into a second project week. Again, the test institution a created a virtual tale utilizing voice thread inside the laptop lab, the contributors within the experiment organization b had the option whether or not to use the technology or now not, and the manage group created a paper-based storybook. At some point of the 0.33 week of February, students took the surveys that reflected the condition in each group, i.e. college students in the test organizations a and b were directed to a web survey in which their answers have been emailed without delay to the researcher, and the manage institution participants had been given the likert survey on paper.

The very last week of February became dedicated to any makeup surveys and/or interviews that needed to be conducted because of absenteeism. After all surveys and interviews were completed, weeks after the final touch of the unit, the participants took a retention take a look at.

Results and Discussion

The average score on the pre-test was 19.08 out of 35 possible points. The average post-test score for all participants was 27.15. The average score on the retention test for all participants was 28.07. Table 1 summarizes the results by each group on all three tests.

The results of the pre-test were low for all the groups. The average mean score for the pre-test for all three groups was 19.08 with a standard deviation of 3.48, indicating quite a range of responses on the pre-test.

The averages mean score (the mean score for the three groups) for the post-test was 27.15 with a standard deviation of 3.95. The standard deviation of 3.95, which is similar to the pre-test (3.48), indicates that the spread of responses remained equal on the two tests. Two factors may explain lower than expected post-test scores. First, certain students may not have prepared for the test. Second, student absences throughout the study may also explain the lower than expected post-test scores.

Table 1 *Mean and Standard Deviations for the three test groups on Pre, Post, and Preservation Tests*

S.N.	Group	No.	Pre-Test	Post-Test	Preservation test
1	Experiment Group A (computer)	42	19.24 (3.33)	26.48 (4.23)	26.64 (5.30)
2	Experiment Group B (option)	17	19.47 (2.96)	27.47 (3.74)	29.18 (4.45)
3	Control (paper)	43	18.77 (3.83)	27.67 (3.75)	29.02 (4.10)

The mean score for the retention test for all three groups was 28.07 with a standard deviation of

4.79. Seventy-eight percent of the participants achieved retention test scores equal to or higher than their respective post-test scores. At the same time, the standard deviation, which increased on the retention test, indicates that at the retention test, there were more scores deviating from the mean in either direction than there were at either pre or post-test.

Table 1 shows a retention test score of 26.64 for the experiment group. When comparing experiment group A's mean score on the retention test (Table 1) with the mean score of the retention test from the participants that chose the computer-based project from experiment group B (Table 2), you get a difference of 3.03 points. One can explain this difference if one takes into account that the participants in experiment group A were all forced to work on the computer, while the participants in experiment group B had their choice of project. To see whether there was a significance difference between the groups, the ANOVA analyses were carried out. The ANOVA shows a significant difference between the groups at the retention test $F(2, 99) = 3.316$, $p < 0.040$. Post hoc comparisons indicated that the difference is between experiment group A and experiment group B, Dunnett $t= -2.543$, $p <.051$.

Table 2 demonstrates a breakdown of experiment group B. The participants that completed the computer-based project in experiment group B had the highest overall retention test score, 29.67 (SD = 4.18). The participants that completed the paper-based project in experiment group B had a mean retention test score of 28.33 (SD = 5.09). Of the seventeen participants in experiment group B, only two switched projects halfway through the research. These two participants scored a mean retention test score of 29.50 with a standard deviation of 6.36. Since experiment group B had their choice of project, these participants chose the type of project that best suits their educational needs.

Table 2 *Means (and Standard Deviations) on Pre, Post, and Preservation Test of three sub-groups within Experiment Group B*

S.N.	Group	No.	Pre-Test	Post-Test	Preservation test
1	Experiment Group B (Paper)	6	19.00(1.67)	26.00(5.22)	28.33(5.09)
2	Experiment Group B (Computer)	9	19.33(3.74)	28.11(2.71)	29.67(4.18)
3	Experiment Group B (switched projects)	2	21.50(2.12)	29.00(2.83)	29.50(6.36)
4	Total Participation	17	19.47(2.96)	27.47(3.74)	29.18(4.45)

In addition, experiment group B had six participants with IEPs. By the second project, these students all completed the computer-based project. Since these students were more aware of their educational disabilities, they were more likely to choose the educational methods that matched their learning style. By using computer-based methods, these six participants with IEPs succeeded on their post and retention tests because of how they visualized the information on the computer screen.

Data Analysis

If the selection of assignment were given to all individuals, it is probable that the outcomes would be exceptional. Whilst given the selection, contributors will pick the assignment that best suits their educational needs. There were contributors in test organization could have chosen to work on the paper-based totally assignments, whilst there have been contributors inside the control group that might have selected to paintings at the laptop-based totally assignments. Despite the fact that students may appear more interested and encouraged with computers, this does not always imply they research fine with computer systems. The members in experiment organization had lower stages of mastering and retention, however loved mastering with technology.

While taking a better have a look at individual rankings at the quantitative checks, the researcher noticed some other phenomenon with the consequences. After analyzing the effects, there has been a considerable "grouping" of contributors in every of the three companies there were college students who did no longer preserve facts, students who retained a few statistics, and people who learned and retained a variety of data. Parent 1 presentations individual outcomes of pre-take a look at, post-check, and retention test rankings taken from select participants from test group a. individuals 1 and 2 show decrease retention test scores than put up-take a look at scores. When surveyed, participant 1 claimed that using technology helped doesn't forget the historical china unit. Participant 2 changed into an extreme case where, even though a high pre-test and put up-check rating, the retention tests score is low.

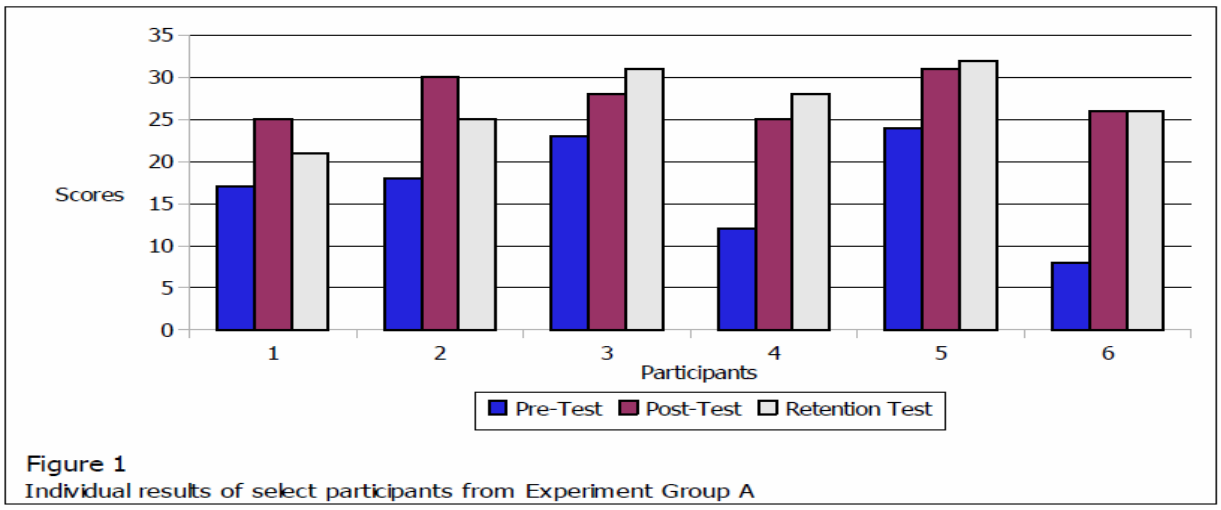

Figure 1
Individual results of select participants from Experiment Group A

Figure 2 displays the results of pre-test, post-test, and retention test from all participants in experiment group B. This group displayed overall greater numbers on their post-test and retention test scores. The Figure indicates that the participants 10, 13, and 17 had retention test scores slightly lower than their post-test scores. On their surveys, both participants 10 and 13 claimed that the use of technology would not help them remember the Ancient India unit. When given the opportunity, Participant 13 switched from the paper-based project to the computer-based. All three of these select participants claimed that the completion of a paper-based project would not motivate or help them remember the information. These three participants also happen to be classified as special education.

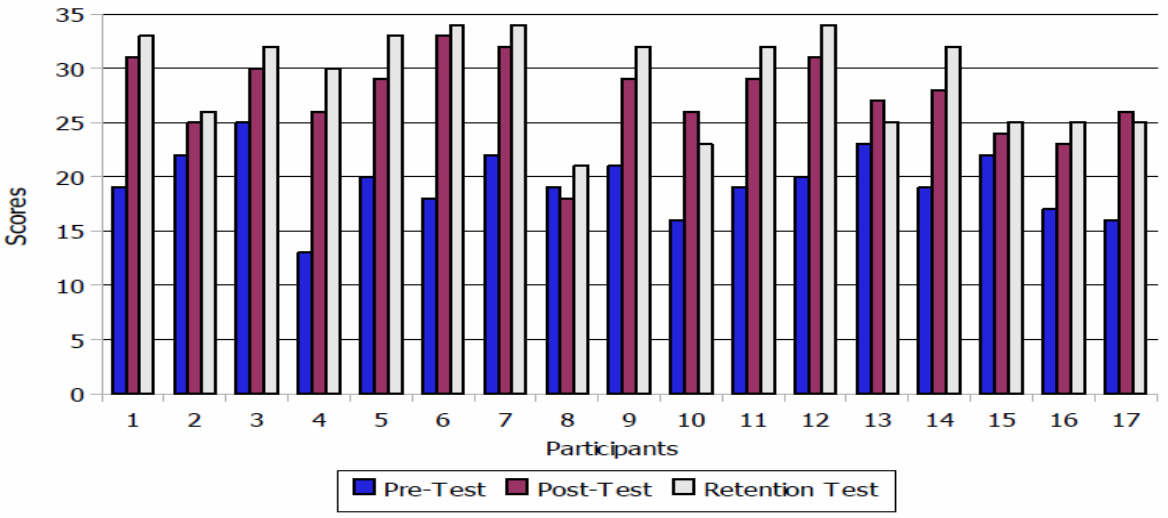

Figure 2
Individual performance of participants in experiment group B

Even though they had the opportunity to choose their own project, these students continually struggled with the content being taught. Participants 2, 3, and 15 showed signs of learning a little given the slight increase in their post-test scores and subsequent slightly higher scores on their retention test. Participants 1, 4, and 6 showed signs of learning a lot given their lower pre-test scores and relatively higher post-test scores. These participants were also able to retain this information and scored 30 or above on their retention tests.

Discussion

It became observed in this research, that scholars who chose to complete initiatives the use of available generation scored substantially higher than college students who were pressured to use to be had generation. an awful lot to the researcher's marvel, when given the choice among completing a paper-based totally task and finishing a pc-based challenge, the magnificence turned into virtually cut up down the middle. Previous assumptions might have led this researcher to believe that more 7th grade college students could have selected to work on the pc over conventional techniques of getting to know. This study located a combination of students that could now not have selected to paintings at the laptop if given the selection. What went incorrect for those digital natives in their previous schooling? Did they have an instructor that did no longer understand a way to use era? Did they have had a trainer that poisoned their minds with hatred toward technology? Do they have the right device at home and are they allowed to use it to gain the skill ability they want to learn the “era language”? Those college students have been obviously uncomfortable in the front of a computer due to the fact “computer systems didn't like them” or “computers were too hard to apprehend.” but then there was some other institution of college students that would have selected to work on the laptop if given the selection. Why were those students accepting of era? Did they have got a previous trainer that endorsed them to apply the computer or turned into enthusiastic while teaching with technology? Did they've a figure that taught them to use the laptop at an in advance age? These students preferred the pc and succeeded in creating significant voice threads. These are all of the questions that the future research researches need to take into consideration and try to discover.

Implications for Teaching

The consequences of this study brought blended emotions. even though the effects from the pre-publish-retention tests suggest a more submit-test score for the manage organization and test organization B than experiment institution A, it appeared as even though participating within the voice thread mission changed into more desired than taking part within the paper-primarily based storybook assignment. Motivation for studying became higher within experiment organization A, and institution B, however take a look at scores had been greater inside the manage organization. Even though there may be a choice for era use, this studies points to extra success and knowledge retention without the usage of computer systems. Previous years of education might also point to the reasons in the back of this phenomenon.

Research ought to be taken on members that pick their style of project. Individuals will pick out a mission that first-class fits their instructional desires. If supposed "virtual natives" do no longer select era, then studies should delve into their previous education. Possibly, a longitudinal look at of college initiatives finished over many years may want to factor to a few perception as to why a selected pupil is uncomfortable around generation.

At some stage in this research task, i became greater aware of how students may want to learn rather than how they examine first-rate. many students in the 21st century gravitate closer to technology due to the fact they think it is "fun and easy." every now and then, simply because an assignment is "amusing and smooth" does no longer suggest that pupil will research data.

Conclusion

The researcher concludes that era has the capacity to be an effective instructional device for those who have hobby in it. For college kids without a hobby in the usage of era, they may still gain educationally from traditional methods. This research alludes to the fact that assigning a pc-based mission haphazardly to a set of students will no longer necessarily generate high test scores. There needs to be interest and motivation with the use of technology in the first location for college kids to succeed. As with every educational topic, technology needs to be trained and embraced at an early age. If students are taught to hate generation at an early age, then their disdain for technology may also comply with them into their later years.

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