

Review Article

Educational Technology for Equality: Paradigm shift in Education

Abstract

This study seeks to scan on factors associated with educational technology for equality. The use of technology in education should focus on treating all in the same manner resulting in the change in teaching and learning process resulting in better learning outcomes for qualitative change in education. There is the need to make sure that each and everyone has a possibility to access technology. The paper suggest that education technology need to consider equality in terms of gender, race, disability, language, social, economic status, as well as academic hierarchy. These parameters need to be checked in order to have equality in the uses of technology. The success of that will lead to paradigm shift in education.

The papers recommend that government should make the policies about educational technology for all.

Keywords: Education, Technology, Equality, Race, Disability, Language

1. Introduction

Equality is the broader terminologies which mean treating all human beings in equal way. This treatment should focus to all regardless of their differences in age, gender, social and economic status. Education is the knowledge acquired by the human being formal, informal and none formally. Technology facilitates teaching and learning. The uses of computers, laptop, mobile phones and assertive tools support learning process. Teacher uses technology to prepare instructional materials. Students and teachers engage in learning as well as interact with the technology. In academic career teachers and faculties interact well through technology. Educational technology is the broader term which specifically means the uses of technologies in education. To support the idea educational technology facilitates teaching and learning through proper and suitable technological staffs and processes. The uses of network computers, mobile, and virtual activities. Software and hard ware devices as well as human resources included in educational technology (Huang, Spector, & Yang, 2019). All of these requirements need to be accesses in equal way among the students and teachers at the schools, offices and institutions. If there will be meet it will set the great foundation in educational technology for equality and learning will be for sustainable development. On the same vein teachers need to smooth learners' engagement in the classroom along educational technology (Bond & Bedenlier, 2019).Teachers

supposed to be in the classroom to assist students on how to use computers, audio and visual materials in the classroom. The facilitator needs to ensure that students can participate in the classroom where by the big interaction need to be between students and technology. Turning to the study on data mining in relation to educational technology which done in the classroom research contribute to the important of understanding students' interactions with technology rather than to a teacher (Angeli, Howard, Ma, Yang, & Kirschner, 2017). Learning need to pay attention on differences in learners learning experiences for employ equality in technology. To support the idea educational technology the review will be guides by the following questions;

- What are the parameters of educational technology for equality?
- Is there equality in educational technology according the specific parameters?
- How can a paradigm shift in education be successful?

2. Literature Review

Gender equality

Gender equality in the use of technologies proves that women have being isolated in the use of ICT's. Formal education should focus on alleviate gender violence and stereotype in the uses if ICT. The uses of Web 2.0 and Science, Technology, Engineering and Mathematics (STEM) should consider female (Espinosa, Tudela, & Fernández, 2020). This insists female to interact with technology in education will lead to success in equality in educational technology. For a long time male has been labeled as the one who can access technology like taking science, Technology, Engineering and Mathematics subjects. This notion is still ruining the access of female to technologies. On the same vein the study aimed at explore the rate of publications between male and female concern the use of educational technology has found out that, women publish less than men (Scharber, Pazurek, & Ouyang, 2017) .This is due to little number of women who can access technology and the level of education. The reason for that is where by the high number of women does not go for higher studies rather, they end up at lower level of education (UN, 2005). The large number of boy's students at high studies also is the barricade in access computer for girls. Female cannot have the equal approach to computer lab at secondary schools due to earlier deadline hours and domestic responsibilities that terminate their access time to technologies. There is the important to care on time and responsibilities for women so that they can get in interaction with technologies as male. On support of the idea (Falah, 2021) conducted a study at Afghanistan on accessing technologies for men and women. The findings acknowledge that male as well as female students can access educational technology equally only if the parameters will be taken into consideration (Falah, 2021). To cement up, in academic status it need availability of resources, collaboration among teacher s, in working. This collaboration will automatically

build strength to women and girls towards the uses of technologies in education (Wang, Chen, Zang, & Yang, 2021).

Race

In the study of sociological research on the relationship between race/ethnic and educational inequalities. The investigation reported that, there is need of having diversity in education (Stevens & Dworkin, 2019). Globalization and neo-liberalism need to be encountered. In necessary accountability is needed whereby it affects education in different nation. To support the idea the investigation done at Brazil about race and ethnic inequalities in education point out racism and school discrimination as the problem in approaching education. The race discrimination between white and non-white can hinder the individual or students to attain higher education (Gonçalves, da Silva, & Brooke, 2019). The system can also affect students in what kind of teaching materials and classroom observation to be used. This proves that the non-white cannot access the technology like white in education. The study recommends government to fund the entire race where by the basic priority to be on promoting the African Brazilian to access higher education regardless of their color.

Disability

In the investigation on Learning technology and disability which was done from 15 countries to discuss about disabilities and the matter of accessing technologies in education. The findings number lack of fund and information brings nonsuccess to disable people to get gain into technologies in education process (Hersh & Mouroutsou, 2019). The studies suggest that there is the need of increasing the assistive technologies. This will help disable people to get in touch with learning through Braille machines, magnifiers, screen reading and large print materials. The availability of personal assistance to mentor disables on how to use technologies. To support the idea the review on disability and technology accessibility recommends that, the disable learners do not have equal access to technologies in education (Shaheen & Lohnes, 2019). The study concludes that technologies accessibility in education is needed to disable students and should be accessed equally even at K-12 schools at United States. The work on rethinking disability counted that there is the need of putting technology in inclusive classroom (Valle & Connor, 2019). The technologies needed to be equal to the students with disabilities as well as support from the families and students. On the same vein, the study on assistive technology for blind students conducted in Delhi pinpoint out that, Teachers need to support and encourage students with visual disabilities on how to use assistive technology rather than tactile base (Senjam, Foster, Bascaran, Bashist, & Gupta, 2019). The use of Braille books, slate and stylus need to

be familiar to students and available at schools and institutions. This will make the equality on how to access technology in education.

Language

In any education process language matters for making students understand and grasp the knowledge. English language is a global language, official language and language of technologies. This language also known as foreign language to other countries. Apart from that English language still occupy the highest rank for running education activities in the World including the countries which English is second language, third language as well as foreign language. Most of the Teachers and students not good in use English for communication and for technologies like computers, having meeting through zoom, conferences as well as in research activities and classroom activities for teachers. On the same vein (DiPilla, 2019) commented “the language of equality is not foreign, nor is it reserved for the privileged classes; equality is a human right afforded to every person around the world”. Language equality is still a myth to students who are ELLs (English Language Learners whereby they meet English language as the medium of instruction and communication at school. These learners use other language at home and primary school. This will be difficult for them to copy with the uses of English language in education. To support this, National Center of Educational Statistics prove that 4.9 million students were ELL in 2015 while conclude to have 9.9% in public schools. Hispanic 3.8 million of 4.8million, while Asian made up 511,700 (American University , 2020).This shows that language can hinder the equality on accessing technology in education. Additionally English language used widely to take online classes as well as in publications. Adult’s learners and ELL cannot access technology in proper or at all. Student who gets in touch with language can access education through the use of technologies like mobile phone and computers, (Nami, 2020). The investigation on students’ language preferences for disable students relate with communication at UK higher education institutions agree with the need of consider language for disable students rather than relying on single model of language (Lister, Coughlan, & Owen, 2019). This will make students to understand well in learning and it will make the paradigm to shift together in education.

Socio and economic status

The students who receive government support get low access to technologies compared to students who are being supported by their families (McKenzie, Pizzica, Gosper, Malfroy, & Rowe, 2014) .The presence of students from low, medium and higher social economic status lead to inequality to access technologies. The fact is the students from poor families cannot manage to own computer, tablet and training on how to use them. Students from medium families can afford to have computer, mobile phone, and tablet and cannot

manage to fix with data for every day. The students from rich family can manage to have computers and tablet and access technologies well rather than those students from poor and medium families. This is also applicable to teachers and faculties from low and medium families can afford to have the equipment but not maintain to have data for browsing some information. Teachers depend too much at WIFI at working office rather than having their own data for browsing. To support the idea the review on impact of Covid 19 in developing countries where by all of the universities and schools were closed (Tadesse & Muluye, 2020) .Students were supposed to attend class from home only as it was total lockdown. The students supposed to buy computers, tablet and mobile for taking the class. Parents and students from poor families face some difficulties and failures to manage the cost and buy computer for accessing classes. Students also face the network and technical problem. This make students not to access the technologies equally like other students from high families who were able to access learning from home, with full equipment's as well as data from searching materials and attending the class.

Academic Hierarchy

The study conducted on uses of technologies in education where by professors were regarded as the one who use technologies more in teaching and learning as well as in research activities rather than students and other faculties (Costa & Alvelos, 2019). The uses of technologies include Face book and YouTube. This proves that there is unequal access of education technologies among professors, faculties, teachers from secondary schools as well as from primary schools. On the same idea the quantitative investigation about digital competences to students, graduates and professors in education point out that training, level of competence and attitudes towards the use of digital technologies in education will determine the equality in education technology (Costa & Alvelos, 2019). The difference in attitudes towards the interaction with technologies among the professors, teachers, faculties and graduates led to inequality of accessing educational technologies. There is the need to have the positive and same attitude towards the use of technologies at institutions. This will lead to equality in educational technology.

3. Methods

Google scholar and other website used for scanning and getting the information about this study. The review of the related studies from educational technologies for equality done through selection of articles in 2014 2017, 2019, 2020 and 2021.The scanning selected papers and other sources of information about on educational technologies for equality like website, and books.

4. Results of the study

The results after the analysis and assessing the study from the different research scholars and from website are as follows,

First, still need to rework again and again for having educational technology for equality where by most of all the parameters indicated that there is no equality in educational technology. Therefore, it is necessary to consider gender equality regarding the uses of technology as well as the rate number of girls needs to increase in access higher education.

Second, the race equality necessary to be resolved by consider all color powerful and can approach technology well. In academic hierarchy teachers and students need to be evolved well in technology uses.

Third, Socio-economic status needs to be considered among the students and faculties.

Finally, the study suggests that if all of the parameters could be balanced and solved it will automatically lead to paradigm shift in education.

5. Recommendation

The study recommends on the following matters;

- To reduce or clear the after-class duties for female and need to give time to girls to access technologies at schools rather than rushing home for domestic activities.
- The government needs to support the educational institution and schools by giving them suitable support to buy the teaching materials and technological equipment which will be used by all students regardless of colors. Government needs to be serious in this matter and not only promising the institution only also need to make investigation if the equipment is bought or not.
- The support to the poor and underdeveloped countries regards the availabilities of assistive technologies and need of having the centers at each university about assistive technologies.
- The need to have more than one language in education like having language for the people who are deaf. So that they could be comfortable with learning in education sector. This should be at each Centre where by the students who are deaf need to access technology.
- The need of personal assistance who can guide the disable students on how to access technologies in education.
- Also, the app of learning language online must favor the disable people like those who are deaf.
- The training is needed for teachers so that they can access technologies in education.
- There is the need of fixing language obstacles for the aim of accessing technologies in education sector for adult and students as well as research scholars. In education for paper to be published it needs a neat and clean language. The language needs to be solved as educational technology will be for all in reality rather than theory

6. Conclusion

In conclusion the study aims to scan on factors associated with educational technology for equality. The use of technology in education should focus on treating all in the same manner resulting in the change in the Teaching Learning process resulting in better learning outcomes for qualitative change in education. There is the need to make sure that each and everyone has a possibility to access technology. The paper suggest that education technology need to consider equality in terms of gender, race, disability, language, social, economic status, as well as academic hierarchy. These parameters need to be checked in order to have equality in the uses of technology. The success of that will lead to paradigm shift in education.

The papers recommend that government should make the policies about educational technology for all.

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