Original Article

IMPACT OF E-LEARNING ON ACADEMIC PERFORMANCE OF CENTRE FOR DISTANCE LEARNING (CDL) STUDENTS, UNIVERSITY OF MAIDUGURI, BORNO STATE

Hadiza Buhari, Dr. Aminchi Daniel PhD. and Barka Istifanus MSc

Department of Continuing Education and Extension services, University of Maiduguri, Borno state.

E-mail: hadizabuhari120@gmail.com
Phone: 08065162478
E-mail: draminchi2014@gmail.com Phone: 08032470928
E-mail: brakilbroisti@gmail.com
Phone''07066453605

Abstract

The study focuses on the impact of e-learning on the academic performance of the Centre for Distance Learning (CDL) students at the University of Maiduguri, Borno State, Nigeria. The objectives of the study were to assess the impact of computer skills on academic performance of CDL students and socio-demographic characteristics of CDL students on academic performance. The present study has great significance to; Policy makers, Educational Planners, Social scientist, students, researchers, CDL and Instructors. This study adopts a descriptive survey design. The total population sample consisted of three hundred and sixty (360) students including male and female representing Centre for Distance Learning students in University of Maiduguri. Present study shows that e-learning makes students to access academic material. Random sampling techniques were used. Self-designed questionnaire for data collection was used. The questionnaire consists of two sections, section A& B. Section A consists of items relating to demographic characteristics of the respondents, while Section B consists of items related to research questions. The questionnaire had twenty (20) items for this study. Research questionnaire was given to the expert in the field of measurement and evaluation for validation and to supervisors. A four-point Likert scale was developed using a decision rule. The researcher obtained a letter of introduction from the office of the Head of Department, Department of Continuing Education and Extension Services, University of Maiduguri, Borno State addressed to Director CDL. The letter assisted the researcher to get permission to administer the instrument.

The researcher has made use of three research assistants. Data collected was analysed using descriptive statistics of frequency count, percentages, and mean; and standard deviation. The results have been presented in tables. The results from this study turn out to share similar views in the literature reviewed. The study revealed that gender of students can affect the academic performance of CDL students in the University of Maiduguri. The study further shows that hours spent online/offline (time management) has a negative impact on CDL students' academic performance. Finally, the result shows that must of the CDL students prefer face-to-face interaction for learning.

Keywords: E-Learning, Academic Performance, Center for Distance Learning, Students

INTRODUCTION

Electronic learning (EL) refers to the utilisation of Information and Communication Technology (ICT) in the realm of education, encompassing the use of the Internet, computers, mobile devices, Learning Management Systems (LMS), televisions, radios, and various other digital tools to augment the teaching and learning processes. E-learning serves as an umbrella term encompassing online learning, web-based training, and the delivery of instructional content through technology-based mediums Oye, Salleh, & Iahad, (2019). In recent years, Electronic Learning (EL) has witnessed significant adoption within higher education institutions, primarily driven by the exponential growth of internet technology. This surge in popularity has endowed E-learning with a competitive edge, prompting numerous universities to implement it within their academic frameworks, with discernible repercussions on students' academic performance, including their Grade Point Average (GPA). Nevertheless, it is noteworthy that some academic institutions still employ rudimentary and minimally interactive E-learning approaches, which may fall short of substantially enhancing students' academic achievements. Other higher educational institutions use highly interactive E-learning which directly improves students' performance in general M. Huebener (2017). Today technology is a tool used to remove geographical barriers and facilitates everybody to learn anytime and anywhere without the presence of the lecturer. The main purpose of E-Learning is to increase accessibility of education and reduce costs and time as well as improving students' academic performance. This approach of learning facilitates different students at different continents to attend the same classes almost at the same time. Nowadays, technology is becoming the medium for teaching and learning without being at university campuses. Moreover, contemporary needs for utilsise digital media into the school system became necessary because digital environments offered far greater independence regarding choice of learning, a faster rate of information transfer, reduced costs, and increased access to education Meskhi, Ponomareva & Ugnich, (2019). Thus, the usefulness of digital technology and the promise that it held, as can be seen in its wide applications in teaching, management and administration, and research Ouma, Awuor & Kyambo, (2013), warranted its current integration into institutions of learning, especially at the tertiary level. University of Maiduguri has an E-learning site designed for teaching and learning using module software package, but is not fully utilised by both students and lecturers. The students in University of Maiduguri that use E-learning may perform better than those who do not use it. This study reveals the possible impact of E-learning on students' academic performance. This study is very important and will find out the impact of E-Learning use and students' academic performance in Center for Distance Learning (CDL). University of Maiduguri distance learning has e-tutors' corner basically meant for e-learning at all level of program. It has a permanent Information and communication site located at the Centre for Distance Learning since (2022)

Statement of the Problem

In centre for Distance Learning, E-learning is used for facilitate teaching and learning process. This approach negates the practice of meeting face-to-face for contact for learning. Thus, the practice of e-learning require that the students log on to the learning platform known as "moodle" to participate in teaching and learning. Activities which the learners can perform on moodle comprises chat, discussion forums, assignments, quizzes, video sessions amongst others. Thus, going by the facts that these can only be done by students who are computer literate, what

would then be the fate of students who are not computer literate and gives the facts that, there is no provision for face-to-face contact with these students. It is against this that this study aims to investigate the Impact of E-learning on academic performance of Centre for Distance Learning (CDL) Students, University of Maiduguri, Borno State. E- Learning has been introduced to University of Maiduguri Centre for distance learning and it is a global program, now that the program has been here since 2011, which is almost twelve years. The researcher intends to find out whether E-learning has an impact on academic performances of University of Maiduguri Centre for Distance Learning students.

Objectives

The objectives of this study are to determine; i. the impact of computer skills on academic performance of CDL students. ii. the socio-demographic characteristics of CDL students on their academic performance.

Significance of the Study

The present study has great significance to; Policy makers, educational Planners, social scientists, students, researchers, CDL and Instructors. Understanding the impact of e-learning on academic performance is crucial for policy makers. It helps them make informed decisions regarding the integration of e-learning platforms and technologies into the education system. This knowledge assists in establishing policies that support the enhancement of CDL programs and the overall quality of distance learning. Social scientists are interested in studying the implications of e-learning on various aspects of society.

Scope of the Study

The study is delimited to impact of E-learning on the academic performance of Centre for Distance Learning (CDL) students, University of Maiduguri, Borno State. It therefore, restricted to; impact of

computer skills and academic performance of CDL students, the impact of socio-demographic characteristics on academic achievement of CDL students' academic performance.

Literature Review

The theoretical framework of this study adopted theoretical framework developed by American psychologists including Abooki and Kitawi (2014). In a study Elfaki, et al., (2019) at Najran University in Saudi Arabia, the researchers wanted to reveal the impact of e-learning on the students' academic performance. The study was designed in a quasi-experimental manner, whereby 80 students from the Faculty of Nursing were targeted, 40 of them as an experimental group and the other 40 as a control group. This methodology is similar to the method used in the study Tegegne (2014) at the University of Gemma in Ethiopia, which targeted 144 students of basic algebra, and the results were varying between the two studies. The results of the study Elfaki, et al, (2019) showed that the average score of students for the experimental group is higher and statistically significant than the average score of students for the control group, whereas, according to a study Tegegne (2014), there were no statistically significant differences between the students' marks using traditional learning and the students' scores using ICT-supported learning. The reason for the different results may be due to the nature of some subjects that are better taught traditionally rather than relying on information and communications technology. In a study by Abooki and Kitawi (2014) at Strathmore University in Kenya to compare the average student results for the first semester of 2008 in subjects using information and communications technology and those that do not use information and communication technology, the study concluded that the e-learning strategy had a positive impact on the academic performance of the students, and this is similar to the

results of the study Elfaki, et al., (2019) but varies with the results of the study of Tegegne (2014). Socio-demographic factors, such as socioeconomic status, parental education level, and cultural background, can influence academic performance. Research suggests that students from higher socioeconomic backgrounds and with highly educated parents tend to have better academic outcomes. This can be due to access to resources, educational support at home, and exposure to a wider range of opportunities. However, it is important to note that socio-demographic factors do not determine academic success, and many students from diverse backgrounds excel academically through their own efforts and support systems, J. Anders, (2017). According to Aesaert et al. (2014), digital competence is defined as the proficient and critical use of ICT for work, leisure and communication. According to the European Commission it underpins basic skill in Information and Communication Technology (ICT), these include the use of computers to retrieve, access, store, produce, present and exchange information, and to communicate and participate in collaborative networks via the Internet J. Liu, P. Peng, (2019) Similarly in the United States of America, National Educational Technology Standards for Students International Society for Technology in Education (ISTE) were organized into 6 categories ("creativity and innovation", "communication and cooperation", "research and fluency in information", "critical thinking, problem solving and decision making", "digital citizenship" and "technological operations and concepts"), that demarcate from computer skills to the creative use of ICT, problem solving and information literacy Vekiri, I. (2021). Socio-Demographic characteristics refer to attributes that describe the status of people or a person such as age, gender, ethnicity, or income, Herbert Archard (2016). Academic performance is the focus of an important study which is a measure of the quality of education in all countries. The socio-demographic characteristics of CDL (Commercial Driver's Licence) students can have an impact on their academic performance when using e-learning platforms. Some relevant socio-demographic factors to consider include: Age: Older CDL students may have more difficulty adapting to e-learning platforms compared to younger students who are more familiar with technology. Baturay, M. H., & Baki, A. (2018). Gender: There may be differences in academic performance between male and female CDL students, although it is important to note that gender alone does not determine academic success. G. N. Kimani (2019). Mungania (2018) suggested that e-learning caters to people who have a relatively high degree of academic and professional education. In his backdrop of e-learners, he maintained that 37% are bachelor's degree holders, 56% continue studying while in the office, 80% have been enrolled in no less than ten online courses and that 96% are intermediate and advanced computer training exposure and that 87% registered warm acceptance of the modern learning approach. Race In his case study, Dimitrov (2016) posited that gender differences in science achievement did not depend on ethnicity (p.445).

METHODOLOGY

This study adopts descriptive survey design. T. Shen and S. Konstantopoulos (2017) sees this design as suitable for studies involving collecting data on opinions and feelings of respondents over a period of time. The population for this study was all students from part 3-5 which make the total of three thousand six hundred (3600) Adult education students enrolled in Centre for Distance Learning, University of Maiduguri 2023 academic session. The researcher selected three hundred and sixty (360) respondents using Yamane's scientific formula. This is given Self-designed questionnaire for data collection was used.

The questionnaire consists of two sections, section A& B. Section A consists items relating to demographic characteristics of the respondents, while Section B consists items related to research questions. The questionnaire has twenty (20) items. A four-point Likert scale developed using a decision rule which consist of the elements; SA- Strongly Agree, A- Agree, D- Disagree, SD- Strongly Disagree. Data collected was analysed using descriptive statistics of frequency counts, percentages, mean and standard deviation.

Results

Table 4.2: Impact of Computer Skills on Academic Performance of CDL Students

S/N	Items	SA	A	D	SD	Total	Mean	SD
1	E-learning makes me able to access academic materials	88 (24.4%)	245 (68.1%)	10 (2.8%)	17 (4.7%)	360 (100%)	3.12	0.67
2	Students are making use of ICT facilities in school for free	40 (11.1%)	90 (25.0%)	31 (8.6%)	199 (55.3%)	360 (100%)	1.92	1.12
3	Tutor responded to my requests promptly	42 (11.7%)	91 (25.3%)	218 (60.6%)	9 (9.25)	360 (100%)	2.46	0.73
4	E-learning enhance the quality of teaching learning process	222 (61.7%)	82 (22.8%)	37 (10.3%)	19 (5.3%)	360 (100%)	3.41	0.88
5	E-learning tools enhance students learning	43 (11.9%)	259 (71.9%)	32 (8.9%)	26 (7.2%)	360 (100%)	2.89	0.7
	Total mean						2.70	

Source: Field survey 2023

Table 4.2 above regarding the Impact of Computer Skills on Academic Performance of Center for Distance Learning (CDL) Students. The overall mean score for this table is 2.706. The result shows that 24.4% of the respondents strongly agreed, 245% agreed all implying that e-learning makes them able access academic materials, while 2.8% disagreed and 4.7% strongly disagreed all implying that the opinions had no influence on learners' performance. It also indicates that 11.1% strongly agreed and 25.0% disagree, 55.3 strongly disagree that students are not making use of ICT facilities in school for free while 8.6% strongly disagree with statement made.

The results shows that 11.7% strongly agreed, 25.3% agreed all implying that tutor responded to my requests promptly, while 60.6% disagreed and 2.5 strongly disagreed with the statement, this shows that tutors are not responding promptly to students' requests. The result also shows that, 61.7% strongly agree, 22.8% agree with the statement E-learning enhance the quality of teaching learning process while 10.3% disagree, 5.3% strongly disagree with the

statement, this shows that majority of the respondents strongly agree with the statement.

The result also revealed that, 11.9% strongly agree, 71.9% agree while 8.9% disagree, 7.2% strongly disagree with statement E-learning tools enhance students learning.

Research Question Two: What are the impacts of socio-demographic characteristics of CDL students on their academic performance? This question has been answered in table 4.3 below.

Table 4.3 Impacts of socio-demographic characteristics of CDL students on their academic performance

S/N	Items	Frequencies				Total	Mean	SD
		SA	A	D	SD			
6	Gender of students can affect the academic performance	52 (14.2%)	122s (33.9%)	34 (9.4%)	153 (42.5%)	360 (100%)	2.19	1.13
7	Socio-economic status of the family can affect the e-learning situation of the students	168 (46.7%)	61 (16.9%)	67 (18.6%)	64 (17.8%)	360 (100%)	2.93	1.16
8	Instability of family background has a positive impact on students' academic performance	193 (53.6%)	73 (20.3%)	70 (19.4%)	24 (6.7%)	360 (100%)	3.21	0.98
9	Luck of self-confidence to attend E-learning has an impact on students' academic performance	95 (26.4%)	200 (55.6%)	45 (12.5%)	20 (5.6%)	360 (100%)	3.03	0.78
10	Motivation is the major factors on students' academic performance	54 (15.0%)	231 (64.2%)	37 (10.3%)	38 (10.6%)	360 (100%)	2.84	0.80
	Total Mean						2.84	

Source: Field survey 3023

Table 4.3 above shows on regarding the Impacts of socio-demographic characteristics of Centre for Distance Learning students on their academic performance. The overall mean score for this table is 2.84. The result shows that, 14.2% of the respondents strongly agree, 33.9% agree while 34% disagree, 42.5% strongly disagree with statement gender of students can affect the academic performance, this shows that majority of the respondents strongly disagree with the statement. The result also shows that 56.7% agree, 16.9% strongly agree while 18.6% disagree, 17.8% strongly disagree, this shows that Socio-economic status of the family can affect the e-learning situation of the students and their academic performance. The reveal that 53.6% of the respondents agree, 20.3% strongly agree while 19.4% disagree and 6.7% strongly disagree with the statement which says instability of family background has a positive impact on students' academic performance, this shows the statement has a positive effect on students' academic performance. The result shows that, 26.4% agree, 55.6 strongly agree while only 12.5% disagree and 5.6% strongly disagree with the statement which says luck of self-confidence to attend E-learning has an impact on students' academic performance, this shows that luck of self-confidence to attend e-learning has effects on Center for Distance Learning students' academic performance. Finally,

the result shows that 15.0% of the respondents agree, 64.2% strongly agree while 10.3% disagree and 10.6% strongly disagree with the statement which says motivation is the major factors on students' academic performance, this shows that luck of motivation affects CDL students' academic performance in the University of Maiduguri.

Findings

The results reveal that computer skills have negative impact on academic performance of CDL students. The study shows that Socio-demographic Characteristics of CDL Students has an impact on their academic performance.

Discussion

The results from this study turn out to share similar views in the literature reviewed. Based on the result findings of this study, Table 2 has the Total mean of 2.71, Table 3 has the total mean of 2.84, table 4 has the total mean of 2.49 and table 5 has the total mean of 2.45 respectively. The descriptive statistics including the mean and standard deviation of all variables measured in this study. The total sample of 360 students including male and female representing Centre for Distance Learning students (CDL) in University of Maiduguri. Present study shows that e-learning makes students assess academic material, this is in line with the study conducted by van Braak, J. P. & Kavadias, D. (2015) who address existing literature on technology and education in the paper Technology and Education: Computers, Software, and the Internet. In summary, investments in technology have ambiguous educational impact, and most often limited educational gains. The result also shows that students are not making use of E-learning (ICT) centre for free, tutors responded to my requests promptly, it also revealed that E-learning enhances the quality of teaching and learning process, this is similar with the study conducted Faber et al. (2015) study the effects of government upgrades in

ICT, by increasing the internet connection speeds, on children's school performance in England Zhao (2021) examine a Romanian voucher program where 35,000 vouchers worth 200 euros were distributed to subsidize the purchase of home computers for low-income students enrolled in Romania's public schools. The study uses a regression discontinuity design to estimate the causal effect on academic achievement, cognitive skills, computer skills, and various non-cognitive outcomes. They find that the treated group achieve significantly lower grades in Math, English, and Romanian, but significantly higher score in a test of computer skills and in self-reported measures of computer fluency. The study also revealed that gender of students has effect academic performance of CDL students in the University of Maiduguri, this is similar to the research conducted by Toffoli, D. & Sockett, G. (2015) on the impact of sociodemographic factors on academic achievements among high school students in Indonesia. sociodemographic indicators to find factors that influence student academic performance. These factors include parental education, parental occupation, parental income, gender, type of school and including school location. Gender has become one of the factors studied in research related to student academic achievement.

Summary

The study focus on Impacts of E-learning on the academic performance of Centre for Distance Learning (CDL) students, University of Maiduguri, Borno State. Nigeria. The problem that initiated the choice of this study was stated. The present study has great significance to; Policy makers, Educational Planners, Social scientists, students, researchers, CDL and Instructors. This study adopts descriptive survey design. Present study shows that e-learning makes students assess academic material. Random sampling techniques was used. Related literature was reviewed

and four research questions was answered. Self-designed questionnaire for data collection was used. The questionnaire consists of two sections, section A& B. Section A consists items relating to demographic characteristics of the respondents, while Section B consists of items related to research questions.

Conclusion

In conclusion, while E-learning has brought about numerous benefits and opportunities for students at the Centre for Distance Learning, University of Maiduguri, there are also negative impacts on academic performance that need to be acknowledged. The lack of face-to-face interaction and limited access to resources can hinder students' understanding and engagement with the course material. Additionally, technical issues and internet connectivity problems can disrupt the learning process and negatively impact students' ability to complete assignments and assessments. Furthermore, the self-discipline and time management skills required for successful E-learning can be a challenge for some students, leading to procrastination and reduced academic performance. It is important for the university to address these issues by providing adequate support, resources, and guidance to students to ensure that they can fully benefit from E-learning and achieve optimal academic performance.

Recommendations

i. The CDL Director should provide technical support services to address technical issues faced by students, such as internet connectivity problems, software glitches, or hardware malfunctions. This will ensure uninterrupted learning and minimise frustration among students. ii. Government should provide access to Technology: Socioeconomic status and available resources can greatly affect a student's access to technology, such as computers and the internet, which are crucial for e-learning. Students from lower socioeconomic backgrounds may face barriers in terms of access to the necessary devices and internet connection. This lack of access can negatively impact their engagement and participation in online learning, thus affecting their academic performance. iii. CDL should encourage Personal Interaction with students: E-learning often lacks the personal interaction that traditional classrooms offer. This can hinder academic performance as it deprives students of the opportunity to engage in face-to-face discussions, collaborate with classmates, and receive immediate feedback from instructors.

Reference

Abooki, P., & Kitawi, A. (2014) Impact of E-learning strategy on students' academic performance at Strathmore University, Kenya. *Makerere Journal of Higher Education*, 6 (1), 99-108. http://doi.org/10.4314/majohe.v6i1.6

Abooki, P., & Kitawi, A. (2014). Impact of E-learning strategy on students' academic performance at Strathmore University, Kenya. *Makerere Journal of Higher Education*, 6 (1), 99-108. http://doi.org/10.4314/majohe.v6i1.6

Aesaert, K., Van Nijlen, D., Vanderlinde, R., and van Braak, J. (2014). *Direct measures of digital information processing and communication skills in primary education*: using item response theory for the development and validation of an ICT competence scale. Computers & Education, 76:168–181.

Al-Samarraie, H., & Saeed, N. (2019). *Factors affecting students' e-learning satisfaction in universities*: A structural equation modeling approach. Education and Information Technologies, 24(2), 1461-1480.

Baturay[1], M. H., & Baki, A. (2018). The impact of socio-demographic characteristics on students' academic performance in e-learning environments: A case study of Turkey. *Journal of Educational Technology & Society*, 21(1), 133-147.

Baturay[2] & Baki, A. (2018). The impact of socio-demographic characteristics on students' academic performance in e-learning environments: A case study of Turkey. *Journal of Educational Technology & Society*, 21(1), 133-147.

Centre for Distance Learning, University of Maiduguri. (2022), History of e-learning in CDL.

Dimitrov, D. (2016). "*Gender differences in Science achievement: Differential effect ability, response format, and strands of learning outcomes*", School Science and Mathematics, Vol. 99, Issue 8, p. 445

Elfaki, O.A., Alatawi, S. and Abushandi, E. (2014) Using Intelligent Techniques in Construction Project Cost Estimation: 10-Year Survey. Advances in Civil Engineering, 2014, Article ID: 107926. http://dx.doi.org/10.1155/2014/107926

Elfaki, O.A., Alatawi, S. and Abushandi, E. (2014) Using Intelligent Techniques in Construction Project Cost Estimation: 10-Year Survey. Advances in Civil Engineering, 2014, Article ID: 107926. http://dx.doi.org/10.1155/2014/107926

Elfaki, O.A., Alatawi, S. and Abushandi, E. (2019) Using Intelligent Techniques in Construction Project Cost Estimation: 10-Year Survey. Advances in Civil Engineering, 2014, Article ID: 107926. http://dx.doi.org/10.1155/2014/107926

G. N. Kimani, A. M. Kara, and L. W. Njagi, "Teacher Factors Influencing Students' Academic Achievement in Secondary Schools in Nyandarua County, Kenya," Int. J. Educ. Res., vol. 1, no. 3, pp. 1–14, 2013

Herbert Archard (2016) School's influence of learning: A case of upper primary schools in Kampala & Wakiso Districts. *Uganda Education Journal*, *4*, 25-41. https://www.ajol.info/index.php/ejesc/article/view/116983

J. Anders, "Oxford Review of Education The influence of socioeconomic status on changes in young people's expectations of applying to university," Oxford Rev. Educ., vol. 4985, no. June, pp. 1–21, 2017

J. Liu, P. Peng, and L. Luo, "The Relation Between Family Socioeconomic Status and Academic Achievement in China: A Meta-analysis," Educ. Psychol. Rev., vol. 32, pp. 49-76, 2019.

M. Huebener, S. Kuger, and J. Marcus, "Increased instruction hours and the widening gap in student performance," Labour Econ., vol. 47, no. November, pp. 15–34, 2017

Meskhi B., Ponomareva & Ugnich, (2019) Feasibility study for the PISA ICT literacy assessment: Report to network A. Technical report, Educational Testing Service.

Mungania, P. (2003), "Seven E-learning barriers facing employees: Executive summary of dissertation", University of Louisville,

(Online), Available from: http://www.masie.com/researchgrants/2003/mungania_exec_summary.pdf.

Ouma, G. O., Awuor, F. M., Kyambo, B. (2013). E-Learning readiness in public secondary schools in Keny. European Journal of Open, Distance, and e-Learning, 16(2), 97-110.

Oye, Salleh, &Iahad, (2019) Towards an integrated analytical framework of information and communications technology literacy.

T. Shen and S. Konstantopoulos (2014), "Class size effects on reading achievement in Europe: Evidence from PIRLS," Stud. Educ. Eval., vol. 53, no. November, pp. 98–114, 2017

Tegegne, K. (2014). The influence of e- learning on the academic performance of mathematics students in fundamental concepts of algebra course: The case in Jimma University. *Ethiopian Journal of Education and Sciences*, 9(3), 41-60.

Tegegne, K. (2014). The influence of e- learning on the academic performance of mathematics students in fundamental concepts of algebra course: The case in Jimma University. *Ethiopian Journal of Education and Sciences*, 9(2), 41-60.

Toffoli, D. and Sockett, G. (2015). University teachers' perceptions of online informal learning of English (OILE). Computer Assisted Language Learning, 28(1):7–21.

Van Braak, J. P. and Kavadias, D. (2014). The influence of social-demographic determinants on secondary school children's computer use, experience, beliefs and competence. Technology, Pedagogy and Education, 14(1):43–46. Vekiri, I. (2010). Socioeconomic differences in elementary students' ICT beliefs and out-of-school experiences. Computer & Education, 54(4):941–950

Zhao, L., Lu, Y., Huang, W., and Wang, Q. (2021). Internet inequality: The relationship between high school student's internet use in different locations and their internet self-efficacy. Computers & Education, 55(4):1405 – 1423Note: The corrections have been affected and updated Thans