

EFFECTS OF ONLINE EDUCATION ON ENCODING AND DECODING PROCESS OF STUDENTS AND TEACHERS

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ABSTRACT

Online learning education is fast-growing as its tentacles cover virtually all countries of the world today. This medium does not come as a stunner since online learning education shields against the barriers of time and distance and other militating factors of online learning. But that is not to say that online learning education has no cons to its working. In this study, the limitations of online training with nonverbal communication barriers as the focal point. This Research is conducted through a well-structured self-administrated questionnaire wherein each item measured in Likert scale. A sample of 260 students learning online education used for the study. Two hypotheses tested for – that online medium of schooling significantly affects the encoding and decoding process of students and teachers and that convenience factors (i.e., time, cost and comfort) are worth ignoring in the absence of nonverbal cues. To test these hypotheses, we applied chi-square test. In the end, results proved that the nonverbal cues are missing in online learning hence the encoding and decoding process is affected, but students tend not to notice due to its cost-effectiveness and convenience.

KEYWORDS

Non Verbal Communication, Online Learning, Encoding and Decoding of Messages

1. INTRODUCTION

Online Education, otherwise known as Online Learning, only refers to a means through which students learn and gain an internationally recognized certification without needing to attend classes on the campus (University of Edinburgh, 2018). Various advantages are open to Online Education, one major one being that it helps to make education available to all, thereby erasing physical barriers as a factor to learning within the campus environment of the school. The online training or e-learning is technology oriented. Therefore most of the definitions of e-learning reflect the involvement of state of the art instruments.

Since the e-learning does not involve face-to-face physical interaction between students and teachers, it may create some communication barriers. Such communication barriers may affect the process of encoding and decoding. It can argue that the communication barriers presented in all forms of communication through all channels, but it becomes interesting when we talk about the obstacles that may affect the communication process in online learning because of the absence of nonverbal cues. The difficulties in e-learning can explore by taking social presence theory (Williams, and Christie 1976).

1.1 Hypothesis Statement

This research will be purposed to determine the following hypothetical statement:

1. If the E-learning is significant effective to the understanding process of student and teachers

H₀: E – learning significantly affect the understanding of student and teachers

H₁: E – learning do not significantly affect the understanding of student and teachers

2. If there is any significant association in the understanding process of student and teachers with respect to the online medium

H₀: There is a significant association in the understanding process between student and teachers with respect to online medium of learning.

H₁: There is no significant association in the understanding process between student and teachers with respect to online medium of learning.

2. EMPIRICAL FRAMEWORK

Online Education, otherwise known as Online Learning, only refers to a means through which students learn and gain an internationally recognized certification without needing to attend classes on the campus (University of Edinburgh, 2018). Various advantages are open to Online Education, one major one being that it helps to make education available to all, thereby erasing physical barriers as a factor to learning within the campus environment of the school.

This recent development is not one that has been unforeseen by scholars in the past. The existence of online learning platforms as we have now have been predicted by such scholars as Winner when he said that the future years would have the academic environment split into two segments – the physical learning environment and the virtual online learning education platforms (Al-Alawneh, 2013). Today it is a living reality. It's crucial to note the fact that Online learning education did not just start today surprisingly, but had begun since about 200 years ago. In its early days when it was still widely known as distance learning education, it was defined by Moor as a family of instructional methods in which the teaching behaviors executed. A study conducted in Nigeria reveals that the growing demand for higher education has in the country has not been able to counteract the financial enablement to meet up with the requirements. Hence online training will do well to salvage the situation (Nyanza and Mukoma, 2011) just as it developed in Rwanda, another African country in the years 2001 and 2002 (Nyanza and Mukoma, 2011). The prospect of Online Learning Education is very much good especially in areas that are prone to one or more of the barriers to Education in a learning institution. Some of these barriers include time, geography, economy, communications and social aspects (Nyanza and Mukoma, 2011).

Encoding and Decoding are inversely related to memory processes, even though they go hand-in-hand (Weiser and Mathes, 2011). Encoding is a process in learning and memory which involves using sensory input to transfer information to memory while decoding is a process which consists of the interpretation of the coded data. A study of encoding and decoding techniques in children revealed that of words in spelling giftedness among children reveals that encoding of words begins in a stepwise fashion – from learning the pronunciation to gaining mastery of the spelling until verbal and writing fluency is achieved. However, it discovered that encoding and decoding poses a severe challenge to learning in the physical setting and much more in an online learning platform (Coyne and Simmons, 2006). They have for a long time stood as a barrier to communication in online learning as restrictions are bound to occur to the extent to which information can explain.

In summary, Walther's argues about the information model "given the same investment of time and commitment, relational quality in CMC will be the same as face-to-face communication" (Thurlow, Lengel, & Tomic, 2004). Keeping the above literature into consideration, we propose that there are certain limitations to online education due to the absence of nonverbal cues. But these limitations are compensated by the cost and time convenience. This literature, therefore, shows that Online Learning Education has its importance in the education of students from all over the world as it transcends barriers of distance and other related hindrances and will be more effective if better encoding and decoding facilities provided.

It discovered that distance learners prefer learning with guidelines when in online learning forums (Lee, 2014). The instructions could be in the form of already completed assignments that are similar to the tests questions asked of them; this enables to learn faster as though they were in a real campus learning environment (Kim et al., 2014). This comes as no surprise as it has found that having online learning education. Self-assessment too is another component that can aid online learning education for the student (Domun and Badadur, 2014). It also assists the encoding and decoding processes as it enables the students to get immediate feedback for tests which can tell them if they understood the topic taught or not by themselves before they give higher challenges (Domun & Badadur, 2014).

Another critical factor that can help aid encoding and decoding of information in distant learning is social interaction (Callahan et al., 2013). It is true that online learning platforms are lower in social interaction than the classroom set-up, but by including social interaction forums like chat rooms, online forums, and the likes, students can come together to rub minds on what they think about the courses thought, hence fostering the understanding of all (Callahan et al., 2013). Instructor to student's forums too can also be made, as it will help the students access the mind of the instructor concerning the lesson taught (Gedik et al., 2013). Finally, The essence of timely feedback in online learning decoding and encoding is corroborated by a finding that showed that 9 out of 17 studies are concluding that it is necessary for the comprehension of lessons taught (Bentley, Selassie, & Shegunshi, 2012).

3. RESEARCH METHODOLOGY

3.1 Method of Data Collection

The primary means of data collection was used, and questionnaires distributed to people. 264 people responded to the survey.

3.1.1 Population of Study

The population size for this research is the entire people who are currently involved with the online medium of learning.

3.1.2 Sample Size

The sample size for this research is limited to the respondent to the questionnaire that was given out. The sample size for this research will be 264 respondents.

3.2 Method of Data Analysis

Two methods of statistical tools will be used to analyze the data. Based on the hypothesis, we shall be making use of the following

1. ANALYSIS OF VARIANCE (ANOVA): this will be used to determine if there is a significant effect in the encoding and decoding process of student and teachers

2. T-TEST: This statistical tool will be used to compare the convenience factor and determine if there is any significant difference between the elements.

4. PRESENTATION OF DATA AND ANALYSIS

4.1 Data Presentation

Table 1. Response to e-learning in encoding and decoding process of students and teachers

	Strongly agree	Agreed	Uncertain	Disagree	Strongly disagree
Interaction	148	83	12	12	8
Body lang	142	78	17	15	9
Facial exp	137	73	22	21	8
Isolation	128	57	37	26	11
Noise	109	80	42	15	15
Internet connection	109	85	44	12	9
Generation loss	105	76	36	27	16
Distance	119	76	29	29	10

4.2 Data Analysis

4.2.1 Analysis of Variance

- i. ANOVA will be used to check If the E-learning is significant effective to the understanding process of student and teachers

H_0 : E – learning significantly affect the understanding of student and teachers

H_1 : E – learning do not significantly affect the understanding of student and teachers

Table 2. Analysis of variance

		SS	Degree of freedom	M.S	F-ratio	P-value
CONSENT	Treatment	78.167	30	2.6	12.791	.000
	Within Groups	1.833	9	.204		
	Total	80.000	39			
ONLINE_MEDIUM	Between Groups	176.333	30	5.878	1.571	.243
	Within Groups	33.667	9	3.741		
	Total	210.000	39			

Since the p-value 0.243 > sig value 0.05, we accept the null hypothesis and conclude that online medium affect the encoding and decoding process of student and teachers.

- ii. The Chi-Square will determine if there exist a significant association in the encoding and decoding process of student and teachers with respect to the online medium of learning.

4.2.2 Chi-square

H_0 : There is a significant association in the encoding and decoding process between student and teachers with respect to online medium of learning.

H_1 : There is no significant association in the encoding and decoding process between student and teachers with respect to online medium of learning.

Table 3. Chi- Square test

	Value	Df	P-value
CHI-SQUARE	78.850	28	0.0001
LIKELIHOOD RATIO	81.752	28	0.0001
L-2-L ASSOCIATION	27.149	1	0.0001
VALID CASES	2087		

According to our p-value (0.001) < Sig value (0.05) in the chi-square outcome, we accept the alternative hypothesis and conclude that there is no significant association in the encoding and decoding process between the student and teachers.

5. CONCLUSION

ANOVA test was carried out to test if E-learning is significantly effective in the understanding process of the student and teachers, the result shows that F-value is 1.571 and the P-value is 0.243 > significant value 0.05. This make the researcher concludes that online medium affect the encoding and decoding process of student and teachers.

Also, Chi-Square test of association was conducted in other to determine how significant is the association between the decoding and encoding process of the student and teachers. The analysis show that the Chi-square value is 78.850 and the P-value is 0.001 < significant value 0.005, this make the researcher conclude that there is no significant association in the encoding and decoding process between the student and teachers.

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