Relationship between Self-Efficacy and M-learning of Undergraduate Students of Purulia District of West Bengal

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ABSTRACT

Using mobile devices like smartphones and tablets to access information, collaborate, and engage in learning activities is known as m-learning. Several studies have shown that the learners' self-efficacy affects how effective m-learning is. The belief in one's capacity to organise and carry out the necessary steps to deal with prospective events is known as self-efficacy. The present study focuses to explore the relationship between self-efficacy and m-learning of undergraduate students of Purulia district of West Bengal. The researchers adopted descriptive survey type research. Data for the study has been gathered randomly from 100 undergraduate students from randomly selected two colleges (J. K. College & Nistarini College) of Purulia district of West Bengal applying "The Self-Efficacy Scale" by Sherer et al. (1982) and "Mobile-Learning Perception Scale" by Uzunboylu & Ozdamli (2011). The collected data was analysed using appropriate descriptive and inferential statistics. The result revealed that self-efficacy and m-learning of undergraduate students of Purulia district of West Bengal are not related to each other. It also revealed that both gender and location of residence play no significant role in self-efficacy and m-learning.

Keywords: Self-efficacy, M-learning, Undergraduate Students, Technology.

INTRODUCTION

Technology has completely dominated our culture. We are led and fostered by technology from the moment we wake up until we go to sleep at night (Gayen & Sen, 2021). We are unable to imagine a day without technology. It is not an exception in the field of education also. Mobile learning or m-learning has become increasingly popular as a mode of education due to the rapid increase in the use of smart phones. It is an emerging field that has gained considerable attention in recent years due to the advancements in mobile technologies. M-learning is the use of mobile devices such as smartphones and tablets allows learners to access information, collaborate, and participate in learning activities. Many researches revealed that the effectiveness of m-learning depends on the self-efficacy of the learners. Self-efficacy is the confidence in one's ability to plan and carry out the necessary actions to handle potential scenarios (Sen et al. 2021; Gayen, 2023). But the negative side of m-learning is that it cause internet addiction among the young learners (Mahato et al. 2023).

LITERATURE REVIEW

Wang and Chen (2008) & Mtebe and Raphael (2013) found a significant positive relationship between self-efficacy and attitudes towards m-learning of college students in China. Students with higher levels of self-efficacy were more likely to have positive attitudes towards m-learning. Another study by Abuhmaid and Al-Adwan (2012) also reveals a significant positive relationship between self-efficacy and the use of mobile devices for learning among university students in Jordan. In a study by Al-Mukhaini, Al-Shihi and Al-Busaidi (2016), self-efficacy was found to be positively associated with learners' perceived usefulness, ease of use, and intention to use m-learning. Joo et al. (2016) in their study discovered that self-efficacy significantly affected mobile English listening comprehension. The students with high self-efficacy levels had better mobile English listening comprehension. Similarly, in a study by Kim and Park (2017), learners' self-efficacy was found to be a significant predictor of their satisfaction and continuance intention in using a mobile learning application. Furthermore, a study by Liu, Liu, and Lee (2018) examined the role of self-efficacy in learners' perceived learning outcomes in a mobile game-based learning environment. The study found that learners with higher self-efficacy perceived greater learning outcomes, including knowledge acquisition, enjoyment, and motivation. Yang and Chen (2018) found that self-efficacy was positively related to mobile learning, and students with higher levels of self-efficacy had better mobile learning outcomes of nursing students in Taiwan. Sun et al. (2018) found that self-efficacy was one of the critical factors that influenced learners' success in m-learning environments. Kılıç (2019) in his study concluded that self-efficacy significantly affected mobile learning performance. The students with high self-efficacy levels performed better in m-learning environments. In a study by Joo, Lim, and Kim (2019), self-efficacy was found to mediate the relationship between learners' perceived ease of use and intention to use a mobile English learning app.

OBJECTIVES OF THE STUDY

1) To study the relationship between self-efficacy and m-learning of undergraduate students of Purulia district of West Bengal.
2) To identify the difference in self-efficacy of undergraduate students of Purulia district of West Bengal in regard to gender.
3) To identify the difference in self-efficacy of undergraduate students of Purulia district of West Bengal in regard to location.
4) To identify the difference in m-learning of undergraduate students of Purulia district of West Bengal in regard to gender.
5) To identify the difference in m-learning of undergraduate students of Purulia district of West Bengal in regard to location.

HYPOTHESIS OF THE STUDY

$H_0 1$ There is no significant relationship between self-efficacy and m-learning of undergraduate students of Purulia district of West Bengal.

$H_0 2$ There is no significant difference in self-efficacy between male and female undergraduate students of Purulia district of West Bengal.

$H_0 3$ There is no significant difference in self-efficacy between rural and urban undergraduate students of Purulia district of West Bengal.

$H_0 4$ There is no significant difference in m-learning between male and female undergraduate students of Purulia district of West Bengal.

$H_0 5$ There is no significant difference in m-learning between rural and urban undergraduate students of Purulia district of West Bengal.

METHODOLOGY

[1] **Methods:** Descriptive survey research is considered for the present study.

[2] **Population of the Study:** All the undergraduate students of Sidho-Kanho-Birsha University of Purulia district of West Bengal are considered as the population of the study.

[3] **Sample and Sampling Techniques:** From the entire population, 100 undergraduate students have been selected as the sample for the study using simple random sampling technique.

[4] **Tools Used:** The researchers have used "The Self-Efficacy Scale" by Sherer et al. (1982) and "Mobile-Learning Perception Scale" by Uzunboylu & Ozdamli (2011) for the collection of data.

[5] **Statistics Used:** Descriptive statistics like mean, standard deviation, coefficient of correlation and inferential statistics like t-test have been used for the analysis of the collected data. The statistical software SPSS version 26 has been used to calculate descriptive and inferential statistics.

RESULTS AND DISCUSSIONS

Table 1 **Correlations between Self-efficacy and M-learning of Undergraduate Students of Purulia District of West Bengal**

Correlations

		Self-efficacy	M-learning
	Pearson Correlation	1	-.081
Self-efficacy	Sig. (2-tailed)		.421
	N	100	100
	Pearson Correlation	-.081	1
M-learning	Sig. (2-tailed)	.421	
	N	100	100

Table 2 **Descriptive Statistics along with 't' value of Self-efficacyfor Male and Female, Rural and Urban Undergraduate Students of Purulia District of West Bengal**

		N	Mean	S.D	Mean difference	df	Calculated 't' value	Critical 't' value	Remarks
Self-efficacy	Male	19	210.00	23.700	6.25	98	-1.022		Not Significant
	Female	81	203.75	24.048					
	Rural	92	205.48	24.172	6.73	98	-0.759	2.01 (0.05) & 2.68 (0.01)	Not Significant
	Urban	08	198.75	22.263					
M-learning	Male	19	39.09	5.668	1.30	98	0.828		Not Significant
	Female	81	37.79	7.927					
	Rural	92	38.82	6.196	0.31	98	0.136		Not Significant
	Urban	08	39.13	5.768					

TESTING OF HYPOTHESES

Hypothesis Testing 1: From table 1, it is found that value of coefficient of correlation between self-efficacy and m-learning is -0.081 that is not significant at 0.05 level of significance. So, significant relationship is not found between self-efficacy and m-learning of undergraduate students of Purulia district of West Bengal. So, the null hypothesis (H_01) "There is no significant relationship between self-efficacy and m-learning of undergraduate students of Purulia district of West Bengal" stands accepted.

Hypothesis Testing 2: Table 2 shows that the mean score of self-efficacy of male and female undergraduate students of Purulia district of West Bengal are 210.00 and 203.75 respectively with mean difference 6.25. The standard deviations are 23.7 and 24.048 respectively. The calculated 't' value is -1.022 which is less than that of critical 't' value for the degree of freedom 98. So, the calculated 't' value is not significant at 0.01 level of significance. Result revealed no significant difference in self-efficacy between male and female undergraduate students of Purulia district of West Bengal. So, the null hypothesis (H_02) "There is no significant difference in self-efficacy between male and female undergraduate students of Purulia district of West Bengal" is retained.

Hypothesis Testing 3: Table 2 shows that the mean score of self-efficacy of rural and urban undergraduate students of Purulia district of West Bengal are 205.48 and 198.75 respectively with mean difference 6.73. The standard deviations are 24.172 and 22.263 respectively. The calculated 't' value is -0.759 which is less than that of critical 't' value for the degree of freedom 98. So, the calculated 't' value is not significant at 0.01 level of significance. Result revealed no significant difference in self-efficacy between rural and urban undergraduate students of Purulia district of West Bengal. So, the null hypothesis (H_03) "There is no significant difference in self-efficacy between rural and urban undergraduate students of Purulia district of West Bengal" is retained.

Hypothesis Testing 4: Table 2 shows that the mean score of m-learning of male and female undergraduate students of Purulia district of West Bengal are 39.09 and 37.79 respectively with mean difference 1.30. The standard deviations are 5.668 and 7.927 respectively. The calculated 't' value is 0.828 which is less than that of critical 't' value for the degree of freedom 98. So, the calculated 't' value is not significant at 0.01 level of significance. Result revealed no significant difference in m-learning between male and female undergraduate students of Purulia district of West Bengal. So, the null hypothesis (H_04) "There is no significant difference in m-learning between male and female undergraduate students of Purulia district of West Bengal" is retained.

Hypothesis Testing 5: Table 2 shows that the mean score of m-learning of rural and urban undergraduate students of Purulia district of West Bengal are 78.82 and 39.13 respectively with mean difference 0.31. The standard deviations are 6.196 and 5.768 respectively. The calculated 't' value is 0.136 which is less than that of critical 't' value for the degree of freedom 98. So, the calculated 't' value is not significant at 0.01 level of significance. Result revealed no significant difference in m-learning between rural and urban undergraduate students of Purulia district of West Bengal. So, the null hypothesis (H_05) "There is no significant difference in m-learning between rural and urban undergraduate students of Purulia district of West Bengal" is retained.

MAJOR FINDINGS OF THE STUDY

Self-efficacy and m-learning of undergraduate students are not related to each other. These two are totally independent in the context of Purulia district of West Bengal. In terms of self-efficacy and m-learning, both gender and location of residence play no significant role. Both male and female & rural and urban undergraduate students possess similar ability. No difference in self-efficacy and m-learning is found between them in Purulia district of West Bengal.

DISCUSSION

In this presents study, the result reveals that no significant relationship between self-efficacy and m-learning of undergraduate students of Purulia district of West Bengal. But in the studies of Wang and Chen (2008), Mtebe and Raphael (2013), Abuhmaid and Al-Adwan (2012), Al-Mukhaini, Al-Shihi and Al-Busaidi (2016), Joo et al. (2016), Kim and Park (2017), Liu, Liu, and Lee (2018), Yang and Chen (2018), Sun et al. (2018), Kılıç (2019), Joo, Lim, and Kim (2019) etc., a strong positive relationship was observed between self-efficacy and m-learning. So, it can be said that the relationship between self-efficacy and m-learning can be determined based on the location of the residence of the learners. Purulia district of West Bengal is one of the backward areas of India where students lack most of the modern facilities of modern education system. Thus, it can be concluded that because of such disadvantages students' efficacy plays no role in coping up with m-learning. But the positive side is that both male and female & rural and urban undergraduate students have almost similar self-efficacy and access to m-learning. Similar result has been found by Mahato and Sen (2021) in their study.

CONCLUSION

In this modern 21st century, m-learning has become a norm in the field of education. And this recent trend in education system needs strong self-efficacy of the learner to cope up with the situation. The self-efficacy can play an important role in an individual's willingness to engage in and benefit from m-learning activities. The stronger the self-efficacy, the greater will be the outcome from m-learning. But it is unfortunate that in the context of Purulia district of West Bengal, the self-efficacy and m-learning of undergraduate students are not related to each other.

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