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READINESS TO LEARN, TRANSACTIONAL DISTANCE AND SATISFACTION AMONG SCHOOL STUDENTS

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ABSTRACT

The aim of the study was to assess readiness to learn, transactional distance and satisfaction among school students. It is important to assess the school students as they face challenges in online learning due to lack of exposure to new methods of teaching and learning .The data was collected from 460 school students. Prior consent was taken from the participants before collecting the data. Online Readiness Learning Scale was used to assess readiness to learn and revised Transactional Distance Scaleand Student Satisfaction Scale was used to assess transactional distance and student satisfaction. t-test was used to study the difference between the two groups, while correlation analysis was used to see the relationship among the variables. No significant difference was found between male and female school students on student satisfaction. Significant difference was found on learner control and self-directed learning dimensions of readiness to learn among school students. Significant difference was found on transactional distance between student and student dimension of readiness to learn. Further; it was also found that readiness to learn has significant positive correlation withtransactional distance and student satisfaction.

Key words: Online Readiness Learning, Transactional Distance, Student Satisfaction

INTRODUCTION

Coronavirus had been declared as a pandemic by World Health Organization (WHO) and there was a sense of fear and panic around the world. As the corona virus continued to spread, schools across the globe were forced to shift to virtual learning in an effort to slow the spread of the disease. Ever since the concept of schools and classes was adopted there has been a tradition of face-to-face interaction. However, due to the Covid -19 outbreak, the tradition underwent a change and out of necessity, the traditional setup of learning has transformed into "e-learning."

According to Maneschijin.M(2005) e-learning is "the delivery of a learning, training or education program by electronic means".

Virtual learning gave the opportunity to engage in the process regardless of one's geographic location, place and time. According to Hung and Chen (2010), the benefits of e-learning were low cost and dependable learning method. Online learning helps in building global communities and provides a beneficial service for learner.

According to Warner, Christie, and Choy (1998), "Readiness for online learning is stated in terms of three aspects: students' preferences for the form of delivery as opposed to face-to-face classroom instruction; student confidence in using electronic communication for learning and, in particular, competence and confidence in the use of Internet and computer-mediated communication; and the ability to engage in autonomous learning". According to Lap (2005), "learners' cognitive ability, affective factors like attitudes, willingness, self-confidence, meta-cognitive abilities, assessing self- progress, and social factors like willingness to work in co-operation with others are central to learner autonomy". Therefore, the learner's readiness to learn is an important construct as it influences the process of learning and performance in e-learning.

Transactional Distance is a variable extracted from the distance education theory. Moore(1996)defined transactional distance as "a psychological space of potential misunderstandings between the behaviors of instructors and those of the learners, especially due to the physical distance that leads to a communications gap".

According to Tian, R. G. & Wang, C. H. (2012), 'Satisfaction of learner is the result of an enjoyment and achievement and is thus, "a successful and an enjoyable experience". The satisfaction of the learner is a primary need in the process of education.

REVIEW OF LITERATURE

Limited studies have examined the concept of readiness to learn in e-learning during high schools or middle school. In a research study by Hao's (2016) results revealed that readiness to learn is a good predictor of course grades, self-directed learning and team work preference. Hao et al (2016) carried out a study with students belonging to the middle school sections. It was found that during English classes, student's readiness could differ depending on personal attributes and individual situations. Findings revealed that readiness levels of students could cause discrimination in student's perceptions of teacher attributes, language beliefs, the availability of support from the environment, learning performance, study time and internet exploring time. A significant relationship between motivation and expectation of middle school students' in relation to technology self-efficacy and communication self-efficacy was also seen. Ryan and Deci (2000) stated that the students entitle the freedom to choose their own ways of learning in virtual environments and the sense of freedom can increase their intrinsic level of motivation.

Tian L, Chen H et al (2014) examined the relationship between school satisfaction and subjective well being among school students. Results revealed that school satisfaction was related to school connectedness, student competence, and autonomy. Astin(2015)found that daily communication between students and teachers in distance education courses are found to be strongly correlated with student satisfaction with the university experience. Learner's satisfaction scores depicted that through online environments showed that there was no difference among the Enrolment components, College Evaluation and social support considering the gender variable. Burges (2006) studied relationship among autonomy, dialogue and satisfaction. Findings revealed that satisfaction and perceived autonomy showed significant correlation with the overall satisfaction with the course.

Eastin and LaRose (2000) in a study found that computer self-efficacy is correlated with social, entertainment and informational outcomes. Learner-learner interaction and learner-instructor interaction were predictive of student satisfaction than learner-content interaction in majority of studies related to e-learning. Fullwood (2015) conducted a study on an undergraduate blended learning course, with the aim to investigate perceptions of transactional distance and student satisfaction coming from usage of online communications media. The findings revealed that using online communication modes to mitigate transactional distance was seen to be less influential. Less communication with the teacher leads to negative influence on student satisfaction by impacting on levels of student enjoyment. Mbwesa (2014) studied 168 students studying in an online BA program to understand how predictive perceived transactional distance was related to student satisfaction, and revealed that the perceived transactional distance of learner-instructor; learner-content interactions and learner-learner were predictive of holistic satisfaction among students.

RATIONALE

Due to the spread of the pandemic, school students have been forced to take the help of the virtual classrooms to continue with the education. It is the first time that the school students have been exposed to virtual classes without any training. There arises a need to examine student's readiness to learn through online classes. Less is known about the challenges faced by the students and the efficacy of the online classes with the school students. Investigating the student's readiness to learn will help the teachers to design better courses and guide students toward successful online learning experiences. It is also essential to explore the concept of transactional distance as it helps to understand the relationship between the teacher and the student in the cyber space.

Understanding this relation would help the teachers to understand the challenges faced by the student and modify teaching accordingly. Also, it is important to identify and reduce the psychological distance as it might create misunderstanding and places a barrier to communication between the student and the teacher. There is a dearth of research examining transactional distance among the school students. This study also aims to explore the relationship of the student to his/her peers and its relationship with the student satisfaction. Recognition of student's level of satisfaction is also essential, as a student satisfied with e-learning will experience increased level of motivation leading to lesser number of drop-out.

Investigating student satisfaction in virtual mode is essential as new technologies have changed the way that students interact with instructors and classmates (Kaminski, Switzer, &Gloeckner, 2009). The quality of interaction in online settings may depend to a large extent on the technology tools utilized during learning (Parsad& Lewis, 2008). Lack of confidence in using information and communication technology (ICT) may decrease students' satisfaction during online instruction and in turn lower their performance. Therefore, the present study is a prerequisite to designing meaningful strategies for school students, who are exposed to the virtual mode of learning for the first time due to the pandemic.

Objectives-The present study has outlined the following objectives:

1. To study the readiness to learn among male and female school students.
2. To study transactional distance among male and female school students.
3. To study satisfaction among male and female school students.
4. To study the relationship between readiness to learn, transactional distance and satisfaction among male and female school students.
5. To study the impact of readiness to learn and transactional distance on student satisfaction among male and female school students.

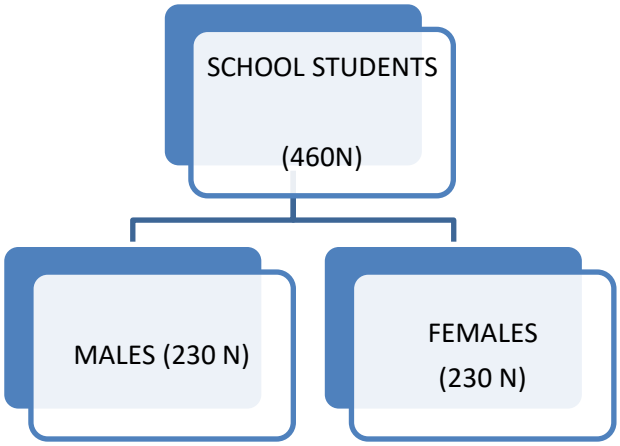
Hypothesis: The study has formulated the following hypotheses:

1. There would be significant difference in readiness to learn among male and female school students.
2. There would be significant difference in transactional distance among male and female school students.
3. There would be significant difference in student satisfaction among male and female school students.
4. There would be significant difference in relationship between readiness to learn, transactional distance and satisfaction among male and female school students.
5. Readiness to learn and transactional distance will be significant predictors of student satisfaction among school students.

METHODS

SAMPLE

Participants were recruited from private schools of Delhi/NCR. The sample size was 460 participants consisting of school students.



CRITERIA

Inclusion Criteria

- Students attending virtual classes.
- Students between the age range of 15yrs-17yrs and able to readand respond in English.

VARIABLES

Independent Variable-Readiness to learn and Transactional distance

Dependent variable – Student's Satisfaction

TOOLS

Online Learning Readiness Scale (Hung et al., 2010)

The tool consists of 18 items with a 5-point Likert-type scale, ranging from *Strongly disagree* (1) to *Strongly agree* (5). Composite reliability of each construct was found to be greater than .7. Discriminant validity of the OLRS was also acceptable (Hung et al., 2010).

Revised Transactional Distance Scale (Zhang, 2015)

The scale includes 12 items with a 5-point likert-type scale, ranging from strongly disagree (1) to strongly agree (5).Factor loadings for each construct are above .6 and significant at the.01 level, reflecting satisfactory convergent validity. The composite reliability for each sub-construct was above the minimum threshold of .70 indicating good reliability (Nunnally, 1978).

Student Satisfaction Scale (Strong, 2012)

The scale consists of 7 items with a 5-point likert-type scale, ranging from strongly disagree (1) to strongly agree (5).

PROCEDURE

Data was collected from 460 participants online using the Google form link. To reach the school students enrolled in online classes, a descriptive email along with the e-consent and assent form was sent to the principal of the private

schools. After the approval from the principals, e-consent and assent (Google form) link were shared with the students. E- consent/assent forms was used to inform each student and parent that participation is voluntarily, the answers and respondent's identity would be kept confidential. The students were informed that they could withdraw from the study at any time. The e-consent/assent forms for the students were signed by both the student and their parents and submitted to the primary researcher through the school authorities. The data collected was subjected to statistical analysis.

STATISTICAL ANALYSIS

t-test, correlation and other suitable statistical techniques were used.

RESULT AND DISCUSSION

Table 1-Mean, S.D and t-value of the readiness to learn among male and female school students its dimensions. (N=460)

Dimensions	Group	Mean	SD	t-value	Sig	Cohen's d
Computer/Internet self-efficacy	Male Female	19.125 19.238	3.66 3.549	0.326	NS	0.03
Self-directed learning	Male Female	18.582 19.222	2.868 3.075	2.265	0.05	0.21
Learner control	Male Female	10.489 11.094	2.049 2.17	3.016	0.05	0.28
Motivation for learning	Male Female	15.715 16.116	2.423 2.438	1.725	NS	0.16
Online communication self -efficacy	Male Female	10.72 11.15	2.386 2.425	1.843	NS	0.21
Total	Male Female	66.877 68.944	9.120 10.18	2.262	0.05	0.31

Note. Cohen'D value ≤0.20 is a small effect size, 0.50 is a moderate effect size and ≥0.80 is a large effect size (Cohen, 1992)

As shown in table 1, an independent sample t- test was conducted to find the extent to which male and female participants differed in their responses on readiness to learn and its dimensions. Significant difference was found on learner control and self directed learning dimensions of readiness to learn among school students. Results reveal a significant difference between male and female participants on scores of readiness to learn, t (460) = 2.26. Findings indicate that female students (M = 68.94, SD = 10.18) exhibited higher scores on readiness to learn as compared to

male students (M = 66.87, SD = 9.12). The value of Cohen's d was 0.31 (< .50) that indicates medium effect size. Hao (2016) found that student's readiness could differ depending on personal attributes and individual situations. Results also revealed that students' readiness levels could lead to differences in beliefs related to language, student perceptions of attributes of faculty, the availability of family support and resources, study time and internet exploring time. The attributes of the learning environment and the responsibilities of the candidate in such environments impact student intrinsic motivation to learn (Ünsal, 2012). Hence, the results provide evidence in support of the hypothesis (H1) that there will be significant difference on readiness to learn between male and female school students.

Table 2- Mean, S.D and t-value oftransactional distance and its dimensions among male and female school students. (N=460)

Dimensions	Group	Mean	SD	t-value	Sig	Cohen's d
TDST	Male	13.622	2.054	0.170	NS	0.00
	Female	13.588	2.057			
TDSC	Male	10.568	1.98	0.869	NS	0.08
	Female	10.733	1.99			
TDSS	Male	17.874	3.937	2.172	0.05	0.20
	Female	18.672	3.687			
Total	Male	42.064	6.7	1.725	NS	0.13
	Female	42.994	6.6			

Note. Cohen'D value ≤0.20 is a small effect size, 0.50 is a moderate effect size and ≥0.80 is a large effect size (Cohen, 1992)

As shown in table 2, an independent sample t- test was conducted to find the extent to which male and female participants differed in their responses on transactional distance and its dimensions. Significant difference was found on transactional distance between student and student dimension. Results revealed a non-significant difference between male and female participants on scores of readiness to learn, t (460) = 1.72. Findings indicate that female students (M = 18.67, SD = 3.68) exhibited higher scores on readiness to learn as compared to male students (M = 17.87, SD = 3.93). The value of Cohen's d was 0.13 (< .50), which indicates small effect size. Kassandrinou et al. (2014) revealed that students absent from the online sessions reported greater student-student transactional distance in comparison to students who attended sessions online. Hence, the results partially accept the hypothesis (H2) that there will be significant difference on transactional distance between male and female school students.

Table 3- Mean, S.D and t-value on studentsatisfaction among male and female school students.(N=460)

Variable	Group	Mean	SD	t-value	Sig	Cohen's d
Student Satisfaction	Male	21.946	6.259	0.078	NS	0.007
	Female	21.994	6.871			

Note. Cohen'D value ≤0.20 is a small effect size, 0.50 is a moderate effect size and ≥0.80 is a large effect size (Cohen, 1992)

Table 3 presents mean and standard deviation of male and female students on student satisfaction. Results demonstrate that female students had same mean score of 21.94 (SD = 6.25) on student satisfaction as compared to male students mean score of 21.99 (SD = 6.87) indicating no significant difference. Hence, the results reject the hypothesis (H3) that there will be significant difference on student satisfaction between male and female school students.

Table 4- Coefficients of correlation betweenreadiness to learn, transactional distance and student satisfaction. (N=460)

Correlations

		onlinereadinesstotal	cisitotal	sdltotal	lctotal	mfltotal	ocstotal	tdtotal	tdsttotal	tdsctotal	tdsstotal	sstotal
onlinereadinesstotal	Pearson Correlation	1.00	.76**	.85**	.76**	.79**	.79**	.72**	.59**	.60**	.63**	.50**
sdltotal	Pearson Correlation			1.00	.62**	.63**	.56**	.60**	.50**	.54**	.49**	.39**
lctotal	Pearson Correlation				1.00	.47**	.46**	.53**	.43**	.47**	.45**	.45**
mfltotal	Pearson Correlation					1.00	.50**	.56**	.44**	.45**	.51**	.31**
ocstotal	Pearson Correlation						1.00	.61**	.49**	.51**	.54**	.45**
tdtotal	Pearson Correlation							1.00	.79**	.78**	.91**	.59**
tdsttotal	Pearson Correlation								1.00	.56**	.54**	.48**
tdsctotal	Pearson Correlation									1.00	.55**	.57**
tdsstotal	Pearson Correlation										1.00	.48**
sstotal	Pearson Correlation											1.00

**. Correlation is significant at the 0.01 level (2-tailed).

Table 4 shows that all the three variables were positively correlated to each other and it was also found that readiness to learn and transactional distance are significant predictors of student satisfaction. Thus, the hypothesis that there

would be significant difference in relationship between readiness to learn, transactional distance and satisfaction among male and female school students was accepted.

Table 5-Multiple Regression Analysis

R	**R square**	**Adjusted R square**	**Std. Error**	**F**	**Significance**
0.603	0.364	0.361	5.187	130.501	0.001

Variables	**beta value**	**Std. Error**	**t-value**	**Significant**
(constant)	5.039	1.784	2.824	.05
Transactional Analysis	0.468	0.053	8.907	.001
Readiness to learn	0.105	0.037	2.877	.05

Table 5 depicts that Transactional distance (Sig level .001) is a better predictor of student satisfaction as compared to readiness to learn. The hypothesis that Readiness to learn and transactional distance will be significant predictors of student satisfaction among school students is accepted. Mbwesa (2014) studied 168 students studying in an online BA program to explore predictive perceived transactional distance in relation to student satisfaction, and saw that the perceived transactional distance of learner- learner, learner-instructor, and learner-content were predictive of student satisfaction.

DISCUSSION

Results demonstrate that female students had similar mean score of 21.94 (SD = 6.25) on student satisfaction as compared to male students mean score of 21.99 (SD = 6.87) indicating no significant difference. The affect of gender on components of student satisfaction has shown mixed results in relation to virtual learning (Young-Jones et al., 2013). Salma (2019) found gender differences in level of satisfaction. Literature on the adoption of virtual learning applications emphasized that gender was a significant variable (Goswami&Dutta, 2016). A few studies concluded that gender did not affect satisfaction towards virtual learning (Cuadrado et al., 2010; Hung et al., 2010). This study indicate that female students (M = 19.22, SD = 3.07) exhibited higher scores on self-directed learning as compared to male students (M = 18.58, SD = 2.86). The value of Cohen's d was 0.20(< .50), indicating small effect size.

Chen & Yen (2019) describes Learner control as enabling individual learners to have the judgment on making a choice regarding learning examples, organizing a sequence of learning tasks, structure and pacing the number of learning sessions based on their individual cognitive needs .It has been recognized that effective learning needs regular participation and learner control during the process of learning (Oxford, 1990).

Thus, learners comprehend different learning approaches and find a solution to adjust the number of learning content in an evolving environment (Chang & Ho, 2009). Significant difference was found on transactional distance between student and student dimension.

Further; all three variables were positively correlated to each other and it was also found that readiness to learn and transactional distance are significant predictors of student satisfaction. Tian L, Chen H et al (2014) investigated subjective well-being and school satisfaction among adolescents and found that school satisfaction was correlated to school connectedness, competence, and autonomy of the student. Mbwesa (2014) studied 168 students studying in an online BA program to understand how predictive perceived transactional distance was related to student satisfaction, and revealed that the perceived transactional distance of learner-instructor; learner-content interactions and learner-learner were predictive of holistic satisfaction among students.

IMPLICATIONS

As part of the new education policy, academic curriculum of the schools can be modified to suit the online learning mode. Teaching and learning strategies can be designed to improve the student-teacher engagement in the classrooms. The present study would also help in the formation of standardised guidelines regarding online modes of learning that can be uniformly implemented across the schools. Methods to improve the student satisfaction will also help in reducing the drop-out rate of students in the online classes.Future research could also explore reasons for learners' satisfaction or dissatisfaction.

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