HIGH SCHOOL STUDENTS' READINESS FOR DISTANCE LEARNING

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Abstract

The purpose of this study was to determine high school students for distance learning. Mainly due to the study a multidimensional instrument for high students' readiness for distance learning (HRD) developed and validated. The study adopted qualitative research method based on quantitative data. The participants of the study comprised 191 high school students who were selected using randomly sampling model. The data were collected via readiness for distance learning scale (HRD) and analyzed using exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) to establish the construct validity of the HRD model. In addition, a series of one-way ANOVA were conducted to investigate the effect of demographic variables on readiness of distance learning. Through confirmatory factor analysis, HRD was validated in three dimensions: communication, access and motivation. In this study, high school students' mean scores in three dimensions are all higher than the theoretical mean of 3, ranging from 3.60 to 4.37 on a 5-point scale as $\bar{X}$= 40.64 (SS=8.80).This finding means that the current study's sample of high school students has the highest readiness in the dimension of access $\bar{X}$=16.98 (SS=4.64), followed by motivation $\bar{X}$=12.86 (SS=4.66); communication $\bar{X}$=10.79 (SS=2.45. The significant differences were observed that high school students are those who study at 9. grade had greater readiness than high school students are those who study at 11. grade in high schools whereas high school students are those who study at 11. grade in high schools had greater readiness than high school students are those who study at 10. and 12. grade in high schools according to means score of HDR. It was also found out that perception of students' self-confidence while using computer caused significant statistical differences in three dimensions of HRD; the students who had higher level (very good, good) of self-confident while using computer exhibited significantly greater readiness than those who had lower level of self-confident while using confidence. Meanwhile, high school students are those who had study habit reached greater point from HDR scale than high school students who had not study habit (t $_{(188)}$ = 5.29, p = .00,d=.08).

Keywords: Distance learning, Readiness, Distance Learning Measurement, High School Students

1. Introduction

During the COVID-19 pandemic, educators have faced big challenges to convert their lessons to distance and have found them in an urgent need to adapt and use technologies to deliver instruction to their students. The best way to meet these needs and help students overcome these challenges is through readiness for distance learning. However, one-shot practice in the form of zoom conference with no follow-up and expert support have been abundant during the peak period of COVID-19. These practices are deemed ineffective as students don't use and incorporate what they have learned into their classroom. Students need more rigorous, readiness opportunities through which they develop skills and gain knowledge for a better distance, technology-based delivery of instruction. Readiness for distance learning

offers an effective learning experience for students who need essential skills in transition to distance, technology-oriented instruction with its focus on forming a professional learning community facilitated by students' access, motivation and communication.

To be inclusive and to provide fair opportunities, students' access, motivation and communication resources are to broaden the impact of distance learning through building capacity in learning while they are ready to learn so that a fully distance learning model with its asynchronous (flexible assignments) and synchronous (live conferences) activities can be created to achieve the goal and objectives of distance learning. The main features of the distance learning model are active learning that include (1) application and practice-based experiences (2) collaboration students work together in groups, best examples (3) samples of exemplary products and work (4) feedback immediate and constructive comments on students' work (5) sustained and sufficient time planned contact hours for readiness for distance learning (Smith, Murphy and Mahoney, 2003)

The overall goal of distance learning is to build students' capacity in developing technology-enhanced, effective instruction. The theory of action of distance learning is to facilitate students' motivation through access to distance learning, collaborative, and fully online activities in order to be engaged in understanding-based, interactive learning (Alonso,Lopez,Manrique,2005).Differentiation with technology includes essential knowledge to differentiate content, product, and process using differentiation strategies and technology focuses on a research-based instruction model that enables students to engage distance and face-to-face instruction framed by technology integration theories that are aimed at providing skills for students to incorporate best, evidence-based methods of learning into their classroom. Students establish a repertoire of meaningful, engaging, and innovative ways of delivering instruction by which provide practical insights and structure to develop authentic distance learning atmosphere so that readiness for distance learning focuses on the best way to engage an distance lesson with technology (Dutton and Perry,2002;Vuorela and Nummenmaa,2004a).

There are a variety of distance learning activities students are engaged in the synchronous and asynchronous activities and tasks are for helping students build a basic understanding of technology-enhanced instruction, the use of technology in the classroom and effective distance and face-to-face lesson practices. In the distance lesson practices, students interact with each other to critically discuss issues regarding distance learning and learning with technology. Thus, every students is provided opportunities to share and reflect what they have learned and what they need in their learning community led by readiness for communication in distance learning atmosphere (Loomis, 2000; Garrison, 2004; Cleveland, 2004).

Increasing number of educational institutions are adopting distance learning approach to teaching and learning: however, there has been given regard to personal and technical qualities which are required by learners such as access to distance learning, motivation for distance learning and computer mediated communication. In recognition of these, studies have been exploring academic achievement and satisfaction within distance learning environment regarding to assess learner readiness for distance learning (Smith, Murphy and Mahoney, 2003; Simth, 2005).

Technology-based environments are very different from traditional learning environment. Thus, learner control is an important factor of effective distance learning (Merrill, 1983, Stein, 1983). The technology-based learning environment with various forms of multimedia are allowed learners to choose the amount of content with maximum freedom in study materials and they can control over their own instruction by repeating or skipping sections while following subjects regardless of the order of the sequence and the pace of learning (Syhu and Brown, 1992; Reeves, 1993; Wang and Beasley, 2002). Thus, distance learners has required to

access and to interact with the technology-based learning environments. Since distance learning are delivered through ınformation and communication technologies, therefore, it is particularly important to have related with individuals' ability to use technology in terms of readiness for distance learning (Higgins,1995).

In the broadest sense, cognitive, motivational, and affective processes in distance learning reflect component skills such as using software to accomplish a task. However, individuals' perceptions while using computer in distance learning environment does not only resulted in performing technology related task rather it is also related with learners' ability to access technical qualities. In recognition of this, studies have been exploring technical skills of learners' to test of diagnostic tools to assess learners' readiness for distance learning (Wang and Nelwin, 2002; Murphy and Mahoney, 2003).

Studies have revealed that technical skills regarding of internet related learners' performance shape learners' attitude and behavior towards to distance learning environment (Tsai and Lin,2004; Peng,Tsai and Wu,2006). Learners' performance in distance learning environment are related with learners' participation in their learning in which they take more active role realizing their responsibility for guiding and directing their own learning (Hill,2002;Hsu and Shiue,2005;Roper,2007). Since distance learning environments allow learners to have more flexibility in their learning arrangements, learners need to control their learning in terms of the content, type of media, and time spent on studying. Thus, the dimension of learners' access to distance learning regarding of ability to use technology becomes an important part of learners' readiness for distance learning (McLellan, 2004; Roper, 2007; Hew, Cheung, 2008).

On the other hand, learners' motivation orientation has influence on the learners' learning performance in distance learning atmosphere (Cordova, 1992; Ryan and Deci, 2000; Cho and Laffey, 2006). Researches have investigated that motivation is positively related with learners' perception about success or failure of distance learning (Saade, He and Kira, 2007). In the broadest sense, motivation stimulates learners' interest that learners grows in knowledge and skills (Garrison, 1997).Learners must become active learners to sustain motivation. Thus, they have strong desires for learning (Candy, 1991). The dimension of motivation of learning is essential to improving and implementing of distance learning (Federico, 2000). In recognition of this, learners' preference and attitudes facilitate their efforts to enhance their learning. Learners in distance learning environment has freedom to determine their own learning way, the sense of freedom that might stimulate learners' intrinsic or extrinsic motivation therefore learners' learning performance has been associated with motivational orientation of learners (Ryan and Deci,2000).

Distance learning also involve computer-mediated communication (Mcvay, 2000). Researchers showed that learners tend to more participate in distance learning environment therefore it is important to create computer- mediated communication between learners and their instruction in distance learning environment (Palloff and Pratt,1999). Since computer-mediated communication provides opportunities for rich questions and responses in distance learning it is an essential dimension for readiness for distance learning (McVay, 2000; Roper, 2007).

In sum, by understanding high school students' readiness for online learning, not only facilitate designers to provide distance courses, but also teachers can build capacity on distance learning to enhance learners' understanding in distance learning environment. Thus, the purpose of this study was to examine the concept and the underlying dimensions of high school students' readiness for distance learning. The study explored the following research questions:

1. What is high school students' level of readiness for distance learning?

2. Does age of high school students make any significant difference in terms of their readiness for distance learning?

3. Does gender of high school students' level of readiness for distance learning?

4. Does students' grade level have any significant influence on their readiness for distance learning?

5. Does high school students' perception of self-confidence while using computers cause any significant influence on their readiness for distance learning?

6. Does high school students' study habit cause any influence on their readiness for distance learning?

2. Method

The study utilized qualitative research method based on quantitative data. The qualitative data can be used to provide description and benefits of qualitative methods are that they allow to discover new variables and relationships to reveal and understand complex processes (Miles and Huberman, 1994).

2.1. Participant (subject) characteristics

The HDR was distributed to 191 high school students through Google form. A total of 190 students completed the survey from a variety of high school students at 8. 9.,10.,11. And 12. Grade in high schools in Turkey. The participants consisted of 102 female's %53.7' and 58 male's %46.3. Regarding their age, the age average of age was 15.37'dir (SS = 1.20). The demographic information of the participants is given in Table 1 below.

Table 1. *Demographic Variables*

Variables		N	%
Age	Female	102	53.7
	Male	88	46.3
Section	9. grade	67	35.3
	10. grade	45	23.7
	11. grade	45	23.7
	12. grade	33	17.4
Ability to using computer	Weak	37	19.5
	Good	104	54.7
	Very Good	49	25.8
Ability to Microsoft office	Weak	63	33.2
	Good	77	40.5
	Very Good	50	26.3
Study habit	Yes	93	48.9
	No	97	51.1
	Total	190	100

2.2. Research Instrument

In the study the Readiness for Distance Learning Scale (HRD) was used as the data collecting tool. For this purpose, an exploratory factor analysis (EFA) using factor was conducted to determine the factor structure. EFA is performed in the early stages of developing HRD. Before performing EFA, measurement appropriateness for the 15 survey items was

evaluated through use of descriptive statistics. The 15 items were factor analyzed by SPSS using maximum likelihood factor analysis with liminal rotation. Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was 0.85 and the Bartlett's Test of Sphericity was significant (p<.001). As a result, 15 of 13 items were removed. Item analyses were conducted on the remaining 13 items fit a three factor; communication, accesses and motivation. Table 2 shows factor loadings items for exploratory factor analysis of the items for measuring readiness for distance learning.

Table 2. *Factor Loadings*

Items	Motivation	Access	Communication
M6	.56		
M7.	.69		
M11	.80		
M12.	.68		
M13	.84		
M3.		.63	
M4.		.52	
M10		.64	
M14.		.66	
M15.		.66	
M5.			.50
M8.			.55
M9.			.84

Confirmatory factor analysis (CFA) was used AMOS version 17 to confirm the factors within a new sample, followed by a reliability analysis to determine internal and external validity of scale items. The conventional chi-square test, comparative fit index (CFI), and root mean square error approximation (RMSEA) values were used to evaluate model fit. A non-significant (P >0.05) χ^2 is desirable and suggests the model adequately represents the data. The CFI can range from 0 to 1.0 and estimates the proportion of the sample variances and covariance explained by the model. CFI values > 0.90 and RMSEA values < 0.08 are considered to represent 'good' correspondence between observed. Standardized path coefficients (factor loadings), factor correlations and second order loadings were examined to evaluate the relationship between each indicator with its associated factor. The table 3 shows the model fit measurement statistic.

Table 3. *Model Fit Statistics*

	CMIN/DF	GFI	CFI	IFI	RMSEA	AIC	ECVI
Model fit statistics*	<3.00	0.90	0.90	0.90	<0.10		
Model 1	2.57	.89	.87	.88	.09	217.576	1.151
Model 2	2.13	.90	.90	.91	.08	194.980	1.032

The scale was divided into three dimensions: motivation, access and communication. The model testing results the measurement model exhibits good fit. As shown in Fig.1, each item has a substantial loading between .41 and .86 on three factors, and each loading was statistically significant. The mean t-test score were compared through paired sample t-tests in up/down groups in order to assess the time variance of the HRD and its subscale. Significant differences were found between the groups estimated as up %27 ($\bar{X}$ = 51.59, SS = 4.70) and down % 27. $\bar{X}$ = 30.29, SS = 4.90) Significant differences indicated that HRD was suggesting very strong scale.
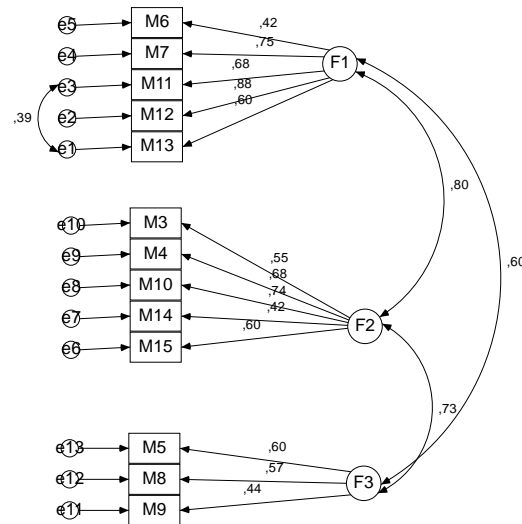

Figure 1. Path Diagram

Factor correlations with respective factor, and with each of the factor were demonstrated significant relationship (r=.86-.87, p<.001). Significant positive correlations were found between subscale item score and total subscale scores. Significant positive correlation were found between motivation and access ; r=.56 (p<.001), motivation and communication r=.39 (p<.001); motivation and means of HRD r=.87 (p<.001); Access and communication r=.47 (p<.001); access and means of HRD r=.84 (p<.001) and communication and means of HRD r=.68 (p<.001). Table 4 shows factor correlations with respective factor, and with each of the factor. Reliability analysis for the internal consistency was tested using Cronbach's alpha for each competency in SPSS. The Cronbach's Alpha reliability coefficient was .85 for the complete scale (13 items), .82 for motivation (4 items), .73 for access and 54 for communication. As a result, strong evidence of consistency in students' response to the HRD items was observed. The total item correlation illustrated in table 4.

Table 4. *Factor correlations with respective factor, and with each of the factor*

	Motivation	Access	Communication
Motivation	-		
Access	.56**	-	
Communication	.39**	.47**	
Total	.87**	.84**	.68**

Table 5. *Total Item Correlation*

Items	R
M3	.439
M4	.583
M5	.439
M6	.430
M7	.629
M8	.472
M9	.265
M10	.615
M11	.586
M12	.733
M13	.510
M14	.347
M15	.515

3. Results

The study utilized qualitative research method based on quantitative data. The qualitative data can be used to provide description and benefits of qualitative methods are that they allow to discover new variables and relationships to reveal and understand complex processes (Miles and Huberman, 1994).

3.1. Research Questions

Research question 1 concerns high school students' readiness for distance learning. In this study, high school students' mean scores in three dimensions are all higher than the theoretical mean of 3, ranging from 3.60 to 4.37 on a 5-point scale as $\bar{X}=40.64$ (SS=8.80).This finding means that the current study's sample of high school students has the highest readiness in the dimension of access $\bar{X}=16.98$ (SS=4.64),followed by motivation $\bar{X}=12.86$ (SS=4.66); communication $\bar{X}=10.79$ (SS=2.45).Table 6 shows the means scores of high school students according to HRD scale.

Table 6. *Mean Scores of Students*

	N	Min.	Max.	$\bar{X}$	SS	Skewness	Kurtosis
Motivation	190	5.00	25.00	12.86	4.66	.235	-.568
Access	190	7.00	25.00	16.98	3.64	-.387	.043
Communication	190	3.00	15.00	10.79	2.45	-.595	.279
Total	190	17.00	64.00	40.64	8.80	,.56	.078

3.1.2. Research Question 2

The research question 2 concerns about Does age of high school students make any significant differences in their level of readiness for distance learning? According to results, there were no significant differences in high school students' level of readiness for distance learning according to age (See table 7).

Table 7. *T-test results according to age differences*

	Age
Motivation	-.04
Access	-.01
Communication	.10
Total	.00

3.1.3. Research Question 3

The research question 3 concerns about Does gender of high school students' level of readiness for distance learning? To test for gender differences in the HRD constructs, T-test conducted. As results, there were significant differences between female and male students according to gender (t $_{(188)}$ = -2.90, p = .01, d=.42). The results revelaed that male high school students' motivation in distance learning were higher than female high school students (t $_{(188)}$ = -2.28, p = .02, d=.03).Meanwhile, there were no significant differences between male high school students' means score of subscales and female high school students means score of subscales by following; access (t $_{(188)}$ = -.85, p = .39) and communication (t $_{(188)}$ = -1.43, p = .15) (See table 8).

Table 8. *T–test results according to gender differences*

		N	X̄	SS	SH	t	Sd	p
Motivation	Female	102	11.97	4.82	.48	-2.90	188	.01
	Male	88	13.90	4.27	.45			
Access	Female	102	16.77	3.88	.38	-.85	188	.39
	Male	88	17.23	3.35	.36			
Communication	Female	102	10.56	2.58	.25	-1.43	188	.15
	Male	88	11.07	2.28	.24			
Total	Female	102	39.30	9.55	.94	-2.28	188	.02
	Male	88	42.19	7.59	.81			

3.1.4. Research Question 4

The research question 4 concerns about Do the students at grade level have any significant difference in terms of readiness for distance learning? To analyze data on differences among high school students' score of three dimension on HRD according to high school students' grade, one-way ANOVA conducted. Significant differences were not found between students' communication subscale scores (F $_{(3,189)}$=.864;p>.05). However, there were significant differences found between students' motivation dimension, access dimension and means score of HRD (F$_{(3,189)}$=4.352;p< 001; F$_{(3,189)}$=.864;p< 001; F$_{(3,189)}$=2.978;p< 001;). See Table 9.

In order to determine significant differences between groups a post hoc test conducted (See Table 10).

Table 9. *One-way ANOVA results*

Score	f, $\overline{x}$ ve ss values				ANOVA Results					
Score	Grup	N	$\overline{x}$	ss	Var. K.	KT	Sd	KO	F	p
Motivation	9. grade	67	13.98	4.63	among	278.067	3	92.689	4.503	.01
	10. grade	45	1153	4.14	in	3828.375	186	20.583		
	11. grade	45	13.69	4.91	Total	4106.442	189			
	12. grade	33	11.27	4.31						
	Total	190	12.86	4.66						
Access	9. grade	67	17.52	3.76	among	164.555	3	54.852	4.352	.01
	10. grade	45	15.84	3.40	in	2344.397	186	12.604		
	11. grade	45	18.07	3.31	Total	2508.953	189			
	12. grade	33	15.99	3.62						
	Total	190	16.98	3.64						
Communication	9. grade	67	10.49	2.71	among	15.622	3	5.207	.864	.46
	10. grade	45	11.24	2.12	in	1121.373	186	6.029		
	11. grade	45	10.73	2.55	Total	1136.995	189			
	12. grade	33	10.88	2.17						
	Total	190	10.79	2.45						
Total	9. grade	67	42.00	9.78	among	670.326	3	223.442	2.978	.03
	10. grade	45	38.62	6.40	in	13957.337	186	75.039		
	11. grade	45	42.49	8.96	Total	14627.663	189			
	12. grade	33	38.12	8.50						
	Total	190	40.64	8.80						

Table 10. *Post-Hoc LSD Test Results*

Score	Groups (i)	Groups(j)	$\bar{x}_i - \bar{x}_j$	$Sh_{\bar{x}}$	p
Motivation	9. grade	10. grade	2.451	.874	.01
		11. grade	.297	.874	.73
		12. grade	2.71	.965	.01
	10. grade	9. grade	-2.452	.874	.01
		11. grade	-2.155	.956	.02
		12. grade	.261	1.040	.80
	11. grade	9. grade	-.296	.874	.73
		10. grade	2.155	.956	.02
		12. grade	2.416	1.040	.02
	12. grade	9. grade	-2.712	.965	.01
		10. grade	-.261	1.040	.80
		11. grade	-2.416	1.040	.02
Access	9. grade	10. grade	1.678	.684	.01
		11. grade	-.544	.684	.43
		12. grade	1.553	.755	.04
	10. grade	9. grade	-1.678	.684	.01
		11. grade	-2.222	.748	.01
		12. grade	-.125	.814	.88
	11. grade	9. grade	.544	.684	.43
		10. grade	2.222	.748	.01
		12. grade	2.097	.814	.01
	12.grade	9. grade	-1.552	.755	.04
		10. grade	.125	.814	.88
		11. grade	-2.097	.814	.01
Total	9. grade	10. grade	3.378	1.670	.04
		11. grade	-.4889	1.670	.77
		12.grade	3.878	1.84	.04
	10. grade	9.grade	-3.378	1.670	.04
		11.grade	-3.867	1.826	.04
		12. grade	.501	1.985	.80
	11. grade	9. grade	.489	1.670	.77
		10. grade	3.867	1.826	.04
		12. grade	4.368	1.985	.03
	12. grade	9. grade	-3.879	1.842	.04
		10. grade	-.501	1.985	.80
		11.grade	-4.368	1.985	.03

According to results, there were significant differences between high school students regarding motivation dimension and access dimension of HRD. It was observed that high school students are those who study at 9. grade had greater degree of readiness for distance learning than high school students are those who study at 11. grade in high schools whereas high school students are those who study at 11. grade in high schools had greater of readiness for distance learning than high school students are those who study at 10. and 12. grade in high schools.

Similarly, high school students are those who study at 9. grade had greater readiness for distance learning than high school students are those who study at 11. grade in high schools

whereas high school students are those who study at 11. grade in high schools had greater readiness for distance learning than high school students are those who study at 10. and 12. grade in high schools according to means score of HRD.

3.1.5. Research Question 5,

The research question 5 concerns about Does high school students' self-confidence while using computer cause any significant differences in terms of readiness for distance learning? In order to investigate the differences among students' score of three dimension on HRD and their self-confidence while using computer one-way ANOVA conducted. Significant differences were not found between high school students' self-confidence while using computer and their means score of the HRD and subscales of HRD ($F_{(2,187)}$=.764;p>.05; $F_{(2,187)}$=.968;p>.05; $F_{(2,187)}$=.480;p> 05; $F_{(2,187)}$=.069;p> 05). See table 12. In order to determine significant differences between groups a post hoc test conducted (See Table 11).

Table 11. *One-way ANOVA results*

	f, $\bar{x}$ and ss values					ANOVA Results				
Score	Group	N	$\bar{x}$	ss	Var. K.	KT	Sd	KO	F	p
Motivation	Low	37	13.46	4.39	among	33.303	2	16.652	.764	.47
	Normal	104	12.49	4.58	in	4073.139	187	21.781		
	Considerably	49	13.20	5.04	Total	4106.442	189			
	Total	190	12.86	4.66						
Access	Low	37	16.24	3.43	among	25.706	2	12.853	.968	.38
	Normal	104	17.12	3.65	in	2483.247	187	13.279		
	Considerably	49	17.24	3.79	Total	2508.953	189			
	Total	190	16.98	3.64						
Communication	Low	37	10.65	2.77	among	5.803	2	2.901	.480	.62
	Normal	104	10.95	2.13	in	1131.192	187	6.049		
	Considerably	49	10.57	2.84	Total	1136.995	189			
	Total	190	10.79	2.45						
Total	Low	37	40.35	9.78	among	10.722	2	5.361	.069	.93
	Normal	104	40.57	8.50	in	14616.941	187	78.165		
	Considerably	49	41.02	9.43	Total	14627.663	189			
	Total	190	40.64	8.80						

3.1.6. Research Question 6

The research question 6 concerns about Does high school students' study habit cause any differences in terms of readiness for distance learning? According to results, there were no significant differences between students' study habit according to dimension of communication of HRD. However, significant difference was observed between motivation dimension ($t_{(188)}$ = 4.39, p = .00, d=.64) and access dimension ($t_{(188)}$ = 5.75, p = .00, d=.83) of HDR. Accordingly, high school students who had study habit reached greater point from

motivation dimension and access dimensions of HDR. Similarly, high school students who had study habit reached greater point from HDR scale than high school students who had not study habit (t $_{(188)}$ = 5.29, p = .00,d=.08) (See table 12).

Table 12. *Study Habit Differences Between High School Students according to T-test Results*

		N	$\overline{x}$	SS	SH	t	Sd	p
Motivation	Yes	93	14.31	4.79	.50	4.39	188	.00
	No	97	11.47	4.10	.42			
Access	Yes	93	18.42	3.27	.34	5.75	188	.00
	No	97	15.61	3.46	.35			
Communication	Yes	93	11.14	2.42	.25	1.91	188	.06
	No	97	10.46	2.44	.25			
Total	Yes	93	43.87	8.88	.92	5.29	188	.00
	No	97	37.55	7.55	.77			

4. Discussion and Conclusion

The study presented a conceptual framework for understanding high school students' readiness for distance learning. The study analyzed the validity and the reliability of an instrument- the HDR-that can facilitate research in this area. Meanwhile, the study reported the results for further reliability and validity analyses of the HDR scale, which addresses students' readiness of distance learning. It can be also explored distance learning readiness according to the demographic characteristics of age, gender and year level.

High school students' readiness for distance learning in five dimensions were all higher than the theoretical mean of 3, ranging from 3.60 to 4.37 on a 5-point Likert scale. This finding means the current study's sample of high school students had the highest readiness in the dimension of access followed by motivation for distance learning and the lowest readiness in the dimension of computer-mediated communication. From the study results, it has been found that high school students may be relatively manage software and search online information as performing basic software functions, which are requisite for distance learning. Thus, high school students would be ready to take distance learning lessons. Of course, there exist individual differences between high school students for distance orientation regarding to computer-mediated communication therefore they may need for teachers' special guidance to mediate computer-based communication.

Furthermore, the study has been shown that male high school students have higher degree of readiness for distance learning than female high school students. It can be suggested future studies on the relationship between gender and readiness for distance learning. This finding is congruent to the findings of Chajuta and Saportaa (2008) and Kay (2009).

Grade level have been seen to make differences in high school students' readiness for distance learning. For the current study, a series of post hoc test (Scheffe tests) have been conducted to examine relationship between grades and HDR dimensions, the end goal being to answer differences between the four grades in high schools. Accordingly, lower grade high school students exhibited significantly greater readiness than did higher grade high school students. This findings means, students' maturity may be in relationship with students' control and motivation relative to distance learning. The second is that, high school students who were older perhaps more accustomed to distance learning than younger did or less motivated to distance learning. This finding does not congruent with current findings of grade differences in distance learning (Palmer,2005;Wojciechowski,2005).

From the study results, it can be stated that high school students might relatively confident while using computer. The study has revealed that the means score of high school students' distance learning readiness was significantly greater than students are those who assigned to themselves as bad computer user and thus, the students have already been equipped with tools to become a changing agent in their own context. In addition, the means score of high school students' distance learning readiness was significantly greater than students are those who assigned to having study habit.

This study has verified the readiness for distance learning on high school students. Considering that distance learning further development and validation of readiness for distance learning scale can adopt a more multidimensional interpretation of HRD factors. The development of the HRD for instructors to consider their readiness for distance learning regarding distance courses and instructional design that help them to gain knowledge for a better online, technology-based delivery of instruction. Meanwhile, technology-oriented instruction with its focuses on forming learning materials can be designed properly to engage the learner and promote learning by instructors. However, in order to examine the usefulness of the HRD for all academic disciplines, students from diverse courses may be involved in future research.

References

Aydm,C.H. &Tasci, D. (2005). Measuring readiness for e-Learning : reflections from an emerging country. Educational Technology and Society, 8(4), 244-257.

Chinaza, N. K., Chimezie, B. A., Juliana, A. & Efeyaelu, U.H. (2015). Computer Selfefficacy, Computer-related Technology Dependence and On-line Learning Readiness of Undergraduate Students. International Journal of Higher Education Management, 1(2), 60-71.

Deci, E., & Ryan, R. (1985). Intrinsic motivation and self-determination in human behavior. New York: Plenum Press

Federico, P. (2000). Learning styles and student attitudes toward various aspects of network-based instruction. Computers in Human Behavior, 16(4), 359–379.

Gaide, S. (2004, September 1). Student orientation at Tarleton State takes the distance out of distance education.Distance Education Report, 4.

Garrison, D. R. (2005). Quality and Access in Distance Education: Theoretical Considerations. In D. Keegan (Ed.), Theoretical Principles of Distance Education (pp. 8-19). NewYork: Routledge.

Garrison, D. R., Cleveland-Innes, M., & Fung, T. (2004). Student role adjustment in online communities of inquiry: model and instrument validation. Journal of Asynchronous Learning Networks, 8(2), 61–74.

Hsu, Y. C., & Shiue, Y. M. (2005). The effect of self-directed learning readiness on achievement comparing face-to-face and two-way distance learning instruction. International Journal of Instructional Media, 32(2), 143–156.

Hung, M.L., Chou, C., Chen, C.H., & Own, Z.Y. (2010). Learner Readiness for Online Learning: Scale Development and Student Perceptions. Computers & Education, 55, 1080-1090

Johnson, S. D., & Aragon, S. R. (2003). An instructional strategy framework for online learning environments. New Directions for Adult and Continuing Education, 100, 31-43

Kay, R. H. (2009). Examining gender differences in attitudes toward interactive classroom communications systems (ICCS). Computers & Education, 52(4), 730–740

Ko, S. Rossen, S. (2010). Teaching Online: A Practical Guide. NewYork: Routledge.

Kerr, M.S., Rynearson, K. & Kerr, M.C. (2006). Student Characteristics for Online Learning Success. Internet and Higher Education 9, 91-105.

Knowles.M. (2010). Online learning readiness assessment. Retrieved September 23, from www. erskineseminary.org .

McVay, M. (2000). Developing a web-based distance student orientation to enhance student success in an online bachelor's degree completion program. Unpublished practicum report presented to the Ed.D. Program. Florida: Nova Southeastern University.

Merrill, M. D. (1984). What is learner control? In R. K. Bass, & C. D. Dills (Eds.), Instructional development: The state of the art II (pp. 221–242) Dubuque, IA: Kendall Hunt Pub Co

Mercado A. Cecilia (2008). Readiness assessment tool for an elearning environment implementation. Retrieved September 23, 2004,from http://www.docstoc.com/docs/72584875/Jurnal-e-learning-readiness-Philippines

Nichols,Mark.(2003).A theory for e-learning.Retrieved September23, 2004,from http://www. ifets.inf/journals/6_2/1.pdf .

Roach, V. & Lemasters, L. Satisfaction with Online Learning: A Comparative Descriptive Study. Journal of Interactive Online Learning, 5(3), 317-332.

Rosenberg, M. J. (2001). E-learning: Strategies for Delivering Knowledge in the Digital Age. NewYork: McGraw-Hill.

Roper, A. R. (2007). How students develop online learning skills. Educause Quarterly, 30(1), 62–64.

Rovai, A. P. (2003). In search of higher persistence rates in distance education online programs. Internet and Higher Education, 6,1-16.

Ryan, R. M., & Deci, E. L. (2000). Intrinsic and extrinsic motivations: classic definitions and new directions. Contemporary Educational Psychology, 25(1), 54–67.

Saadé, R. G., He, X., & Kira, D. (2007). Exploring dimensions to online learning. Computers in Human Behavior, 23(4), 1721–1739.

Shyu, H. Y., & Brown, S. W. (1992). Learner control versus program control in interactive videodisc instruction: what are the effects in procedural learning? International Journal of Instructional Media, 19(2), 85–95

Smith, P. J., Murphy, K.,and Mahoney,S.E. (2003).Towards identifying factors underlying readiness for online learning: An exploratory study. Distance Education, 24(1), 57-67.

Stokes, C., Basford, L., & Cannavina, G. (2004). Student state of readiness for e-learning; University of Sheffield's Faculty of Medicine. European Journal of Dental Education, 8(2), 95.

Tsai, C.-C., & Lin, C.-C. (2004). Taiwanese adolescents' perceptions and attitudes regarding the Internet: exploring gender differences. Adolescence, 39, 725–734.

Tsai, M. J., & Tsai, C. C. (2003). Information searching strategies in web-based science learning: the role of Internet self-efficacy. Innovations in Education and Teaching International, 40(1), 43–50

Wojciechowski, A., & Palmer, L. B. (2005). Individual student characteristics: can any be predictors of success in online classes? Online Journal of Distance Learning Administration, n, 8(2). http://www.westga.edu/wdistance/ojdla/summer82/wojciechowski82.htm Retrieved June 8, 2008, from

Yang, C. C., Tsai, I. C., Kim, B., Cho, M.-H., & Laffey, J. M. (2006). Exploring the relationships between students' academic motivation and social ability in online learning environments. The Internet and Higher Education, 9(4), 277–286.