A STUDY ON THE POSTGRADUATE DIPLOMA IN EDUCATION STUDENT TEACHERS' INCLINATION AND RELEVANT RESOURCES FOR ONLINE LEARNING

M. L. Sudarshana[1i],
K. A. N. S. Alexander[2]
[1]The Open University of Sri Lanka,
Sri Lanka
[2]The National Institute of Education,
Sri Lanka

Abstract:

From the students' side their inclination, possession of relevant resources and accessibility to the Internet are very important to learn through online. Furthermore, it would be useful if they can find extra time for online activities and fluency in English language. With the development of the information and communication technology, online learning is growing rapidly around the world. The Open University of Sri Lanka is also gradually moving into offering more online courses. The Post Graduate Diploma in Education (PGDE) programme is one of the oldest and major programmes offered by the Department of Secondary and Tertiary Education (STE) of the Faculty of Education. Now department is working to introduce online components into the PGDE programme too. This study has four objectives namely to find out the inclination of student teachers in distant areas to follow an online course, The possession of relevant resources by wise inclination and possession of the resources to follow an online course and the available facilities and resources at the centers to conduct an online course. The study was carried out through a survey. For this purpose two remote districts were selected as a purposive sample; Namely Ambalantota study centre and Badulla regional center. The samples of the PGDE student teachers were selected by using the random sampling technique. Seventy five (75) student teachers were selected from each center by random sampling technique. The two data collection instruments used - a questionnaire and a semi structured interview schedule. Data were analyzed by using both qualitative and quantitative analyzing methods. The study revealed that, Majority of the student teachers were somewhat willing to spend around 2 hours per-day on online course. The student teachers' inclination to use the internet related communication tools were less than 41%. Majority of student teachers were willing to do online learning activities. Majority of students accessed the internet only through the

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[i] Correspondence: email mlsud@ou.ac.lk

mobile phones. Males' inclination was higher than the females' inclination to follow an online course. Majority of the male student teachers have more personal resources than the female student teachers. Availability of the printers was comparatively low among both male and female student teachers. Both centers have the Internet facility but the number of computers was not adequate for the PGDE student numbers in both centers. The study intended to guide the students' considering their diverse learning needs, and the course designed and developed to be compatible with the mobile phones. The students should be given more opportunity to use available resources at the centers of the university in a more efficient and effective manner.

Keywords: student teachers, inclination, resources, online courses, disadvantaged districts

1. Introduction

A student, who needs to follow an online course, should be able to access the Internet and relevant devices. Students' Inclination and skills to work with modern devices are also very important to follow an online course. It would be useful if they can find extra time for online activities and possess fluency in English language. Online learning is a rapidly growing field around the world with the development of ICT. Many research studies have been carried out to investigate the effectiveness of online learning and comparisons with face to face learning. Neuhauser's (2002) study had revealed that equivalent learning activities can be similarly effective for both online and face-to-face learners.

The Faculty of Education of the Open University of Sri Lanka is gradually moving into offering more online courses. The Post Graduate Diploma in Education (PGDE) programme is one of the oldest and major programmes offered by the Department of Secondary and Tertiary Education (STE). Now the department is planning to implement online components into the PGDE programme with the forthcoming course revision procedure. Even though, the department conducted the PGDE programme around the country with the support of the network of centers spread across the country, each and every OUSL center does not have equally distributed resources and opportunities for its learners.

Therefore, it is important to find out these student teachers' inclination to follow an online course and whether they have the essential resources which are needed to engage in online activities. The university also should find out whether the regional and study centers are equipped and ready with the physical and human resources to facilitate students to engage in online activities. In this scenario this study focuses on distant student teachers' inclination and the resources possessed by them with regard to online learning.

2. Literature Review

Computer literacy and possession of online related devices are rapidly spreading around Sri Lanka according to the Computer Literacy Statistics – 2017. Computer literacy had been defined as "*the ability to use computer and related technology efficiently, with a range of skills covering levels from elementary use to programming and advanced problem solving*" (Wikipedia, 2018).

Use of computers can revolutionize teaching and learning and could bring advances that could improve education dramatically. Teacher attitudes towards computer technology may be a significant factor in the use of computers in education. Computer literate individuals will reap greater benefits than their counterparts who lack that knowledge (Satharasinghe, 2006). According to a reviewer of the University of Sacred Heart, Tokyo, knowledge of the English language could greatly enhance the learning capacity and the speed of the student striving to achieve a high standard of computer literacy. In this age of advanced technology and information, the undeniable reality is that we have reached a turning point as to how we communicate As never before the role of English as a global language has been redefined in order for the individual to function in this new global environment (Tokyo review: 2007).

A person (aged 5-69) is considered as a computer literate person if "*he/she could use a computer on his /her own*". A 5 year old child could be considered as a computer literate person if he/she possesses the ability to play a computer game. The computer literacy rate (Computer Literate population expressed as a percentage to the total population, (aged 5–69 years) within the respective domain) is increasing gradually. The following table is cited from the Computer Literacy Statistics 2017.

Table 1: A comparison of Computer literacy rates among
three sectors – 2016 & 2017 (during the first 6 months)

Sector	Computer literacy rate (%)	
	2016	2017
Sri Lanka	27.5	28.3
Urban	38.5	41.1
Rural	26.1	26.5
Estate	9.9	9.5

Source: Computer Literacy Statistics 2017.

According to Table 1 Sri Lankan computer literacy rate was 28.3% by the first half of the year 2017. It had shown progress when compared with the 2016 statistics. Even though there can be seen a significant difference among the three sectors in Sri Lanka, Urban sector computer literacy rate was 41.1% while Estate sector 9.5% by the year 2017 first half. Rural sector was somewhat better when compared to the Estate sector. When we focus our attention gender wise computer literacy in males was better than in females. By the year 2017 first half males' computer literacy rate was 30.7% while females remained at 26.1%.

This study focuses on two remote districts namely Hambantota and Badulla. Computer literacy rate at Hambantota - 31.8%, Badulla – 16.5% and the highest computer literacy in Sri Lanka was reported at Colombo–48.9%. When we look at district wise Internet using household population by the 2017 first half at Hambantota district are 13.3% and the Badulla district 4.9% while at Colombo district 44.6%. A significant difference can be seen among the districts with regard to the Internet usage. Devices which were used to access internet by sex and sector wise is given below.

Table 2: Devices used to connect to internet (aged 5–69 years) by
Sex and Sector, 2017 (During 1st 6 months)

Gender, Sector	Desktop/ Laptop%	Smartphone%
Sri Lanka	38.1	56.9
Male	36.8	58.4
Female	39.8	55.0
Urban	40.1	55.4
Rural	37.2	57.7
Estate	31.7	52.8

Source: Computer Literacy Statistics 2017.

According to Table 2 majority of the females possessed the Laptop/Desktop than the males. But when we look at the smartphone group, males have come forward as usual. Another unique feature which was revealed was the majority of the rural sector population had used smart phones than the other two sectors.

A survey conducted by Marimuthu et al. (2013) on five variables namely; motivation, self-monitoring, internet anxiety, internet literacy, and concentration in online learning has revealed that there was really no significant difference in the online learning experience between the male and female students.

3. Material and Methods

The objectives of the study are to find out:
a) The inclination of student teachers in distant areas to follow an online course
b) The possession of relevant resources by the student teachers in distant areas in relation to online learning.
c) Whether there is any difference between the male and female student teachers' inclination and possession of the resources to follow an online course.
d) The available facilities at the centers to conduct an online course.

The study was carried out through a survey. The population for the study was selected according to the objectives. One study center and one regional center of the OUSL were selected from two distant areas. For this purpose two remote districts were selected as a purposive sample; Namely Ambalantota study center from Hambanthota district and Badulla regional center from Badulla district.

The samples of the PGDE student teachers were selected by using the random sampling technique from the batch of 2017/2018. Seventy five (75) student teachers were

selected from each center from the sampling frame by using the random sampling technique. The two data collection instruments used were, a questionnaire and a semi structured interview schedule.

Table 3: The sampling details

District	Study centers	PGDE student Population (Reg. Students No. for the academic year 2017/2018)	Intended sample	Responded sample	Responded sample – gender wise	
					Male	Female
Badulla	Badulla	98	75	66	18	48
Hambantot	Ambalantota	106	75	70	24	46

The major data collection instrument of the study was a questionnaire which was distributed among the student teachers of the two selected centers. In addition to this procedure, 5 student teachers from each center (10 from both centers) were interviewed using a semi structured interview schedule to obtain more information. They were selected by simple random sampling method. Data were analyzed by using both qualitative and quantitative analyzing methods.

4. Results and Discussion

This section was developed in line with the sequence of the objectives of the study. First objective was the inclination of student teachers in distant areas to follow an online course. In order to achieve this objective the following Table 2 was developed.

Table 4: Student teachers' inclination to follow an online course at
Ambalantota and Badulla study Centers

	Ambalantota								Badulla							
	Willing		Somewhat Willing		Not Willing		Not responded		Willing		Somewhat Willing		Not Willing		Not responded	
	No.	%	No.	%	No.	%	N0	%	No.	%	No.	%	No.	%	No.	%
Inclination to spend some time (at least 2 hours per day) on online course	22	31%	32	46%	16	23%	0	0%	28	42%	32	48%	6	9%	0	0%
Inclination to use internet related communication tools (e mail, viber etc.)	28	40%	34	49%	8	11%	0	0%	24	36%	36	55%	6	9%	0	0%
Inclination to do learning activities online	32	46%	28	40%	10	14%	0	0%	34	52%	32	48%	0	0%	0	0%
Inclination to	38	54	26	37	6	9%	0	0%	36	55	20	30	10	15	0	0%

search and downloaded relevant resources		%		%					%		%		%		

The aggregate mean value for percentages of the 'Willing' category is 44% while the same for the 'not willing' category is only 11%. A considerable difference can be seen between two aggregate percentages of the willing and not willing categories. It is clear that the inclination of student teachers to follow online courses in both remote centers were at a reasonable level.

The second objective was the possession of relevant resources by the student teachers in distant areas in relation to online learning. The third and fourth tables were dedicated for the second objective.

Table 5: Availability of the relevant personal resources of the student
teachers (STs) at the Badulla and Ambalantota Study Centers

	Badulla						Ambalantota					
	Available		Not available		Not responded		Available		Not available		Not responded	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Supportive resource person	48	73%	18	27%	0	0%	48	69%	22	31%	0	0%
Printer	12	18%	52	79%	2	3%	14	20%	56	80%	0	0%
Active virus guard	32	48%	32	48%	2	3%	42	60%	28	40%	0	0%
Headphone/camera/ microphone use with computer	18	27%	42	64%	6	9%	38	54%	32	46%	0	0%

It is clear that majority of the student teachers can find a supportive resource person (a person who can solve software and operational problems) (Badulla-73% & Ambalantota-69%) as well many of them have active virus guards facilities in both centers (Badulla-48% and Ambalantota-60%). Even though, the availability of Printers was very low in both centers (less than 21% in both centers). When looking at the other resources (headphone, camera etc.), a low percentage was recorded at Badulla center (27%) but at Ambalantota center it was higher (54%). Anyway it is important to focus attention on the student teachers who haven't these resources. There were a considerable number of student teachers without those resources.

Table 6: How to access the Internet by the student teachers at
Badulla and Ambalantota Study Centers

	Mobile phone only		Dongle and Mobile phone		Broadband and Mobile phone		None	
	No.	%	No.	%	No.	%	No.	%
Badulla	34	52%	20	30%	6	9%	6	9%
Ambalatota	28	40%	26	37%	14	20%	2	3%

According to Table 6 majority of the student teachers in both centers accessed the Internet only with the mobile phones (Badulla-52% and Ambalantota-40%). As well a considerable number of student teachers were using dongle or broadband with the

mobile phone (ranging from 9% to 37%). also there were some student teachers who don't have the Internet connection (Badulla-9% and Ambalantota-3%).

Third objective of the study was to find out whether there is any difference between the male and female student teachers' inclination and possession of the resources to follow an online course. In order to address this objective following tables were used (from Table 7 to Table 12)

Table 7: Male and female student teachers' inclination
to follow an online course at Badulla study center

	Male								Female							
	Willing		Somewhat Willing		Not Willing		Not responded		Willing		Somewhat Willing		Not Willing		Not responded	
	No.	%	No.	%	No.	%	N0	%	No.	%	No.	%	No.	%	No.	%
Inclination to spend some time (at least 2 hours per day) on online course	12	67%	4	22%	2	11%	0	0%	14	29%	30	63%	4	8%	0	0%
Inclination to use internet related communication tools (e mail, viber etc.)	10	56%	8	44%	0	0%	0	0%	14	29%	28	58%	6	13%	0	0%
Inclination to engage with online learning activities	8	44%	10	56%	0	0%	0	0%	26	54%	22	46%	0	0%	0	0%
Inclination to search and downloaded relevant resources	10	56%	6	33%	2	11%	0	0%	26	54%	14	29%	8	17%	0	0%

According to the Table 7 male student teachers' inclination was higher than the female student teachers' in both centers except inclination to engage with online learning activities. There were at least two student teachers (Male or female) who was not willing for the above aspects except to engage with online learning activities and there were considerable amount of student teachers who were "somewhat willing" in both centers.

Table 8: How the Internet was accessed by male and female students
at Badulla Study Centre

	Mobile phone only		Dongle and Mobile phone		Broadband and Mobile phone		None	
	No.	%	No.	%	No.	%	No.	%
Male	8	44%	8	44%	2	12%	0	0%
Female	26	54%	12	25%	4	8%	6	13%

According to Table 8 majority of the male student teachers were using both Dongle with Mobile phone or Broadband with mobile phone respectively 44% and 12%. There are 13% female student teachers who have no internet connection at all. Most of the

female student teachers were able to access the Internet only with the mobile phone (54%) as well as there was a considerable amount of male student teachers (44%) who accessed the internet only with the mobile phone.

Table 9: Relevant resources possessed by the student teachers
(Male and Female) at the Badulla Study Centre

	Male						Female					
	Available		Not available		Not responded		Available		Not available		Not responded	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Supportive resource person	16	89%	2	11%	0	0%	32	67%	16	33%	0	0%
Printer	6	33%	10	56%	2	11%	6	12%	42	88%	0	0%
Active virus guard	10	56%	8	44%	0	0%	22	46%	24	50%	2	4%
Headphone/camera/microphone use with computer	8	44%	10	56%	0	0%	10	21%	32	67%	6	12%

Table 9 very clearly shows that majority of the male student teachers have a supportive resource person (89%) than the female student teachers (67%). Availability of the printers were comparatively low among both male and female student teachers respectively 33% and 12%. Majority of the student teachers both male and female do not have printers and headphone/camera etc.

Table 10: Male and female student teachers' inclination
to follow an online course at Ambalantota Study Centre

	Male								Female							
	Willing		Somewhat Willing		Not Willing		Not responded		Willing		Somewhat Willing		Not Willing		Not responded	
	No.	%	No.	%	No.	%	N0	%	No.	%	No.	%	No.	%	No.	%
Inclination to spend some time (around 2 hours per day) on online course	10	42%	10	42%	4	16%	0	0%	16	35%	18	39%	12	26%	0	0%
Inclination to use internet related communication tools (e mail, viber etc.)	14	58%	10	42%	0	0%	0	0%	14	31%	24	52%	8	17%	0	0%
Inclination to do learning activities online	18	75%	4	17%	2	8%	0	0%	14	31%	24	52%	8	17%	0	0%
Inclination to search and download relevant resources	16	67%	6	25%	2	8%	0	0%	22	48%	20	43%	4	9%	0	0%

According to Table 10 when the aggregate mean value of the percentages for inclination to follow online courses was calculated the following values were obtained for male

student teachers and female student teachers respectively 60% and 36%. The interviews conducted with the 10 student teachers (5 from each center) at both centers and revealed the reasons for the low inclination of the female student teachers. In the interviews they pointed out that though they are willing to follow an online course, other commitments such as family responsibilities would reduce their inclination. So that it would be difficult to find time to engage with the online activities. The same reason could be applied to the usage of Internet communication tools.

Table 11: How the Internet was accessed by male and female students
at Ambalantota Study Centre

	Mobile phone only		Dongle and Mobile phone		Broadband and Mobile phone		None	
	No.	%	No.	%	No.	%		%
Male	8	33%	14	59%	2	8%	0	0%
Female	20	44%	12	26%	12	26%	2	4%

Table 11 shows the differences in the mode of accessing the Internet. It is apparent that while male STs mostly use dongles and mobile phones the female student teachers mostly use mobile phones to access the Internet. The fact that 4% of the female student teachers do not have any access to the Internet is a matter for concern. But female student teachers use broadband and mobile phone (26%) than the male student teachers (8%).

Table 12: Relevant resource possessed by the student teachers
(Male and Female) at the Ambalantota Study Centre

	Male						Female					
	Available		Not available		Not responded		Available		Not available		Not responded	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Supportive resource person	20	83%	4	17%	0	0%	28	61%	18	39%	0	0%
Printer	4	17%	20	83%	0	0%	10	22%	36	78%	0	0%
Active virus guard	16	67%	8	33%	0	0%	26	57%	20	43%	0	0%
Headphone/camera/microphone used with computer	14	58%	10	42%	0	0%	24	52%	22	48%	0	0%

Table 12 very clearly shows that majority of the male students have a supportive resource person (83%) than the female student teachers (61%). Availability of the printers are comparatively low among both male and female students respectively 17% and 22%. Majority of the student teachers both male (58%) and female (52%) had equipment use with computer such as headphone/camera.

The fourth and last objective was to find out the available facilities at the OUSL centers to conduct an online course. The following table was dedicated for this objective.

Table 13: Availability of relevant resources for an online course
at the Badulla and the Ambalantota centers

Centre	Computer labs	No. of computers	No of broken computers	Supportive resource person	Printer/photo copy machine (For student use)	Head phone	Camera used with computer	Speakers
		No.	No.	No.	No.	No.	No.	No.
Badulla	02	27	0	**02**	**01**	25	**01**	**02**
Ambalantota	02	30	8	**01**	**01**	20	20	**07**

Both centers Ambalantota and Badulla have four computer labs (two labs for each center). At Badulla center all the machines are working properly and it has two resource persons but there is no sufficient number of cameras and speakers. At the Ambalantota center they have considerable amount of cameras (20) and speakers (7). But cannot be satisfied about the available resources for online course when we compare with the registered number of students for the PGDE programme (98 student teachers for Badulla center and 106 student teachers for Ambalntota center).The Internet facility is available at both centers.

5. Recommendations

Student teachers should be encouraged and guided to follow an online course by considering their diverse learning needs.

Student teachers should be able to access the course by using their mobile phones so that course should be developed as mobile compatible mode. Majority of the female student teachers as well as a considerable number of male student teachers had not acquired sufficient amount of resources to follow an online course. The students should be given more opportunity to use resources from the centers of the university. Available resources at the OUSL centers should be used more efficiently and students should be given more opportunities to use these resources with a proper plan.

6. Conclusion

Objective 1: The inclination of student teachers in distant areas to follow an online course

This study focuses on four (04) aspects under the "students' inclination", namely time-spent on online course, use the internet related communication tools, doing online learning activities, search and download resources from the internet.

Majority of the student teachers were somewhat willing to spend around 2 hours per-day on online course at Badulla center 52% and Ambalantota center (46%) and considerable amount of student teachers are not willing to spend time on online courses (Badulla- 9% and Ambalantota – 23%).

The student teachers' inclination to use the internet related communication tools were less than 41% (Badulla- 36% and Ambalantota – 40%). Majority of student teachers' were somewhat willing to use them (Badulla - 55% and Ambalantota – 49%).

Majority of student teachers were willing to do online learning activities (Badulla - 52% and Ambalantota – 46%). There were only 14% of student teachers at Ambalantota centre who were not willing to do online learning activities.

Majority of student teachers are willing to search and download resources from the internet (Badulla - 55% and Ambalantota – 54%). Even though there were few student teachers who were not willing to do this (Badulla - 15% and Ambalantota – 9%). As a whole, majority of the student teachers were willing or somewhat willing to follow online courses. Even though there were some non- willing students in both centers.

Objective 2: The possession of relevant resources by the student teachers in distant areas in relation to online learning

The majority of the respondents in both centers (Badulla 73% & Ambalantota 69%) had a resource person who can support them in computer matters. In addition, the Internet facilities was available for access through dongle and mobile phone (Badulla - 30% & Ambalantota 37%) and broadband and mobile phones (Badulla -9% & Ambalantota 3%) and the majority of students could access the Internet only through the mobile phones (Badulla 52% & Ambalantota 40%)

It seems only a few respondents had printers (Badulla 18% & Ambalantota 20%) and other facilities (headphone/camera/microphone use with computers) are also less in Badulla center (27%) centers but at Ambalantota center (54%) the availability is higher than the Badulla. Similarly with regard to the virus guards at Badulla Centre were only 48% but comparatively can be happy about the Ambalantota center (60%).

The Objective 3: Whether there is any difference between the male and female student teachers' inclination and possession of the resources to follow an online course

The aggregate percentage of inclination to follow an online course for the males in both centers Badulla and Ambalantota were 56% while the same for the females in both centers was 39%. Therefore it is seen that there is a considerable difference in inclination to follow online courses between the male and female student teachers of the two centers.

It was clear that the majority of the male student teachers have more personal resources than the female student teachers. Availability of the printers are comparatively low among both male and female student teachers.

The Objective 4: The available facilities at the centers to conduct an online course

The number of computers was not adequate for the PGDE student numbers of the two centers. Both centers have the Internet facility. Ambalantota center had sufficient number of computer cameras and head phones but at the Badulla center had not sufficient number of computer cameras and headphones.

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8. About the Author(s)

M. L. Sudarshana is a senior lecturer attached to the Department of Secondary and Tertiary Education of the Faculty of Education of the Open University of Sri Lanka. His interest research area is education, especially for secondary and tertiary education.

K.A.N.S. Alexander is a lecturer attach to the Department of Research and Development of the National Institute of Education, Sri Lanka. His interest research area is education, especially for the educational reforms and practices.

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