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BAFED

BRAC UNIVERSITY
Inspiring Excellence
BRAC Institute of Educational Development
BRAC University (BIED, BRACU)

EDUCATION

Manzoor Ahmed
Advisory Editor

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Editor

Volume 18 Number 2 December 2019

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Notes from the Editor

The contents of Volume 18, No. 2, December 2019 issue of Bangladesh Education Journal (**Published in July 2020**) include four articles on different aspects of teaching and learning – one on teacher motivation, one on mobile technology and two on distance teaching-learning during Covid-19. There is also one article on the theme of youth in adversity in Bangladesh.

Ernest Kofi Davis, Christopher Yaw Kwaah, Christopher Beccles and Kofi Ayebi-Arthur explore the motivation for would-be teachers to join in preservice teacher training in the Colleges of Education in Ghana. The study reveals significantly that the motivation for the majority was not to prepare themselves to become a teacher. The reason to enroll in the college of education was that the training might open for them the opportunity to leave the teaching profession and land a dream job in another field.

Tamanna Sultana and Rezwanul Huque Khan investigate university students' perception and satisfaction regarding online classes. Three factors, namely, e-platform quality, facilitating conditions and the quality of lesson delivery emerged as the key to satisfying online learning experience of students. The study shows that the combination of e-platform quality and facilitating conditions are strong predictors of overall student satisfaction. Evidence shows that the students are somewhat satisfied with the e-platform and teachers' delivery quality but not with facilitating conditions. The satisfaction level varies for students from urban and rural areas.

K M Enamul Hoque highlights some key issues from a mapping of youth in adversity in Bangladesh. He discusses about lessons from the mapping exercise, encouraging thinking out of the box and contributing to the discourse on interventions to benefit youth in adversity. He suggests that a starting point may be potential opportunities for skills and employment that four industries may offer for four groups of youth in adversity. The industries are light engineering, hospitality and tourism, information and communication technology (ICT), and care services. The adversity groups are domestic workers, ethnic minorities, LGBT, and persons with disabilities.

Sumera Ahsan, Sheikh Muhammad Sarwar and Md. Moazzem Hossain capture the first impressions of stakeholders from piloting of the mBoost project. It is a project that uses voice and text messaging to help teachers and parents engage in activities to enhance children's reading skills. The research found that three types of factors - technical, socio-cultural, and individual end user characteristics - affected the implementation process in four phases (sending, receiving, comprehending, and implementing text and voice message activities).

Hasan Al Zubayer Rony and Sheikh Tahmina Awal explore the changes in perception of the faculty members about challenges in online teaching learning after they received training about using online platform. The study shows effective change of mindset and perception in the faculty members as a result of online teaching-learning training, conducting class and assessment. The conclusion of the study is that online teachers' training is possible in this pandemic situation and that it can produce a significant change of mindset of faculty members.

Publication Information

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Both the Journals are disseminated widely in print at national and international levels. They have a wide readership among those who are working in the area of education and developent, both in the government and outside, as academics, researchers, policy makers, development partners and civil-society members. the contents of both Journals are posted on the website: http://www.bafed.net/Journal.php

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Motivation to Become a Teacher among Preservice Teachers in Colleges of Education in Ghana

Ernest Kofi Davis*
Christopher Yaw Kwaah**
Christopher Beccles***
Kofi Ayebi-Arthur****

Abstract

Ghana is among developing countries that use incentives to attract preservice teachers to train as early childhood, primary and junior high school teachers in Colleges of Education. This study sought to explore the motivation for the preservice teachers to train as teachers in the Colleges of Education in Ghana. A survey was carried out with 3, 308 preservice teachers from ten Colleges of Education in Ghana. A multistage sampling procedure involving stratified random sampling and purposive sampling methods was used in the selection of the research participants. Questionnaire was used to collect the data from the research participants. The data collected from the closed-ended items was analyzed using both frequency counts/percentages and Pearson's Correlation. The data collected from the open-ended items were analysed qualitatively and presented as narrative description with some illustrative examples. The study revealed among others, that, the motivation to train as a teacher was not the main motive for the majority of the preservice teachers to enroll on the teacher education programme but the opportunity the teaching profession offers for one to eventually leave for the dream career. Implications of the findings for policy and future research are provided.

Keywords: *Motivation; Preservice Teacher; Teacher Education; Ghana*

1. Introduction

Teachers play a crucial role in the education of children. They are the mediators between the curriculum and the learners. It takes a well-trained teacher to use a supposedly bad curriculum to turn out good students. A poorly trained teacher cannot use the best curriculum in the world to turn out quality learners. This is because a teacher's interpretation of the school curriculum has consequence on students' opportunity to learn. It is against the background of the critical role teachers play in preparing quality human resource for the socio-economic development of countries and the attainment of the United Nations Sustainable Development Goals (SDGs), especially SDG 4, which states; "Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all" (SDG Compass, n.d.), that many countries continue to invest huge sums of monies in teacher education reforms.

*Associate Professor, College of Education Studies, University of Cape Coast, Ghana.
** Research Fellow, College of Education Studies, University of Cape Coast, Ghana.
***Lecturer, College of Education Studies, University of Cape Coast,Ghana.
****Senior Lecturer, College of Education Studies, University of Cape Coast, Ghana.

As with many developing countries, especially in sub-Sahara Africa, teacher education at the pre-senior high school (pre-SHS) level in Ghana has gone through several reforms in the past and keeps going through further reforms. Within the last twenty years, there have been two major reforms in teacher education at the pre-SHS level. In 2005, the Government of Ghana turned all the then Three-Year Teacher Training Colleges in the country which were then running Certificate "A" programmes into Three-Year Diploma awarding Institutions. This led to the conversion of the Teacher Training Colleges into Colleges of Education. While the structure of the programme remained the same, that is, two years on-campus content and pedagogy training and one year off-campus practical training (In-In-Out), the content of the programme changed. However, after almost a decade of the introduction of this reform, it appears the reform did not have the desired impact on the quality of education in the country. Quality of education at pre-SHS level has been a matter of great concern to stakeholders in education. Issues relating to poor quality of students' learning outcomes, especially in English, Mathematics and Science (Ministry of Education, 2014; Mullis, Martin, Foy, & Arora, 2012) have often attracted media attention and engaged the entire Ghanaian population.

The persistent problem of poor quality of education in the country resulted in the second major reform. The Ministry of Education in Ghana embarked on a major teacher education reform project at the Colleges of Education in 2015, through the Transforming Teacher Education and Learning Project (T-TEL). This project is a Government of Ghana Project with funding from the United Kingdom's Department for International Development (DfID) (Ministry of Education, 2016). The reforms led to the designation of Colleges of Education as tertiary institutions. The Colleges were again mandated to run Four-Year Bachelor of Education degree programmes in 2018. Four-Year degree programmes have now become the standard for pre-SHS teacher preparation in the Colleges of Education in Ghana. The cost associated with some of these reforms are huge. The Transforming Teacher Education and Learning programme, for example, cost 25 million British pounds. The cost of pre-SHS teacher training at the Colleges of Education in Ghana to the state is huge. The Government of Ghana absorbs almost all the cost associated with the training and also pays monthly allowance to all preservice teachers. Preservice teachers at the Colleges of Education in Ghana, for example, enjoy free tuition fees, free accommodation and free utilities.

However, while the nation keeps reforming teacher education at huge cost, very little research has been carried out to inform and direct these reforms. For example, apart from the MUSTER project which was carried out over a decade and half ago to investigate the status of teacher education at the basic school (pre-SHS) level in several Sub-Saharan African countries, including Ghana, not many studies in Ghana have looked at the state of teacher education in the country (Akyeampong & Lewin, 2002). This implies that many of the reforms that have been carried out in Ghana recently might not have been informed by the necessary empirical research evidence.

Studies on the current state of teacher education, with focus on the current reforms, is important in the provision of quality teacher education in particular and quality pre-tertiary education in general. Such studies could inform policy direction and contribute towards the provision of quality education at reasonable cost. It is one thing for the Government of

Ghana to invest huge sums of money in reforming preservice teacher education programmes and attracting preservice teachers into the programmes by paying them monthly allowance, waiving school fees and providing free accommodation, and another for this huge investment yielding the expected results. It is against the background of the need for continuous and sustained research on the current state of teacher education reforms to inform policy direction in teacher education that this study was carried out to investigate the motivation for preservice teachers to enroll on the preservice teacher education programmes run by the Colleges of Education. The researchers focused on motivation because literature suggests that it is related to one's priorities and future ambitions (Snowman, Mcown & Biehler, 2008). In this study, the researchers investigated whether preservice teachers who enroll on the teacher education programme run by the Colleges of Education have the motive to be prepared as teachers and remain in teaching after their teacher education programme or they are there because of other reasons.

Motivation to become a teacher is a topic that has attracted the attention of many educational researchers (Bilima, 2014; Mulholland & Hansen, 2003; Yüce, Şahin, Koçer, & Kana, 2013). Teacher motivation and motivation for choosing teaching as a career have been grouped by education researchers into three broad categories, namely, Extrinsic, Intrinsic and Altruistic factors (Salifu & Agbenyega, 2013; Azman, 2013; Bergmark, Lundström, Manderstedt & Palo, 2018; Yuce et al., 2013). Intrinsic motivation is the kind of motivation which is driven by internal rewards. Thus, intrinsic factors relate to job-related factors that promote personal satisfaction such as the avenue teaching provides for lifelong learning, a person's desire to work with children, and the many opportunities that the teaching appears to offer. Extrinsic motivation is driven by external rewards, it relates to factors inherent in the immediate work benefits such as good remuneration and high status associated with teaching (in some contexts/ countries), job guarantees and having holidays in sync with one's own children. Altruistic motivation is that which originates from the concern for others welfare without necessarily putting self-interest first. Thus, altruistic factors go beyond any tangible benefits that the teaching profession has to offer. Instead, altruistic factors present teaching as a socially worthwhile activity that is related to the development of both the individual and society (Yuce et al., 2013; Low, Lim, Ch'ng, & Goh, 2011; Salifu, Alagbela & Ofori, 2018). Altruistic motivation is rooted in deep passion for teaching, a great love for children, and a desire to make a difference to the lives of their students (Goller, Ursin, Vähäsantanen, Festner & Harteis, 2019).

Literature suggests that motivation to become a teacher could be based on several motives, while some people make the choice to train as teachers even in their formative years, some simply find themselves in teacher training programmes by accident (Watt & Richardson, 2007). Some of the factors that have been identified as influencing people's decision to become teachers include positive prior teaching and learning experiences as students (Richardson & Watt, 2005). This view is corroborated by Bilima (2014) who observed that preservice elementary teachers' motives to become a teacher are strongly influenced by altruistic motives, followed by prior teaching and learning experiences, work with children/adolescents, and job security. Richardson and Watt (2006) also observed from their study involving first year undergraduate and graduate teacher education students in Australia that the ability to teach well, belief that teaching is an intrinsically rewarding and

enjoyable occupation, among others, informed the research participants' decision to choose to train as teachers. Preservice teachers' motivation to become teachers are also largely influenced by the joy of working with children and enjoyment of the subject they would be teaching (Kyriacou, Hultgren & Stephens, 1999). Again, nature of motivation to choose teaching as a profession has been reported in literature as having bearing on retention of teachers in the teaching profession. Studies in England and Australia have shown that teachers who are motivated by extrinsic factors stay less on the profession than their counterparts who are motivated by intrinsic factors (Bergmark et al., 2018; Goller et al., 2019).

The literature reviewed on motivation to become a teacher, so far, presents a multifaced nature of factors that motivate young people to either join, stay or leave the teaching profession. This observation has been confirmed by other researchers (Bergmark et al., 2018; Low et al., 2011). In this study, we have conceptualised motivation to become a teacher as the drive (either internal, external or societal) that pushes the prospective teacher to choose to train as a teacher. The three broad categorisations of motivation to become a teacher namely, Intrinsic, Extrinsic and Altruistic motivation formed the theoretical perspective with which we investigated motivation to become a teacher in Ghana.

The Research Question and Hypotheses

The research question that guided the study was; "what is the motivation for preservice teachers to train as teachers in Colleges of Education in Ghana?"

The Null Hypotheses were:

1. There is no significant correlation between the entry grades of preservice teachers and their motivation to become teachers.
2. There is no significant correlation between the ages of preservice teachers and their motivation to become teachers.

2. Methods

Research Design

A cross-sectional survey design was employed to investigate the motivation of preservice teachers to become teachers at the Colleges of Education in Ghana. A mixture of quantitative and qualitative approaches was employed to collect data for this study. Specifically, a concurrent mixed methods design was employed in which both quantitative and qualitative information were collected simultaneously. The mixed methods design is recommended for thorough investigation of the various facets of the issue being investigated (Creswell, 2012).

Research Participants

The population of the study comprised all 48, 702 preservice teachers (on both degree and diploma programmes) from all the 46 Public Colleges of Education in Ghana. A multistage sampling procedure was used to select the research participants. The first stage involved selection of ten Colleges of Education through stratified random sampling procedure.

Public Colleges of Education in Ghana have been grouped into five, based on Conference of Principals of Colleges of Education in Ghana (PRINCOF) zones. These are; CENTWEST, ASHBA, EAGA, VOLTA and NORTHERN zones. The stratified random sampling procedure was used to select colleges from each of the five PRINCOF zones. The zones formed strata from which Colleges were selected. In each of the zones, the number of Colleges selected depended on the concentration of Colleges in the zone. One College was selected from CENTWEST zone, three from ASHBA zone, two from EAGA zone, two from VOLTA zone and two from NORTHERN zone. The second stage of the sampling procedure involved the use of purposive sampling to select the second year preservice teachers (who were the first Cohort of the new B.Ed programme) and the final year preservice teachers (who were the last batch of the Diploma in Basic Education programme). The first year preservice teachers had not reported to the College at the time of the study. They were therefore not included in the study. The third stage of the data collection involved the use of stratified random sampling procedure to select preservice teachers from each of the two year groups. In this study, the second years are referred to as the B.Ed preservice teachers and the final year preservice teachers are referred to as the Diploma preservice teachers. In all 3, 308 preservice teachers comprising 1,511 B. Ed preservice teachers and 1, 797 Diploma preservice teachers were selected. This number formed more than 5% of the population of the preservice teachers. The literature suggests that 5% of a given population forms a good sample (Sarantakos, 2013).

Research Instrument

A questionnaire was developed and used to collect the data. The instrument had both closed-ended and open-ended items. The open-ended items afforded all the respondents the opportunity to express their views freely in writing without any restrictions by way of choice. This provided a rich source of qualitative data for the study. The questionnaire was developed by the researchers and validated in one College of Education which was excluded from the main study in Central Region of Ghana. The validation process involved administration of the instrument to 50 preservice teachers, after which 20 of them were interviewed to ascertain how they understood each of the items. This enabled the researchers to ensure that each of the items elicited valid response. A reliability test conducted yielded a Cronbach value of 0.88, implying the instrument also had a very good level of reliability.

Research Procedure

Ethical clearance was sought from the Institutional Review Board (IRB) of the University of Cape Coast before the commencement of the research project. Permission was also sought from the research participants' institutions before data collection. In each of the institutions, the rationale for the project and the potential benefit(s) to the research participants, in particular, and development of teacher education in Ghana, in general, was explained to the research participants. Consent of all participants were sought before the administration of the instrument. The instrument was administered by a research team made up of the researchers and some trained research assistants. This provided the research participants the opportunity to clarify issues that were not clear to them. Both quantitative and qualitative approaches were employed in the data analysis. The data collected through the closed-ended

items were analysed using frequency counts/percentages and inferential statistics (Pearson's Correlation), while the data collected through the open-ended items were analysed qualitatively and presented as narrative description with some illustrative examples. For the purpose of analysis, the responses from the preservice teachers were coded as PST 1, PST 2, PST 3, …, PST 3308, where PST1 represents preservice teacher 1, PST2 represents preservice teacher 2, … and PST 3308 represents the last preservice teacher participant.

3. Results

As this study also sought to investigate the correlation between the age of respondents and their choice to train as teachers, the demographic characteristic of the respondents becomes important part of the data. Table 1 presents the demographic characteristics of the respondents. The results in Table 1 show that the majority (58.1%) of the participants were males. The ages of the overwhelming majority (94.6%) were between 18 years and 28 years. Only a few (1.8%) were either below 18years or above 35 years of age.

Table 1: Demographic characteristics of the preservice teachers

Item	Category	Frequency		Total
		Number	Percentage	
Sex	Male	1903	58.1	3274 (100%)
	Female	1371	41.9	
Age	Below 18years	33	1.0	3285 (100%)
	18-22years	1245	37.9	
	23-28 years	1864	56.7	
	29-34 years	116	3.5	
	35 years and above	27	0.8	

Reporting of the rest of the results of the study follows the order in which the research question and the hypotheses were presented in the introduction.

What is the motivation for preservice teachers to train as teachers in Colleges of Education in Ghana?

In this study, respondents were requested to indicate whether training to teach was their main motivation for enrolling on their teacher education programme. The results are presented in Figure 1. The results in Figure 1 show that the majority (1,983 representing 61.2%) indicated that training to teach was their main motivation for enrolling on the teacher education programme.

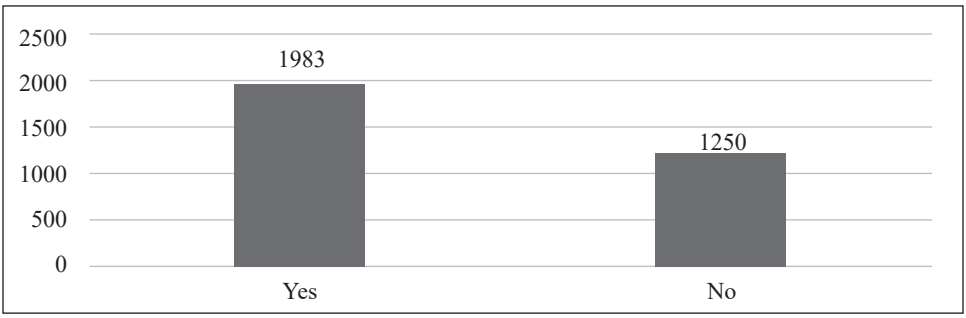

Figure 1: Was training to teach your first choice?

Some of the typical responses of preservice teachers who indicated that training to become teachers was their first choice included the following:

- [I will stay] above 20 years till retirement because teaching is a noble profession (PST 11)
- After entering into it, I have really gotten much interest in the teaching work (PST18)
- Because I always wanted to be a teacher (PST55)
- Because I have passion for teaching and irrespective of all difficulties I will face (PST87)
- I love to teach and would like to impact more knowledge into every group of individuals I meet (PST609)
- I really love the teaching profession and the kids are my source of motivation (PST633)
- I so love the profession and wish to serve the people of Ghana and the world (PST640)
- I was born to be teacher (PST718)
- Teaching has always been my passion and I enjoy most (PST969)
- Teaching is lifelong passion (PST986)
- Teaching is one of the professions I really love most and need to be there for some years (PST1000)

The remaining 38.8 % of the preservice teachers who said training to teach was not their first choice career were requested to name their preferred careers. Table 2 presents preservice teachers preferred careers and the number and percentage of preservice teachers who chose them. The results in Table 2 show that the preservice teachers preferred careers were varied. Their choice covered more than 24 different careers. However, more than a third (35.2%) preferred health related professions namely nursing, medicine and pharmacy. While almost one-tenth (9.7%) preferred other professions such as Fashion Design, Farming and Politics. The top five preferred careers were Nurse, Medicine, Armed Forces, Law and Accounting/Finance.

Table 2: Preservice teachers preferred first choice career

Career	Response	
	Number	Percentage (%)
Nurse	266	22.2
Medicine	135	11.3
Armed Forces	130	10.8
Law	98	8.2
Accounting/Finance	86	7.2
Journalist	80	6.7
Banker	52	4.3
Engineer	43	3.6
Administrator	37	3.1
Police	37	3.1
Computer Science/ICT	34	2.8
Immigration Service	20	1.7
Pharmacy	20	1.7
Businessman	17	1.4
Football	14	1.2
Pilot/Aviation	12	1.0
Other	119	9.7
Total	1200	100

Note: Other included Insurance Officer, Surveyor, Custom Officer, Ghana Fire Service, Architecture, Fashion Design, Farming and Politics.

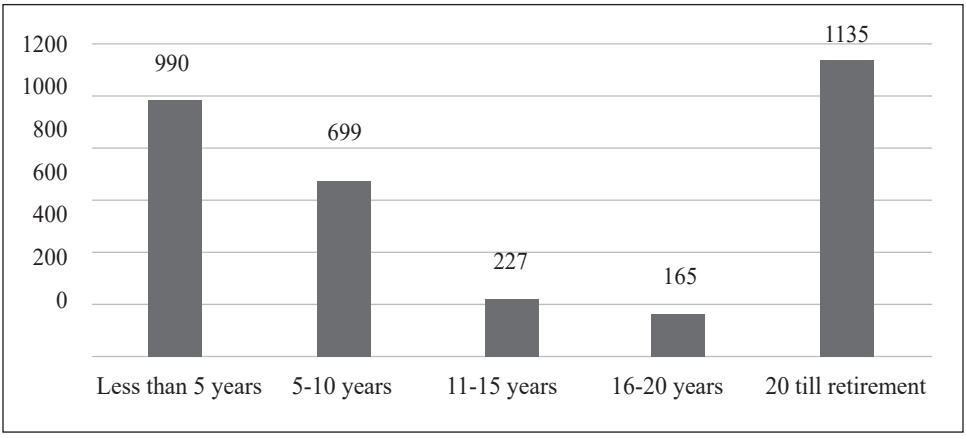

Figure 2: Number of years preservice teachers intend to stay in teaching after training

Although the majority (61.2%) of the respondents indicated teaching as their first choice career from Figure 1, the results in Figure 2 show that only 1,135 (35.3%) had plans of staying in teaching between 20 years to retirement. A good number (990 representing 30.8%) had plans to leave the teaching profession in less than 5 years after their training.

The preferred choice of careers for preservice teachers who had plans of leaving the teaching profession after sometime are presented in Table 3. The results in Table 3 show that the careers the preservice teachers said they preferred to enter after leaving the teaching profession were varied. Their choice covered more than 27 different careers. The top five careers were Business/Entrepreneurship, Armed Forces, Law, Nurse and Medicine/ Medical Assistant.

Table 3: Preferred choice of career for those who wish to leave the teaching profession in future

Career	Response	
	N	%
Business/Entrepreneurship	292	14.5
Armed Forces	174	8.7
Law	155	7.7
Nurse	154	7.7
Medicine/Medical Assistant	128	6.4
Accounting/Finance	120	6.0
Journalist	119	5.9
Politics	90	4.5
Banker	71	3.5
Police	67	3.3
Engineer	56	2.8
Pastor	57	2.8
Computer Science/ICT	48	2.4
Administrator	43	2.1
Immigration Service	34	1.7
Farming	34	1.7
Fashion Design	31	1.5
Agric Officer	20	1.0
Other	310	15.2
Total	2002	100

Note: Other include Surveyors, Graphic Designer, Custom Officer, Midwifery, Ghana Fire Service, Economist, Football/Coaching, Pharmacy, Lecturing, Pilot/Aviation and Architecture

The preservice teachers provided several reasons for deciding to leave the teaching profession after some time for other professions. The reasons why these prospective teachers would want to leave the teaching profession after sometime could be classified under five main themes namely, *Conditions of Service/Economic, Pursuance of Dreams in Life, Lack of Respect for Teachers, Teaching as Stepping Stone and Political Reasons*. Some of the typical reasons the prospective teachers gave under each of the themes are provided as follows:

Conditions of Service/Economic reason was the most common reason the prospective teachers gave to justify why they would not want to stay in teaching till retirement. Some of the typical reasons relating to conditions of service were;

- Though teaching is my first career choice and it is because I love the teaching career. I would leave after years to another career to fetch me enough financial support. (PST 1227)
- The teaching job is not lucrative, the salary is very minute and I think staying the job will lead you to poverty. (PST1228)
- This is because teachers' condition of service and salaries are not encouraging. (PST1097)
- I want improved salary. (PST649)
- This is because it's not a highly paid job as compared to the sacrifices in the work. (PST1093)
- Their salary is not encouraging as compared to other government workers. (PST 1062)
- Man need to ride in expensive and luxurious cars ... (PST 908)
- Want to have a better life (PST1172)

Some of the typical responses relating to Pursuance of Dreams in Life included:

- So that I can switch to my dream (PST 944)
- Will be going back to my career choice (PST1182)
- Will like to still pursue my dreams after some years of serving in the education and teaching field (PST1196)
- Would like to achieve my dream of becoming a computer engineering (PST 1218)
- Would want to pursue what my heart desire to do in future (PST 1226)
- To gather some money and continue with my education to become a Pharmacist (PST 1229)

Some of the typical responses relating to Lack of Respect for Teachers included:

- Because Ghana leaders (Government) does not respect teachers and our salary alone can't cater for a family (PST51)
- Because in Ghana here they don't respect teachers (PST229)
- Because teaching as a profession is not recognise much in the country and also salary is not well paid. (PST301)
- Because teaching is the only job in Ghana they disrespect. You suffer much but less pay. They don't even recognize teachers in the midst of other profession. (PST328)
- I have realized that teachers not given the maximum respect as compared to other professions. (PST517)

Some of the typical responses relating to Teaching as Stepping Stone included:

- I just want to use teaching as a stepping stone since it is highly difficult to secure job in the country. (PST552)
- I want the teaching profession knowledge prepare for other life activities (PST652)
- It is just a base for me to do what I really want to do. (PST867)
- Teaching is a stepping stone so if I get any improved or appreciable job will attend to that. (PST981)
- Because teaching is stepping stone. (PST326)

Some of the typical responses relating to Political Reasons included:

- Because education has turn to politicians (PST48)
- Since my interest in teaching has fade off due to the political infiltration to the educational system (PST935)
- The education sector has been governed by politicians nowadays (PST1034)
- The government keeps on playing with our future. Today this, tomorrow that (PST1038)
- The teaching profession is now complicated due to politics (PST1058)

There is no significant correlation between the entry grades of preservice teachers and their motivation to become teachers

The number of research participants whose entry grades could be obtained during the period of data collection was 2,664. Their entry grades ranged from aggregate 6 to 37. The mean entry grade was aggregate 18 with the standard deviation of 5. Only 2.1% enrolled on the programme with aggregate between 6 and 9. Less than 1% enrolled with aggregate higher than 30. The bulk of the participants (75.1%) enrolled on the programme with aggregate between 10 and 20 (see Table 4). The lower the aggregate the higher the quality of the entry grade. This result suggests that the common notion in Ghana that only senior high school graduates with very weak aggregates are trained as teachers at the pre-senior high school level appears to be changing.

Table 4: Entry grades of the research participants

Aggregate	Responses	
	Number	Percentage (%)
6-9	56	2.1
10-20	2001	75.1
21-30	591	22.2
More than 30	16	0.6
Total	2664	100

In order to find out whether the entry grade of the preservice teachers has any effect on the choice to train as a teacher, the researchers investigated the correlation between the two variables, using the Pearson's Correlation (see Table 5). The results in Table 5 show a very weak negative but significant correlation between entry grades and the choice to train as a teacher ($r = -.075$, $p < 0.001$). This is an indication of very weak inverse relationship between preservice teachers' West African Senior School Certificate Examination/ Senior Secondary School Certificate Examination (WASSCE/SSSCE) grades and the choice to train as a teacher.

Table 5: Correlation between WASSCE/SSSCE grade and choice of training to become a teacher

		Aggregate in WASSCE/SSSCE	Was training to become a teacher your first career choice?
Aggregate in WASSCE/SSSCE	Pearson Correlation	1	-.075**
	Sig. (2-tailed)		.000
	N	2664	2626
Was training to become a teacher your first career choice?	Pearson Correlation	-.075**	1
	Sig. (2-tailed)	.000	
	N	2626	3242

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

There is no significant correlation between the ages of preservice teachers and their motivation to become teachers

In order to find out whether the age of the preservice teacher has any effect on the choice to train as a teacher, the researchers investigated the correlation between the two variables, using the Pearson's Correlation (see Table 6). The results in Table 6 show a weak negative but significant correlation between age and the choice to train as a teacher ($r = -.110$, $p < 0.001$). This is an indication of a weak inverse relationship between preservice teachers' age and the choice to train as a teacher.

Table 6: Correlation between choice of training to become a teacher and age of preservice teachers

		Was training to become a teacher your first career choice?	Age
Was training to become a teacher your first career choice?	Pearson Correlation	1	-.110**
	Sig. (2-tailed)		.000
	N	3242	3227
Age	Pearson Correlation	-.110**	1
	Sig. (2-tailed)	.000	
	N	3227	3285

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

4. Discussion

The results from the study appear to show that training to become a teacher was the first choice career option for the majority (61.2%) of the preservice teachers. The reasons for

their choice of teaching as first choice career also appear to show that it is because of their love for the teaching profession. This was echoed in the responses of some of the preservice teachers such as; "because I have passion for teaching and irrespective of all difficulties I will face" (PST87), "I love to teach and would like to impact more knowledge into every group of individuals I meet" (PST609) and "I really love the teaching profession and the kids are my source of motivation"(PST633). The reasons these preservice teachers gave appear to show that their motivation to train as teachers was not influenced by any external reward. Preservice teachers PST 609 and PST 633 responses, for example, show that their motivation was not based on tangible rewards. Their motivation appears to be altruistic (Goller, Ursin, Vähäsantanen, Festner & Harteis, 2019; Salifu & Agbenyega, 2013).

However, a significant minority (38.8%) were compelled to train as teachers because they could not get the opportunity to enroll on their preferred profession. The top five careers these preservice teachers preferred were Nursing, Medicine, Armed Forces, Law and Accounting/Finance. More than a third (35.2%) of them preferred to go into health-related profession. This group of preservice teachers' motivation to train as teachers could be described as being extrinsic (Azman, 2013; Salifu & Agbenyega, 2013).

Again, of all the preservice teachers who participated in this study, only 35.3% had plans of staying in teaching from 20 years till retirement. A good number (30.8%) had plans of leaving the teaching profession in less than 5 years, after their teacher education programme. The top five careers which these preservice teachers would want to enter were Business/Entrepreneurship, Armed Forces, Law, Medicine/Medical Assistant. This result indicates that even many of the 61.2 % of preservice teachers who chose teaching as their first choice career have not come to stay in the teaching profession for long. They have plans to leave the teaching profession after sometime, probably not because they have lost interest or love for the teaching profession but due to compelling external pull factors. This is echoed in response of preservice teacher PST1227 as; "though teaching is my first career choice and it is because I love the teaching career. I would leave after years to another career to fetch me enough financial support." (PST 1227). This is an indication that conditions of service offered by other professions such as health and military serve as a pull factor for preservice teachers who love the teaching profession to leave the profession. This finding makes their motivation more extrinsic than altruistic.

It is not surprising that conditions of service was the first among the five main reasons why the majority (64.7%) of the preservice teachers would want to leave teaching profession after sometime. This is because as with many developing countries, the conditions of service for teachers in Ghana are generally not good. For example, while the monthly salary of a beginning primary school teacher in Japan is about US$1,460.00, that of Ghana is about US$330.00. This also explains why some of the preservice teachers said they would want to leave teaching profession after sometime to pursue their dream careers as echoed in the responses of preservice teachers PST 1218 and PST 1229 as; "[I] would like to achieve my dream of becoming a computer Engineering" (PST1218) and " [I want] to gather some money and continue with my education to become a Pharmacist" (PST 1229) respectively.

Some of the other reasons the preservice teachers gave to justify why they would want to leave the teaching profession such as Lack of Respect for Teachers and Teaching as Stepping Stone are also related to the poor conditions of service for teachers. This was echoed in the response of preservice teachers PST 51 and PST 981, "because Ghana leaders (Government) does [sic] not respect teachers and our salary alone can't cater for a family" (PST51) and "teaching is a stepping stone so if I get any improved or appreciable job will attend to that." (PST981). Preservice teacher PST51 links the lack of respect for teachers to low salary, while preservice teacher PST981 argues that teaching will serve as a stepping stone for a better job. Indeed, like in many developing countries, Ghanaian teachers do not feel they are respected because of their conditions of service. Many of them end up seeing teaching profession as a stepping stone for a more rewarding profession. This study has shown that these negative sentiments about the teaching profession are formed by prospective teachers even before they enter into the teaching profession.

The politically related reasons given by the preservice teachers who would want to leave the teaching profession after some time such as; "since my interest in teaching has fade off due to the political infiltration to the educational system" (PST935) and "the government keeps on playing with our future. Today this, tomorrow that" (PST 1038), were surprising to the researchers. Currently teacher education in Ghana is undergoing major changes in both content and structure. The Three-Year diploma awarding Colleges of Education have since 2018 become Four-Year degree awarding institutions (as already noted in the introduction). This reform has occasioned regular briefing on the progress made by the Ministry of Education of Ghana on the reform. The responses of preservice teachers such as PST 935 and PST 1038 suggest that some of them appear to have some resentment about the current reform.

The finding on weak inverse relationship between entry grades of the preservice teachers and the choice of teaching as a first choice career suggests that generally there is a weak correlation between the two variables. This indicates that preservice teachers who entered the teacher education programme with high entry grades were not necessarily those who chose teaching as their second choice career. This finding supports the earlier observation that the teacher education programme appears to be attracting high quality senior high school graduates. This finding contradicts earlier observation by Akyeampong and Lewin (2002) that Teacher Training Colleges in Ghana do not attract high quality senior high school graduates. The weak inverse relationship between age and the choice to become a teacher suggests that age is not a strong predictor of the choice to become a teacher. This finding could be attributed to the demographic characteristics of the preservice teachers. Almost all (93.9%) of the preservice teachers were between the ages of 18 and 28. The age range was therefore not very wide.

5. Implications and Conclusion

The findings from the study have shown that motivation to train as a teacher was the main drive for the majority of the preservice teachers in this study. However, the preservice teachers' professed love for teaching appears to be temporary. This is mainly because of external pull factors such as better conditions of service offered by other professions such as Law and Nursing, perceived lack of respect for teachers and the teaching profession in

Ghana, and perceived political interference in Education. The opportunity teaching offers as stepping stone for one's dream profession appears to be the major motivation for the majority of the preservice teachers to train as teachers. Thus, although the majority of the preservice teachers claimed their motivation to train as teachers was due to the love they had for the profession, their future aspirations showed that they would not retire as teachers. The preservice teachers' motivation to train as teachers could therefore be generally described as being extrinsic rather than intrinsic or altruistic.

Business/Entrepreneurship, Armed Force, Law, Health and Accounting were the main professions the majority of preservice teachers preferred to enter in future. Based on the results of this study, it can also be concluded that incentives such as allowance, tuition waivers which are meant to attract prospective teachers into teacher education programmes (as done in Ghana) are not enough guarantee to attract the caliber of people who will train as teachers and remain in the teaching profession till retirement. Teacher education programmes offered at the Colleges of Education in Ghana appear to now attract senior high school graduates with very good WASSCE/SSSCE aggregates since this study revealed a weak correlation between choice to train as a teacher and entry grades of preservice teachers. Age is not a strong predictor of an individual's choice to train as a teacher.

These findings have implications for policy and future research. Policy makers in Ghana and developing countries that use incentives to attract prospective teachers into teacher education programmes may have to reexamine such a policy to ascertain whether it is attracting prospective teachers who will train as teachers and remain in teaching. This will prevent the situation where the nation's scarce resources are spent on training people who will eventually leave the profession. Further studies are needed to throw more light on what might have informed some of the preservice teachers ambition to quit the teaching profession because of perceived political influence in education and how that could be addressed. Again, this study was carried out only at the Colleges of Education in Ghana. These Colleges train only pre-senior high school teachers. Further studies might be needed to cover preservice senior high school teachers in order to ascertain the picture across the pre-tertiary level.

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Investigating University Students' Satisfaction on Online Class: Bangladesh Perspective

Tamanna Sultana*
Rezwanul Huque Khan**

Abstract

In Bangladesh, though the concept of conducting online classes is relatively new, due to the ongoing lock down situation caused by the COVID-19 pandemic, many academic institutions have turned towards online platforms to conduct online classes. Given the novelty of experience, in this study, we aim to investigate university students' perception and satisfaction regarding online classes. Data was collected from 150 students from different academic institutions (public and private universities) through online forms and collected data was analyzed using SPSS software and Microsoft Excel. Three themes namely, e-platform quality, facilitating conditions and teachers' delivery quality emerged as the key factors relating to the students' online learning experiences. The study shows that e-platform quality and facilitating conditions are strong predictors of overall satisfaction of the students. It also shows that the students are somewhat satisfied with the e-platform and teachers' delivery quality but not with facilitating conditions. However, the satisfaction level varies across the students from urban and rural areas. Based on these findings, the theoretical contribution to the relevant literature and practical implications for academic institutions and policy makers have been articulated.

Keywords: *Online class, students' satisfaction, perception, factor analysis, Bangladesh*

1. Introduction

With the COVID-19 breaking out rapidly, billions of students across the world are being homeschooled in a bid to curb the spread (Strauss, 2020). Teachers and students are now using numerous online platforms to conduct their classes. In fact, educational experiences, in recent years, are not barred within traditional academic classes only, rather it is a combination of both online and traditional classes. Though this concept of e-learning is quite familiar and commonplace in the developed countries, the notion is still relatively new to the majority of the population in Bangladesh (Al-Mahmud, 2020). Nevertheless, many educational institutions in Bangladesh had to resort solely to this online education due to the recent outbreak of COVID-19 (The Financial Express, 2020).

Whether the use of this online education would continue post-pandemic mostly depends on students' overall perception and satisfaction on the performance of current online systems, since satisfaction is an attitude that comes from one's own experiences (Henning-Thurau and Klee, 1997) using the system. Given the backdrop, this study aims to investigate the

* Associate Professor, Institute of Education and Research (IER), University of Dhaka.
** Associate Professor, Institute of Business Administration (IBA), University of Dhaka.

perception and satisfaction of the students in online classes conducted by their respective academic institutions. The study also tries to identify how the overall satisfaction can be predicted by different influencing factors.

Considering the focus of the study, we have conducted literature review to understand the key factors that influence students' perception and satisfaction. Extant literature discusses different factors that affect students' perception regarding online classes. In a study, Liao et al. (2006) found that information system quality is one of such critical factors. They measured the quality of an information system in terms of accuracy, ease of understanding, usefulness, completeness, relevance, and whether the system was up to date. Again, Hammouri and Abu-Shanab (2018) stated that the perceived usefulness, perceived ease of use, system quality, information quality, and computer self-efficacy have strong influence on students' satisfaction. They also revealed that when the content of the system is readable, relevant, accurate, and easy to retain, and complete then students' satisfaction towards e-learning will be enhanced. In line with that, Lee and Kim (2010) claimed in a study that proposed content, accuracy, format, timeliness, and ease of use as the characteristics for information quality are the key factors affecting the students' satisfaction.

Shih (2004) defined that the system quality as the processing quality of an information system. This was measured in terms of ease of use, functionality, availability, flexibility, reliability and response time. According to Seddon (1997), system quality ensures whether the system is properly working without any bugs as well as the consistency of the user interface, ease of use, response rates, quality documentation, and sometimes, quality and maintainability of the program code. In a study, Hammouri and Abu-Shanab (2018) indicated a strong influence of system quality on students' satisfaction. Their findings indicated that when a system is useful, well designed, secured, easy to access, and easy to navigate then students' satisfaction will increase.

Again, Davis et al. (1989) in their proposed model- TAM suggested that two beliefs—perceived usefulness and perceived ease of use—are instrumental in explaining the variance in users' intentions. The degree to which a person believes that using a particular system enhances his or her job performance is defined as its perceived usefulness. On the other hand, the degree to which a person believes that using a particular system will be free of effort is defined as perceived ease of use. The research conducted by Majdalawi et al. (2014) claimed that the perceived usefulness and perceived ease of use have been found to be the factors that directly affect students' acceptance toward using the online learning management system (Moodle). They have also noted that the students use Moodle because of its perceived ease of use rather than its perceived usefulness. In a study, Chiu et al. (2005) reported that the perceived usefulness of e-learning courses of Taiwanese university students was significantly correlated with the level of satisfaction.

Student satisfaction can be influenced by support services for system users. Research shows that system quality, service quality, and self-efficacy all increased satisfaction levels. However, service quality contributed more to satisfaction than the other two

variables. This underlines the importance of effective and timely support provided to assist instructors in using web-based learning systems (Wang & Wang, 2009). Some studies have found it to have a significant positive effect on satisfaction in e-learning context (Poulova and Simonova, 2014; Roca et al., 2006; Tajuddin et al., 2013; Xu et al., 2014).

Henning-Thurau and Klee (1997) viewed general satisfaction as an outcome of experience. Existing literature shows that social context influences peoples' satisfaction level (Irshad and Wahid, 2017). They found that the satisfaction level varies between urban and rural teachers regarding their job issue. Jung (2014) noted that satisfaction is one of the most desirable outcomes when implementing new technologies and services. Satisfaction have also been examined by previous studies in various educational settings including e-, m- and u-learning as a key outcome of technology use (Ramayah and Lee, 2012). Indeed, satisfaction has been defined from many perspectives, such as educational service quality, information quality which might affect the perceived satisfaction (Ramayah and Lee, 2012). Butt and Rehman (2010) defined it to be regarding the teacher's expertise, environment, and classroom facilities whereas Looney et al. (2004) defined it to regarding system flexibility, efficiency, and convenience. Several studies have reported the importance of usefulness and ease of use on student satisfaction (Rahman et al., 2015; Lim et al., 2007).

Again, social context might be a critical issue for a student to be satisfied with the e-learning. For example, students who are from countries technologically advanced and where ICT is well integrated in the education systems, will be easily satisfied with their e-learning environment. On the other hand, the developing countries have enormous challenges and a unique social context that differs from developed countries (UNESCO, 2014). Developing countries struggle with lack of ICT infrastructure and equipment, frequent power failure, lack of ICT skills, lack of funds, shortage of qualified teachers and so on (Andersson, 2008; Khan et al., 2012). Students may not have necessary device for e-learning, neither may they be able to purchase data frequently for their online classes. Furthermore, in most cases, the infrastructures such as electricity, telephone connectivity, internet highway and good roads are restricted to urban areas and thereby influencing the trend of access to technology being restricted to urban areas, because a large number of the population are living in rural areas therefore have no access (Oroma et al., 2012). As such, the social context of such a resource-constrained environment may have influence on students' satisfaction on e-learning.

Following the extant literature, in our study, "availability of required features for online class, ease to learn and use, ease to communicate with teachers and classmates, availability of support services, ease to retain information, flexibility to run the platform, security of personal data, effectiveness and ability to enhances performance, suitability of place for doing classes attentively, availability of necessary device, easy to buy data, availability of internet facility, teacher's ability to deliver lectures, usage of electronic features and engaging students in e-learning environment" have been considered as the variables to determine the impact of these factors on student satisfaction regarding online learning experiences.

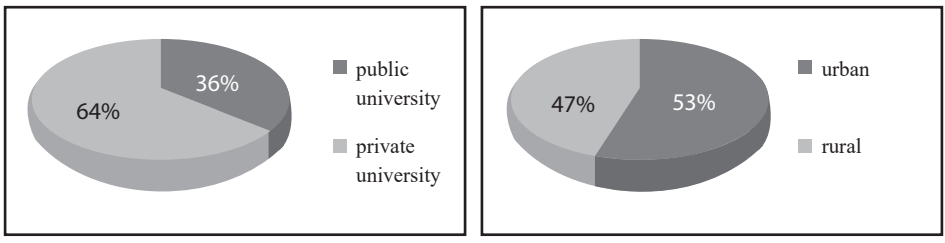
2. Methodology

To fulfil the overall objectives of this study, we adopted a quantitative approach. To collect data, survey was conducted amid lock down in May 2020. The survey respondents were students of different universities (both from private and public) in Bangladesh. Due to the COVID-19 outbreak, the link of the questionnaire developed using Google form was circulated among the students of different universities of Bangladesh by using online social platforms. As such, the sampling was non-probabilistic and samples selected were judgmental based on convenience (Etikan et al., 2016). We structured the questionnaire having 24 items in various format such as single generalized question, multiple choice question, demographic questions and 5-point Likert Scale (1 indicates strong dissatisfaction while 5 indicates strong satisfaction respectively) statements. Validity of the questionnaire was examined in the stage of item generation from the extensive review of the literature. A total of 195 questionnaires link were administered. 150 completed questionnaires, of those who have used online class platform recently, were processed for the analysis.

The data analysis was done using IBM SPSS Statistics 20 Software and Microsoft Excel. Descriptive statistics (mean, standard deviation, percentage) was used to find out the overall satisfaction of the students and to explore whether the satisfaction level regarding e-learning varies across students between rural and urban areas. Factor analysis and reliability tests were used to identify the underlying dimensions which can reliably measure the independent variables. Finally, regression analysis was used to develop a model on how the independent variables affect the dependent variable.

3. Results

Our analysis shows that 36% of the respondents are from the public university and the rest of the percentage (64%) are from private university (Figure 1(a)). The analysis also shows that among the respondents 53% are attending the online classes from urban area whereas 47% of the respondents are currently in rural area (Figure 1(b)).



(a) public vs private university (b) urban vs rural

Figure 1: Respondents' ratio

In this study, the overall satisfaction level is considered as the dependent variable and 15 independent variables are used to measure the factors affecting the overall satisfaction level of the students. We have analyzed these 15 variables using principal component analysis with a varimax rotation method to determine the underlying dimensions. This produced a Kaiser- Meyer-Olkin value of 0.951 and the Bartlett's test of sphericity reached

statistical significance ($p<0.001$), supporting the factorability of the correlation matrix. The factor analysis has initially suggested that there is only one underlying factor within these variables with the cut-off Eigenvalue of 1. The cumulative percentage of explained variance was 61.118%, which means that this could explain only 61.118% of the variation. To increase the cumulative percentage of explained variance to at least 70%, we have increased the number of factors to three. The identified three factors (e-platform quality, Facilitating conditions and Delivery quality) could explain 72.268% (Table 1) of the variation of factors affecting the overall satisfaction level of the students.

The factor-1 (**e-platform quality**) includes 8 variables (i.e., has required features for online class, easy to learn and use, easy to communicate with teachers and classmates, availability of support services, easy to retain information, flexible requirements to run the platform, security of personal data and it is effective and enhances performance) that measure the overall quality of the platform used. The Eigenvalue of this factor is 9.168 and it explains 30.774% of the variance (Table 1). This seems to be the most important factor among all and the factor is highly reliable (α= .926).

Table 1: Number of items and factor loadings for students' satisfaction

Items	Number of Items	Factor loading		
		e-platform quality	Facilitating condition	Teacher's delivery quality
Has required features for conducting class	1	.601		
Easy to learn and use	2	.544		
Easy to communicate with teachers and my classmates	3	.743		
Support services are available whenever required	4	.721		
Easy to retain information	5	.721		
Flexible requirements to run the platform	6	.799		
My personal data are secured	7	.661		
It is effective and enhances performance	8	.661		
I have a suitable place for doing classes attentively	9		.724	
Necessary devices (mobile/laptop/pc)are not a problem for me	10		.684	
Buying data is easy for me	11		.790	
Internet facility is easily available at my place	12		.657	
Teachers can engage students effectively	13			.593
Teachers can use features appropriately	14			.694
Teachers delivery was easy to understand	15			.554
Eigen value		9.168	.900	.772
Explained variance (%)		30.774	25.309	16.185
Total Variance				72.268
α		.926	.905	.757

Note: Factor loading is considered above 0.4

The factor-2 (**Facilitating conditions**) includes 4 variables (I have a suitable place for doing classes attentively, necessary device is not a problem for me, buying data is easy for me and internet facility is easily available at my place) that measure the easily availability of data, internet facility and necessary device as well as suitability of place. The Eigenvalue of this factor is .900 and it explains 25.309% of the variance (Table 1). The table-1 also shows that this factor is highly reliable as Cronbach's alpha(α) = .905.

Rest of the factor-3 (**Teachers' delivery quality**) includes 3 variables (teacher's ability to deliver lectures, to use of electronic features and to engage students in e-learning environment). The Eigenvalue of this factor is .772 and it explains 16.185% of the variance (Table 1). The Cronbach's alpha for the factor is .757 which implies that the factor is reliable.

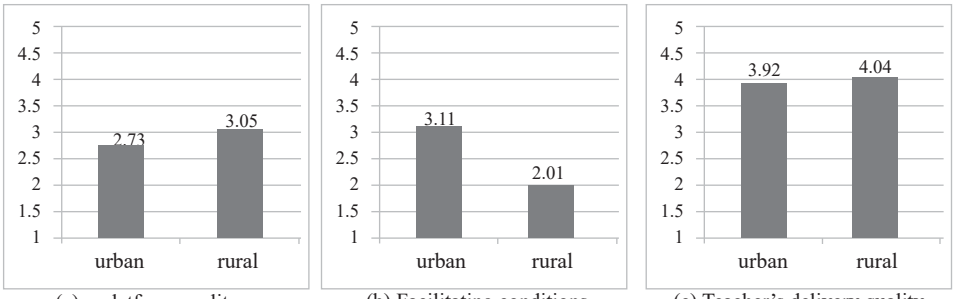
After finding out the three principle factors (e-platform quality, facilitating conditions and teachers' delivery quality) from factor analysis, we considered these three factors for the rest of the analysis.

Our analysis shows that the students have a neutral perception with their online learning experience (mean 3.0575 and Std. deviation 1.4189). Among the factors affecting the overall satisfaction level, the students seem to be satisfied with teachers' delivery quality (mean 3.9671) while they are found to have somewhat dissatisfaction with facilitating conditions (mean 2.5317). However, their perception regarding e-learning platform is just about neutral (mean 2.8640) indicating they are neither satisfied nor dissatisfied. Table 2 shows the mean value and standard deviation of students' overall satisfaction and satisfaction level for each of the key factors.

Table 2: Descriptive statistics

	Number of items	Mean	Standard Deviation (SD)
Overall Satisfaction		3.0575	1.4189
e-platform quality	8	2.8640	1.1616
Facilitating condition	4	2.5317	1.1963
Teachers' delivery quality	3	3.9671	1.2264

Our analysis also shows that the opinion on satisfaction level regarding online classes vary at least to some extent for all three factors between the students who are accessing online classes from rural area and those who are from urban area. However, it is found that the mean satisfaction level of both the urban and rural students are almost similar for both e-platform quality and teachers' delivery quality (Figure 2(a) and Figure 2(c)) and the ANOVA test also suggests that there are no statistically significant ($p=.657>0.05$ and $p=.204>.05$) mean variances between these two groups for those factors. But it is found that there is a significant ($p=.032<0.05$) difference of satisfaction level between urban and rural students on facilitating conditions (Figure 2(b)).



(a) e-platform quality (b) Facilitating conditions (c) Teacher's delivery quality

Figure 2: Students' satisfaction level for three different factors: urban and rural perspective

Table 3 shows that 78.6% of the variation in the overall satisfaction level can be explained by the group of independent variables. The difference between R square (78.6%) and the adjusted R Square (78.2%) is very trivial. It indicates that the sample size for this study is big enough and the independent variables are meaningful predictors of the dependent variable.

Table 3: Regression model

	Model		
	B	S.E	B
e-platform quality	.665***	.091	.544
Facilitating conditions	.455***	.094	.365
Teachers' delivery quality	.018	.064	.016
R Square			.786
Adjusted R Square			.782
F			178.771*

Note: Mean Satisfaction, *p<0.05, **p<0.01, ***p<0.001

The F-test (Table 3) indicates a good model fit. Hence, the statistical properties are good and the estimation results were credible. The ANOVA test suggests that it is statistically significant (significance level < 0.001). Hence, the model is strong enough to predict the linear relationships between the group of independent variables and the student satisfaction levels.

According to Table-3, regression coefficients of the e-platform quality and the facilitating conditions are 0.665 and 0.455 respectively, and their respective statistical significance levels are less than 0.001. This means that there are statistically significant influences of the aforementioned two variables on the overall satisfaction levels of the students. Consequently, a unit change in the e-platform quality and the facilitating conditions will lead to changes in the overall satisfaction levels by 0.665 and 0.455 units, respectively. In addition, e-platform quality is identified as the strongest predictor of overall satisfaction since the standardized coefficient (β) for thee-platform quality is higher than that of the facilitating conditions. However, the coefficients for the teachers' delivery quality (0.018) is not statistically significant at the 0.05 level since the p-value (p=.774) is greater than 0.05. Thus, we could not conclude that the overall satisfaction can be statistically explained by the Quality of teacher's delivery of lectures in the online platform.

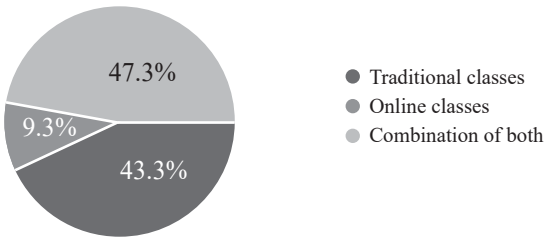


Figure 3: Preference of students: Traditional vs. Online classes

Our analysis shows that most of the students didn't agree that they will consider taking a whole course online (Figure 3). They would rather prefer the traditional classes (47.3%) or maybe a combination of both traditional and online methods (43.3%).

4. Discussion

The study shows that, students overall have a neutral feeling with their online classes, though in some context their satisfaction varied between rural and urban perspective. This finding is consistent with the extant literature (Irshad & Wahid, 2017). The study also reveals that both the e-platform quality and facilitating conditions have significant effect on students' satisfaction level whereas the effect of teacher's lecture delivery has insignificant effect. However, the study reveals that though the teacher's performance on online platform does not significantly affect on students' satisfaction level, students are found to be the most satisfied with teacher's performance in online platform followed by e-platform quality. The study also shows that students are not satisfied with the facilitating conditions. However, e-platform quality has been found to be the strongest predictor to predict students' overall satisfaction regarding online classes andit is found that students' satisfaction level is almost neutral regarding e-platform quality. As such, it is quite obvious that, the students have neutral opinion regarding their satisfaction on online classes. However, there are high-level of disagreements among the students regarding their satisfaction level (Std. deviation: 1.4189). This is more likely because an individual's satisfaction level depends on both his/her internal expectations, the actual performance of the online teaching facilities and social context as well. In addition, although, students' overall opinion on perceived satisfaction is neutral, the effect of facilitating conditions cannot be ignored as it is also a strong predictor (as β=.365) to predict the students' satisfaction level. Moreover, the study found that students' satisfaction level on facilitating conditions varies significantly between the students who are accessing online classes from rural area and those who are from urban area. This might be attributed to the fact that students accessing the online classes from rural area may not have adequate ICT infrastructure, required devices or suitable place to access the class comfortably. On the other hand, students accessing from urban area are in better position leading to relatively high satisfaction on the facilitating conditions. This finding is consistent with the existing literature (Oroma et al., 2012). We also found that for e-platform and teachers' delivery quality, students' level of satisfaction does not vary significantly in terms of their location of access (urban and rural).

4.1 Theoretical and Practical Implications

While the existing literature (e.g., Lee and Kim, 2010) focuses on different factors that influence students' satisfaction on e-learning, our study adds to that literature by exploring which factors have more influence (i.e., e-platform, facilitating conditions and teachers' delivery quality respectively) on the satisfaction level. From the developing country perspective, it also adds to the literature (e.g., Khan et al., 2012) that, in this context, the facilitating conditions are more important than teachers' delivery quality. The study also offers practical implications for academic institutions and policy makers. To enhance students' perception and to increase the level of satisfaction, the academic institutions should focus on improving the e-platform and facilitating conditions as they can significantly

improve the overall satisfaction level of the students. At the same time, they need to enhance or at least maintain the delivery quality of the teachers to sustain students' satisfaction level on this factor. The academic institutions and also the policy makers should critically consider facilitating conditions, specially for the students accessing online classes from rural areas. They should take necessary measures so that the facilitating conditions (internet facility, data buying capacity, suitable place for accessing class and devices required to access the classes) improve to make students satisfied and capitalize e-learning facilities at the maximum level.

The findings of this study are limited to the fact that the respondents are from the private and public universities for which it might not be generalized for entire Bangladesh. Further study could be undertaken including students from schools and colleges. Also, the demographic variables could be considered to unearth whether those variables have any impact on students' satisfaction regarding online classes.

5. Conclusion

This study identified three critical factors relating to the students' online learning experiences, namely, e-platform quality, facilitating conditions and teachers' delivery quality. Among the three, e-platform quality and facilitating conditions have been found as the strong predictors of overall satisfaction of the students. In addition, the study found that students are somewhat satisfied with teachers' delivery quality while they have neutral feelings regarding the e-platform. However, they are found to have somewhat dissatisfaction with facilitating conditions. The study shows that the satisfaction level significantly varies across students from urban and rural areas.

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Youth in Adversity: TVET and Skills for Realizing Potentials

K M Enamul Hoque*

Abstract

Bangladesh is one of the fastest-growing economies in the world with a high level of youth unemployment, a lack of decent working conditions, and inadequate higher-order skills to cope with the growth. School education is yet to provide graduates with required competencies that disproportionately affects the marginalized groups. Reducing the number of Not in Employment, Education and Training (NEET) population through an expanded vision of technical and vocational education and training (TVET) and skills development programs, and smooth school to work transition are critical to deriving the benefits of the demographic dividend. The 21s-century skills, holistic development of youth, promoting entrepreneurship, promoting ethics and values among youth are also important considerations. A two-pronged strategy of simultaneous attention to (i) youth in adversity, and (ii) future of work could contribute to realizing the potential of exploiting the demographic dividend in Bangladesh. The study emphasized four industries and four groups of youth in adversity as a starting point; other industries and adversity groups may eventually be included. The industries are light engineering, hospitality and tourism, information and communication technology (ICT), and care services. The adversity groups are domestic workers, ethnic minorities, LGBT, and persons with disabilities.

Keywords: *Demographic dividend; philanthropic investment in TVET; skills development; soft skills; Technical and Vocational Education and Training (TVET); youth in adversity; whole child development; and 21s-Century Skills.*

1. Introduction

Bangladesh is one of the fastest-growing economies globally, with a GDP growth of approximately 7.3% in 2019. With a goal to become a middle-income country by 2023, Bangladesh has made significant progress over the past two decades in advancing human development and bolstering economic growth. Bangladesh has also made remarkable progress in improving both access to education and the quality of education. On an important indicator of advancement towards ensuring quality education for all, Bangladesh has achieved universal access to primary education.

Bangladesh continues to face high levels of unemployment and underemployment. The Labor Force Survey 2016-2017 reports the unemployment rate as 4.2%, and youth unemployment at a staggering 10.6%, two and a half times the national average (BBS, 2018). One of the underlying factors contributing to the high levels of youth unemployment

* Deputy Director, Campaign for Popular Education (CAMPE) and National Coordinator, Education OutLoud – Advocacy for Social Accountability

is that the Bangladesh educational system has not adjusted to addressing the dynamic, fast-changing labor market demands, resulting in a 'youth skills-gap.'

The path to becoming a middle and upper-middle-income country will have its challenges. Strengthening the labor market and employment opportunities through education and training opportunities will be pivotal to catalyze economic growth. Most skills training programs currently focus narrowly on technical and hard skills and have neglected soft skills training.

The education system in Bangladesh would benefit greatly from taking a holistic approach to education to embody the values of Whole Child Development through nurturing the creative abilities of children and youth to express themselves, navigate complex information and confidently cope with the challenges of a dynamic, fast-changing world.

This paper has examined the opportunity for the youth with an adversity lens to understand how state effort combining with the non-state actors and philanthropic partner could contribute to improving the situation of disadvantaged youth. The premise is that skills development program and TVET to foster school to work transition can create job opportunities and enhance employability of youth.

2. Objective and Methodology

The main objective of this paper is to highlight some key issues that arose from a joint study carried out by Campaign for Popular Education (CAMPE) and Syanrgos on a mapping of youth in adversity in Bangladesh. As one of the research team members, I wish to share some of the lessons from the mapping exercise, encourage thinking out of the box and contribute to the discourse on interventions to benefit youth in adversity.

This paper has relied on the background work done for the mapping exercise, including literature review, key informant interviews, and discussion among the team members of the study. It also has drawn on a Rapid Response Survey on the work and perception of education NGOs in the context of the Covid-19 pandemic carried out by CAMPE in April-May 2020.

3. Major Finding and Observations

3.1 Growth and Challenges in TVET

Bangladesh has made significant progress in expanding access to primary and secondary education along with advancing gender parity in enrolment over the last few decades. These advancements in universal access to primary and secondary education can be attributed to support from the Government of Bangladesh as a constitutional obligation (GoB, 1972). The international commitments, charters, and treaties have also played an enabling role, particularly the activities related to EFA, CEDAW, MDGs, and SDGs, which have played a pivotal role in this development journey.

However, quality remains a big challenge in promoting children's cognitive development as well as the development of socio-emotional skills, including critical thinking, communication,

collaboration, problem-solving, leadership, among others. Dropout before and during secondary education remains high, and transition to tertiary level is low. Despite the substantial progress in ensuring access to education, it is alarming to note that 4 million school-age children remain out of school (GoB, 2018). Due to the COVID-19 effect the progress may be reversed due to long school closure, household economic pressure, and opportunity cost of education. All these will lead to increased absenteeism and dropouts. Girls may face increased gender based violence, early marriage and early pregnancy (CAMPE, 2020).

The quality and relevance of higher education and training are inadequate to meet the labor market's skills demand. Outdated curricula and teaching-learning materials, inadequate teaching facilities, and limited opportunities for teachers' professional development, particularly in TVET and tertiary colleges, make them less capable of delivering the expected services.

State investment in education in Bangladesh has remained around 2.0% of GDP for more than a decade (CAMPE, 2019). The limited state investment, along with other confounding issues, has adversely affected the quality of education in terms of updating and modernizing curriculum for holistic development, to ensure an adequate supply of professionally trained and qualified teachers and their professional development, to maintain a robust assessment system, and facilitate school to work transition for youth.

To address the need to make skills training programs relevant to the labor market, the Government of Bangladesh has initiated the National Technical and Vocational Qualification Framework (NTVQF). The aim is to help youth become more employable and to supply emerging industries with workers by assessing skills of workers acquired by diverse means. The National Skills Development Authority and 12 Industry Skills Councils have been established. Other measures taken by the government include the establishment of technical schools and colleges (TSC) in every Upazila (sub-district) and the establishment of Engineering College at the divisional level. To promote girls' education, Upazila level TSC's will have a hostel to accommodate 200 girls each and one Engineering College in every division will be devoted to girls. Besides, the government is considering introduction of a common curricular track up to grade 10 and adding one technical subject as compulsory in secondary education.

The non-state actors, particularly the NGOs are playing a complementary role to supplement the state initiatives. This is to help the most marginalized to participate in skill training and prepare themselves for the world of work. Although youth unemployment and underemployment are a ubiquitous challenge across the country, unemployment disproportionately impacts particular demographics, referred to as youth in adversity, who are either implicitly or explicitly excluded from employment opportunities and training programs. Philanthropy, in this case, has a critical role to play to make TVET more inclusive of youth in adversity and to build on the momentum and support of the government initiatives.

3.2 Opportunities to Apply a WCD-based Approach to Advance Education in Bangladesh

Like many other education systems across the world, Bangladesh has faced severe limitations in enabling children and youth to develop a broad range of competencies and values needed to lead productive and constructive lives. Rote memorization and an over-valuation of exam scores and assessments, amongst other systemic issues, have resulted in a myopic view of the role of education in the formation of children and youth. As illustrated by the limited mastery of foundational skills needed in the transition to the world of work, there is an urgent need to move towards a more holistic approach to education in Bangladesh.

Applying a 'Whole Child Development' (WCD) approach to education has the potential to empower children and youth to become creative and engaged citizens who can strengthen their communities' and societies' wellbeing. Whole Child Development values nurturing children and youth's creative abilities to express themselves, navigate complex information, and confidently cope with the problems of a dynamic, fast-changing world.

3.3 Demographic Dividend and the Need for TVET Education in Bangladesh

Bangladesh is experiencing a demographic dividend, where the working-age population is now significantly larger than the non-working age population. Every year, around 2.1 million youth enter the job market and are seeking employment opportunities in Bangladesh. However, only 1.3 million youth are securing jobs each year, and the remaining 0.8 million youth are joining the pool of the unemployed population (The Financial Express, 26 Feb, 2019). Furthermore, over 27.4% of the total youth population are not in education, employment, or training (NEET).

This shift in the demographic makeup of the country is due to a significant reduction in fertility and mortality rates since the 1980s. The demographic dividend is not an induced phenomenon, rather it is a structurally given time bound phase, which requires 'quality' human resources endowed with education, health, and skills. Bangladesh will continue to experience a demographic dividend until at least 2031, and potentially until the late 2030s (Action Aid & SANEM, 2019). Although youth unemployment and underemployment are a ubiquitous challenge across the country, it disproportionately impacts particular segments of the population, who are either implicitly or explicitly excluded from employment opportunities and training programs.

The demographic dividend can be viewed as both a blessing and a curse in the context of the Bangladesh economy. If the proper support systems, including, but not limited to, skills training and job placement programs are put in place to harness the potential of the burgeoning youth population, the demographic dividend could stimulate economic growth by adding to the productivity of the labor market. However, if the problem remains unaddressed or inadequately addressed, the consequences of the untapped youth dividend in Bangladesh will turn to a catastrophe and exacerbate widespread unemployment rates.

Enrollment in TVET has steadily been increasing, but TVET capacity is insufficient in addressing the needs of Bangladesh's youth. The number of students enrolled in TVET (grades 9 to 12) increased significantly from 476,000 in 2009 to over 1 million in 2018 due to the efforts of government and non-government actors.

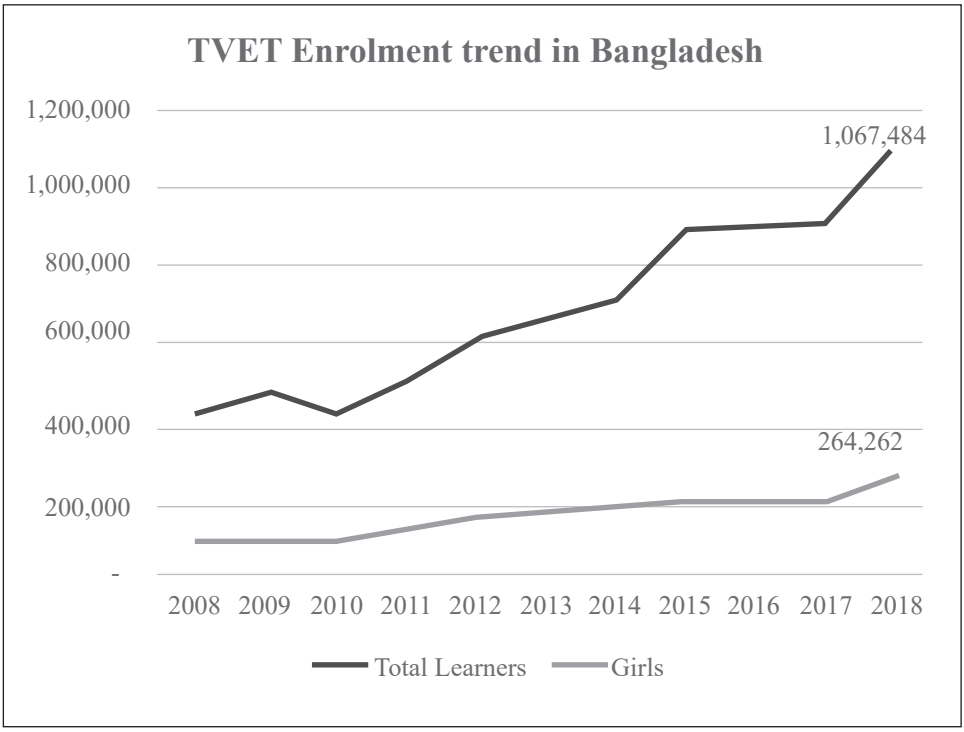

Figure 1: TVET Enrolment trend in Bangladesh (Source: BANBEIS, 2019)

However, the BTEB has provided alternative statistics that include the students of 360 hours basic course, which shows that the BTEB enrollment in Secondary and Higher Secondary Education was 13.1% in 2014 that has been raised to 16.1% in 2019 (BTEB, 2016 p.39 and BTEB, 2019, p.vi). The girls' participation has also rose to 24.8% (BANBEIS, 2019). Despite the substantial progress in increasing TVET enrollment, it remains low compared with developed countries. In the broader global context, TVET enrollment in South Asia remains low compared with developed countries. For example, in East Asian countries, TVET enrollment is substantially higher -- 43 percent in South Korea and 26 percent in Japan (Dewan & Sarkar, 2017 and Alamgir, 2019).

TVET institutions in Bangladesh are disproportionately distributed across the country. The largest number is located in the Rajshahi Division (24%), whereas the Barisal Division has the fewest (2%). An overview of TVET distribution is as follows:

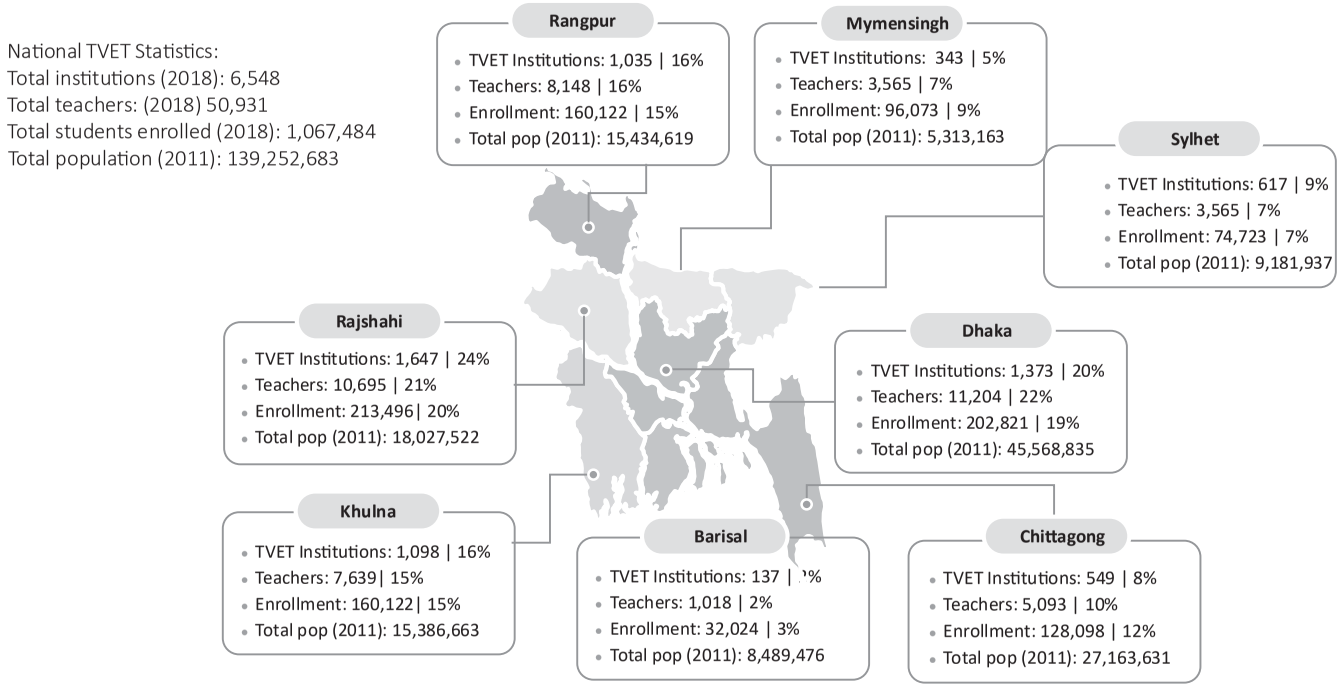

Figure 2: Distribution of TVET institutions and learners in Bangladesh. (Source: BANBEIS 2018, CAMPE & Synargos 2020)

3.4 Challenges in the TVET Sector

It is crucial for Bangladesh to incorporate skills for the future of work and ensuring that TVET programs are inclusive of youth facing adversity to address the needs of society.

The Future of Work challenges

- **Curriculum and pedagogy of TVET institutions are not aligned with the workforce demands:** Advances in technology and the fourth industrial revolution are rapidly changing the jobs and types of skills needed in the workforce, both in Bangladesh and globally. As routine tasks become automated, employers across industries are increasingly interested in hiring youth with soft skills, critical thinking skills, ethics and values, leadership skills, and 21st-century skills, which are characteristic of Whole Child Development.
- **Inconsistent implementation of the National Technical and Vocational Qualifications Framework:** Despite progress to develop a consistent National Technical and Vocational Qualifications Framework (NTVQF), designed to ensure that TVET education is relevant to the world of work, the implementation across geographies has been fragmented and inconsistent.
- **Limited career development and practical learning opportunities:** TVET institutions have limited capacity to offer career development and job placement services. In addition, education programs are often limited to theoretical and rote learning rather than based on practical on-the-job training, such as apprenticeship opportunities.

Youth in Adversity

- **Limited access to TVET institutions in hard-to-reach areas:** Out of the 6,865 TVET institutions reported by BANBEIS, a large proportion of them serve denser, metropolitan areas; the distribution of institutions has caused limited service delivery in rural areas and certain divisions (e.g. Chattogram).
- **Limited support services to provide youth with psychological support:** Due to limited resources, most TVET institutions are unable to offer psychological and counselling services. These support services are disproportionately needed by youth facing adversity, who have often endured traumatic life experience.
- **Curriculum and pedagogy are not tailored to serve the diverse needs of youth in adversity:** Low capacity for teacher training and course design often results in a one-size-fits-all model that is unable to equip teachers with strategies and tools to better serve a larger range of needs for youth in adversity.
- **Limited networks to connect graduates with the right job opportunities:** Many programs lack the finances and resources to provide adequate job-seeking skills or networks to help graduates in adversity find jobs suitable to their needs, upon completing training.

Adverse affects of the COVID-19

- **Lack of Protection of the learners and guardians:** The COVID-19 pandemic leads to the school closure from 18 March 2020 with no preparation to ensure support to the learners in terms of standard protection practice. The COVID-19 was a different type of emergency that restricts the mobility of people through social distancing and lockdown. Consequently, the learner lack psycho-social support to keep their mental health and extend support.

- **Learning Loss that may take several years to recover through organized response mechanism:** Due to extended school closure and inadequate support through the distance learning mode, particularly by television and the internet. As the TVET is highly practical oriented education, it was quite challenging to accommodate the change due to the pandemic.
- **Economic hardship leads to the vulnerability of the TVET learners:** the stakeholders' opinion shows that the economic hardship due to the COVID-19, there will be incrased absenteeism and irregular attendance due to the engagement of learners in paid or unpaid work to reduce the financial pressure at the household level. An early signal on gender-based violence, combining with absenteeism, early marriage, particularly for girls and early pregnancy becoming senguin. Besides, due to economic slowdown, a significant number of youths are at risk of losing jobs or loos the working capital.
- **Digital divide:** In general education, learners are engaged in the organized teaching-learning process online. But designing courses for TVET using the online platform is quite challenging. Catching-up with the expansion of science, technology, and innovations, TVET in Bagnaldesh faces a huge challenge in facilitating TVET with high-tech industries.

Government Prioritization of TVET Education and Recent Developments

- **Established National Skills Development Authority (NSDA):** Government strategies for expanding TVET education emphasize on raising the number of post-primary and secondary education students in TVET, improving the quality and relevance of TVET education, involving the industries in designing and carrying out skills development courses, better coordination among all actors (government and non-government agencies), and a larger investment. These objectives and principles were incorporated in the National Skill Development Policy 2011 (NSDP), being implemented by the National Skills Development Authority (NSDA), established in 2019.
- **Integration of Vocational education in the mainstreame education in Bangladesh:** The Ministry of Education plans to introduce technical education courses in junior secondary education from class VI to VIII, starting from 2021. All Class IX and X students enrolled in general education (not in the technical education stream) will have to take a course on technical skills. All schools and madrasahs are being encouraged to establish labs and classrooms for TVET education, and the government would provide teachers through a monthly pay order agreement. The work has started to take shape with 640 schools and madrasahs expected to introduce technical education in 2020. Besides, the government has pledged in its manifesto to set up one technical college in every Upazila/sub-districts (492 in total).
- **Developed an integrated TVET plan and the TVET SWAP is under process:** An integrated TVET action plan has been formulated by the Technical and Madrasah Education Division (TMED) of the Ministry of Education in 2018. The Integrated Plan focuses on (i) free textbooks distribution, (ii) TVET Stipend Program, (iii) 5% quota preserved for persons with disability (differently-abled students) and 20% quota for girls, (iv) establishing ramps in TVET institutions and (v) establishing specialized TVET institutions for girls to ensure Leaving No One Behind. Development of a

TVET sector Wide Approach (TVET SWAp) based on the lessons learned from Primary and Secondary SWAp would benefit the TVET sector for harmonized and result oriented planning process.

- **Integration of TVET with Five-year planning and ESD:** Considering the improved policy environment, the government of Bangladesh has strengthened the linkage between the Five-Year Plan of the government with the National Skills Development Policy. It has developed policies to promote and bring Education for Sustainable Development (ESD) into the mainstream. As a new vision, the government is considering the formulation of special recruitment policy for government and private TVET teachers with a provision of 100% recruitment from pre-service trained graduates. Government also has developed a qualification framework for teachers, trainers, and associates.
- **Infrusture development, coordination and knowledge transfer:** Establishing mobile technical workshops, ensuring separate physical facilities for female students, and establishing more TVET institutions for women, and persons with disabilities are in government plans. The promotion of the National Qualification Framework, establishing the National Skills Development Authority (NSDA), increased collaboration and partnership with institutions in Singapore and China are also some of the initiatives. For better harmonization withing the different streams, a comprehensive education sector plan is under the process of development. It is expected to help in alignment among the streams and also facilitate in providing an equivalency framework.

4. Elements of a Program for Enhancing TVET Capacity to Reach Youth in Extreme Adversity

4.1 Understanding and Identifying Youth in Adversity

Exclusion serves both as a cause and effect of adversity, both causing and reinforcing layers of adversity to jeopardize human dignity, social justice, and the common good. The primary dimensions of exclusion in Bangladesh are socio-cultural, economic, political, and geographic, overlapping, and interrelated.

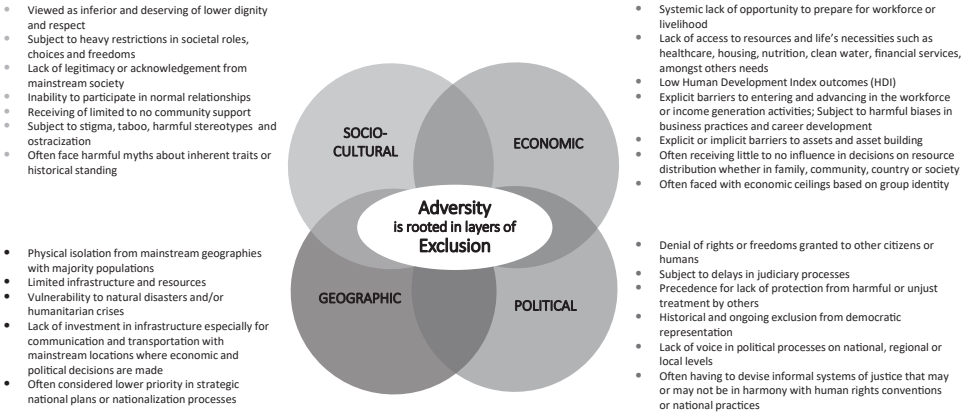

Figure 3: Extreme adversity is underpinned by exclusion from society. (Source: A Mapping of Youth in Adversity, CAMPE & Synargos 2020.)

The skills for youth in adversity program is intended to serve demographics that have been disproportionately excluded by mainstream society. It intends to elevate those facing extreme adversity and build a just society. It takes several key themes that are at the heart of ethical social values: life and dignity of the human person, community and participation, an opportunity for the poor and vulnerable, the dignity of work and the rights of workers, and human solidarity. And it is aligned with the ambition of Sustainable Development Goals to ensure access to quality education (SDG 4) and decent work (SDG 8) for all, among others.

This program strategy is bold in its ambition to influence systemic roots of adversity-exclusion that serves as both a cause and symptom of adversity. The strategy promotes philanthropy and civil society movement complement each other that, over time, can influence Bangladesh society to be more inclusive and just.

This strategy has a systemic impact across the education system. Philanthropic investment with an adversity lens serves demographics with significantly lower access to education, and especially supports whole child education. TVET investment in youth facing adversity contributes to systemic improvement in their access to quality skills, meaningful employment opportunities, increased incomes, and realize their full potential. Strengthening skills building and TVET programs for youth on the margins of society has the power to systemically impact policies and practices for improving outcomes for all youth in Bangladesh. Similarly, an adversity centered approach allows for collaboration and sharing of best practices across sectors.

The major excluded groups are as follows:

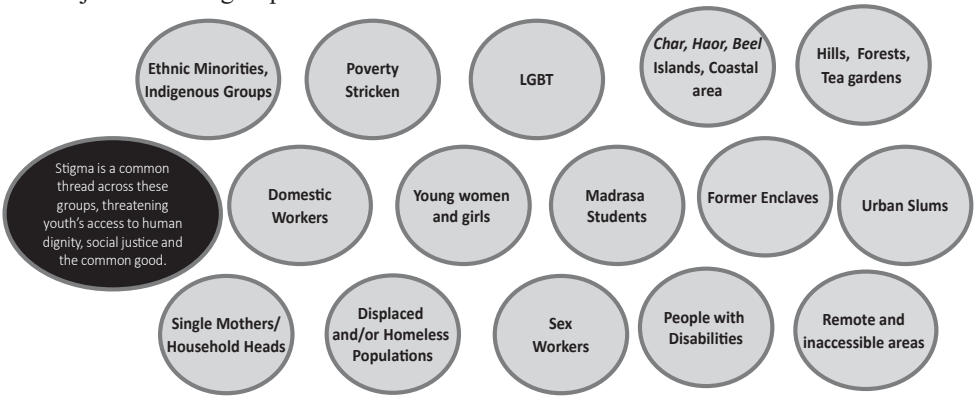

Figure 4: Factors contributing youth in adversity. (Source: A Mapping of Youth in Adversity, CAMPE & Synargos 2020.)

Stigma is a common thread across these groups, the social taboo about TVET, not valuing (not affirming social dignity) of all forms of works, threatening human dignity, social justice, and the common good. The major category of populations facing adversity includes ethnic minorities/indigenous groups, people in poverty/extreme poverty, LGBT, domestic workers, young women and girls, madrasah students, single mothers/women household heads, displaced and/or homeless populations, sex workers and persons with disabilities among others (CAMPE and Synargos, 2020).

This strategy approach entails:

- Supporting partners whose programs are inclusive of youth facing extreme adversity;
- Deepening the impact of TVET programming by providing a specialized curriculum, new pedagogical approaches, and tailored support to youth facing adversity;
- Widening the reach of TVET programming, including proactively recruiting more youth in adversity and opening additional programs;
- Surfacing stronger data and insights into the challenges faced by youth in adversity and best practices and models to improve their access to meaningful employment;
- Taking a systems view to identify key bottlenecks in TVET programming for youth in adversity, such as stigma or limited human rights protection;
- Providing proof of concept for programming to increase enrollment, graduation, and job attainment for youth in adversity; and

  Collaborating with other system actors, funders, and government to test, iterate, and replicate proofs of concepts into new geographies and contexts. Best Practices: Promising models to capacitate TVET to be more inclusive of youth facing adversity.

4.2 Enhancing TVET to Prepare a Stronger Workforce for the Future

Technological advancements and automation are changing the labor market, requiring new models of skills training for youth. We recommend that philanthropic institutions should partner with organizations that focus on equipping youth with core competencies and values needed for the future of work through TVET programs. The key characteristics of the future of work call for responding to emerging circumstances as described below.

Demand for certain occupations and sectors are changing: Manufacturing jobs are on the decline as more routine tasks become automated - jobs will require a new set of skills to operate machinery and take decision based on monitoring data, for example, the readymade garment manufacturing industries traditionally relied on the labor-intensive mass-production model. However, to cope with the demand for higher quality standards, technological innovations, global competitiveness, and changing context, the apparel market and fashion industry are giving more importance to the adoption of newer technologies (World Bank, 2018, p.7). In addition , there is a shortage of good mid-level managers across the board who can steer operations in changing the business environment, particularly as the demands for service jobs and middle management have been on the rise in Bangladesh.

New skills are required in the evolving workforce: ICT and technical skills are becoming a pre-requisite across sectors (World Bank, 2018, p. 8). Employers are increasingly interested in non-technical skills and recognize the importance of soft skills aligned with the tenets of Whole Child Development.

Contract and freelance work are on the rise: The digital economy is progressively reshaping the global employment landscape because of shifting demographics, increasing digitalization, and a desire for greater job satisfaction. Bangladeshi youth, driven by a lack of productive employment opportunities, followed the market trend and made Bangladesh a preferred destination for outsourcing online jobs with a 16.8% share of all such work (Lehdonvirta, 2017), ranking second in the world after India and before the United States, which ranks third.

Globalized economy opens up opportunities: Barriers to working across geographies in a globalized economy have been reduced. Similarly, the proliferation of technology and

ICT-jobs has increased opportunities to work abroad. It's worth mentioning that Bangladesh has also been attracting the world's attention as a fast-growing destination of Business Process Outsourcing (BPO).

This strategy approach entails supporting partners whose programs focus on equipping youth with the skills needed for the Future of Work. Key rationales for suggesting this strategy are:

- Systemic impact across the education system to provide an opportunity to strengthen the tenets of whole child development in Bangladesh's TVET ecosystem and curriculum, with potential knock-on effects of bringing whole child development into the mainstream education system;
- Strengthen collaboration with diverse stakeholders to improve the systems that affect training, recruitment, hiring, compensation, job retention and promotion within specific sectors;
- Sharpen focus secondary (for pre-voc and voc elementary levels) and post-secondary up to diploma levels;

  Strengthen industry-linked TVET course planning, particularly the demand of industries inside Bangladesh and oversee the job market, specifically the Middle-East, East Asia, Europe, and America, will benefit the most marginalized youths.

4.3 Scaling up Capacity Building Initiatives

The scaling up of TVET capacity building initiatives will require actions noted below.

Developing a vision of scale from the beginning: Articulate the definition of scale from the outset. What does "scaling" mean - how big, how far, for who, what timeframe? Consult with thought leaders and key informants, especially from the target geography, to define the scale and the possible routes to achieving it. Develop a bigger vision for scale first, and use the vision as a design element for field-level pilots and programs.

Understanding the landscape: Identity and assess the other players in the field – who is doing what, where, and how. Identify the existing structures and networks that can be leveraged for scale. Explore the models and learnings from what has (and has not) worked in the target context. Analyze the potential tailwinds for scale (e.g., political will, leadership, existing infrastructure), and the potential headwinds (e.g., policy gaps, apathy, resource constraints).

Developing the competency model: Together with local counterparts, develop a roadmap for achieving the scaling vision. Most large-scale efforts will require an integrated set of activities that include research, advocacy/policy change, leadership development, public information campaigns, partnerships, monitoring/evaluation, and community engagement. Based on the roadmap, develop a competency model for scaling – what capabilities are needed to achieve scale?

Co-creating, partnering, & communicating: Co-create and co-develop the intervention in partnership with others - government, NGOs, communities, etc. - to generate ownership, political support, and legitimacy. The ability to scale may be proportional to the strength (and sometimes the size) of the base of co-ownership. Communicate regularly with key stakeholders, so they are well-informed of steps taken and ways to engage.

Getting the economic model right: Define the benefits and costs of the proposed intervention, clarify who should pay for what, and identify who benefits and how. Develop the business

case for investment and tailor the case for alternative funders – government, foundations, bi-lateral donors, beneficiaries. Prototyping, piloting, then mainstreaming: While the specific intervention needs to be tested for effectiveness, one should also develop and pilot the program around the intervention to ensure it will integrate into and benefit the community. Try alternative delivery or partnership models, at a small scale, to see what works best before going mainstream.

4.4 Coordination and Management

Ensure Coordination among stakeholders: Coordinate the works and division of labour in 23 Ministries, divisions and agencies who are providing TVET. Adopt with a dynamically changing situation to meet the 21st-century challenges and the fourth industrial revolutions. Also, extend the collaboration in skills development with the private sector to facilitate the job placement of TVET graduates in the industry and identify skills gap between skills of workers and what is demanded by the market, due to automation, robotics, artificial intelligence, and new technologies induced by the 4IR.

Development of the TVET sector plan: The Techincal and Madrasah Education Division to develop a SWAp for TVET in collaboration with the Directorate of Technical Education, Bangladesh Technical Education Board, and the National Skills Development Authority. Also, ensure the involvement of other concerned government agencies, non-government and private sector stakeholders

Strengthening of decentralized management of TVET: Its critical to strengthening division and district level functions and the capacities of the Directorate of Technical Education and Bangladesh Technical Education Board. Ensuring delegation of authority and promoting local level planning could also contribute to maximizing benefits to the most marginalized and facilitate the informed decision process.

Strengthened institutional leadership among the concerned stakeholders: A sustained effort for the development and application of institutional leadership capacity at a deferent level will benefit the sector, particularly to address the youth in adversity to cope with the emerging needs of the market. In addition, the development and implementation of the standard operating procedures (SOP) will contribute to better planning and implementation of the sector plan. The leadership is crucial for raising funds, engage the private sector, attract philanthropist and engage NGOs by ensuring transparency and accountability as well as improving value for money.

5. Conclusion

Bangladesh has a high potential to transform the youth population into a productive workforce through enhancing their capabilities and ensuring the TVET education is more inclusive of youth facing adversity. The TVET and graded skills development programs could contribute to fill in the gaps in the education-related policy and practice change discourse by providing skills that respond to the needs of the future market, promoting values and ethics and entrepreneurship. Philanthropic funding could play a catalytic role in reaching the most marginalized and providing them marketable skills and helping in linking them to decent work opportunities. Besides service delivery, evidence-based policy advocacy, at the policy level, action research, and continuous public advocacy is critical to realizing the potential of skills development for youth in adversity.

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Possibilities of using Mobile Technology to improve Early Grade Reading in Bangladesh: Towards a Practical Framework

Sumera Ahsan*
Sheikh Muhammad Sarwar**
Md. Moazzem Hossain***

Abstract

Using mobile phones can enhance literacy skills such as reading. However, the success in terms of gain in reading skill using mobile phones depends on manifold conditions and factors which are context dependent. Therefore, the process of implementation of initiative that used mobile phones for boosting literacy is worth exploring in different contexts. The aim of this research project was to capture the first impression of the stakeholders related to the mBoost project, a project that used voices and text to help teachers and parents use activities to enhance children's reading skills, immediately after its piloting. Data was collected through qualitative interview, observation, and FGDs with parents, teachers, students, and relevant Save the Children Staff. This research found that three types of factors, technical, socio-cultural, and individual end user characteristics affected the implementation process in four phases (sending, receiving, comprehending, and implementing text and voice message activities) narrowing down the targeted benefits.

Key Words: *ICT, Literacy, Early Grade Reading, mLearning*

1. Introduction

Because of the growing influence of technology in people's lives, most educators acknowledge the need of information technology in teaching literacy skills (Means & Olson, 1995; Owston, 1997; United Nations Educational, Scientific and Cultural Organization [UNESCO], 2014). Technologies like the mobile phones can be especially exciting because they can place an incredible channel for information and service delivery in the hands of the poor, marginalized and hard to reach people at a high scale. There are a lot of projects that used mobile phones to promote education in developing countries and proved to be successful with specific conditions (Family Health International [FHI 360] and Open Revolution, 2014; Aker, Ksoll & Lybbert, 2011). The failure and success of initiatives involving mobile phones to promote literacy depends on manifold conditions and contextual factors which requires exploration.

2. Context and Rationale

Using mobile phones to promote literacy seems promising for Bangladesh for four reasons. First, Bangladesh is lagging in this area of literacy. For readers in grades 1, 2, and 3, the average oral reading fluency (ORF) rates were 16, 23, and 28 correct words per minute (CWPM), respectively. For 2nd grade readers, 1 in 4 (24 percent) and for 3rd grade readers,

* Assistant Professor, Institute of Education and Research (IER), University of Dhaka
** Assistant Professor, Institute of Information & Technology (IIT), University of Dhaka
*** Global Basic Education Specialist, Save the Children International, Dhaka

2 in 5 students (43 percent) could not answer a single reading comprehension question (United States Agency for International Development [USAID], 2018). Second, the access to mobile phones for mass people is increasing day by day. In the global market of mobile phones, Bangladesh is the ninth largest market in terms of the number of subscribers in the world. Total mobile phone subscribers in the country are 85 million, which means 51% penetration. According to BTRC (2019) total mobile subscribers stands156 million at the beginning of 2019. Third, the political context of implementing such initiatives is fertile as the Bangladesh government has been heavily involved in promoting ICT, fronted by the flagship initiative "Digital Bangladesh by 2021" as part of the 2008 election manifesto (Global System for Mobile Communications Association [GSMA], 2017). Fourth, because of this COVID 19 pandemic school closure, using mobile phones for teaching-learning became a promising area for exploration. In total, the whole context seems very promising for introducing development projects that want to reach a large population in a distance mode for promoting literacy.

There are examples of the use of mobile phones for promoting health (Dimagi, 2012) and education in Bangladesh (Rezwan, 2007; Research Triangle Institute [RTI], 2007) and the success result is mixed and conditional depending on many factors. In 2011, Save the Children (SC) started planning for the Literacy Boost project in Meherpur District of Bangladesh to improve children's reading skills working with teachers and communities. However, the minor improvement in reading skill for the intervention group children compared to the control group children paved the path to start a new initiative "mBoost or Mobile Boost" in August 2014 as a part of adding an extra input to the literacy Boost project. mBoost is a project through which parents and teachers receive follow up text and voice messages related to schoolwork in their mobile phones (cell phones).

Although technology promises some success to promote literacy, improvement in literacy skills is not straightforward and direct. Many different contextual factors affect the planning and implementation of this process. Therefore, this research answers the questions: what factors nested in a rural context affect the implementation of this mBoost project? and how can we improve this implementation process? The first impression of the stakeholders of this project was captured as data to answer the research questions. This research has the potential not only to help Save the children to improve their design, implementation process and strategies by knowing the challenges in implementation, but also to gain insight about how using mobile phones to improve literacy can get complex when affected by different technical and contextual factors.

3. Literature Review

Significance of reading skill:

A child's ability to read is a salient indicator for assessing the quality of basic education around the globe (Organization for Economic Cooperation and Development [OECD], 2013). Research indicates that reading skill affects other skills such as writing, computing, problem-solving, communication and thus contribute to future success in getting and performing in employment (Levy & Murnane, 2004). Moreover, because of the global shift toward knowledge-based economies, there is a huge demand for literate workforces. Reading skill provides a crucial element in this regard.

Defining reading skill:

Reading skill is a major component of literacy. Reading skill was defined by different people and organizations using different frames. Long ago UNESCO defined a functionally

literate person as "has acquired the knowledge and skills in reading and writing which enable him to engage effectively in all those activities in which literacy is normally assumed in his culture or group" (as cited in Gray, 1956, p. 19). Some definitions focus on cognitive skills (Wagner, Venezky & Street, 1999 as cited in Wagner, Castillo, Murphy, Crofton and Zahra, 2014) and some put it in a socio-cultural and constructive framework such as how people use literacy in formal and informal contexts (Street, 1999). A significant part of this research frames reading within the socio-cultural perspective as we focus on promoting reading skill using mobile phones, as technology which is socially and culturally grounded.

Promoting reading skill through mobile phones:

Research show that reading using mobile phones introduces a tool for literacy for marginalized groups, particularly women and girls, and others who may not have access to paper books. In Africa a majority of children have never had their own books, and it is very common to share a textbook by ten to twenty students in school (Books for Africa, n.d.). People not only read for themselves but also read to children, thereby supporting children's literacy (UNESO, 2014). Revelle, Reardon, Green, Betancourt and Kotler (2007) found that a mobile based intervention using text, voice and video for asking parents to do certain activities has significantly increased their children's reading ability in the US. Similarly, research shows that in Uganda, mobile phones can be used to promote family literacy practices that includes reading skill among others (Sumani, Bananuka, & Busingye, 2017). Valk, Rashid and Elder (2010) reviewed the evidence of the role of mobile phone in improved educational outcomes in the developing countries' six mLearning pilot projects in the Philippines, Mongolia, Thailand, India, and Bangladesh. Results show that there is evidence of mobile phones facilitating increased access. Yet there is less evidence that mobiles promote new learning.

Conditions and factors for promoting reading skill through mobile phones:

Wagner, Castillo, Murphy, Crofton, and Zahra (2014) analyzed a robust sample of projects of mobiles aimed at enhancing literacy. Based on the evidence from these projects they proposed a design solution framework combining intervention purposes with devices, end users, and local context.

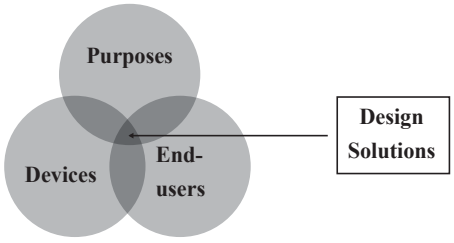

Figure1: Mobiles for literacy: An effectiveness framework (source :Wagner, Castillo, Murphy, Crofton & Zahra, 2014)

They argue that any initiatives need to clearly state the purpose of using mobile phones- what are the expectations? They explain that mobiles can be used for formal learning and instruction, informal learning, providing educational content, training, collecting data from stakeholders, communicating with stakeholders and a blend of any two or more purposes. The purpose must connect and be relevant with the characteristics of the end-users and availability, adaptability, and affordability of the device to be used. They emphasized using local language content in a low-cost device to help promote greater access to the practice of

reading (UNESCO, 2014; Wagner, Castillo, Murphy, Crofton & Zahra, 2014). Any design must consider the characteristics of the target population or community to make the design compatible with those characteristics. For example, One Laptop per Child (OLPC, 2013) project used bright colored laptops to appeal young children and the Hole in the Wall project (HIWEL, 2013) used kiosks so that the children could use it comfortably. However, not only the physical appearance, but also the cost, availability, and accessibility were factors.

Most of the research emphasized on determining the success or failure of mobile based literacy projects. Other research revealed some aspects of factors that can affect the implementation process of these projects that focused broadly on purpose, device, end user, and the local context However the exploration of these factors can be useful if investigated in different implementation steps which is absent in existing literature. Our research revealed how in terms of benefiting the participants the implementation process gets narrowed down in different phases or steps.

4. Methodology

mBoost project started in 2014 to enhance already existing Literacy Boost project in Meherpur, Bangladesh. For the mBoost project,18 (intervention) schools (nine from Gangni and Nine from Meherpur Sadar) were selected randomly from the 36 schools where literacy boost project was running. The intervention for these 18 schools included follow up text and voice messages targeted to all Bangla teachers and parents of the children of grade one of these schools. These messages gave them direction to engage children in activities to facilitate reading skills. By the time this study started, parents received one text and one voice message, and the teachers received one voice message, a follow up of their Literacy Boost training. The voice message to teacher was "Create a print-rich classroom-this week. Have children write their names on pieces of paper and then stick them to the walls in your classroom. Children like to see their names written down and this will make your classroom look nice and festive too! You can use their names on the wall to play many different types of games that develop so many skills." The text message for parents was "Talk to your child-it will make them feel loved and confident" and voice message was "Build your child's confidence by talking to her. This month talk to her about school. Ask her which subject she likes best, who her friends are, what activities she likes to play". These messages were also sent to the relevant SC staffs (Field Officers, Senior Officers, and Deputy Managers) so that they have idea on what the teachers and parents are getting as messages.

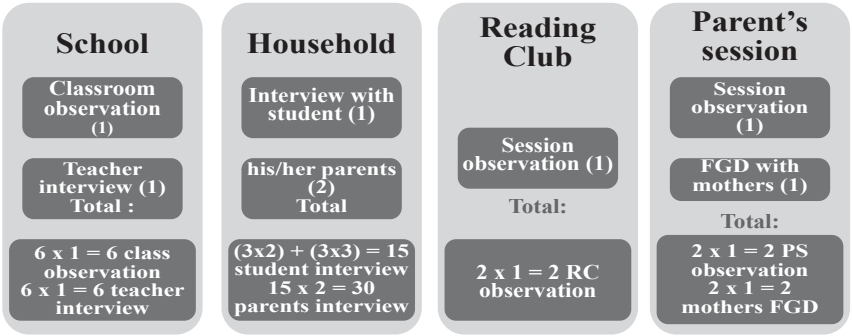

Figure2: Depiction of sample sizes and data collection tools

Data were collected from schools; households; two intervention for Literacy Boost project—Reading club and parents' session; and relevant Save the Children staff to know their impression. Schools were selected randomly and the classrooms, teachers, parents were selected with the help of the experienced field officers of the project. Data has been collected by the researcher by observing the project sites and interviewing in-person by going to households and schools with the consent of the research participants signing consent forms written and explained in Bangla. Qualitative data were analyzed thematically using steps to incubate in data and producing interrelated themes (Rossman & Rallis, 2012) presented in the findings chapter. This study is explorative in nature and does not use any specific theoretical framework, rather data from this research aimed to produce a practical framework of guiding implantation of the mLearning projects.

5. Results

Technical Aspects of Communicating Information using Mobile Phones

The project aimed to send voice and text messages to the parents and Bangla teachers of grade one students of the intervention schools to boost up their literacy practice especially reading skills. As the project relied on mobile phones, parents who did not have mobile phones (11.15%) were left out from getting the mBoost intervention. Our voice calls were 35 seconds and 53 seconds in duration for parents and teachers, respectively. In our first attempt to call 1328 valid numbers, we could successfully reach out to 711 numbers only. The total duration of listening was 203 minutes and 45 seconds leading to an average of 17.19 seconds per number. The technical aspects that limited the communication via mobile phones include switched off mobile phones, phones out of network, limit in length of text and voice, Bangla font incompatibility for many mobile phones, and not being able to show 'SAVE THE CHILDREN' in the message mask (the title that shows up in the mobile phone of the receiver as sender of the text) which if included could increase the number of reader and listeners as reported by the parents.

Accessing Content after Successful Transmission

There were cases where parents, teachers and SC volunteers could not access the successfully transmitted text and voice messages. It was not possible to verify by the technical authority if text messages were consumed by the target population. Therefore, we collected this information from the interview sessions with the receivers. In some cases, we helped them to search and find SC text messages in their phones during interview sessions. However, it was not possible to know about the missing voice messages as most of the parents use mobile phones which did not have memory to show more than 10 previous calls. So, we report their self- reported data about receiving the voice messages.

Table 1 shows limited reachability even after the successful transmission of text and voice messages. Almost half of the parents missed the voice calls, and more than half of the parents did not read the text messages, although they have received it.

Table 1: Success of reaching parents and teachers via text and voice messages (total number of household interviewed=15)

Mode of data collection	**Voice message** (self reported data)			**Text message (**self reported and verified by researcher)		
-	**Not received**	**Received & partially listened**	**Received & listened**	**Not received**	**Received but unread**	**Received & read**
Parents from 15 households	7	5	3	3	8	4
Teachers (6)	-	1	5	-	-	-

The teachers were more successful regarding receiving and listening to the voice messages. This can be because all of them used their personal mobile phones to receive and listen to the voice calls, which was not always the case for the parents as they sometimes shared one phone with other family members. As the voice call was something relevant to their classroom teaching, most of the teachers paid close attention and listened to the voice messages, which was not the case for the parents.

From the interview sessions with parents, we found that they faced several challenges to access our transmitted content, both text and voice. One major issue was that they were not aware that SC would be sending any message to them regarding their children. During the interview with the households and FGDs with mothers, we learned almost all the parents (95%) referred this as a major cause for not reading the text messages. They also did not realize that the sender of the message was SC – a technical limitation that we described earlier. For voice messages, some of parents also told that they did not listen to the full voice messages because they assumed that it is an unimportant voice calls from cell phone company.

Another reason for limited reachability of the voice was the time of receiving the message. Mobile phone in a household usually belonged to the fathers of the students and most of them were out of home for different kinds of businesses where they were unable to receive voice messages. Some of them reported that they were in bazar or in other gatherings where it was not possible to listen carefully the voice message, or even to receive the call. Parents suggested that voice calls at a specific time of each week would increase reachability. Most of the parents mentioned that any time after the Magrib and before Esha prayer is a good time for receiving a message as they are home at that time with most of their family members. Interview with the teachers also revealed the importance of timing. They preferred to receive the text and voice messages when they are at the school. In that case, they can think about the practice that was asked to do over the message and be prepared for that day or next day according to the message in the school. Uncertainty of Financial Implications also impacted reachability of the voice messages. Some parents were not sure about the cost involved in listening to them. On the other hand, almost all the teachers (98%) were clear about the idea that just receiving text or voice call will not charge any cost.

Most of the parents (80%) who did not read text message said that they do not use this option frequently in their regular communication – resulting in a preference over voice calls. However, after knowing the specific limitation of the voice message, as it will ring for twice if missed the first one and then will never come again, they preferred text message over voice

message. Finally, they recommended SC to send both voice and text messages so that, if the voice call is missed, they can retrieve it from text message. Unlike the parents, the teachers preferred text messages over voice message, as it is more permanent than the voice call.

Some of the parents (50%) told that they do not know how to read, and that deterred them from opening the text messages. Some parents could read but it was hard for them to read Bangla in English font and that was why they could not read it even after opening the text message. They preferred Bangla language for text messages rather than Bangla written in English font, which is hard for them to decipher even if they can read. Teachers also preferred Bangla language for the text messages for the same reason. SC volunteers think that the message needs to be sent using both Bangla language and English font for Bangla language (this is a backup as not all the mobile phones are compatible of receiving Bangla fonts).

Comprehending the Received Content

One major challenge for the parents to comprehend the voice and text messages was the linguistic difference that exists between local language and formal language used in the messages. Specifically, they struggled to understand the meaning of some words and comprehended a meaning that was different from a dictionary meaning. For example, for a Bengali word, "Attobishshash", for which the original dictionary meaning is confidence – the parents interpreted the meaning as intellect, courage, quality, memory recall, and even affection. Moreover, there were some words, which had different colloquial meanings in that region which were different than the dictionary meanings or grammar. For example, the synonym of the word "word" is "Shobdo" defined both by Bangla grammar and Dictionary. However, in the community they prefer "kotha" to be as synonyms of "word/shobdo".

Another interesting finding on comprehension was that mothers could better interpret the original meanings of the words we used in messages compared to the fathers. It was may be because only the mothers went to the parental awareness session and they already got the main idea of the message at those sessions. There was little or no sharing between the mother and the father about what the mothers learnt in the parental awareness workshops for most of the households.

Parent's own perception about child's education and their other previous experiences led to at least partially unintended comprehension in almost around 80% of the cases. For example, Abdul Moin, father of Zakir, was comparatively rich in the community and was really worried about the other children in the community who do not go to the school and play in the field all day long. He interpreted the message: "Build your child's confidence by talking to him/her. This month talk to him/her about school-ask him/her which subject s/he likes best, who his/her friends are, what activities s/he likes to play" as, "It is good to monitor my son's way of mixing up and making friends. Not all friends can be beneficial for him. If someone is bad for him, I can instruct him not to mix with that boy." Several SC staffs suggested using a voice and tone of a local woman rather than using an urban mainstream tone of language to improve the understanding as well as to grow interest among parents.

Om the other hand, all the teachers who have read the text message or listened to the voice message comprehended the messages almost the same way. The words they used to describe the message were similar, keeping the information intact. In one case, especially for the voice message, it was not listened properly and thus was not interpreted in a totality.

Implementing the Received Content

We found that even though parents felt that it was feasible to implement our messages, only two out of six tried to implement the message – even if all of them either read the text, or listened to the voice message or have done both. Jobbar Ali, a solvent farmer who works in the paddy field told that after listening to the voice message in the paddy field he talked with his daughter in the evening after coming back home. He asked his daughter "how was your learning in school today", and a follow up question, "were you disciplined enough in the school?". He mentioned that "I forgot the examples of the questions that I listened in the voice message. When I came back home in the evening, I just remembered that it is good to ask questions about children's education." Some parents said that they did not take it seriously as they were not sure who was sending this.

Some evidence during data collection showed that the children felt a notion of importance as the messages were about their learning enhancement. In the reading camps some children were gossiping, and one told to other (may be as they saw me) in low voice, "Did you get any message in mobile phone? My parents got message in the mobile phone and it was about my education". He was excited and happy while saying so. The other boy replied, "I do not know. I will ask my father after going back home". In the interview with the household, Sumon, the youngest son among the three siblings asked, "Can you send something that we can read? Or listen?", which gives idea for further use of text messages directly involving the children.

Five among six teachers thought that it was easy and feasible to do what the message was telling them to do. Two teachers mentioned that sometimes the relevancy of the text and the physical facilities were the issues. Two teachers argued that the message might not always well flow with their own flow of classroom teaching plan. Susmita Saha told that, "For example, I plan to teach a poem next day, and you are asking me to read them a story. That can be problematic as we have our own flow of teaching instruction". Shaeen Ara Sultana, a Bangla teacher for grade one, who is teaching in that school for 3 years said, "The message instructs us to hang the students' names written in pages in the classroom wall. But in our building the wall is so damp, that we cannot hang anything, even for a while. It is always wet. We tried to put newspaper to cover the whole wall, and still it did not work. Come with me, I will show you the condition". However, some teachers came up with alternatives such as preparing name tags for using in the dress or to stand in the table folding it to make a v-shaped name tag."

6. Discussion and Implications

This research revealed how the inputs of the mLiteracy project got trickled down in terms of benefiting the participants in the implementation process in four phases. In the first phase while establishing the communication with participants or users, the main issues were technical such as switched off phones and users having devices not compatible for Bangla language. This is similar with the factors described as devices and purpose in the meta-analysis of Wagner, Castillo, Murphy, Crofton & Zahra (2014). The next two phases of accessing the content and comprehending the content by the participants depended a great deal on the socio-cultural context such as education, awareness, readiness, family role, and linguistic factors which is similar to the factors described in the same literature as local context and emphasized by others (street, 1999). The last phase, implementing the content, mostly depends on personal level of motivation, awareness, and creativity described as the factor end user (Wagner, Castillo, Murphy, Crofton & Zahra, 2014; OLPC, 2013; HIWEL, 2013).

This is tempting to present the result of the evaluation study of the mBoost conducted to reveal the effect of this project after revising the project based on the findings and recommendation of our research. It shows significant gain in literacy due to this project which is similar to other research that shows that mobile technology can promote literacy (Revelle, Reardon, Green, Betancourt and Kotler, 2007) especially among marginalized groups and in developing country context (Books for Africa, n.d.; UNESO, 2014; Sumani, Bananuka, & Busingye, 2017; Valk, Rashid and Elder, 2010)

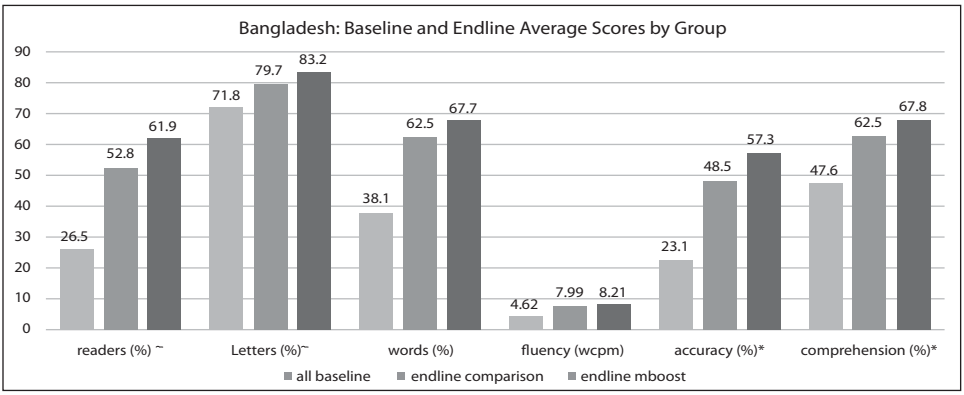

Figure 3: Comparison of reading skill performance data of baseline, end line and mBoost

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Therefore, we can assume that the findings of our research shed light on the possibilities and challenges of using mobile phone for promoting children's literacy in such a way that it can provide a practical framework for the implementers of such projects to identify their challenges beforehand and situate the project in their local context.

Acknowledgement

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University Teachers' Training on Online Teaching-Learning using Online Platform during COVID-19: A Case Study

Hasan Al Zubayer Rony*
Sheikh Tahmina Awal**

Abstract

Online teaching-learning training for the teachers of higher education is a timely demand in this new challenging situation of COVID-19 pandemic lockdown. This study is conducted to explore the changes of perception of the faculty members of university after the online teaching learning training using online platform and challenges of teaching learning training using online platform. The approach of the study is qualitative in nature. This was conducted with 60 teachers from a private university who has participated an online teaching learning training using an online platform selected by convenience sampling and considered as a case. Data has been collected through pre test, post test and semi-structured interviews. Collected data were analyzed thematically. The findings of the study show effective change of mindset and perception in the faculty members for online teaching learning training, class conduction and assessment. Online teachers' training is possible in this pandemic situation and it can produce a significant outcome on the change of mindset of the faculty members. They have also accepted the change in class conduction platform (CCP) and learning management system (LMS). Technological barriers, poor internet connectivity and lacking of quality trainers were found as challenges. Findings of this study may have implication for training organizers and policy makers of public and private universities to take decision about online teaching learning training using online platform and overcome the challenges regarding training.

Key Words: *Online teacher training, Google classroom, ZOOM platform, Faculty development*

1. Introduction

The world education is facing a paradigm shift due to COVID-19 pandemic. It has confined the education system and pushed it to the limit. Online teaching learning has become the way out from the challenging situation. But this new dimension demands training for the faculty members. The process of online teaching learning in this pandemic situation is a daunting task for them. The higher education teaching learning demands more concrete approach towards the transition and acquisition of online teaching learning approach (Shenoy, 2020).

The main challenge for the faculty member is to use and adapt with technology. Google classroom can be a very good platform for online teaching learning management (Ventayen, 2018). Moreover, class conduction platform in online needs to be cost effective and easy to use. There are plenty of resources which can be used as CCP. But "Zoom" application is providing the better facility to all the educators.

* Lecturer, Green University Center of Excellence for Teaching and Learning (GUCETL), Green University of Bangladesh
** Assistant Professor, Institute of Education and Research (IER), University of Dhaka.

Whether our faculty members are ready for conducting teaching learning through online platform or not is a big question. This question needs answer and if this question has a negative answer, then to train faculty members using online platform is another obstacle for the continuation of higher education. This study tries to explore perception change of the teachers after online training and the challenges of the training in higher education through online platform. Center of Excellence for Teaching Learning is working in private and public universities to develop the teaching learning practices of universities.

The online Teaching learning has various dimensions. Use of various methods and practices makes it possible to achieve the learning outcome. But increasing the acceptance of the faculty members through proper exposure of online teaching learning is a difficult task in the challenging situation of COVID-19. This study aims to explore the online teaching learning training in higher education using online platform.

2. Problem Statement with Justification

Using online as a platform of teachers' training through online teaching learning is a new practice in our country. Online teaching learning itself is a challenge for us. To train teachers in this context requires exploration. As the online teaching learning training concept is uncommon in our country this study helps to explore the context and challenges of the training issue. The policy makers of private and public university will be able to find better way from this study to plan and run effective training program using online platform.

Some research works related to online teaching-learning have been conducted in Bangladesh addressing the COVID-19 pandemic situation. Those are "Preparedness of online classes in developing countries amid COVID-19 outbreak: A Bangladesh perspective (Ramij & Sultana, 2020)", "Education during a pandemic: A feasibility study of Bangladesh to counteract potential study gaps caused by COVID-19 related lockdowns(Shama & Ikbal, 2020).", "Challenges and possibilities of online education during COVID-19 (Alam, 2020) etc. As per our knowledge there is no research study on exploring online teaching-learning training of university teachers using online platform.

3. Research Questions

The purpose of the study is to explore the perception change of the faculty members of university level about online teaching learning training and the challenges of online teaching learning using an online platform. To address the purpose, this study sets the following research questions-

1. What are the changes of perception of the faculty members of university after the online teaching learning training using online platform?
2. What are the challenges of teaching learning training using online platform?

4. Methodology

This study aims at exploring the changes of perception of the teachers after the online training and challenges of the online teaching learning training. Gay et al. (2012) noted that the nature of the question or problem to be investigated determines whether the study is qualitative or quantitative. The research questions in this study are explorative. A qualitative approach was selected for this study as Creswell (2012) asserts that qualitative research is the most suitable for exploring and developing a detailed understanding of a

central phenomenon. Within this qualitative framework, a case study design was chosen for this research. 60 teachers among 130 of a private university who have participated an online teaching learning training using an online platform selected by convenience sampling and considered as a case of the study (Yin, 1994). One of the private universities of Dhaka city where Center of Excellence for Teaching Learning has been working for developing the teaching learning practices of the faculty members through semester long training has been chosen as unit of analysis because the public universities are yet to start the faculty training. There were 6 interviews from the faculty members using convenient sampling. Two of them were professors, two assistant professors and two lectures. The faculty members of the university were trained using online ZOOM platform. The training program had seven modules. These are

1. Module- 1 (Foundation of Online Teaching Learning)
2. Module-2 (Introducing Classroom conduction platform)
3. Module-3 (Introducing Learning Management System)
4. Module-4 (Assessment in Online Classroom)
5. Module-5 (Content preparation and Sharing with the students)
6. Module-6 (Administrative class work)
7. Module-7 (Content Development and Management)

Data collection has been done as pretest and posttest using questionnaire by Google forms. Pretest posttest with the same group provides best outcome on measuring the effectiveness of a program (Little, 2020). Through comparison between pretest and posttest, allow the researcher to make claims that the events described at one site are not necessarily idiosyncratic to that site and thus contribute to the researcher's understanding about contextual variations (Gay, Mills & Airasian, 2012).

After session individual interviews has been taken to get deeper perspective about the change of perception through the training. It was a semi-structured interview because a semi structured format was followed for unanticipated issues (Draper & Swift, 2011). At the time of interview probing questions were asked to understand the hidden phenomena. Collected data was considered by careful observation and analyzed thematically.

5. Results and Discussion

According to the research questions, the findings of the study have been categorized into two major themes and all the findings of these themes are discussed here with justification. The major themes are -

Theme-1: Change of perception about online teaching and learning

Theme-2: Challenges of online teaching-learning training using online platforms

Theme-1: Change of perception about online teaching and learning

This theme is analyzed under the following six sub-themes and discussed at the end of the first theme.

• Learning Management System (LMS) became known

Most of the participants did not have a clear knowledge about the LMS. The participants were asked to know about what LMS is. There was a varied reply in the pretest. Most of them were confused and the specific definition or understanding of the LMS was not there.

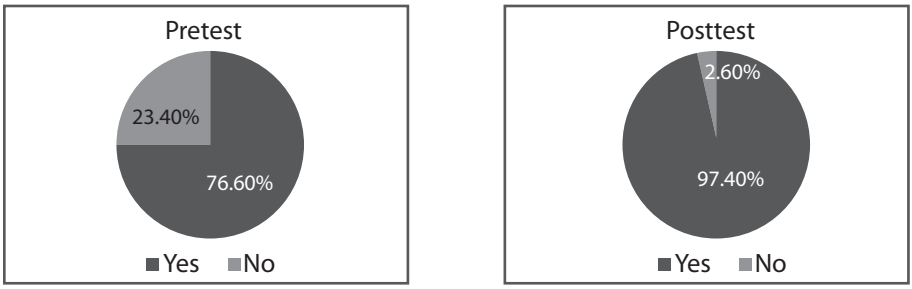

Figure-1: Changing of view of the participants from pretest to posttest about using LMS (shows 20.8 % positive change)

When the participants were asked whether they have used LMS or not, 76.6% of the respondent told that they have used it and 23.4% did not (Fig-1) in the pretest. In the follow up questions the participants were also asked about the name of a LMS but 43% of them replied with a wrong answer. After the training in the posttest the number of LMS user have been increased into 97.4% percent (Fig-1) which is a positive outcome of the training session. In the posttest one of the participants answered, "Class Conduction Platform is a place in where teaching learning process is advanced. In the perspective of online teaching, it gives a large free space for engaging participants and also for sharing knowledge and views"

• Perception is clear about CCP and LMS

The participants of the training were asked whether they know about class conduction platform (CCP). Most of them were in the gray area but significant portion of them understood that it is related to online teaching learning. They were confused about the difference between LMS and CCP. 59 percent participants were mixing up CCP and LMS as same concept in the pretest. But in the posttest this result has changed significantly as most of the participants responded with correct answer and the number was 98.6 percent. The participants were able to identify "Zoom" as CCP and "Google Classroom" as LMS. They have also identified Zoom as an easier application and Google Classroom as a cost effective open source for free application. Faculty members also informed that they have enjoyed the demonstration of the facilitators during the training session.

• Online assessment system became clearer

At the beginning the participants were confused about the assessment system for online teaching learning. Their pretest answers were viva, quiz, assignments but they couldn't provide any specific answer how these processes can be conducted. In the posttest it was found that they were clear about the concept and could mention some specific methods for assessing the students through Google forms, open book exams and other processes.

• Perception changed about keeping student's attendance

The participants were confused about the attendance keeping of the students. Through the interview it has been revealed that, most of the participants kept attendance manually. Later on after the training they have realized that they can keep the attendance with the duration of participants' participation through using zoom reports. Mr. Y mentioned in the interview :

> We used to waste our valuable class time by keeping attendance manually, which was time consuming. Sometimes students also miss the attendance due to poor

connectivity at the time of giving attendance but now we know that ZOOM reports can be used for this purpose perfectly.

• Perception changed about online training using online platforms

It was tried to know about the view of teachers about training using online platform. The participants have positive response about the training in the interview. They have praised highly on the content of the training. They have also enjoyed in the online class conduction platform. One of the participant Prof. Mr. X mentioned in the interview that :

> This is an utter surprise for us. The technology is a must component for facing the challenges of 21st Century Teaching Learning and a pandemic situation like COVID-19. Zoom platform for class conduction and Google classroom as class management is a very good combination for the faculty member to conduct the class online.

Figure-2 : Change of perception about online teaching learning (shows 9.9 % positive change)

The response from the faculty members on the ease of teaching learning by using online platform has provided a significant deviance from pretest to posttest. Before the training 71.4% of the participant agreed that knowledge transmission is easier on online platform than offline (Fig-2) but this number has increased to 81.3% after the training which can be considered as a positive change achieved by the training. This 9.9% percent change of mindset due to this online training is a significant achievement.

• Perception change about suitability of online training

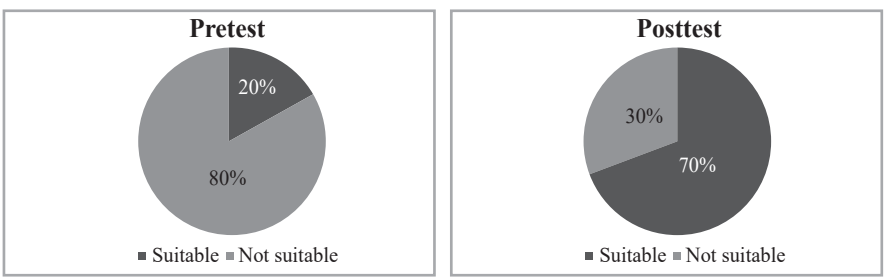

Figure-3 : Change of perception about suitability of online training through online platform (shows 50 % positive change)

It was tried to explore whether online training is more suitable using online platform. In the pretest it was found that around 80% of the faculty members were in favor of face to face system but in the posttest their concept changed dramatically and it was about 50% percent. This huge percentage of concept change is another positive achievement of the training session using online platform.

Perception changes were evident in this research study. This study reveals that online teacher training is possible and effective for the faculty members of higher education. They can be trained for online teaching learning by providing training using online platform. Online teaching learning is a need of time, on the other hand online teacher training is mandatory for the continuation of education (Setiwan, 2019). This program has shown the acceptance of the Google classroom as platform of teaching and learning. The participants of this study accepted the effectiveness of the platform. According to Azhar & Iqbal (2018) Google classroom has significant impact for higher education teaching learning but there are some limitations. The study also put forward a new dimension in teacher training or faculty development program. This finding is a positive perception acquired by training completion of the trainee.

Moreover, this study reveals the perception change of the trainee that Zoom is not a LMS rather it is a CCP. It also shows that Zoom is easier for the aged faculty members as it has a very user friendly interface which can be operated by both previous and new generations. This finding is consistent with Tonsmann (2014) that Zoom has some unique features and user friendliness which have made it very useful. Google classroom is very cost effective as it's a free application for all. The content of the Google classroom got very good response and the faculty members agreed that Google classroom is an effective LMS. They also have enjoyed the demonstration of the facilitators. Google classroom is an open source free application which can be adapted to conduct and manage class (Ramdhani, Umam, Abdurrahman & Syazali, 2019). Furthermore, the faculty members develop clear perception about CCP and LMS with examples, attendance of the participants can be kept by using CCP rather LMS and Zoom reports are better platform for collecting attendance information with report. This is also justified by Ahmed etal. (2020) that online class records are well preserved through the CCP than LMS. This study also finds out similar evidence. So the perceptions of teachers in the training were able to develop clear perception about CCP and LMS with their application which is a positive outcome of the training.

Theme-2: Challenges of online teaching-learning training using online platforms

This second theme is discussed under following three sub-themes and discussed at the end of the second theme.

• Challenge of technological barriers

The participants were asked about the major challenges of online teaching learning. Majority of the participants expressed that they can practice the online teaching learning but they face lots of unwanted difficulties due to their knowledge lacking, device issue and electrical failures. One of the senior faculty members expressed his concern of adaptability with the technology-

> We are aged person, we cannot use the technology properly, it's difficult for us to use the touch phone properly or operate computer. Conducting online classes or training using various devices is a very big challenge for us. It would take us longer to be habituated with the system.

• Challenge of proper internet connectivity

Another major challenge of the online teaching-learning and training using online platform was identified as the internet connectivity. The participants mentioned that sometimes their

internet connectivity got lost and they had to face difficulty in keeping up with the pace. Trouble shooting of their various devices (e.g. desktop, laptop, mobile) was a big challenge.

• Challenge of insufficient expert trainers

One of the major challenges for arranging the training was the availability of quality trainers who are both expert in pedagogy, andragogy and teaching technology. Most of the participants demanded to have training from trainers with strong academic background in online teaching practices.

This study also tried to explore challenges of online training. The senior faculty members face bigger challenges of adapting with the rapid change of technology. Single platform of technology is easier for them to use and operate but when two or more things are used for conducting higher education teaching learning it becomes a complex situation and most of the cases they face the difficulties. Laborda (2009) also identifies the technology training of senior teachers is complex attribute which needs more time than younger teachers.

Poor internet connectivity is a common issue of our country and has not been updated sensing the mass use of internet even in this pandemic situation. So the poor internet connectivity is one of the major challenges of online teaching learning as well as for training using online platform. This study also finds out trouble shooting of various devices (eg. desktop, laptop, mobile) is another challenge at the time of online teaching learning. This needs continuous adaptation and problem solving with multiple device or alternative plan. Lastly, the lack of expert online trainer with strong academic background was identified as a big challenge after conducting the study. The participants always expect to be trained by a trainer with strong academic background. This finding is similar to the findings of Guskey (2003) that teachers with prior experience at any educational level are required to remain well-informed concerning the growth in knowledge in various domains.

6. Implications and Conclusion

The findings of the study reveal the perception change and challenges of online training on online teaching-learning. These findings have implications for training organizers policy makers of public and private universities to take decision about online teaching learning training using online platform and overcome the challenges regarding training. Also teachers are going to know about the platform of online training on online teaching-learning, challenges and other teachers' perception change connected with the professional development. This study may benefit them for their individual improvement.

This study is limited to only one organization and their training practices which puts a significant amount of confusion that this is a general picture for all higher education teacher training institute or not. This study has also a limitation of responses received through online communication. Further study on different set up might provide a better understanding regarding this study.

Online teacher training is a need of time. This COVID19 situation has again challenged the educators on lagging behind with the technology. A teacher can be trained through online teacher training session but we need to set a bigger goal for the whole education system.

This kind of online teaching learning program will significantly improve the adaptation and teaching learning quality of the faculty members practicing in higher education. The challenges also need to be dealt with multi-dimensional approaches.

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