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A Literacy Review of Tertiary Levels Teacher's Modern Technological Literacy Ratio in Rural Area of Bangladesh

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Abstract: ***Modern technology has enhanced the aptitude of tertiary level education worldwide but just in the case of Bangladesh, we've got seen an adulthood educational method belief among the teachers, instructors, and facilitators in recent covid 19 outbreaks especially on the remote educational institutions. Most of the explanations we've found are inaccessibility of contemporary technology especially android multimedia devices together with a computer device, together with internet accessibility just in case of using the multiterminal platform for using local remote teaching. Especially unaffordability, internet expense, fragile financial condition, illiterate behavior towards acceptancy, low percentage of the sophistication monitoring system, absence of scholars and systemic review, proper liability towards authority who is additionally incapable to handle modern technological properties fluently. Our research has found 82% of grade school instructors and teachers don't use modern devices like android devices, computers, laptops, printers, routers, internet connections in Debidwar, Comillam Chittagong, Bangladesh where our study found among 185 grade schools which serves over 35000 students approximately. In a recent case, the change has been made by Swaniti Initiative SPARC Fellow, USA Mr. Engr. Arun kanti Howlader with the support of local constituency Member of Parliament Mr. Razee Mohammad Fakhrul in before covid 19 outbreak where now the proportion become 3% just in case of illiteracy of primary education instructor's modern technology literacy. Our study finds the subsequent outbreaks shown below:***

Keywords: Digital Literacy among Teachers, Literacy Rate Identification, Methodology to Solve, Digital Literacy Review of Accessibility of Modern Device Tertiary Level Teachers.

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1. INTRODUCTION

First, we study on the geological location of Debidwar, Comilla to identify its technological growth apart from city where we find it is just 102 kilometers away from Dhaka city where we assumed that the literacy of digital device accessibility might be high among tertiary level teachers. But unfortunately, our survey ended up ratio of 82% in case of not using modern device among teachers.
The following figure 1 (a) consisting of area location of Bangladesh among world amp where the figure 1 (b) shows the distance matrix between Dhaka city and Debidwar which is 102 Kilometer, figure 1(c) emphasize on area bubble of Debidwar where it consists of neighboring districts along with figure 1(d) the 238 kilometers coloring matrix of Debidwar only.

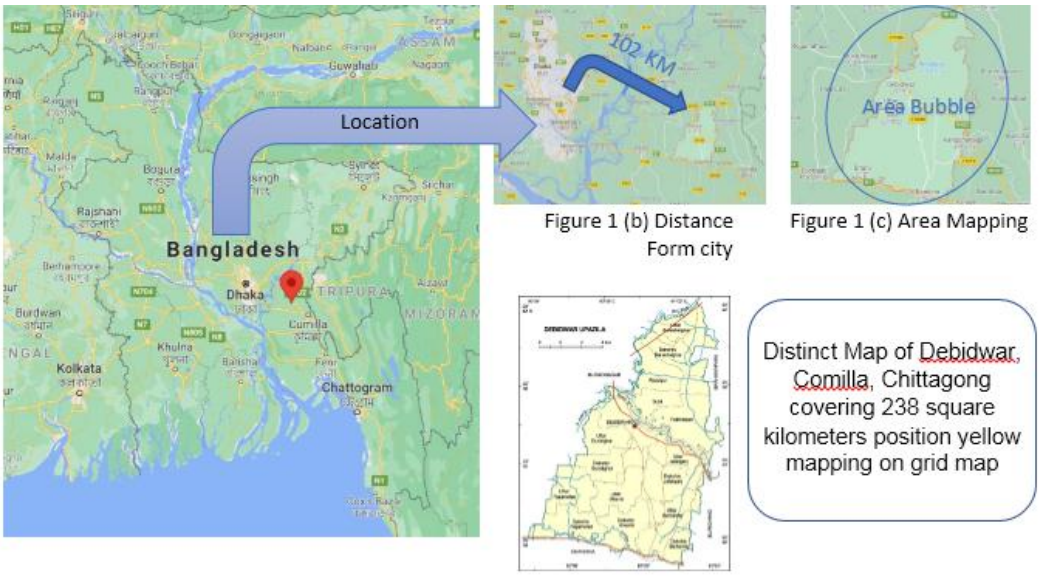


Figure 1(a): Geological Location

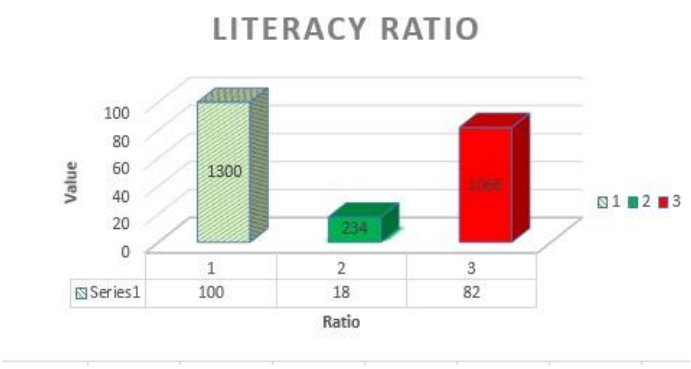
Figure 1 (b) Distance Form city

Figure 1 (c) Area Mapping

Figure 1 (d) Geo Location Entity

Figure 1: Geo Location Entity of Debidwar Comilla, Chittagong, Bangladesh

Key Findings:



Series 1: Indicates Percentage Value
1 = 100% Color Greed Off Green
2 = 18% Color Greed Full Green
3 = 82% Color Greed Full red
1 Total Teachers = 1300
2 Teachers Accessible to Modern Device =234
3 Teachers Don't have Accessibility to Modern Device

Figure 2(a): Indicating the Literacy Ration Among Teachers in tertiary Education

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Index	Description	Portion	Person
1	Digital Literacy Rate Among Tertiary Instructor	100	1300
2	Teacher who can access modern device	18	234
3	Teacher who cannot access modern device	82	1066

Figure 2 (b): Indicating the chart of Literacy Ration Among Teachers in tertiary Education

In the chart of Figure 2 (a) we have found the ratio of teacher's literacy from Knowledge intervention survey where among 1300 teachers in tertiary level 82% don't have the accessibility and knowledge and 18% have accessibility.

In the table figure 2 (b) we can identify the actual numbers who are struggling with accessibly of using modern devices where 234 persons have accessibility and other 1066 don't have the accessibility among 1300 teachers who serves almost 35000 students of primary education sector.

Non-User Experience Survey Outlet:

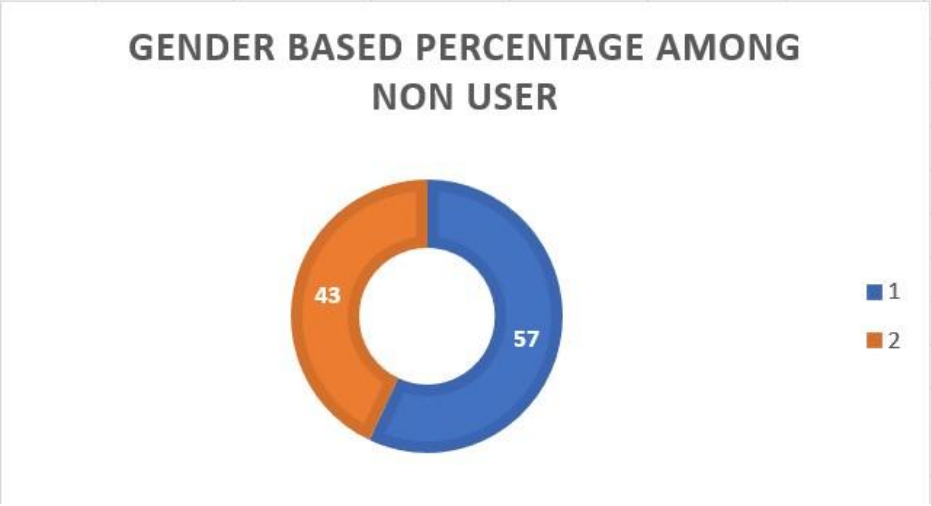

Figure 3 (1 – (a)) Gender based Percentage

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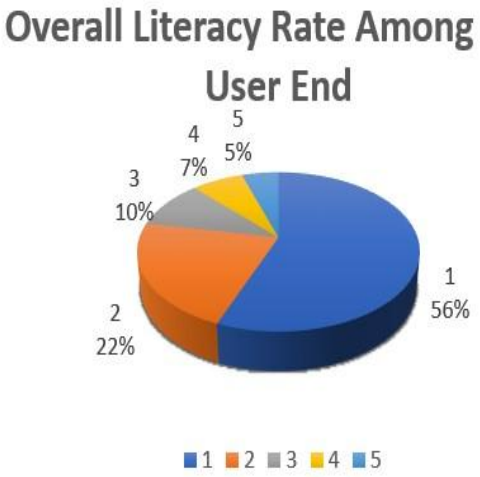

Figure 3 (1 – (b)) Overall literacy rate among non-user end

1. Modern Device Literacy Rate:
We have found the calculative rate of 82% illiteracy of using modern device usage within the geographical area of Debidwar among all the instructors of tertiary or primary education where Figure 3 (1 – (a)) 43% participants were female and 57% is male. The fundamental reason among all the participants of the survey in Figure 3 (1 – (b)) shows that 56% can't afford to possess a contemporary telecommunication device, 22% do have the device in their house using by other relatives but they didn't use it in their daily life, 10% fears about the privacy issues and daily maintains like internet purchasing, repairing cost, damage issues, hacking issues. 7% still believes that the trendy device is against the religious believe where it can bring the anti-religious view in their lifestyle. Rest believes others that the trendy device could be a demonic device that's controlling our mind, society, and culture that they have to avoid per religious belief.

2. Digital literacy experience rate:
Among the 22% of non-user, in figure 3 (2 – (a)) we've found several experience rates as per our studies that, 57% does use modern device quite 350 hours in their life for experience using others device, 24% used modern device just in case of emergency and communication and officials matters no more than 120 hours, 11% of them used modern device for communication but less than 80 hours in total, 5% of the non-user we found have accessibility but don't want to use thinking about costing & affordability always requires help to use modern device, 2% of them used modern device for institutional work, or registration, online-primarily based help form local enterprise solution, 1% believes it is against religious view so that they always avoided using modern devices rather they used personal assistantship form others just in case of using modern technical devices.

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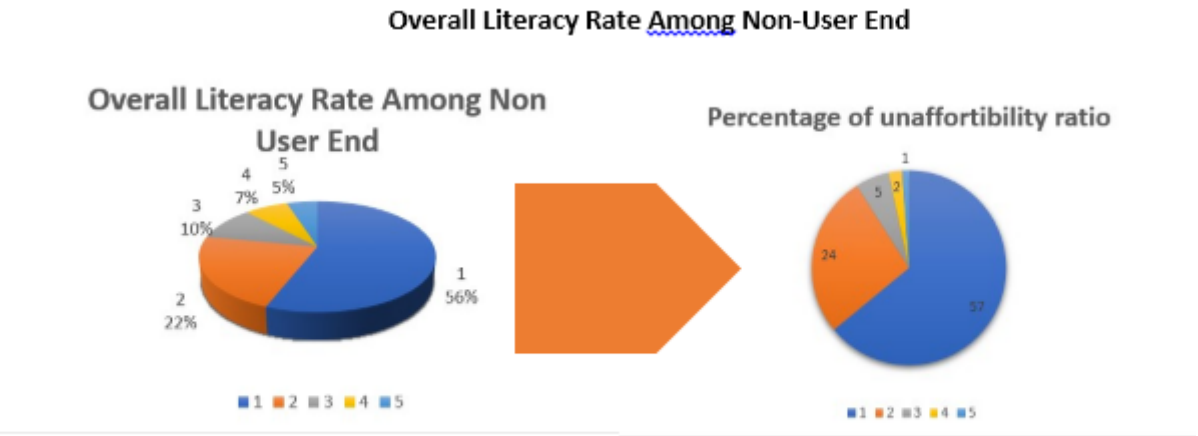

Figure 3 (1 - b) Overall literacy rate among non-user end

Figure 3 (2 – (a)) Temporary affordability ratio

3. History of training rate on modern technology:

Among the non-user 52% got vocational education & assistantship from government on using technology in education wherever needed, 19% of them tough by others from the above percentage who got training from the government a rather can use modern device nowadays. 14% of them have trained by their circle of relatives members and native mini enterprises available locally for initial usage, 10% of them gathered knowledge by specializing in books and other material's on market, 3% of them have gained by their own doing experience over the device laid from other, 2% of them have seen the devices but not fascinated by the case of using and learning according to their maturity, understanding and that they believe is new learning is sort of a hardship for them.

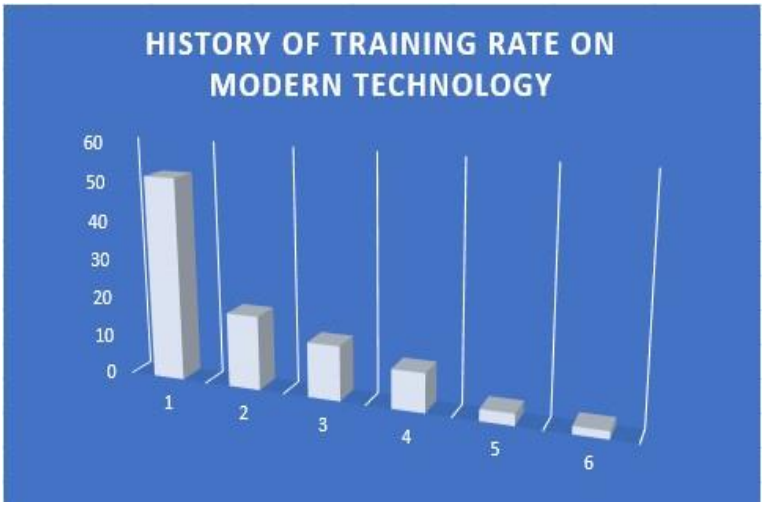

Figure 3 (3 – (a)) History of training rate on modern technology

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4. Social Understandable rate about the modern device:

Among the non-user in Figure 3(4- (a)), 78% believes they require modern devices but couldn't afford due to their economical expenses, 22% of them depend upon enterprise solution assistance as they depend on the social enterprise solution assistance, 5% of them believes the fashionable device is just for the affordable family not for them, 3.5% believe they require especial training neither they will never be able to use modern device counting on colleagues and friends and family. 1.5% do think till today that modern device is a demonic spirit that's against the religious view and might hamper the belief and honesty towards God.

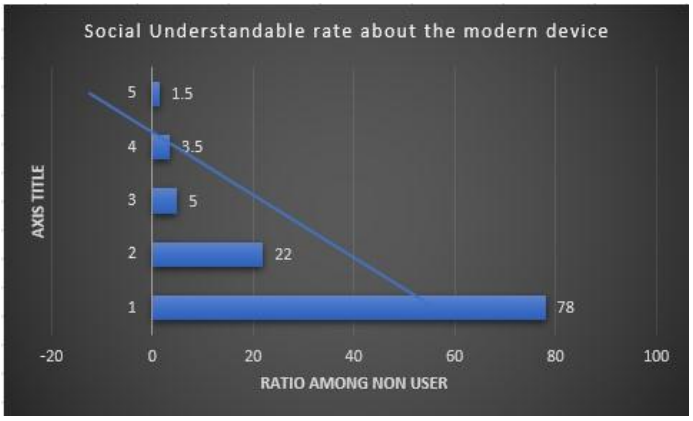

Figure 3(4- (a)) Social Understandable rate about the modern device

5. Circumstantial influence rate using the modern device:

Among the non-user, 33% faces unaffordability of using modern devices of others or institutional, 21% of them defined that sometimes the society looks differently using modern devices. 19.25% of the participants believe the trendy device needs extraordinary training which is unaffordable in local enterprises. 14.75% of them believe the usage of recent device can hamper their mental and physical health, eye power dropping, headache, intense heat, and other problems, 10% of them prefers not using modern devices to avoidance of contemporary technology and spiritual beliefs, 2% don't want to use modern devices rather they influence people to not use modern devices mostly from a religious background.

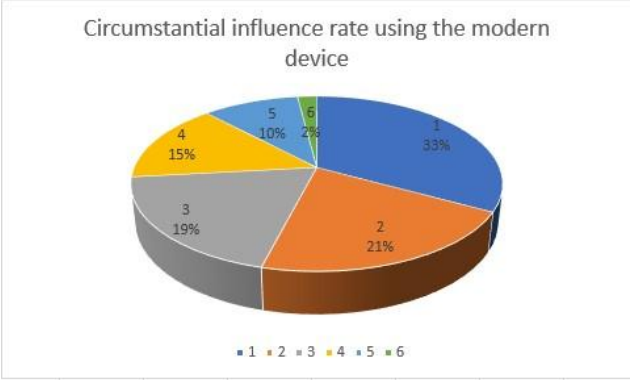

Figure 3(5- (a)) Circumstantial influence rate using the modern device

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6. Gender-Based percentage:

During the survey, in figure3 (6 – (a)) we've found 43% of the non-user are from the female category where 56% of them don't have the affordability to shop for a contemporary device but they have the modern devices in their family & education institution, 32% of them have modern devices in their family but don't allow them to use by others and that they remain illiterate in using modern devices. 6% of them depend on local enterprise, 3% look after them depends on a colleague, 2% of them don't want to use modern devices because of eye problem and health consciousness, 1% want to stay safe from the demonic spirit of contemporary devices.

Among the male user, in figure in 3 (6 – (b)) we've found 82% of them have the accessibility to recent devices but depend upon others and enterprise solutions, 7% of them things they have good training to use modern devices, 5% of them have been discouraged by their colleague's and family friends to not use modern devices, 3% of them avoid using because of religious reason, 2% of them can't to afford to use thanks to their maturity problem, 1% don't want to use it for his or her reason which is confidential to share.

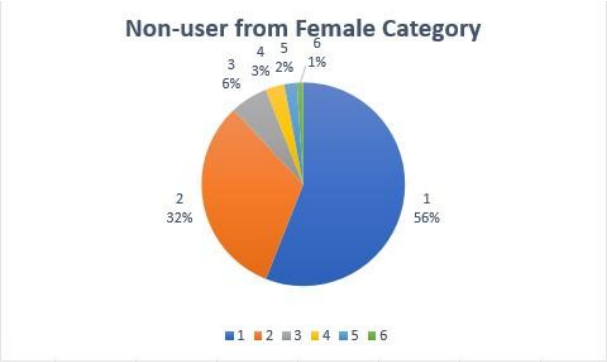

Figure 3 (6 – (a)) Non-user from Female Category

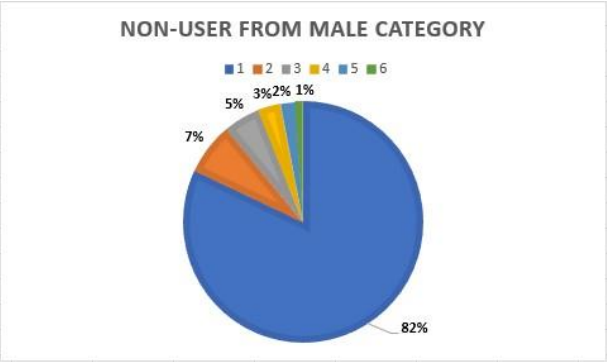

Figure 3 (6 – (b)) Non-user from Male Category

7. Other Percentage:

Among the non-user in Figure 3 (7 – (a)), 56% of them believes it's still costly to keep up a contemporary device, 32% of them has no attraction towards modern technology where they still want to remain in the analog system, 10% of them don't think the tertiary educational level is simply too early to be engaged with modern devices, 2% of them don't grieve it, they know modern devices but don't know why they use modern devices.

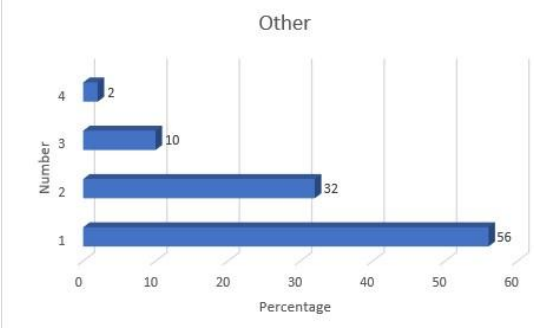

Figure 3 (7 – (a)) other Percentage ratio

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Table:

Index (Table)	Figure Index	0< & <10	<=20 %	<=30 %	<=40 %	<=50 %	<=60 %	<=70 %	<=80 %	<=90	<=100
1	3 (1 – (a))					2	1				
	3 (1 – (b))	3,4,5		2			1				
2	3 (2 – (a))	4.5.6	3	2			1				
3	3 (3 – (a))	4,5,6	2,3				1				
4	3 (4 - (a))	3.4.5		2					1		
5	3 (5 - (a))	4,5,6	2,3		1						
6	3 (6 - (a))	3,4,5, 6			2		1				
	3 (6 - (b))	2,3,4, 5,6								1	
7	3 (7 – (a))	3,4			2		1				

Solution provided to mitigate the issues:

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1. A central committee has been formed by the local constituency government to influence the instructors to use modern devices together with official letters from office to each tertiary primary institution.
2. A survey has been conducted among instructors of each education institution as a detailed above result to live the requirement base assessment, Knowledge Intervention, and survey outlet to focus on the prime problems we are addressing.
3. After possible findings meeting with the pedagogue has been organized with the following's instructions:

a) Intense individual training among school teachers through FGD
b) Sharing through caring learning resources from others
c) Multiterminal practical task using modern devices following "Expert will teach" among the school teachers
d) Demonstrate different multi-stakeholder facilities of contemporary devices
e) Market price evolution and affordability experience from field survey
f) Hand handy experience from net browsing to email sending by the expert
g) Net package availability and affordability expression search over the internet.

4. Comprehensive camp by an internal expert from own institutional upraised the literacy value and usage of contemporary technology and usage of internet.
5. Online browsing, mail processing system has been included as a daily task using the multi-stakeholder app from google including from video calling to Facebook account creation.

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6. Training on affordable government vascular system to use day-to-day institutional work and other enterprise solutions of Microsoft word and other software.
7. A app named porilikhi a digital GPS-based school attendance system has been implemented to control their attendance and regular basis practice of contemporary technology.
8. Classroom maintenance software training has been implemented together with data sharing, storing, spreading procedures.
9. Comprehensive package has been implemented for teachers from telecommunications and Technological Device companies to boost the affordability of instructors towards mobile technology.

2. RESULT

The literacy rate is now 97% among them during these two years of research and advocacy journey of digital literacy where 3% of them are adulthood enough where we tried but revisit with the null value from them, where they still believe it's against the faith and that they still depend upon others for day-to-day activities. Most of the teachers are now using modern technology in their instruction system towards tender students who also have gain potential because of the covid 19 outbreak.




Mass verbal consent has been taken from audiences; no additional consent available.

3. CONCLUSION

The aim of the project is to spot the lacking's within the tertiary education sector system that's the preliminary sector of education in Bangladesh and most of the basic development of education originated from here. That's why we preferred a developed cluster Debidwar, Comilla, Chittagong just in case of recent technology usage rate among youths. developed government infrastructure is high. Our main focus wasn't to justify or examine the proficiency of digital device usage among learners or students, but our target generation was the teachers & instructors. Our prior target was to look at the situation, their usage and literacy rate where we found 82% of them don't use modern digital technology. Thanks to above initiatives taken with the assistance of scholars and other colleagues of them the rate is 3% where their carrier is on the brink of end within 2-3 years. it's a wonderful example of research work together with development strategies where we emphasis on teacher's literacy which is prior, where our education system relies on them. If we can't literate teachers about digital devices just in case of using teaching, instruction & management we may fail to get a compatible generation for future workforce.

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I would prefer to acknowledge the Constituency Member of Parliament -252, Razze Mohammad Fakhrul for his kind gesture and help to conduct the research and manage development workforce to mitigate the problem. together with I also prefer to thank Swaniti Initiative for selecting me as a SPARC Fellow, USA, one in all the man of Bangladesh and help me to attach with the Member of Parliament to develop the strategy which will help other constituency together with the teachers round the world for a far better future and better world for us.

4. REFERENCES

1. Rahman, T., Nakata, S., Nagashima, Y., Rahman, M., Sharma, U. and Rahman, M., 2021. Bangladesh Tertiary Education Sector Review.
2. Hossain, M., 2016. English Language Teaching in Rural Areas: A Scenario and Problems and Prospects in Context of Bangladesh.
3. Globalpartnership.org. 2020. EDUCATION SECTOR ANALYSIS (ESA) FOR BANGLADESH.
4. Roy, S., Huq, S. and Rob, A., 2020. Faith and education in Bangladesh: A review of the contemporary landscape and challenges. International Journal of Educational Development, 79, p.102290.
5. Pouezevara, S. and Khan, R., 2007. Bangladesh: Innovative Information and Communication Technology in Education and Its Potential for Reducing Poverty in the Asia and Pacific Region: "Learning Communities Enabled by Mobile Technology: A Case Study of School Based, In-Service Secondary Teacher Training in Rural Bangladesh".
6. Asian Development Bank. 2017. Innovative Strategies for Accelerated Human Resource Development in South Asia: Information and Communication Technology for Education—Special Focus on Bangladesh, Nepal, and Sri Lanka.

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