

Technium.

43/2023

2023
A new decade for social changes

Technium
Social Sciences



Dupchanchia Model of Students' drop-out control through engagement and appreciation after Covid-19: A Behavioral Policy intervention in the field administration of Bangladesh

Shumon Zihady

Senior Assistant Secretary, Ministry of Public Administration, Government of the Peoples' Republic of Bangladesh, MPA, University of Exeter, UK

Shahosro210.shumon@gmail.com

Abstract. Bangladesh is a country which has successfully accomplished the millennium development goals. Upon such accomplishment and with new growing consensus with the global community, the country at present is in pursuit of achieving the sustainable development goals with mostly concentrating on the education sector. However, what impacted the growth and pace of the initiatives was the overwhelming impact of Covid-19 and the lockdown afterwards. Academic institutions remained closed at least for two years which resulted in a compromising number of students after the resumption. This study starts from the identification of a genuine problem with original field level data of the gradually declining number of students. It requires policy intervention centrally and locally. Government of Bangladesh has been deploying some traditional method like vocational and stipend system which is involved with large amount of monetary disbursement. This study found that government like Bangladesh should introduce new or customized education policy which can reduce budgetary involvement and change the choice structure of students. This approach and method has the transferability whereby other similar states can adapt. As a crucial part of local government, I have been working as the chief executive officer of a sub-district called Dupchanchia, and coordinating government departments to implement government policy. After rigorous discussion and brainstorming among the local stakeholders and teachers we uncovered that the students have become demotivated, traumatized and panicked of social engagement and any form of shared activities like classes, games and others. It required us to find out a local policy solution followed by a detailed literature review and primary data collection maneuver. Taking twenty schools into consideration for the study, the project initiated a behavioral policy intervention in ten particular schools and did not interfere with the other ten schools. I engaged local teachers, students and other related stakeholders and continued to use six behavioral tools to change the choice structure of the students of ten selected schools. We observed other ten schools without intervening in their environment and academic atmosphere at all. At the end of the study we collected data through key informant interviews and focus group discussion engaging teachers, peoples' representatives and government officials. Behavioral public policy intervention like nudge and engagement approaches are found to have a positive relation with the change in students number and their performance in the academic and co-curricular activities. This approach may contribute to controlling students' drop out in the lower and lower middle income countries after Covid shock. This policy intervention may have some challenges and limitations which need intensive and rigorous pre-study and prolonged design. Nevertheless, it has unlimited opportunities to be addressed.

Keywords. Drop-out, Appreciation, Engagement, Nudge, Pandemic, Behavioral policy

Background and the Context of the study

Dupchanchia upazila, the area of study of this project has 85 primary schools, 35 secondary schools, 25 Madrasa and some other private and non traditional institutions. During the 2018-2019 academic year there were 15875 students which dropped to 12661 in the academic year of 2021-2022. This decline in the number of students proved to be a matter of great concern for the government and civil society. Government took various steps such as providing incentives, books, and initiating multimedia classrooms to get the students back to school. These initiatives undoubtedly played a positive role in inviting the students back to the classes again. However, it is a central policy which may or may not work in the same manner in each and every area. Students are living with unstable and traumatized mental conditions which led us to think from a different policy perspective: Behavioral Policy intervention. This perspective opened the opportunity of asking some questions. Why are students not that interested in classes? Why are they giving up schools? What are they engaged with after Covid? How do they feel about schools after the resume? How can we attract them and change their psychological setup about school?

The answers are mostly psychological though some scholars want to focus on the economic perspective of the students and their family. This study tried to concentrate mostly on the psychological environment of the students and to influence his or her choice structure. The number of students attending institutions in Dupchanchia Upazila dropped after the resumption of physical classes. The numbers show that all the institutions had fewer students than before after returning to regular physical functioning of the institutions.

Table 1: Students Number Before Covid

General	11032
Madrasah	3943
Vocational	900

Table 2: Students Number after resume

General: 8826	8826
Madrasah	3115
Vocational	720

Upon identification of the gaps, a set of interventions were initiated to motivate the students to attend classes. All the stakeholders of the Upazila came together under a common goal of minimizing the drop out ratio of the students. The interventions were a change to the existing curriculum with an addition of engaging activities that modified the study environment, involving all the students with active participation. These activities were signified as an 'engagement and appreciation' approach where authorities initiated appreciative activities following the engagement of the students. To do that sometimes we needed to resort to the 'Nudging' framework. The initiatives were an integrated approach that commenced with the involvement of all the stakeholders.

Literature review

Covid 19 pandemic has given the world a newer perspective towards life. The limited social exposure whilst continuation of livelihood as social beings has been a tough job, yet carried out on a regular basis (Jamaludin et al., 2020). Technological innovation has played a

vital role in the new cope up mechanism amidst the lockdown due to the pandemic. The education system that saw a collapse due to the pandemic at the very beginning when countries were taking lockdown as a seclusion measure, were kind of saved by the online platforms of education that have become much more common as the days passed (Aristovnik et al., 2020). Now, it takes time for a system to take root in a setting. On the other hand, global communities facilitating the whole world with vaccines have lessened the vulnerability towards the pandemic thus accepting the new normal situation and every country has started to lift off the lockdown. This declared the regularity of life as the same as prior to the pandemic. This hit the education sector much harshly as the student communities had started shifting towards a newer system of remote education which again in turns of the settlement of normalcy required them to physically attend the institutions (Pokhrel & Chhetri, 2021; Sahu & Sahu, 2020; Tadesse et al., 2020; Tarkar, 2020). The student attendance rate in the post covid scenario had decreased and educational institutions were losing students in different levels which prompted the prioritization of the post covid adaptation mechanisms as the closure of educational institutions due Covid 19 had affected the students psychologically (Barragán-Moreno & Lozano-Galindo, 2022; Cullen et al., 2020; Imran et al., 2020; Spitzer et al., 2021). There are evidences that showed the dipping graph of students number in Bangladesh. Daily star, a renowned daily in Bangladesh published an investigative report this year which claims that “1.7 million students faced drop out in pandemic” (Alamgir, 2023). **Education system in Bangladesh embraced a significant hit from the Covid-19 contagion. It resulted 17.62 lakh students to drop out of educational institutions, according to government sources.** “The future of 37 million children in Bangladesh is at risk with their education severely affected by the COVID-19 pandemic.” (Unicef,2021) This scenario is not just in Bangladesh, rather it has become a global concern. UNESCO also reported that “the education of 37 million children in Bangladesh and about 800 million children in Asia, including South Asia, Southeast Asia and East Asia, has been disrupted due to school closures since the start of the COVID-19 pandemic in early 2020, according to the report, ‘Situation Analysis on the Effects and Responses to COVID-19 on the Education Sector in Asia’”. (UNESCO, 2023) Now policy makers are finding different policy solutions to cope up with the changing situation to control the drop out of the students.

Impact of Covid 19 on the education system of Bangladesh

The uncontrollable spread of coronavirus prompted the Government of Bangladesh to declare all academic institutions, dorms, and coaching centers to be closed on the 16th of March, 2020. However, in consideration of public safety and the growing concern the closure period had been extended from time to time, until June 15, 2020. This shutdown initiated the need for remote education to eradicate any possible gap that might follow after the closure is lifted. Now, the concern that rose with all the institutions opening is the decline in the number of students attending classes. With over 18 million primary students, the studies have urged that economic instability of the families and mental pressures caused due to social distancing are two of the most highlighted reasons for children's dropout and moving towards child labor in many cases (Dutta & Smita, 2020; Khairul Haque Emon et al., 2020; Yeasmin et al., 2020). This in one way is creating a gap in the educational prosperity that the country was walking towards and on the other hand increasing child labors. The most intriguing reason behind dropout of the children after economic instability is mental and emotional impairment as the whole social distancing and closure had kept the children away from social interaction, hampering their natural growth resulting in emotional distresses (Rahman & Sharma, 2021; Sifat et al., 2022; Yeasmin et al., 2020). The emotional distresses have long term impacts that hamper their physique causing

many health issues while limited social interaction enhances the negative results in the deterioration of a child's growth in becoming an active and contributing human being (Fegert et al., 2020; Kieling et al., 2011; Singh et al., 2020). This calls forth the need for approaches to address the matter properly.

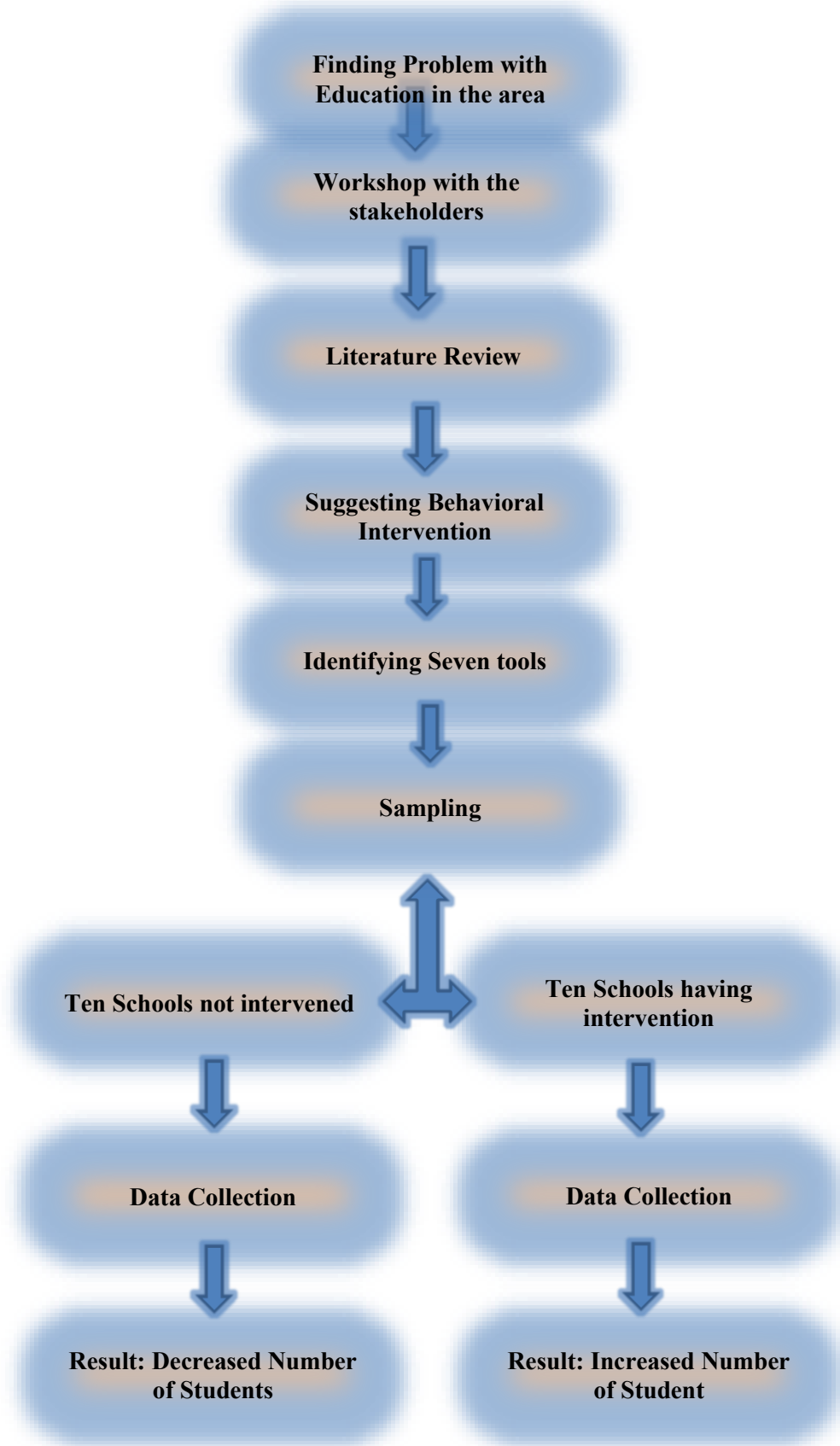
Methodology

The study is conducted through a mixed method approach. It is mainly a qualitative research. For the study 20 schools were targeted where 10 of the schools received direct intervention from the researcher and respective stakeholders and the other 10 schools were left to function traditionally. This created an opportunity to identify the changes in the system caused after the initiation of the interventions. Interviews and focussed group discussions were conducted in accordance to the research approach. Sample size for the interview is 70 and the respondents were the respective teachers of the institutions. The sample size for the FGD is 4. The interviews were conducted through a questionnaire. It was set of 15 questions with indexes covering issues such as student growth after the implementation of the interventions, growth in attendance rate, increase in co-curricular activity, decrease of child marriage rate, etc.

Nudging

The coping capacities and adaptive measures need to align with the condition of the communities while protecting the rights of the people and ensuring space for growth. As the matter is of mental health of the school going children and behavioral change caused due to the closure in time of pandemic which led to a significant amount of school dropouts, the most proposed course of action is nudging. Nudging being a deliberate change in the environment that impacts people's choices is a good practice for bringing about change in the behavior. It also has a wide array of usage including policy level acceptance and implementation (Schmidt & Engelen, 2020; Wilkinson, 2013). Nudging refers to a distinctive change that compels a human characteristic or choice structure to change while nudging being the trigger, more precisely controlled alteration of human behavior and choice (Kelman, 1958; Kusters & van der Heijden, 2015; Sunstein, 2014). The pandemic bringing changes to the education system, through regular remote education and class facility, is a rapid change that manipulates how the students perceive education. Participatory education practices are proposed to be mainstreamed. For this participatory engagement, nudging can play a crucial role enabling all the stakeholders to make proper judgment and decisions regarding education (Damgaard & Nielsen, 2018). The regular practices and behaviors being enhanced or changed a bit in accordance to the student's liking that compels them to be more interested towards the physical education is the nudging practice which is expected to trigger a certain change improving the interactive education system and schooling environment. The paper intends to represent the possible aspects of change in the school environment that can trigger behavioral change among the school going children along with identifying the role of other stakeholders. The paper addresses the use of nudge theory in the field of education.

Process Diagram of the Study:



Discussion

Interventions: To solve the problem of student dropout I initiated some behavioral public policy tools which are mostly nudging. I started from a hypothesis that 'Nudging can change the choice structure of the students and their parents to send them back to school again and get them engaged with different kind of co-curricular and community activities.' I deployed six tools in ten different schools and observed how their number of students changed, how their result and community activity enhanced. In the other ten schools I did not intervene but noted their student number and activity. The six tools are namely DO letter, Talent Billboard, Be UNO's Guest, one man one virtue, Talk with Talents, Appreciation Board and Community activity. It is important to mention that all these initiatives are taken by the schools and are as per the direction of the researcher.

Engagement and Appreciation approach: A few practices were introduced as an instrument to engage the students with creative works and joyful learning. The students and the stakeholders are directly connected in these particular nudging tools. Such as; 'DO letter' an appreciation letter that would admire the good deeds of the students and praise them for the efforts that they have made. The specialty of the letter is that the individual writing the letters are the leading characters of the society structure such as members of the Parliament, Chief Executive Officer, Officer in charge of a Police station and so on. Being praised by them would lead to the encouragement of the students to actively participate in good practices. This would help in building a better moral ground for the students. Use of 'Appreciation Boards', a board where the works of the students would be displayed. The students would be motivated with the public display and appraisal of their works. The good practices would also be admired and the students would be inspired to participate in creative works. Use of 'Billboards', the huge billboards on the roadsides rather than showing advertisements would display good deeds of students, feature many school events, moral quotes, achievement of the students, merits and demerits of good and bad practices, etc. Under the project the billboards are displayed in four busiest and most important places of the Upazila. People watching them have confessed that they never expected that a billboard could portray students' achievement and can be appreciated in a different way. This is also expected to boost up students' participation in school activities and increase academic engagement. There is also an event called 'Be UNO's guest', where the students are welcomed to a gathering where the UNO of the upazila with other respective stakeholders are gathered. The students get to hear from them upfront and have lunch together. This bridges a communication between the students and the policy makers. Sometimes good football players of a school or excellent debaters' are invited with their parents as a way of showing respect from the local government body. They feel proud and honored to have a cup of tea with the local elites and it motivates them to concentrate in the school. This has the potential to benefit the education environment along with improving the situation from individual level. Then there are also gifts for better performance. The students are motivated through this process of gifts for better results, good behavior, etc. Gifts can be looked at as an incentive for education. The students are likely to put extra effort if they know that they are going to be provided with a gift as a reward. The rewarding process acts as a motivator for students of all ages and helps to promote the love for learning. This also develops the goal achieving mindset of the students.

The institutions with the participation of other stakeholders arranged colorful and cheerful educational events that in one way acted as an occasion of enjoyment for the students, again facilitated the scope for engaged learning while eradicating the monotony of mainstream learning process. The initiatives also focused on the existing environment of the educational

institutions. Such as; the auditorium facilities have been revived for better usage, the labs were revived with the purpose of engaging the students with proper education and providing them with valuable practical experiences, the theaters were revived aiming towards enabling the students to gain cultural involvement. The students are encouraged and enlightened about their career options and prospects by their successful alumni. I named this program 'Talk with Talents' where talented people from and around the country visited the schools and shared their views about success and study. They shared stories of ups and downs and offered some guidelines to overcome depression after the pandemic. The respective authorities created opportunities for gathering and communication among the students and their alumni. The alumnus share their life experience with the students that along working as an encouragement for them provides proper insights on how to pursue their career goals and objectives. This mentally prepares the fresh minds of the future generation. Inviting real storytellers to help students to dream has the potential to shape the tender minds. Apart from these there are also public speakers, creative thinkers and intellectuals who were brought in to participate and reach out to the children with their knowledge and wisdom. Children are more interested in stories and fiction. Thus, a mix of reality with stories and real-life experience were best suited for them to help them think beyond the boundaries. The more the children can discover about their surroundings at an early age the more they can flourish with their thoughts, ideas and imaginations (Neville et al., 2013). Co-curricular competitions and sports events were initiated for physical and mental involvement such as; Muktizodha Volleyball tournament and many more. There were also training and workshop programs run by the respective authority to constantly keep the students engaged mentally and physically. Apart from the studies and sports, students were also involved in participating in cultural programs. Reaching out to people at present is very convenient due to the blessings of science and technology where social media is playing a vital role. The people are more connected. The authorities in the upazila have also spread the message of good deeds and good practices through posting appreciative stories on facebook from a group under the name of "one man one virtue", a vastly popular social media platform. Encouragement for doing good deeds and being appreciated publicly is a practice that the authorities are trying to establish. Among all the activities 'Project Bangbooy' is an engaging creative work where kid fantasy stories are written and acted out by children. A specific dedicated team of active children are behind the production of the work and overseen by the respective authorities. This touch of modern-day learning is a new breathing space for the children. Monotony is a hindrance to any activities. It limits the possibility of growth. The concept of good practices and making education enjoyable and engaging is not only beneficial to the students, but also to the society. Sustainability being a major priority, schooling and education is a major catalyst. Thus, the proper initiatives are necessary as long as they make a significant impact.

Findings

After six months of the implementation of the intervention we collected data initiating key informant surveys, interviews and Focus Group Discussion method. I interviewed 50 teachers and conducted four FGDs. A questionnaire containing fifteen questions was presented to the interviewees which is expected to find out the impact of the interventions. I set the measurement criteria as- The number of students after intervention, Drop out after intervention, Child marriage in Dupchanchia, Teenagers' crime rate in the area, Co-curricular activities in school after interventions, and so on.

Table 3: Post intervention scenario

Parameter	Increased Response in %	Decreased Response in %	No change Response in %	No Comment Response in %
The number of students after intervention	80	5	10	5
Drop out after intervention	0	90	8	2
Child marriage in Dupchanchia	0	95	4	1
Teenagers' crime rate in the area	0	85	10	5
Students' mobility for higher study	60	0	25	15
Co-curricular activities in school after interventions	75	0	10	15

Answers of the questions indicate that there has been improvement in many spectrums regarding the intervention's functionality as a measure for drop out control. The study focused on bringing the students back to the school environment and mediating the problems that led to the drop out in the first place. In relation to the students returning to school, the study has suggested that the interventions have been capable enough to decrease the amount of child marriage in the study area.

Table 4: Students number after the interventions

General:	120652	
Madrasah	4298	
Vocational	1022	

At the very beginning of the study a table was inserted to show the decrease in the number of the students after Covid 19 pandemic and the lockdown approach subsequently. It will be relevant to provide the present scenario of the number of the students in this Upazila as a whole.

Table 4 shows the increase of the total number of students of the Upazila, though the intervention was made only in ten schools. Readers can ask why we are showing the overall picture then! The answer is, during the focus group discussion respondents told that the result of intervention and use of behavioral tools went beyond the institutions that had been influenced. Especially the billboard, talk with talents, and appreciation board. This change was so evident to the students that they spread the information from one to another schools. It encouraged them to be more engaged with the institution and continue their study till the final academic achievement. Apart from that, the teenage crime rate has stopped and decreased around 85%. The impact to be taken into account is the increase in attendance of students by about 80%. Co- curricular activities have also increased in the schools. This is a clear indicator that the interventions have been able to create a notable impact.

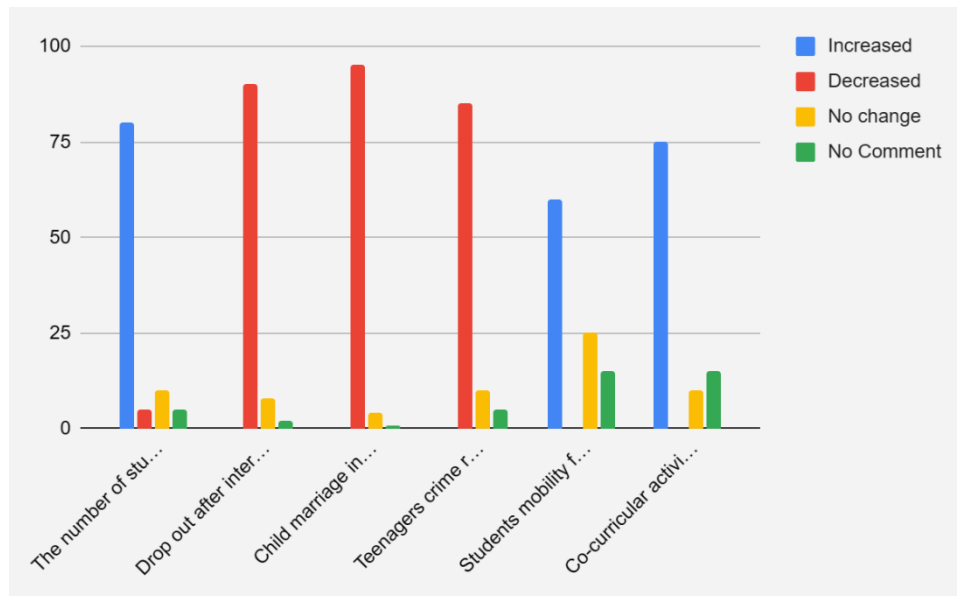


Figure 1: Post intervention impacts

The interventions used as nudging tools in controlling school dropout scenarios can be identified as community-based approaches to resolving a problem where the gap between the people and the policy makers were bridged through an integrated approach. All the stakeholders were involved in developing a better ecosystem for education. With significant statistically justifiable value the initiatives have proven to make an impact that showed nudging is an effective measure in driving behavioral change. The positive reinforcement of good practices can develop a morally rich ecosystem.

Comparison between existing practice and the proposed approach and its applicability

The schooling system practiced in the study area is the traditional education system. It is an attendance based regular class system where students attend scheduled classes and teachers come in the class and go through the text books as a means of education. Students memorize the text books and attend exams. The students that are able to achieve an outstanding result are only appreciated. Only educational excellence is appreciated in the traditional system. There is limited room for extracurricular activities. The appreciation process is exam-result based and monopolistic. The potential for growth of a tender mind is questionable in many ways in the traditional system. Adding to that the post covid impact had decreased the number of students in the educational institutions as discussed in the findings of the study. This is where the behavioral interventions can play a vital role. It is a very simple process of making changes to the behaviors, both the stakeholders and the students. Mostly appreciation processes and tools are introduced in the behavioral intervention with increased engagement of the students. From attending classes to practical experience, everything is possible at present. The students are encouraged to engage in extracurricular activities and are also appreciated for their good practices. The culture of good practice among the children is mainstreamed and appreciated. The community leaders, government authorities and all the stakeholders have a role to play in the new practice or system suggested through the study. Now, when it comes to other communities going for the same approach, the system is very much replicable as the prime obstacle of initiating a new policy or system is the funding issues whereas the behavioral

interventions are inexpensive. It uses tools that are applicable at the local government level. The resources necessary for the interventions are within community capacity. The tools used for appreciation are engaging activities thus very much replicable in similar community setup as the study area. The proposed tools for behavioral interventions were also designed considering the social, economic and political structure of the particular community.

Limitation of the study

The project proceeded and lasted for six months which was from July of 2022 to January 2023. This was a qualitative approach to search the answers of the questions through interview and FGD. As the study area was small and there was no previous work in this approach it was difficult to follow any standard framework and get help from similar case studies. The method of data collection could have been much more rigorous along with use of required analytical tools. The sampling process could have been more narrow and specific. A wide range of surveys might have been much more effective in finding the broader scenario of the change. Regarding the ethical issues, it was assumed to be fair to influence the choice structure of the students because all the stakeholders of the area had been well informed and they supported the tools. All the interventions were to encourage students about schooling and other good practices. Nevertheless, there are some ethical issues which could have been improved if there were a national ethical commission or National research council of Bangladesh. Instead of this, local government stakeholders supported the study and intervention as well. Output of the study could be more measurable and distinctly visible. After the intervention it is visible that the dropout rate decreased, students have become more active in community activities with the respectable decline in teenagers' crime rate. However, it does not exclusively mean that all these happened due to the interventions of this study. There might be some other socio economic issues which have a positive impact on the students' drop out control besides the controlled intervention of the research.

Potential of the Study

An effective set of public policies can bring meaningful change during normal and even in crisis situations. It regulates the functionality of the communities in alignment with the views of the government that aims to improve the livelihood of the people under their authority. Policies prepare the community people to come under a common functioning manner under the rule of law. Generally Policies have financial and monetary involvement to ensure a development or result. Visible impacts have the need for investment. Behavioral policy intervention is considered as less expensive and most useful policy solutions in some cases. The continuation of a practice that builds habit is how the intervention functions. Positive impact deriving activities made public and practiced intentionally can have a long lasting impact in the society. Behavior changes can be done just with the initiation of controlled practices through awareness raising. It can also be done with the nudging practices suggested by the study. Eventually the idea is to build and structure the environment with existing resources through a newer approach. The study is able to depict the usefulness of the bottom up approach in causing positive behavioral change. The initiative requires all the stakeholders to function together making it a well-integrated policy level approach. It also bridges the gap among the policy makers and community people. The study has the possibility to bring a meaningful and visible change without large amounts of monetary and financial involvement. It is also expected to engage the local community and empower local government. This research could be a full-fledged academic research and make an educational policy impact over the society.

Conclusion

The foresight to determine necessary steps for future events is the potential of a policy. It is a top level approach to the functioning of a system. Thus it is very crucial for the decision makers to invest properly in policy planning. The post Covid scenario has taught the world that the social systems are still not ready to face the unseen prioritizing the role of a standardized policy that would enable the opportunity to fulfill the bare minimums in creating proper coping capacity. The proper use of the available resources in collaboration with newer approaches or innovations are the most suggested course of action. Good practices bring good results and positive change in a system. This way of practice needs to be systematized in a format. Behavioral public policy interventions have the potential to create a positive impact in the regular and traditional policy scenario if that scientifically tried in the field level administration.

Ethics statements

This Project involved human subjects and they are well aware about the research. Students, Teachers and other stakeholders in the research area consented to participate in the interview, FGD and other activities of the research. This research did not publish any human photo or private data which can violate his privacy. This project did not engage any wild or domestic animals in any medium. Data collection was based on literature review and primary methods. It did not involve any social media platform to collect data.

Acknowledgments

I am grateful to Professor Alice Moseley, University of Exeter who spent his valuable time to suggest me about making a behavioral policy idea. She also warned me about the ethical aspects of using the nudge and provided examples of successful behavioral interventions around countries. Her suggested articles helped me much to frame my research better.

Md. Amran Hossain, a master's student from University of Dhaka, contributed a lot to conduct the interview and FGD in the research area. He also helped this project in many ways like visiting the schools with me and counting students number, attendance and their participation in community works.

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Declaration of interests

- ✓ The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

References

- [1] Jamaludin, S., Azmir, N. A., Mohamad Ayob, A. F., & Zainal, N. (2020). COVID-19 exit strategy: Transitioning towards a new normal. *Annals of Medicine and Surgery*, 59, 165–170. <https://doi.org/10.1016/J.AMSU.2020.09.046>
- [2] Aristovnik, A., Keržič, D., Ravšelj, D., Tomaževič, N., & Umek, L. (2020). Impacts of the COVID-19 Pandemic on Life of Higher Education Students: A Global Perspective. *Sustainability 2020*, Vol. 12, Page 8438, 12(20), 8438. <https://doi.org/10.3390/SU12208438>
- [3] Pokhrel, S., & Chhetri, R. (2021). A Literature Review on Impact of COVID-19 Pandemic on Teaching and Learning. *Higher Education for the Future*, 8(1), 133–141. <https://doi.org/10.1177/2347631120983481>

- [4] Sahu, P., & Sahu, P. (2020). Closure of Universities Due to Coronavirus Disease 2019 (COVID-19): Impact on Education and Mental Health of Students and Academic Staff. *Cureus Journal of Medical Science*, 12(4).
<https://doi.org/10.7759/CUREUS.7541>
- [5] Tadesse, S., Muluye, W., Tadesse, S., & Muluye, W. (2020). The Impact of COVID-19 Pandemic on Education System in Developing Countries: A Review. *Open Journal of Social Sciences*, 8(10), 159–170. <https://doi.org/10.4236/JSS.2020.810011>
- [6] Tarkar, P. (2020). Impact Of Covid-19 Pandemic On Education System Role of education in future prospects after retirement View project Artificial Intelligence in Human Resource Practices With Challenges and Future Directions View project Impact \ Of Covid-19 Pandemic On Education System. *International Journal of Advanced Science and Technology*, 29(9s), 3812–3814.
<https://www.researchgate.net/publication/352647439>
- [7] Barragán-Moreno, S. P., & Lozano-Galindo, O. L. (2022). Explanatory Variables of Dropout in Colombian Public Education: Evolution Limited to Coronavirus Disease. *European Journal of Educational Research*, 11(1), 287–304.
<https://doi.org/10.12973/eu-jer.11.1.287>
- [8] Cullen, W., Gulati, G., & Kelly, B. D. (2020). Mental health in the COVID-19 pandemic. *QJM: An International Journal of Medicine*, 113(5), 311–312.
<https://doi.org/10.1093/QJMED/HCAA110>
- [9] Imran, N., Zeshan, M., & Pervaiz, Z. (2020). Mental health considerations for children & adolescents in COVID-19 Pandemic. *Pakistan Journal of Medical Sciences*, 36(COVID19-S4), S67. <https://doi.org/10.12669/PJMS.36.COVID19-S4.2759>
- [10] Spitzer, M. W. H., Gutsfeld, R., Wirzberger, M., & Moeller, K. (2021). Evaluating students' engagement with an online learning environment during and after COVID-19 related school closures: A survival analysis approach. *Trends in Neuroscience and Education*, 25, 100168. <https://doi.org/10.1016/J.TINE.2021.100168>
- [11] Dutta, S., & Smita, M. K. (2020). The Impact of COVID-19 Pandemic on Tertiary Education in Bangladesh: Students' Perspectives. *Open Journal of Social Sciences*, 08(09), 53–68. <https://doi.org/10.4236/JSS.2020.89004>
- [12] Khairul Haque Emon, E., Rahman Alif, A., Shahanul Islam, M., & Marelli, S. (2020). Impact of COVID-19 on the Institutional Education System and its Associated Students in Bangladesh Asian Journal of Education and Social Studies Impact of COVID-19 on the Institutional Education System and its Associated Students in Bangladesh. *Article in Asian Journal of Education and Social Studies*.
<https://doi.org/10.9734/ajess/2020/v11i230288>
- [13] Yeasmin, S., Banik, R., Hossain, S., Hossain, M. N., Mahumud, R., Salma, N., & Hossain, M. M. (2020). Impact of COVID-19 pandemic on the mental health of children in Bangladesh: A cross-sectional study. *Children and Youth Services Review*, 117. <https://doi.org/10.1016/j.childyouth.2020.105277>
- [14] Rahman, T., & Sharma, U. (2021). *A Simulation of COVID-19 School Closure Impact on Student Learning in Bangladesh*.
<https://openknowledge.worldbank.org/handle/10986/35043>
- [15] Sifat, R. I., Ruponty, M. M., Rahim Shuvo, M. K., Chowdhury, M., & Suha, S. M. (2022). Impact of COVID-19 pandemic on the mental health of school-going adolescents: insights from Dhaka city, Bangladesh. *Heliyon*, 8(4), e09223.
<https://doi.org/10.1016/J.HELIYON.2022.E09223>

- [16] Fegert, J. M., Vitiello, B., Plener, P. L., & Clemens, V. (2020). Challenges and burden of the Coronavirus 2019 (COVID-19) pandemic for child and adolescent mental health: A narrative review to highlight clinical and research needs in the acute phase and the long return to normality. *Child and Adolescent Psychiatry and Mental Health*, 14(1), 1–11. <https://doi.org/10.1186/S13034-020-00329-3/FIGURES/1>
- [17] Kieling, C., Baker-Henningham, H., Belfer, M., Conti, G., Ertem, I., Omigbodun, O., Rohde, L. A., Srinath, S., Ulkuer, N., & Rahman, A. (2011). Child and adolescent mental health worldwide: evidence for action. *The Lancet*, 378(9801), 1515–1525. [https://doi.org/10.1016/S0140-6736\(11\)60827-1](https://doi.org/10.1016/S0140-6736(11)60827-1)
- [18] Singh, S., Roy, D., Sinha, K., Parveen, S., Sharma, G., & Joshi, G. (2020). Impact of COVID-19 and lockdown on mental health of children and adolescents: A narrative review with recommendations. *Psychiatry Research*, 293, 113429. <https://doi.org/10.1016/J.PSYCHRES.2020.113429>
- [19] Schmidt, A. T., & Engelen, B. (2020). The ethics of nudging: An overview. *Philosophy Compass*, 15(4). <https://doi.org/10.1111/PHC3.12658>
- [20] Wilkinson, T. M. (2013). Nudging and manipulation. *Political Studies*, 61(2), 341–355. <https://doi.org/10.1111/J.1467-9248.2012.00974.X>
- [21] Kelman, H. C. (1958). Compliance, identification, and internalization three processes of attitude change. *Journal of Conflict Resolution*, 2(1), 51–60. <https://doi.org/10.1177/002200275800200106>
- [22] Kusters, M., & van der Heijden, J. (2015). From mechanism to virtue: Evaluating Nudge theory. <Http://Dx.Doi.Org/10.1177/1356389015590218>, 21(3), 276–291. <https://doi.org/10.1177/1356389015590218>
- [23] Sunstein, C. R. (2014). Nudging: A Very Short Guide. *Journal of Consumer Policy*, 37(4), 583–588. <https://doi.org/10.1007/S10603-014-9273-1>
- [24] Damgaard, M. T., & Nielsen, H. S. (2018). Nudging in education. *Economics of Education Review*, 64, 313–342. <https://doi.org/10.1016/J.ECONEDUREV.2018.03.008>
- [25] Neville, H. J., Stevens, C., Pakulak, E., Bell, T. A., Fanning, J., Klein, S., & Isbell, E. (2013). Family-based training program improves brain function, cognition, and behavior in lower socioeconomic status preschoolers. *Proceedings of the National Academy of Sciences of the United States of America*, 110(29), 12138–12143. https://doi.org/10.1073/PNAS.1304437110/SUPPL_FILE/SAPP.PDF