

Technology-integrated pedagogies in the social science
curriculum and practices at secondary schools in Bangladesh



Thesis

Submitted for the award of the Degree of
Master of Philosophy (MPhil)
in Education

By

Abdul Mannan

Under the guidance of

Professor Dr. Md Khairul Islam

Department of Social Science Education

Institute of Education and Research

University of Dhaka

Dhaka-1000, Bangladesh

August 2026

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APPROVAL

Technology-integrated pedagogies in the social science curriculum and practices at secondary schools in Bangladesh

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DECLARATION

I, ABDUL MANNAN, hereby declare that the thesis entitled “*Technology-integrated pedagogies in the social science curriculum and practices at secondary schools in Bangladesh*”, submitted to the Institute of Education and Research (IER), University of Dhaka, for the degree of Master of Philosophy (MPhil) has not previously been presented as a whole or in part for any degree in this university or elsewhere. I declare that all sources cited in this study have been properly referenced following the academic citation standards. The study was carried out following consent from the IER Ethics Committee. The human subjects used in the study were fully oriented and consented on all its aspects, with respect of their rights, dignity and also privacy. I also certify that this dissertation has not, either in part or in whole, been submitted for any degree other than that above. I take complete responsibility for the nature, accuracy and scholarly implications of this work.



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Academic Year: 2020-2021

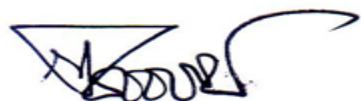
Department of Social Science Education

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CERTIFICATION

This is to certify that the thesis entitled “*Technology-integrated Pedagogies in the Social Science Curriculum and Practices at Secondary Schools in Bangladesh*”, submitted to the Institute of Education and Research (IER), University of Dhaka, in partial fulfillment of the requirements for the degree of Master of Philosophy (MPhil) in Education, is the original work of Abdul Mannan, Registration No. 06, carried out under my supervision. To the best of my knowledge, this work has not been submitted to any other university or institution for any degree or qualification, and it is worthy of submission for the award of the said degree.



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Finally, I express my deep gratitude to my real sources of motivation: my family members, who always support me in fulfilling my dream.



Abdul Mannan

DEDICATION

This thesis is dedicated to my beloved parents and my respected teachers.

ABSTRACT

Technology integration in education has significant impact on effective and meaningful learning, and has gained increased attention globally in making teaching and learning activities more interesting, participatory, and student-centered. Efforts to incorporate technology in the education system of Bangladesh through planned initiatives and multifaceted steps have been ongoing for a long time. The purpose of the study was to explore technology-integrated pedagogies in the secondary school social science curriculum and their practices in the classrooms and schools.

Using the lenses of social-constructivist worldview, a multiple case study design was used aiming to explore the perceptions of teachers and students about technology-integrated pedagogy in the social science curriculum and practices in different types of secondary schools (urban-rural and public-private secondary schools) situated in the district of Chattogram. Document review, semi-structure interviews, focus group discussions (FGDs) and observation were used to collect data from several sources. Qualitative content analysis and a 'thematic' qualitative data analysis technique were used to analyze data collected through interviews, FGDs, and observations. In addition, a cross case analysis technique was used aiming to find the trends and contrasts between case studies, keeping links to the contextual information inside individual cases.

Findings based on the analysis of curriculum document indicate that although the generic parts, applicable to all disciplines, highlight technology integration in the curriculum development process, objective setting and teaching-learning strategies, there is a significant gap concerning technology use in assessment methods. The results of the social science curriculum which is named as 'Bangladesh and Global Studies (BGS)' analysis indicated that the curriculum for grades VI-VIII has minimal guidance on how to integrate technology, while the curriculum for IX-X focused on pedagogies needing technological integration. Both parts of the curriculum have strong content grounded in significant educational aspects, but there is a very limited indication of using technology

throughout. Furthermore, instructions on how technology can be integrated in students' learning assessment are apparently absent.

From the perspectives of social science teachers, head teachers and students, the study suggest that almost all social science teachers in the three case study schools expressed positive attitudes towards technology integration, showing enthusiasm for technology integration in their classes. However, their beliefs varied regarding practical and professional experience, school infrastructure, and training opportunities. Assistant teachers from rural and government schools expressed their high expectations for using technology and participating in ICT training, as their schools have insufficient technological resources and limited training opportunities. However, social science teachers from the private school in the city had practical experience and reported various practical issues, such as using slides, maps, and speakers. Additionally, the findings indicate that teachers with adequate ICT facilities in their schools lacked integration in accordance with the TPACK framework, especially in technological and pedagogical aspects. Other teachers who lacked adequate facilities were interested in engaging in pedagogical activities using technology.

Overall, all head teachers had positive attitudes towards technology integration in schools. However, the results revealed a mixed picture of the leadership role. While the head teacher of the urban private school was found to be dynamic, technical, action-oriented and innovative-minded, other head teachers of rural and government schools could be described as static, non-technical and traditional in school management. This indicates the gap between urban-rural as well as government-private schools in leadership practices. The findings based on the analysis of data from students' FGDs, suggested that students across three case study schools hold positive perceptions of learning social science content through technology integration, though their beliefs varied by school context.

In terms technology-integrated pedagogical practices, the findings showed a huge disparity in resources, usage, student literacy and teacher readiness among the three case study schools. In every aspect, the rural school lagged behind in ICT integration. This school had limited access to technology, particularly in social science classes, and students

are interested but lack digital literacy. Similarly, the urban government school showed gradual improvement in technology integration, but usage remains inconsistent. In contrast, urban private school highlighted exemplary models of technology integration with its pervasive use of technology in every classes including social science, strong student digital literacy and extensive teacher training but could benefit from a more consistent application of pedagogical models such as TPACK.

Major challenges towards practicing technology-integrated pedagogies in the classrooms and schools identified through this study are: infrastructure and resource constraints, teacher readiness and training, pedagogical and classroom difficulties, and curriculum as well as policy-related challenges. Based on the findings, several recommendations have been made, for examples, developing curriculum framework focusing on technology integration, developing digital leadership, removing discriminations among schools, ICT based teachers' professional development, assurance of supplying digital tools, and conducting further research in this area.

Though the findings of the study are not generalizable due to its methodological nature, the findings of this research have potential implications for policy and practices. Findings of this study can be valuable insights, and examples of evidence related to technology integration in the curriculum, social science curriculum, and practices in the classrooms and schools. It also have implications for teachers' professional learning and development.

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Acronyms

A2i	Aspire to Innovate
BANBEIS	Bangladesh Bureau of Educational Information and Statistics
DSHE	Directorate of Secondary and Higher Education
FGD	Focus Group Discussion
GDP	Gross Domestic Product
GNP	Gross National Product
GOB	Government of Bangladesh
ICT	Information and Communication Technology
ICTD	Information and Communication Technology Division
IER	Institute of Education and Research
MoE	Ministry of Education
NCSS	National Council for the Social Studies
NCTB	National Curriculum and Textbook Board
NEP	National Education Policy
NU	National University
OECD	Organisation for Economic Co-operation and Development
SHED	Secondary and Higher Education Division
TPACK	Technological Pedagogical Content Knowledge
TQI-SEP	Teaching Quality Improvement in Secondary Education Project
TTC	Teachers' Training College
UITRCE	Upazila ICT Training and Resource Centre for Education
UNESCO	United Nations Educational, Scientific and Cultural Organization

Chapter One

Introduction

In the age of globalization, technology has touched every aspect of human life. The teaching learning process is constantly changing due to the effects of technology. Firmin and Genesi (2013) stated that rapid technological advancements alter how we work and live. There is no exception in the realm of education. Technology has increasingly been recognised as a game-changer in education (Ahmed, 2025). New technologies were being created and developed almost regularly in the late 1990s (Firmin & Genesi, 2013). In order to reap the benefits of technology in education in Bangladesh, the government has provided technical equipment to educational institutions through various projects and arranged professional training for teachers to develop technological skills (Al Mahadi, 2025). It is argued that technology has had an impact on social studies education more than any other subject (Roblyer & Doering, 2014).

In the curriculum of Bangladesh, social science is a compulsory subject named ‘Bangladesh and Global Studies’ for the students of grades III to VIII and for the students of grades IX-X who belong to the science group. As an integrated subject, it comprises sociology, history, geography, civics, economics, international affairs, and population education. The holistic and interdisciplinary nature of social science education demands technology to facilitate diverse perspectives, foster inquiry-based learning, and simulate real-world experiences (Idhan et al., 2025).

This research aimed to explore how technology-integrated pedagogies have been embedded in the existing social science curriculum and how teachers practice these pedagogies in schools. Its aim was to explain the pedagogical pattern of the social science curriculum and the perceptions of stakeholders regarding integrating technology in the social science classroom of schools.

1.1 Background of the Study

In this section, I argue that the education policy and the curriculum of Bangladesh have been shaped by emphasizing the importance of using ICT and technology in educational settings. It is clearly noticed in different sections, such as the preface, foreword, aims and objectives, and working plans of education policy (Ministry of Education, 2010). In the foreword of the education policy, it has been stated that technology has become the most significant aspect in the modern world. Globally, computers and information technology have emerged as the most integral and significant components of education. Our educational system must also prioritize it (Ministry of Education, 2010).

In the education policy, some major objectives are:

- to increase the use of information and communication technology (ICT), which is crucial to the educational process at all levels.
- to provide information and communication technology (ICT), mathematics, science, and English as a high priority to create a digital Bangladesh founded on knowledge-orientation and ICT development; (MoE, 2010, p.2)

In the teachers' training section, a few objectives are as follows:

- to ensure broader use of IT and to train educators at all levels to create a contemporary, developed Bangladesh;
- to motivate them to become proficient in using the most up-to-date teaching resources (MoE, 2010, p. 56)

On the other hand, the national curriculum (NCTB, 2012) emphasized teaching pupils 'how to learn' rather than just 'what to learn'. To ensure regular and effective practices, concerned authorities such as MoE, DSHE, BANBEIS, are trying to provide technological tools through various projects (BANBEIS, 2022). The tools are an interactive whiteboard, software, email, computers, and the Internet, etc., which have been provided

under multiple projects. For instance, The introduction of education at secondary and higher secondary level (2nd Phase) project through ICT, Sheikh Rasel digital lab, and Multimedia classroom, etc. (BANBEIS, 2022).

In 2015, the government revised the National ICT Policy, stating that all primary, secondary, and higher secondary teachers should be proficient in using computers in the classroom (Pal, 2019). The policy also stated that teachers will be provided with interest-free loans with flexible terms and grants to purchase computers, laptops, and ICT tools. In the fourth industrial revolution era, Bangladesh is transitioning from Digital Bangladesh-2021 to Smart Bangladesh to achieve Vision-2041. This will be accomplished through the four essential pillars: Smart Citizen, Smart Government, Smart Society, and Smart Economy. To put it into action, the ICT Division has adopted the "Smart Bangladesh: ICT master plan 2041". In the ICT master plan 2041, significant attention has been paid to the technology, ICT in education, and digital skills (ICT Division, 2023). To attain the expected outcomes, some major plans are-

- 100% of primary and secondary age children with access to digital literacy education by 2025
- By 2031, all educators will have received training in digital technology.
- A sufficient number of graduates who have received ICT training annually by 2041

(ICT Division, 2023, p.47)

Besides, the Ministry of Education (MoE) has taken different strategic plans for secondary and higher secondary levels. As part of this plan, several initiatives are implemented. For instance-

1. More than 1000 master trainers have been assigned to to train secondary level teachers to integrate ICT in the pedagogical process.
2. ICT training has been provided to over 183,750 teachers.

3. At least one multi-media classroom, a laptop, a multi-media/LCD projector, and an Internet connection have been installed in 32,667 educational institutions to facilitate the integration of ICT into the educational process.
4. 1,083 ICT laboratories have been established at the Upazila level institutions.
5. In 125 Upazilas, BANBEIS has established Upazila ICT Training and Resource Centres for Education (UITRCE). (MoE, 2019, pp. 33-36)

Although schools now have access to various technological tools, the teaching and learning process for many subjects, including social studies, remains almost unchanged. As Pal (2017) argues, Bangladesh's present educational approach consists of lectures with a one-way, non-interactive structure and little opportunity for student participation. Although different policies and plans exist to integrate technology in education, the current system of education has not been able to accomplish this efficiently (Mallick & Salam, 2023). Therefore, it was crucial to consider the attitudes, perspectives, and difficulties that secondary teachers encountered when implementing technology-integrated pedagogies. Moreover, my research aims to inform the relevant policy authorities and school leaders in secondary schools of Bangladesh to plan actions for the integration of technology in the secondary social science curriculum and to understand the teaching and learning practices with technology-integrated pedagogies in the classroom to achieve the expected learning outcomes of social science education.

1.2 Statement of the Problem

Many national policies have been initiated to introduce a strong ICT based infrastructure in education in Bangladesh (Pal, 2019). Now, many modern educational technology tools are available in most of the schools in Bangladesh (Ministry of Planning, 2018). The Ministry of Education (MoE) of Bangladesh is attempting to upgrade the classroom environment and pedagogies for achieving the goals and objectives of education. In order to increase the skills of the teachers and make the teaching enjoyable and effective in the classroom, the ICT Policy 2018 stated that teachers of all levels and all subjects would be made suitable through appropriate training for teaching by using digital

technology in the classroom (ICTD, 2018). The Access to Information (A2i) Program of the Government of Bangladesh has taken different educational initiatives to make educational activities more effective and enjoyable by means of using ICT. Report published by Access to Information (A2i) program, has described that learning through Multimedia Classroom helps students to perform better (Pal, 2019).

Many proponents assert that using the internet in the classroom has numerous advantages, including the capacity to overcome the physical constraints of the classroom and broaden students' experiences while promoting the growth of their critical thinking and inquiry abilities (VanFossen, 2001). It is also evident that integrated social studies teaching and learning includes effective use of technology that can have important dimensions to student learning (National Council for the Social Studies [NCSS], 1994). In the study of Ilhan and Oruc (2016) recommended that materials with today's technology for social studies lessons should be selected and developed. Sheffield (2012) stated that computers and the internet have grown in relevance as teaching aids in social studies classrooms due to recent technological advancements. In the views of Gardner & Maina (2011), many studies deal with technology, but few focus on the secondary school social studies classroom. However, while various studies have been conducted on the use of technology in science, mathematics and English education at home and abroad, for example (Obaydullah & Rahim, 2019; Rahman & Ullah, 2016), a very little attention is paid to the area of technology and social science. Though the national education policy and other ICT policies of Bangladesh focus on ICT integration in education, how it is integrated in the social science curriculum for secondary school education and how technology-integrated pedagogies are practiced in the schools are apparently unexplored in the literature. This research addresses the gap in the literature and provides valuable insights for the policy makers, curriculum developers, teacher educators, and teachers.

1.3 Purpose of the Study

The main purpose of the study is to explore technology-integrated pedagogies in the secondary school social science curriculum and their practices in the classrooms and

schools.

1.4 Objectives of the Study

This study tries to reveal the integration of technology in the social science curriculum and its practices in secondary schools of Bangladesh. The specific objectives of this study are to:

- a) explore the technology integration in the social science curriculum in the secondary level of Bangladesh.
- b) reveal the views and understandings of social science teachers and the head teachers regarding technology integration in the curriculum and practices in the classrooms and schools.
- c) understand the students' perception of technology-integrated teaching and learning practices in the classrooms and in the schools.
- d) explore how social science teachers use technology in their regular classroom practices
- e) identify the challenges in implementing technology-integrated pedagogies for teaching and learning of social science.

1.5 Research Questions

The research question and sub-questions that explored in the study are:

How are technology-integrated pedagogies incorporated in the existing secondary social science curriculum, and how are these pedagogies practiced by the teachers in the classrooms and schools?

This research is guided by the following sub questions:

- i) How is the technology embedded in the secondary level social science curriculum in Bangladesh?

- ii) What are the views and understandings of social science teachers and the head teachers regarding technology integration in the curriculum and practices in the classrooms and schools?
- iii) How do the students perceive technology-integrated teaching and learning practices in the classrooms and in the schools?
- iv) How do social science teachers use technology in their regular classroom practices?
- v) What are the challenges in implementing technology-integrated pedagogies for teaching and learning of social science?

1.6 Rational and Significance of the Study

It is believed that students and teachers can attain the goals and objectives of teaching and learning if the teaching practices are offered with appropriate methods and strategies in appropriate educational contexts. In Bangladesh, like many other developing countries, the conventional pedagogies were being practiced to prepare children with fundamental skills and get them ready for the challenges of the 21st century (Imam, 2017). He also reported that the government of Bangladesh started using ICT in education in 2009 through a small program. In 2010, the government planned a new education policy that focused on using technology in the classroom and ensuring every student learns how to use it. Therefore, the Master Plan for using technology in schools was made in 2013 to make sure whether every school in the country use technology or not.

The Master Plan for ICT in Education in Bangladesh (2012–2021) was developed in 2013 by the Ministry of Education with the support of UNESCO, which was an effort to address the challenges of the twenty-first century by enhancing educational quality and utilizing technology to make learning more relevant and accessible. In 2018, the Master Plan for ICT in Education (2012-2021) underwent a comprehensive review to assess the effectiveness of its implementation and to implement the requisite modifications to ensure that all students actively participate in Bangladesh's transition to a knowledge society. This initiative was one of the most significant (MoE, 2019). This plan aimed to improve the

quality of education by creating an ICT-aided learning environment and developing secondary and higher secondary students as workforce for knowledge-based society in 21st century.

Primary objectives of ICT master plan in education (2012-2021) for secondary education are as follows:

1. Providing learners at the secondary and higher secondary levels with a modern and appropriate ICT education.
2. The enhancement of teachers' professional abilities through the use of information and communication technologies (ICT).
3. Improving instructional materials through the use of information and communication technologies.
4. To establish a learning environment that is conducive to learning by enhancing the infrastructure of ICT. (MoE, 2019, pp. 26-27)

In the ICT Master Plan-2041, it is reported that more than 82,000 schools have classrooms with technology like computers and multimedia projectors (ICTD, 2023, p.24). Since the government has provided several tools and training about technology for teachers, it is important to explore whether they used them or not in the teaching and learning process.

As social science is identified as a broad area of learning in the curriculum, it is important to understand the integration of technology in social science curriculum, classroom use, and stakeholders' perspectives to achieve educational goals and objectives.

1.7 Limitations of the Study

While this study aimed to provide valuable insights to explain the incorporation of technology-integrated pedagogies in the secondary school social science curriculum and their practices in classrooms and schools, I must admit there are a few limitations that could have potentially influenced the interpretation of the results.

The study was carried out in three secondary schools of Chattogram district

purposively selected to represent varying school type (government, private and MPO listed rural schools). While this methodology provides the richness of context, it limits the breath of findings. Furthermore, the information was limited to secondary school students, head teachers and social science teachers but other related parties such as parents, policy makers and ICT coordinators were not considered during the study. Their exclusion limits a broader systemic understanding of technology integration in education.

The fieldwork was short-term and I did not see classroom life develop over time or through the seasons as it might in a period of examination preparation or teacher-training. More longitudinal perspective might have been achieved with additional focus on practice change and technological use that carries over in time.

The majority of the focus groups and interviews were held in Bengali language and were translated to English for reporting and analysis. Though I worked hard to ensure accurate translation, it is possible that some linguistic or cultural nuances were not retained or modified. This presents a limitation in preserving the authenticity of participants' expressions and perceptions. In addition, the analysis of the data was done using thematic analysis technique which presupposes considerable freedom with the data without clear frameworks and makes use of qualitative texts. Even though objectivity was aimed for, there is bound to be some influence from one's own perspective concerning subjective interpretation and data coding (Patton, 2002).

1.8 Definition of Key Terms

Technology refers to the tools, methods, and knowledge used to make human life easier and more advanced. Cloete (2017) considered that technology is not a tool but a medium that shapes society today. One of the most interesting things about technology is how it is socially embedded. In the words of Allenby and Sarewitz (2011),

Technology is not solely a matter of innovation; it is also a matter of adoption by a

critical mass of users, and it co-evolved with cultural, economic, political, and other domains. Each of these domains perpetually influences and is influenced by the other. (p. 35)

As a result, technology is more than just tools or infrastructure that may be used whenever it is needed. In this study, technology was considered as an approach of the teaching and learning process, which helps to obtain educational goals that, stimulated the classroom process, focusing on innovative and modern joyful student activities. Laptops, projectors, smart boards, and multimedia are widely utilized technologies in education.

Pedagogy refers to the teaching strategies of teachers in which they were connected with students through learning materials during classroom discussion (Santos & Castro, 2021). However, pedagogy could be described as the art of teaching. In a pedagogy integrated classroom, the teacher's role was like a facilitator where students were involved in innovative activities and knowledge acquisition regarding their known world. According to constructivism, pedagogy is an approach whereby classroom activities are proposed to students that are meaningful for both teacher and student, reflecting, searching, and using their capacity for taking initiatives and being creative (Dagar & Yadav, 2016). In this study, pedagogy was considered a vehicle of articulating learning goals that stimulated the learning process, focusing on students' perspectives.

Technology-integrated Pedagogy refers to the effective use of technology or digital devices and educational resources to enhance teaching and learning activities. There are various methods and techniques for conducting teaching and learning activities. Technology-integrated pedagogies are strategies and practices that are only appropriate for use with technology. Technology integration is the process of enhancing learning through the use of standard tools, equipments, and resources, including technological devices. It also entails organizing and managing the resources and instructional aids that are available to support learning (Okojie et al., 2006). In this research, Technology-integrated pedagogies mean not only using technology in the classroom, but also using technology in the right place and in the right way.

TPACK stands for Technological Pedagogical Content Knowledge. It is a popular framework for pedagogical planning. TPACK is an essential element of technology-assisted instruction that effectively imparts knowledge of pedagogical and technological approaches (Koehler & Mishra, 2006). The main three parts of the TPACK framework are technological knowledge (TK), pedagogical knowledge (PK), and content knowledge (CK). Other four components, such as PCK (pedagogical content knowledge), TCK (technological content knowledge), TPK (technological pedagogical knowledge), and TPACK (technological pedagogical content knowledge), are produced by the interactions between and within these components and are equally important to the model. This indicates that there are seven distinct elements to this framework.

Social Science Curriculum can be viewed as a tool used by the artist (social science teacher) to shape his material (students) to fit the needs of the child in his studio (the school) and the society at large (Aggarwal, 1993). In Bangladesh, the secondary curriculum named Social Science subject as Bangladesh and Global Studies. This curriculum has many parts. For example, it talks about the goals, aims, learning outcomes, teaching and learning methods, instructions, and evaluation system for social science.

Secondary School means the institutions that offer education for Grades VI to X, coming after primary school(Grades I to V) and before upper secondary education(Grades XI-XII) which are operated as government, non-government and private school and follow the NCTB curriculum to accomplish.

1.9 Organization of the Study

The thesis comprises six chapters. An introduction is the first chapter, followed by a review of related literature in the second, a methodology in the third, data analysis and findings in the fourth, a discussion of the main findings in the fifth, and conclusions in the sixth.

Chapter One: Introduction

Explicitly, the first chapter of the thesis starts with an introduction to the study.

Next, successively, it states the background and the context of the study, the statement of the problem, the rationale of the study, the significance of the study, the purpose and the research questions, the limitation of the study, the operational definitions of the terms used in this study, the organization of the thesis, and lastly, it presents the summary of the chapter.

Chapter Two: Review of Related Literature

This chapter conducts a critical analysis of prior researches in the domains of this study, including technological advancement, situation of technology integration, social science teachers perspectives, and TPACK models, in order to gain a clear understanding before proceeding to next phases, especially to build a conceptual framework, to work on methodology and primary data collection.

Chapter Three: Methodology

This chapter outlined the methodology of the study. I have explained the philosophical perspective of this investigation. Subsequently, the chapter describes the details of the study design, including sample procedures, data-gathering methods and devices, and methods of data processing and analysis.

Chapter Four: Data Analysis and Findings

A qualitative case study approach is applied to highlight the data analysis and findings within this chapter. The five research questions are followed in this chapter. It served as a deep, context-specific and comparative analysis of the documents and cases, which greatly set the stage for discussion in this next chapter.

Chapter Five: Discussions

The chapter presented the discussion of findings in relation to the current literature and research questions. In the meantime, a few implications regarding policy and practice were discussed.

Chapter Six : Conclusion

This chapter is the final part of the thesis. The key focuses and major findings of the study have been outlined at the beginning of the chapter. It also outlined the recommendations following major findings. The chapter ends with a discussion of the overall thesis and the identification of areas for future research.

1.10 Chapter Overview

This chapter has presented an introduction of the research leading to the investigation. The chapter begins with a detailed review of the research background, which highlights the growing importance of technology use in the education context as expressed by various policy frameworks. The chapter outlines the primary research problem. It is noteworthy that a significant discrepancy remains between existing policies and real pedagogical practices in classrooms. It outlines the research purpose and specific objectives that serve as the direction of the research. The justification and importance of the study have been discussed in the chapter, which indicates that there will be an important contribution to academia. The restrictions to the study are also discussed in the chapter.

Finally, the chapter presented a structure of the thesis and clarified some important terms used in this work so that no confusion could arise on some notions. Altogether, Chapter One provided a sound and comprehensive foundation for the research which came before reviewing literature and the other chapters of the thesis.

Chapter Two

Review of the Related Literature

As a crucial component of research, this chapter offers a thorough analysis of pertinent literature (Chigbu et al., 2023; Merriam & Simpson, 2000; Randolph, 2019). Merriam and Simpson (2000) state that a literature review is helpful "to explore a topical area for study or to develop a conceptual framework" (p. 10). Finding, assessing, and synthesizing high-quality research evidence are all part of this review (Fink, 2005). In this chapter, relevant study topics are explained and their connections are charted (Rocco & Plakhotnik, 2009). Additionally, this chapter describes the selection of the theoretical frameworks through a literature narrative pertaining to the research issue.

The first section of this review outlines technology integration and technological innovation in education, then the technology resources for teachers, and the situation of technology integration in Bangladesh. The focus is then placed on pedagogical practices within social science classrooms and teachers' perceptions towards using technology, determining the opportunities and limitations in practice. Technology-based professional development and the integration barriers are also considered in the review, including teacher, pupil, institutional, and policy-related challenges.

Finally, the section gives the study's theoretical foundation, particularly emphasizing the TPACK model from the perspective of social science teachers., This chapter ended with a brief overview of the literature reviewed.

2.1 Technological Advancement and Integration of Technology in Education

Globally, technological advancements have significantly altered the way that education is delivered, putting more of an emphasis on learning environments that are accessible, specific, and interactive. Among the most often used technologies are Learning

Management Systems (LMS), such as Google Classroom, which enable resource sharing and virtual classrooms, particularly in urban and semi-urban institutions (Saimi & Mohamad, 2022). The extensive usage of mobile devices and internet connectivity has enabled access to digital learning platforms like 10 Minute School, a domestic e-learning project that provides free video lectures and curriculum-aligned tests (Uddin et al., 2025). Additionally, kids in distant locations with restricted internet connections have significantly benefited from interactive radio and television programs (Al-Masum & Chowdhury, 2013). To improve pupils' digital literacy, ICT laboratories and computer education are being implemented in schools (Aslan & Zhu, 2018). Shaha (2019) stated that ICT has shifted the educational paradigm by creating teaching and learning more interactive and engaging environment for both teachers and students, where the teacher's role is facilitating and navigating knowledge.

Many studies have investigated the integration of technology in education. Grabe (2007) urged that technology integration has completely changed our daily life and way of thinking, revolutionizing our society with modern advances. He also points out that technologies can significantly impact students' knowledge, abilities, and motivation. Raihan (2012) has defined technology integration in education as a process of teaching and learning supported by using computers and other technologies as tools. He added that incorporating technological tools into general education curriculum areas is necessary to develop students' knowledge of technologies and utilize them to solve problems. Ghavifekr & Rosdy (2015) found that technology integration benefits teachers and the students immensely. Hong (2016) also stated that technology has the potential to be a valuable instrument for creating and producing knowledge positively by fusing old and new information.

In Bangladesh, efforts to integrate ICT into education began earnestly in the 2010s, with government initiatives providing laptops and multimedia projectors to secondary schools (Hwang & Lim, 2024). Harris and Hofer (2011) point out some important contextual factors on which technology integration depends, such as national curricular

standards, the learning needs of the students, technology-based funding, and the circumstances of the school and classroom. Msambwa et al. (2023) systematically reviewed ICT integration in secondary education. They found that ICT integration greatly improves students' learning outcomes, motivation, engagement, and development of critical and creative thinking. It is also a vital instrument for making instruction more engaging and effectively imparting 21st-century skills to students in today's secondary schools. Tahmina et al. (2016) stated that ICT integration will help students, freeing them from constrained curriculum and resources. Instead, students will gain knowledge of the subject through hands-on activities in a classroom with increased technology. They also added that technology may assist teachers in designing innovative and successful lesson plans that encourage students to participate in their education. As social science is an integrated subject, it is pretty significant to incorporate ICT in its teaching and learning process.

The above discussion indicates the advancement of technology in education in Bangladesh and the global context, as well as the improvements due to its use. 'Bangladesh and Global Studies' is an integrated and compulsory subject at the secondary level in Bangladesh, where discussion of global issues, local culture, and various social issues also takes place. Therefore, this study provides a detailed and in-depth understanding of the use of technology in this regard and the attitudes of teachers and students towards it.

2.2 Technological Tools for Teachers

Modern teaching methods are becoming increasingly reliant on technological tools. Teachers today rely on a range of digital resources. The use of various technologies in education is growing, including online platforms, mobile applications, multimedia resources, computer-based technologies, and game-based learning aids (Ain et al., 2019). Davidson et al. (2014) studied teachers' perspectives on using technology as an instructional tool. They listed technological devices as document, cameras, digital projectors, laptops, iPads, Smart Boards, desktop computers, clickers, mobile computer

carts, and PowerPoint presentations. Websites, iPad apps, webinars, and the Internet are also considered tools. Another study by Benson (2021) pointed out a range of digital resources teachers use, including interactive whiteboards, projectors, tablets, and learning management systems (LMS) such as Google Classroom and Moodle, which facilitate resource sharing, assignment management, and communication. Using multimedia resources such as animations, simulations, and films helps teachers make complex ideas easier to understand and create engaging learning environments (Mishra & Koehler, 2006). In Bangladesh, most schools have computers, multimedia projectors, Internet facilities, and electricity facilities, as stated by Mallick and Salam (2021). Besides, according to the BANBIES report, the available ICT devices included laptops, desktops, multimedia projectors, Printers, and internet connecting devices (2022). Considering this global dimensions and national perspectives, this study sought to investigate how the secondary school social science curriculum incorporates these technology-integrated pedagogies and how social science teachers practice these pedagogies in secondary schools, especially in the BGS class.

2.3 Situation of Technology Integration in Education in Bangladesh

The integration of technology in education is a common phenomenon worldwide. Bangladesh's education sector has already started using technology at all levels of education (Shaha, 2019). The learner's function and technology have shifted dramatically as traditional instruction has given way to a virtual learning environment (Majumdar & Das, 1997). Following the Education Policy-2010 and various studies, the state of technology integration in Bangladesh's education system is discussed below.

2.3.1 Technology Integration and Evidence from National Education Policy

The National Education Policy 2010 is a thorough education strategy that offers a path forward for the advancement of education across the country. It emphasized edification modernization, equal access, and quality enhancement. The policy also

underscored the importance of training students to participate in the global knowledge economy of 21st century which demands technology literacy and digital skills. The foreword part of the policy stated, “Technology has become the most crucial factor of the modern world. Computer and Information Technology has become an integral and most significant part of education worldwide” (MoE, 2010, p.1).

Similarly, the aims and objectives section also acknowledged the importance of ICT for developing knowledge-based technology-enriched Bangladesh and emphasized the extensive use of information and communication technology (ICT), instrumental in the educational process at every level. Besides, the policy also embedded technology integration, focusing on different levels of education. At the primary level, the policy considered ICT a potent equalizer, ensuring that all children have access to high-quality educational materials.

However, the secondary and higher secondary level sections also placed a significant focus on the official introduction of computer education, multimedia-based pedagogy and digital content development. Regarding teachers' education, the policy mentions the ICT training for all the teachers, that has to include the multimedia and digital tools in its content. In general, NEP-2010 has provided a sustainable framework for integrating technology in the education of Bangladesh.

2.3.2 Technology Integration and Government Initiatives

In line with the goals and objectives of the policy, Secondary and Higher Education Division (SHED) constructed 33285 multimedia classrooms and 2306 ICT laboratories with DSHE's assistance; an additional 46340 multimedia classrooms were anticipated to be established in 31340 schools (SHED, 2020). Another study conducted in 500 secondary schools by BANBISE found that every secondary educational institution (100%) have ICT devices. That being said, 92.5% of ICT devices are working, whereas 7.3% are not (BANBISE, 2022). However, more than 82,000 schools have classrooms with technology

like computers and multimedia projectors as reported in ICT master Plan 2041 (ICT Division, 2022). From this perspective, it can be said that policies and initiatives have been taken to create a technology-based learning environment in secondary schools in Bangladesh. As BGS is one of the fundamental secondary level subject, it is important to know how the curriculum has embedded technology, how technology is being used in teaching social science, and what the attitudes of teachers and students have.

2.4 Pedagogical Practices in the Social Science Classroom

Generally, Teachers have a positive attitude and the competence to use ICT in social science teaching as reported by Nxusa et al. (2025). But ICT integration in Social Sciences remains early stage, although policies and curriculum aims have been strong (2025).

In Bangladesh, secondary schools introduce social science, sometimes social studies, and other courses. Now it has been named as Bangladesh and Global Studies (BGS), focusing on three basic skills. They are content knowledge skill, social attitude and social skill (Hafiz & Rahman, 2019). Particularly today, social studies education must be provided in schools (Zinnah, 2010). As social studies is an integrated subject with some major branches of social sciences, it is challenging to teach effectively at the general school level in Bangladesh. Imon (2017) reported that ICT is still not used in all educational activities in Bangladesh. Even though the majority of schools have computer-equipped ICT labs and some also have internet connectivity, the implementation process hasn't started in many of them yet. He also added that students only watch the topics that teachers share on the computer, internet, and projector most of the time when they are using ICT devices in the classroom. In their teaching-learning process, educators employ computers and projectors. Segkulu (2025) urged that technology-enhanced social studies instruction improves students' engagement and critical thinking. But gains in content knowledge are relatively small, indicating that technology alone does not substantially improve disciplinary understanding.

In secondary schools, the conventional methods and approaches employed by teachers to carry out instruction in the classroom (MoE, 2022). However, pedagogical practices in social science classrooms in Bangladesh are gradually shifting from traditional teacher-centered methods toward more interactive and student-centered approaches (Mallick, 2021). He argued that integrating technology in social science classrooms in Bangladesh and its practical diversity largely depend on policy guidelines, curriculum trends, teachers' professional training, and their perspectives. Therefore, this study attempted to explore the notion of technology integration in the social science curriculum and its implications in the secondary school context.

2.5 Social Science Teachers' Perspective

The attitudes and opinions of teachers are strong factors that significantly impact the activities that take place in the classroom (Groff & Mouza, 2008). This argument was supported by Hong (2016), who pointed out that teachers have a crucial role in integrating information and communication technology (ICT) since their views toward the notion determine how ICT is used in the classroom. Research by Hong 2016 at the United Nations found numerous valuable and efficient ICT tools available for social studies education, and many social studies teachers understand the importance of integrating ICT into their lessons. Teachers must adopt a favorable mindset toward technology and feel at ease utilizing it as a teaching tool to successfully integrate technology in the classroom (Rakes & Casey, 2002). Ghavifekr & Rosdy (2015) found that one of the key elements in the effectiveness of technology-based teaching and learning is the teacher's adequate preparation with ICT resources and tools. A survey conducted by BANBASE (MoE, 2022) found that social science teachers were given priority 4.7% in conducting ICT-based sessions at the secondary level. This report revealed that social science teachers are less interested in incorporating technology into their classes. Using multiple case study approach, this study tried to explore how social science teachers from different secondary schools perceive and practice technology integrated pedagogies.

2.6 Head Teachers' Perspectives

The literature has a well-established understanding of the role and commitment of head teachers in the successful implementation of educational programs, particularly in the context of school leadership (Leonard & Leonard, 1999). In the Bangladeshi context, it is also evident that school administrators play significant roles in the enhancement of the school environment and student outcomes (Salahuddin, 2012). Leonard and Leonard (1999) assert that school leaders, notably principals, vice-principals, and head teachers, are regarded as a significant source of motivation and play important roles in the implementation of new programs or teaching practices (p. 238). More particularly the role of school leaders for promoting the practices of technology-integrated pedagogies in the classrooms and schools is strongly supported by different recent studies (Adewale, 2025; Alshidi & Rashid, 2025; Alajmi, 2022; Baharuldin et al., 2019; Claro et al., 2017; Donaldson & Jackman, 2024; Geresola & Lausa, 2024; Gyeltshen, 2021; Jamil et al., 2024; Karakose et al., 2021; Lindqvist, 2019; Regañon, 2023; Rojas Briñez et al., 2023; Sisindra & Nawastheen, 2025; Thannimalai & Raman, 2018; Yang et al., 2025).

Most of these studies identified or suggested different leadership strategies that can be supportive for the subject teachers to integrate technology in their pedagogical practices in the classrooms and schools. For examples, Adewale (2025) conducted a systematic review and identified eight leadership strategies that can enhance technology usage among teachers in secondary schools. The strategies are: leadership and vision, professional development programmes, digital learning culture, infrastructure and resources, pedagogy and instruction, systemic improvement and evaluation, digital citizenship and responsibility, and support services for teachers. Donaldson and Jackman (2024) focused on communication with key stakeholders and resource allocations as leadership strategies for ICT integration in the schools. Gyeltshen (2021) conducted a study titled “Principals’ Technology Leadership Behavior and Teachers’ Use of Information and Communication Technology (ICT) in Bhutan” and found that teachers' usage of ICT in the classroom, as perceived by middle secondary school teachers in Bhutan, was positively correlated with

the technology leadership behaviors of the school leaders. Furthermore, the study found that the productivity, professional practice, management, and operation of principals' technological leadership dimensions were important predictors that may enhance teachers' use of ICT. With an emphasis on the mediating function of capacity building, Yang et al. (2025) carried out a systematic review to investigate the influence of principals' technological leadership on teachers' ICT integration. The results showed that ICT integration is greatly aided by principals' leadership behaviors, which include setting a clear vision, assigning resources, setting an example for technology use, and planning professional development.

The findings of the study of Sisindra and Nawastheen(2025) reveal that Principals undertake various responsibilities as facilitators, enablers, and proponents of technology integration. As supportive leadership strategies, several studies (Alajmi, 2022; Baharuldin et al., 2019; Claro et al., 2017; Karakose et al., 2021; Lindqvist, 2019; Thannimalai & Raman, 2018) indicate that when the school principals in their capacity as an instructional leader, takes on a digital leadership position and assesses the entire school system to improve the use of digital technology, it is simpler to incorporate technology. In light with these studies, Adewale (2025) notes that by giving teachers the assistance they need, school leaders may win teachers over to the use of technology. Teachers, who are the main target for the knowledge to be shared further among themselves and their students, are instilled with confidence and a sense of duty when this is available (Adewale, 2025).

However, Leonard and Leonard (1999) report that the school leaders are not always the strongest advocates for innovation. Similarly, Fullan (2007) argues that school leadership is a multifaceted process that does not guarantee consistently favorable outcomes. Salahuddin (2012) asserts that the education sector in Bangladesh faces challenges related to school leadership, emphasizing a greater focus on quantitative issues, such as increasing student enrolment, rather than on enhancing quality through pedagogical development (p. 23). It was therefore important for a focus on perceptions of head teachers about their roles in promoting practices of technology-integrated pedagogy in the social

science classrooms and schools.

2.7 Students' Perspectives

Students are always considered a vital element of education. In the modern era, due to the availability of technology and the expansion of ICT facilities, students' attitudes, interests, and perspectives towards technology in the teaching-learning process are clearly evident in the current literature (Asdies et al., 2015; Beckman et al., 2014; Godzicki et al., 2013). The impact of technology as an effective means of creating flexible learning opportunities and meeting diverse learning needs is currently particularly noticeable (Chen et al., 2024; Tjebane, 2023). Recent studies have shown that technology is playing a positive role in increasing student interest, motivation and participation in the learning process (Amrtin et al., 2020; Mumtaz & Ibrahim, 2024; Bulut & Delialioğlu, 2024). However, some studies have also revealed the adverse effects of technology on students' visual fatigue and mental health due to excessive use of technology (Chao et al., 2019; Krishna & Rajon, 2025).

Nevertheless, technology plays a helpful role in keeping students learning permanent, joyful and up-to-date, although it is never a substitute for teachers (Bonini, 2020; Knapper, 2012). The integration of technology into social science education, which focuses on society, individuals, and social activities, introduces a novel dimension to the learning experience. This offers the opportunity to have real experiences and observations of its contents, leading to a deep understanding of the connectedness of social activities (Bariham, 2022). This study also focused on students' perspectives of technology integration in social science in the context of secondary education in Bangladesh.

2.8 Evidence of Using Technology in Pedagogical Practice during the Pandemic

COVID-19, also known as Corona virus, has affected every aspect of human life. According to the United Nations (2020), nearly 1.6 billion students across more than 190

countries and all continents have been impacted by the COVID-19 epidemic, which has caused the biggest disruption to educational systems in history.

The World Bank (2021) reported that in Bangladesh, COVID-19 related school closures began on March 17, 2020, and have lasted into 2021, impacting almost one million instructors and approximately 38 million students. Since most of the countries of the world announced the closure of their educational institutions. COVID-19 has forced the teachers to conduct their classes through online. The main component of the online education is technology. Kaur (2020) stated that online teaching is mostly depending on technological devices and internet, instructors and students. Smartphone, laptop, i-pad, and tablets are the most common technologies that can be used in online education. Numerous technologically integrated online learning platforms are available, including WhatsApp, Google Classroom, Ruang Guru, Quipper, Zoom Meeting, and others as reported by Rahayu and Wirza (2020).

Online learning initiatives during COVID-19 pandemic in Bangladesh were centered on national television. According to Digitization of Education (MoE, 2020), DSHE has started distance education for the students of secondary level through Sangsad Bangladesh Television named 'Amar Ghore Amar School' since 29, march 2020. DSHE has also taken the initiatives for the teachers' training to enable them for conducting online classes. Educational institutes are arranging on-line classes. Digital textbooks and e-learning modules have been developed in different subjects including Bangladesh and Global Studies. While UrbanPro (2014) argues for 2 types of online teaching namely 'Synchronous' and 'Asynchronous' both types were used by the teachers in Bangladesh.

An assignment-based evaluation system is another initiative of the government. Students from Grades VI to X gathered their homework from their current school, the National Curriculum and Textbook Board's (NCTB) website, and the TV classes. Students were required to turn in those assignments to their school.

Overall, it can be argued that traditional educational activities have been transformed into technology based online education. Like other subjects, social studies classes were also conducted in online using technological tools. As a model TPACK has potentials for teaching through technology (Kainat et al.,2021). But it is remain unrevealed that how technology is integrated in exiting social science curriculum and how do teachers practice it in their regular classes. This study tried to explore technology integration in social science curriculum and practices in the classrooms.

2.9 Technology-based Professional Development for Teachers

Learning is a life-long, continuous process. In terms of teachers, there is no doubt that a teacher should become a learner first. According to research by OECD (Organisation for Economic Co-operation and Development, 2009), professional development for educators is any procedure or approach that assists in a teacher's improvement. Teachers can improve the learning environment in the classroom and broaden their skill sets by participating in professional development. Gardner (2011) suggested by his research that teachers should receive frequent professional development in technology, and teachers must be prepared to employ technology in the classroom. Moreover, promoting the use of technology during the teaching-learning process requires professional development on curriculum integration (Darling-Hammond et al., 2009). Teachers' use of technology was related to their training, preparation, and work environments.

Hong (2016) points out that a positive mindset is necessary for teachers to integrate ICT successfully. To encourage teachers to integrate ICT positively, it is important to provide well-organized ICT teacher training. Research by Kilinc et al. (2018) showed a statistically significant difference between teachers who attended professional development and those who did not regarding how they looked at external barriers. According to the MoE report (2022), the Bangladesh Bureau of Educational Information and Statistics (BANBEIS) has been playing a significant role in putting government ICT

initiatives into action. For this purpose, it provides computer training to government and non-government employees as well as teachers, officials, and personnel. Additionally, through the A2i project, TQI project, and other initiatives, the government provided ICT training for teachers in secondary schools.

BANBEIS is implementing the 'Establishment of Upazila ICT Training and Resource Centre for Education (UITRCE)' program in the selected 125 Upazila of Bangladesh (MoE, 2022). Social science teachers also enrolled for this training as a general and integrated subject of secondary level. This report also pointed out that the secondary education system lacks sufficient programs for training teachers in the efficient use of ICT in the classroom. Trainings on the use of ICT in the classroom have been organized and put into place; however they are insufficient because many teachers remain excluded.

On the other hand, there are 54 non-government and 14 government Teachers' Training Colleges (TTCs) in Bangladesh that offer teacher education programs for both pre-service and in-service training of secondary school teachers. At TTCs of Bangladesh, the social science is one of the optional teaching courses offered as part of professional development training (NU, 2024). In TTCs' B. Ed. Curriculum, social science is not required for the teachers who instruct this subject in schools (Zinnah, 2010). So, it is important to explore social science teachers' perceptions of ICT training and its integration in the classroom, as different authorities conducted different professional training.

2.10 Challenges of Technology Integration

Although technology plays a crucial role in enhancing education, teachers still face difficulties in designing effective learning environments using technology, as Groff and Mouza (2008) argued. Kilinc et al. (2018) reported that one of the main obstacles to technology integration is seen to be a lack of administrative and technical support.

The successful integration of ICT in education is a diverse and intricate process,

according to MoE (2022). According to BANBASE, instructors' conventional methods and approaches to teaching and learning in the classroom present the biggest obstacle to the introduction and use of ICT technology in secondary school. Although teachers also employ lectures and question-and-answer sessions, pupils still primarily attempt to remember different lessons by memorisation. BANBASE also found the following additional ICT integration challenges: a lack of teaching guides, reference books, and example question papers to support the curriculum; teacher skills; internet access; device adequacy; and an uninterrupted power supply.

In another report, the MOE points out that the lack of awareness and resistance due to poor attitudes and motivation towards ICT among teachers and principals, Load shedding, lack of adequate multimedia classrooms, lack of supplied quality devices, and inadequate infrastructure of ICT are the main barriers to integrating technology in education as well as social studies. The current study also attempts to explore the challenges of tech integration in terms of social science classes from the perspective of social science teachers and students, which has not been explored in previous literature.

Some significant challenges are also identified when teachers conducted online class during the COVID 19 pandemic. For examples, Feddy et al. (2021) stated that most of the teachers considered online education as a challenging teaching task. Three dominant challenges were identified: personal, technical, and pedagogical. The main personal challenge was teacher's anxiety. Because they are used to conduct face-to-face class but they were being forced to teach online. The technical issue was that most of teachers were not proficient in using and working with unfamiliar digital software. Pedagogical challenges include teachers' common struggles in delivering the lessons online. The challenges are the lack of interaction and their ability to communicate and deliver the appropriate lessons effectively. Ramij and Sultana (2020) reported that teachers faced additional challenges with online learning due to a lack of technology infrastructure, high internet costs, and family financial concerns during a pandemic in Bangladesh.

2.11 Theoretical Framework

Hermans (2008) asserted that teachers who use technology in the classroom require specialized knowledge and abilities. Incorporating technology into instruction entails considering the curriculum, the needs of the students, the available technology, the problems of media design and lesson planning, and in some way fusing them into a method that will improve student learning. As the study tried to address technology-integrated pedagogies in social science curriculum and its school practices, the study followed by TPACK framework for theoretical purposes. TPACK framework concepts help teachers understand and consider using technology in their classes.

2.11.1 TPACK Framework

The TPACK (Technological Pedagogical Content Knowledge) model is a paradigm for technology integration that delineates three essential categories of knowledge that educators must blend for effective educational technology implementation: technological, pedagogical, and content knowledge (Esposito & Moroney, 2020). There is a noticeable rise in the global research volume on TPACK from 2010–2025, indicating that the academic research interest on this topic has surged as urged by Cahayani et al. (2025).

The TPACK framework was [introduced by Punya Mishra and Matthew J. Koehler](#) of Michigan State University in 2006. With it, they identified three primary forms of knowledge: Content Knowledge (CK), Pedagogical Knowledge (PK), and Technological Knowledge (TK).

The diagram presents the basic concept of TPACK framework (Kurt, 2018) is given below;

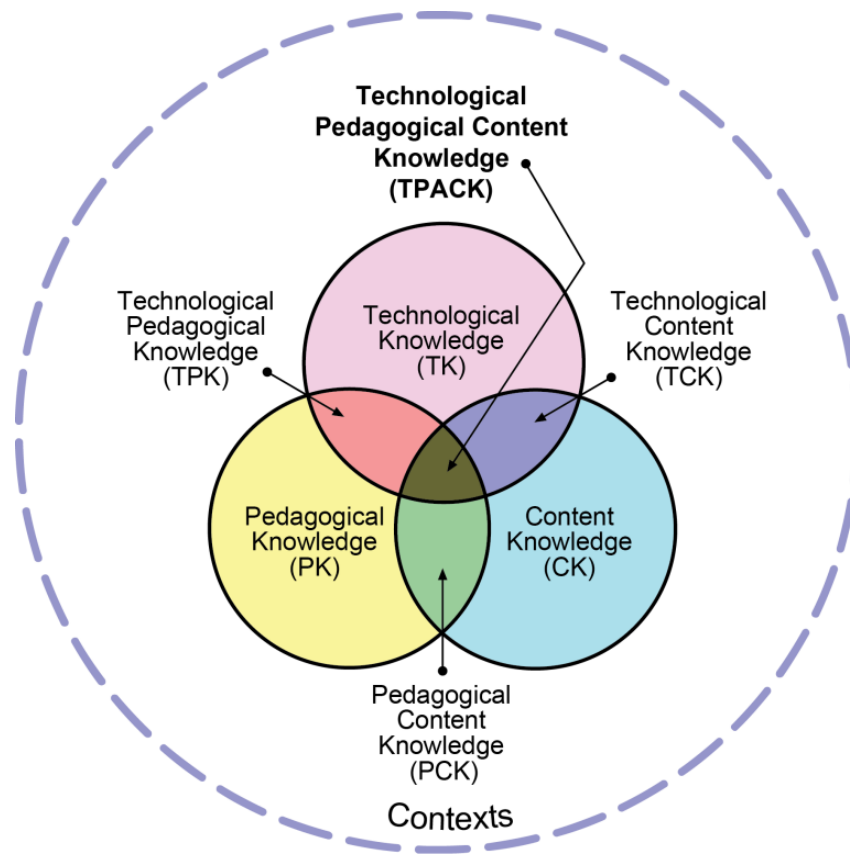


Figure 2.1: TPACK Framework (“Reproduced by permission of the publisher, © 2012 by *tpack.org*”)

In this section, I explore the literature in the area of teachers’ TPACK; (Technological Pedagogical Content Knowledge) and its uses in their online teaching.

2.11.2 Teachers’ TPACK

The TPACK model is the foundation for effective usage of technology for teaching, which requires the understanding of the concept of utilizing technology (Mishra and Koehler, 2006). This model consists of some integrated terms such as CK, PK, TK, PTK, TCK, PCK and TPACK etc.

Content Knowledge (CK): Teachers’ content knowledge can be defined as the

teachers' deeper concept and understanding of the subject matter that they are going to be taught. As noted by Kang (2012), this knowledge should include: 1. Concepts 2. Theories 3. Ideas 4. Organizational models 5. Knowledge about evidence 6. Established practices and methods to underpin this knowledge. Social science is a content oriented core subject. So social science teacher should have the deeper knowledge and understanding of the subject matter.

Pedagogical Knowledge (PK): This knowledge is deep knowledge about the processes and practices or methods of teaching and learning and how they encompass, among other things, overall educational purposes, values, and aims (Mishra & Koehler, 2006). It also includes knowledge of classroom strategies or methods, the nature of the learner, and techniques for assessing learners' understandings. Teachers' face pedagogical challenges in online learning, especially for social science teachers because the subject is content-oriented, and the students may easily get bored, as Junsay and Madrigal (2021) stated.

Technology knowledge (TK): Technological knowledge refers to the capacity of teachers to operate computer hardware and systems, as well as to utilize standard software tools such as word processors, spreadsheets, browsers, and email (Mishra & Koehler, 2006). TK also encompasses the ability to install and remove software programs, create and archive documents, and install and remove peripheral devices (Mishra & Koehler, 2006). The potential for technology integration in social science may be enhanced by the acquisition of new technology skills by teachers.

The remaining three fundamental components of TPACK are TPK, TCK, and PCK. Technological pedagogical knowledge (TPK) is the teacher's understanding of the methods, practices, and procedures that are appropriate for teaching and learning with technology. The teacher's knowledge of technology that is specific to the subject matter to be taught is referred to as technological content knowledge (TCK). Pedagogical content knowledge (PCK) is the teacher's understanding of pedagogy in relation to the specific

subject matter that is to be taught. Technological, pedagogical, and content knowledge (TPACK) is the teacher's understanding of the interplay among the three components (Hill & Uribe-Florez, 2020).

2.11.3 Technological Pedagogical Content Knowledge (TPACK)

According to Schmidt et al. (2009), technological PCK (TPCK) refers to the skills necessary for teachers to incorporate technology into their lessons across all subject areas. By employing suitable pedagogical techniques and technological tools to teach subject matter, instructors possess an intuitive understanding of the intricate interactions among the three fundamental components of knowledge (CK, PK, and TK). Hill and Uribe-Florez(2019) stated in their article that teachers reported having the lowest average score for technological knowledge and higher average scores for pedagogical knowledge and content knowledge. Fortunately, Friewald (1997) observes that most social studies teachers have favourable opinions about the use of interactive technology in the classroom. Currently, traditional pedagogical approaches that are largely teacher-centered still dominate social studies instruction, and technology is rarely, if ever, used in revolutionary ways (Doering et al., 2009). Successful integration of TPACK is depends mainly on teachers' confidence and understanding, not high-level technology (Arifuddin et al., 2025). Therefore, teachers need a clear and balanced understanding of content, pedagogy, and technology to integrate technology meaningfully (2025).

2.12 Social Science Teachers Attitudes towards TPACK

Technologies can be successfully and efficiently incorporated into educational practices using a variety of models and approaches, including the Systemic Planning Model for ICT Integration, Technological Pedagogical Content Knowledge Model, Generic Model of Pedagogy, Social Interaction and Technology, Five Stage Model of Computer Technology Integration, and Technology Integration Planning Model (Mishra & Koehler, 2006; Toledo, 2005; Wang & Woo, 2007; Wang, 2008; Roblyer, 2006). One of the most

popular models of integrating technology into education is Technological Pedagogical Content Knowledge (TPACK), which was first presented by Mishra and Koehler (2006). It refers to an understanding of information and communication technology and how to use it appropriately and effectively in the classroom (Kaya et al., 2010). The most effective structural strategy for meeting students' demands and boosting their interest in the class is the use of technology in social studies (Braun, 1999).

Social science teachers and teacher candidates generally hold above-average positive attitudes toward TPACK and its components (Adalar, 2021). However, Social science teachers' attitudes towards adopting online education were influenced by their perceptions of its utility and usability, which were greatly impacted by their level of TPACK (Wijayati et al., 2023). Despite having a solid understanding of pedagogy and content, many social studies teachers are unsure about how to use technology in pedagogically meaningful ways and enhance the curriculum (Askin, 2023). Bangladeshi teachers report moderate to positive self-perceptions of TPACK at the tertiary and secondary levels (Ahsan et al., 2022). Their attitudes and readiness are strongly shaped by contextual factors such as device access, institutional support, and professional development opportunities.

At the regional level, UNESCO reports have emphasized that favorable teacher attitudes toward technology-enhanced pedagogy require systemic support in professional development, school infrastructure, and curricular alignment (UNESCO, 2020). Furthermore, studies on ICT-based teaching in Bangladesh underline that while teachers express willingness to adopt digital tools, meaningful pedagogical use is limited without sustained institutional backing (Mahmuda, 2021). Finally, instrument development studies focusing on social science teachers' self-efficacy for TPACK suggest that validated scales can help capture these attitudes systematically and provide practical frameworks for local research adaptation (Schmidt et al., 2009).

From the existing literature, it is evident that while numerous studies have

investigated technology integration in education in Bangladesh and the global context, limited research has specifically addressed its application in social science at the secondary level in Bangladesh. The few studies conducted in Bangladesh have predominantly focused on the general education system or on science-related disciplines (Obaydullah & Rahim, 2019; Mannan et al., 2014) as well as on language education (Talukder & Saba, 2016; Islam, 2015). However, very little research has explored technology integration in the social science curriculum and its pedagogical practices at the secondary level (Mallick & Salam, 2021). Consequently, there is a noticeable gap in the literature concerning technology-integrated pedagogies within the social science curriculum and the perspectives of relevant stakeholders. Addressing this gap, the present study focuses on how technology is embedded in the existing social science curriculum in Bangladesh and investigates both teachers' and students' perceptions of technology-integrated pedagogical practices in everyday classroom contexts. Furthermore, this study examines the challenges associated with integrating technology in secondary Bangladesh and Global Studies (BGS) classrooms, considering both rural and urban perspectives through an in-depth qualitative approach.

2.13 Chapter Overview

This chapter reviews literature on the integration of technology in education with particular reference to social science pedagogy at the secondary level. It broaches technological developments and teachers' resources, technology use in Bangladesh today, and pedagogical approaches in the social science classroom. Teachers' attitudes towards integrating technology and the challenges of using technology are also mentioned. A theoretical frame based on TPACK has also been developed to guide the study's further activities. This review also identifies key gaps in research that the study seeks to address. In the next chapter, the whole methodology followed for the study is described.

Chapter Three

Methodology

3.1 Introduction

This research aimed to explore how technology-integrated pedagogies are incorporated in the secondary school social science curriculum of Bangladesh and how technology-integrated pedagogies are practiced in the classrooms and schools. In the literature review (Chapter 2) different interrelated concepts relating to this study as well as theatrical framework have been discussed. This chapter presents the detail methodology of the study.

After this introduction, first, I explain the philosophical worldview of this study. Subsequently, the chapter describes the details of the study design, including sampling methods, data collection methods and instruments, and methods of data processing and analysis. I then go on to discuss how I addressed the ethical issues surrounding this research and the steps I took to preserve the study's validity and academic integrity. Finally, I conclude with an overview of this chapter.

3.2 Philosophical Worldview

The application of abstract concepts and ideas that guide our research is known as philosophy (Creswell, 2013). For this study, I chose a social-constructivist worldview (Creswell, 2014) among several different assumptions in philosophy or research paradigms. Social constructivism holds that people's experiences and living environments are the foundation of their thought processes (Creswell, 2014). According to social constructivism, people are free to create subjective meanings that can take many different forms. So, instead of reducing people's opinions to a few categories, researchers should look at how complex they are. Creswell (2014) also argued that a social-constructivist philosophical worldview's subjective meaning is “multiple and varied” (p.37). This research aims to investigate how technology-integrated pedagogies are introduced in the

secondary school social science curriculum of Bangladesh and how technology-integrated pedagogies are practiced in the classrooms and schools. This research involves secondary school students, head teachers, and social science teachers aiming to explore their perceptions of technology-integrated pedagogies in the social science curriculum and classroom practices. All the teachers, head teachers and students participated in this study have their specific social and cultural contexts, and every participants' views and understanding was considered valued since from the perspective of philosophical world view I understand that "reality is socially constructed" (Robson, 2002, p.27).

3.3 Research Approach

I used the qualitative approach to conduct this study. As Patton (2005) argued, qualitative data convey a narrative, and qualitative methods enable a thorough investigation of specific topics where nuance, context, and attention to explanation are required. This research was intended to uncover a central phenomenon with in-depth information. Thomas (2011) suggests that qualitative research focuses on subjects and looks at it in-depth rather than attempting to generalize from it. Creswell and Creswell (2018) summarised the characteristics of qualitative research approach as:

Qualitative research is an approach to exploring and understanding the meaning individuals or groups ascribe to a social or human problem. The research process involves the formulation of questions and methodologies, the collection of data within the participant's environment, inductive data analysis that progresses from specific instances to overarching themes, and the researcher's assessment of the data's significance. (P.51)

Bogdan and Biklen (2007) characterized qualitative research as naturalistic because this approach involves the "actual setting in which it occurs" (p.5).

I used qualitative approach since the purpose and nature of this study is fully aligned with the characteristics of qualitative research as reported by different scholars.

3.4 Research Design

Though the nature of this study is qualitative, particularly I used case study design for conducting this study. According to Yin (2009), The case study technique involves the collection of exploratory, descriptive, and explanatory qualitative data, positing that "the case study method enables researchers to preserve the holistic and significant attributes of real-life occurrences, including individual life cycles, small group dynamics, organisational and managerial processes, community transformation, and educational performance (p. 4). Yin (2009) also identifies the characteristics of research questions relevant to examinations or investigations through case study method. He points out that ““how” and “why” questions are likely to favour the use of case studies” (p. 10).

The utilization of case studies is suitable for this qualitative research because it is explanatory and aims to address the how and why of contemporary events (Yin, 2009). The accumulation of exploratory and descriptive qualitative data from one or more cases within a bounded system is a component of a case study methodology (Yin, 2009). The process of collecting qualitative data in a case study entails the perception of key episodes or testimonies, followed by the representation of these events with direct interpretations and narratives. These representations are then employed to optimize comprehension of the specific case (Stake, 1995). Consequently, case studies facilitate the observation of individuals' words and actions in a naturalistic environment, thereby enabling the researcher to construct a multifaceted and intricate meaning that is influenced by a variety of factors (Creswell, 2008).

While Stake (1995) argues that a case study is concerned with “the particularity and complexity of a single case, coming to understand its activity within important circumstances” (p. xi), this is also relevant to my study. My study investigated specific aspects (technology integrated pedagogies), and stressed on particular secondary schools

social science curriculum. Moreover, this study investigated the issue in particular secondary schools in a particular time. Further, the aim of the study, as Yin (2009) argues, is to explore, describe, and explain different factors to understand the holistic and meaningful characteristics of technology-integrated pedagogies for social science teaching and learning practices in schools.

Aiming to explore the perceptions of teachers and students about technology-integrated pedagogy in the social science curriculum and practices in different types of secondary schools, my study involves multiple case studies. Stake (1995) notes that “the multicase project is a research design for closely examining several cases linked together” (p. v). Yin (2018) argues that a study that may include more than one case is called a multiple-case study. A multiple case study methodology based on participants from three secondary schools was chosen in order to develop different viewpoints on this topic, as well as enabling the identification of similar patterns across the case studies (Creswell, 2008). The results of one case study may support or contradict the results of another when a multiple case study design is used, however when making comparisons, it is important to take into account the various settings of the case studies (Yin, 2018).

3.4.1 Sampling

According to Patton (2002) (p. 230), “qualitative inquiry typically focuses in depth on relatively small samples, even single cases (N=1), selected purposefully.” The nature and goal of the study ultimately determine what can be accomplished with the time and resources available, he adds, adding that there are no set guidelines for the size of a qualitative sample. In addition, Patton (2002) observes that there are purposeful tactics for qualitative sample selection rather than methodological principles. Thomas (2011) contends that, in contrast to the sampling process, case study research does not need sampling because “it’s a choice, a selection” (p. 62) that is essential for a study.

For this study, first of all, I selected the secondary school social science curriculum named ‘Bangladesh and Global Studies’ which was developed in 2012 (NCTB, 2012) and

is being implemented to date since I wanted to investigate how technology-integrated pedagogies are incorporated in the existing secondary school social science curriculum of Bangladesh. Using purposeful and convenience sampling strategies (Patton, 1990), I selected the following categories of three secondary schools, to ensure rich and comparative data:

- A non-government secondary school in a rural area (known as MPO listed)
- A government secondary school in an urban area
- A private secondary school and college in urban area

All these three case study school are situated at Chattogram district and implement the same national curriculum 2012. Being a faculty member of Chittagong University, and Chattogram as my home district, it was convenience for me to communicate with school authorities, and getting access to collect necessary data from the schools, particularly, from the social science teachers, students and head teachers.

A summary background of all three case study schools has been provided in the following table:

Table 3.1

Background of the Three Case Study Schools

School Name and Type	Establishment	Number of Teachers	Number of Students	Social Science Teachers
School 1(Case 1) Rural secondary school (Coeducation) (MPO listed)	1964	Total- 21 Male- 17 Female- 04	1038 Boys-504 Girls- 534	• Social Science Teacher 1 (B.Ed.) • Social Science Teacher 2(B.Ed.)
School 2(Case 2) Urban Government Secondary School		Total-48 Male- 30		• Social Science Teacher 1 (B.Ed.)

(Boys)	1967	Female- 18	1512 (Boys)	• Social Science Teacher 2 • Social Science Teacher 3 (B.Ed.) • Social Science Teacher 4 (B.Ed.)
School 3(Case 3) Urban Private School and College (Coeducation)	1961	Total- 72 Male- 37 Female- 35	1970 Boys- 1167 Girls- 803	• Social Science Teacher 1 (B.Ed.) • Social Science Teacher 2 • Social Science Teacher 3 (B.Ed.)

For rural secondary school (case 1), two social science teachers who generally conduct the classes of social science (named as Bangladesh and Global Studies) from grade VI to X were selected as participants. The head teacher was selected as participant to understand the perceptions from the perspective of leadership. Two groups of students were selected from Grade VII and IX to understand their perceptions and opinion in terms of technology-integrated pedagogical practices in the classrooms and their school.

Similarly, for the urban secondary school (case 2), four social science teachers and the head teacher were selected as participants. Two groups of students were selected from Grade VIII and X. For the Private secondary school and college (case 3), three social science teachers and the vice-principal were selected as participants. Two groups of students were selected from Grade VIII and IX. It is important to note that all nine social science teachers and three head teachers of three case study schools were selected purposively considering that the subject the teachers teach and the head teachers as leaders.

Similarly, the six group of students were selected in consultation with the subject teachers considering their gender, and diversity in terms of their academic result.

3.4.2 Sources of Data

The study aimed to explore the technology-integrated pedagogies in the social science curriculum and the practices of secondary schools; therefore, data have been collected from both primary and secondary sources. In this study, the sampled head teachers and social science teachers from the rural and urban secondary schools, grade VI-X students, and the classrooms were the primary sources of data. The secondary data was collected through document analysis as the study has a concern about the curriculum and its practices. Therefore, secondary social science curriculum was considered as the secondary sources for the study.

The following table provides an overview of data sources and methods of data collection:

Table 3.2

Sources of Study Data

		Participants and Sources	Data collection methods
Sources of Data	Primary Sources	Teacher	Semi-structured Interview Schedule
		Student	Focus Group Discussion (FGD)
		Classroom and school	Observation Checklist, Observation
	Secondary Source	Social Science Curriculum	Document Analysis

3.4.3 Data Collection Methods and Tools

Research often uses a variety of data collection methods, which complement each other and increase the credibility and validity of the research findings (Best, 2006). In this study, I employed four distinct methods to obtain high-quality data, and qualitative data was collected in a coordinated manner with research objectives to ensure rigor and accuracy.

Documents

Documents, as a record of human action, constitute a useful source of data in research. They make up one of the main types of data sources for interpretation and analysis in research, along with observations and interviews. It is also a significant research instrument in and of itself (Bowen, 2009). In this research, document is considered as an important research method for data collection (Cresswell, 2013).

Since the purpose of this study is explore technology-integrated pedagogies in the secondary school social science curriculum, National Curriculum 2012 (NCTB, 2012) is the only one document used as source of data.

Semi-structured Interview

Interviewing is a common and popular method of collecting data through asking questions on a specific issue for research purposes. Yin (2009) argues that important tools for case study research are interviews. The respondent in a semi-structured interview has a great degree of freedom in how they respond, although the investigator ought to possess a set of questions or almost exact subject matter to cover, which is frequently referred to as an interview guide (Bryman, 2015).

I applied the semi-structured interviewing method to obtain data from social science teachers and head teachers to comprehend their views and realizations about technology integration in social science curriculum and classroom practice. As a researcher I intended to know the aims, attitudes, and satisfactions of social science teachers, including the head teacher of the school, about the use of technology in teaching learning practice at schools, as well as their perceptions of these teaching tools. I developed a semi-structured interview

schedule which was comprehensive and efficient to collect rich data. I developed a series of questions that encourage participants to discuss the scope, significance, and difficulties associated with integrating technology into secondary social science education, following the research questions. I set aside a specific number of topic areas, so that inquiries about them may occur more naturally and included some prop questions in addition to the open-ended inquiries to get a more comprehensive understanding of the circumstances. Before starting the interviews, I outlined the study's goals and the participants' roles to foster an understanding of mutual involvement in the research and encourage open discussion among participants through an explanatory statement. I recorded every interview on audio, obtaining the participants' consent.

Like other data collection methods, interviewing has some drawbacks too. As Alshenqeeti (2014) pointed out, it is small-scale research, time-consuming, never completely anonymous, subject to unconscious bias, and possibly inconsistent. I was aware about these limitations of interview.

Observation

Observation is an essential and methodical way to gather trustworthy facts. I used this method to collect study data from the classroom and schools, as it provides a realistic scenario. Creswell (2012) argues that teachers who participate in qualitative research frequently think about the method of gathering information by observing in a particular educational environment. For this study, data were collected through direct classroom observation using a qualitative observation protocol (Yin, 2009).

Bryman (2015) stated that through the technique of structured observation, the researcher observes and records behavior using predetermined guidelines. The guidelines provide observers with information about what to look for and how to document behavior. For this qualitative study, classroom observation has been conducted by a non-participatory approach. Thus, I did not take part in any of the class's activities; rather, I quietly observed it. I used instruments to take notes while observing classroom activities in accordance with the observation guide. Additionally, I observed the ICT readiness of the school, including the student-teacher ratio, the ICT lab, and the classroom infrastructure. To observe every

aspect of the classroom activities, including technology use, I developed an observation checklist addressing different phases of teaching. Teaching and learning activities of BGS subject in secondary level from each school have been observed.

Focus Group Discussion

Focus Group Discussion (FGD) is a method of gathering data from different small groups of the target population in which participants of each group are directed for group discussion on a specific topic or issue. Creswell (2012) argues that focus groups can be used to get opinions from a few individuals as well as shared understanding from several people (p.18). Within a case study methodology, it is an essential technique for systematically collecting data (Yin, 2009). This method has been used to collect data from the students of selected secondary schools.

Two FGDs were conducted in every case study school where a group was consisted with 6-8 students. In the opening of the discussion, I introduced myself, my plan, and started with some cordial interactions. Students shared their opinions, and they have added the distinction between ICT-used and non-used classes. I helped them to keep in accordance with the research questions.

3.4.4 Field Testing and Finalization of Tools

Before collecting final data at the field level, I first conducted a pilot study to verify the clarity, relevance, and applicability of the formulated research instruments. The field testing was conducted at a rural government secondary school of Chattogram district with the active participation of teachers and students. Activities such as semi-structured interviews scheduled with teachers, FGDs guidelines with students, and a social science classroom observations checklist were piloted following ethical consideration and formal procedures. I tried to determine whether the tools successfully gathered the targeted information from the participants, evaluate the appropriateness of the language, and look for any ambiguities in the questions. The instruments for use in the full-scale study were refined and finalized after a thorough analysis of teacher and student feedback.

3.5 Data Analysis

3.5.1 Content Analysis

Bryman (2004) notes that qualitative content analysis is “probably the most prevalent approach to the qualitative analysis of documents”(p.392). Qualitative content analysis is a research approach that uses the methodical categorization process of coding and theme or pattern identification to evaluate text data subjectively (Hsieh & Shannon, 2005). According to Mayring (2000), this approach is a set of methods for systematically examining different kinds of texts. The apparent content of the text or content, together with its themes and major concepts, are investigated using this content analysis method, which is not frequency driven and does not rely on statistical analysis. Out of the three types of qualitative content analysis (summative, directed, and conventional) that Hsieh and Shannon (2005) outlined, I used the directed technique. Using current theory or prior research, researchers begin by defining essential concepts or variables as first coding categories (Potter & Levine-Donnerstein, 1999).

I used different pre-determined concepts related to technology integrated pedagogy identified from literature to explore how these aspects are incorporated in the existing secondary school social science curriculum of Bangladesh.

3.5.2 Analysis of Data from Interviews, FGDs and Observations

After collecting data from the field, it has been analyzed thematically. Thematic analysis is the process of creating themes from data by addressing the main research questions and gaining a thorough grasp of the main fact (Creswell, 2012). The data has been organized “by type: all interviews, all observations” (Creswell, 2012). Interviews including focus group discussions has been transcribed and coded according to the themes arising from the research questions, and a narrative has been then constructed

I applied an inductive strategy of qualitative data analysis (Graneheim, et al., 2017).

Graneheim et al., (2017) say that while using an inductive strategy, “the researcher moves from the data to a theoretical understanding – from the concrete and specific to the abstract and general” (p. 30). In order to organize this kind of analysis, the vast volumes of narrative material in the form of field notes, focus group discussions, and interview transcripts must be reduced (Mertler, 2009). This was accomplished through the establishment of a system of recognizing and organizing data into essential patterns and themes in order to construct a framework for reporting key findings (Johnson, 2008).

Particularly, I employed thematic qualitative data analysis technique (Braun & Clarke, 2006). Following Braun and Clarke's (2006) six steps of data analysis, I first acquainted myself with the data before generating initial codes from it. I seek for alternative ideas in the third step, and I reviewed the themes in the fourth stage. At the fifth step, different themes were being defined and labeled, and at the final stage the report was developed. As a part of thematic analysis, I used cross case analysis technique considering that cross-case analysis aims to find the trends and contrasts between case studies, keeping links to the contextual information inside individual cases (South et al.,2024).In addition, this technique helped comparing findings and using an iterative process to build explanations of findings (Yin, 2009).

As part of ethical procedures, I did not use name of the participants in the data analysis process, rather I used alpha-numeric code to indicate specific participants’ voice or opinion during the analysis process. The following table provides the detail coding of the participants.

Table 3.3

Coding of the Participants

Serial No	Respondent	Data Collection Tools	Alpha-Numeric Code

1.	Head Teacher	Semi-structured interview	S1HT
2.	Head Teacher	Semi-structured interview	S2HT
3.	Vice Principal (Secondary Level)	Semi-structured interview	S3HT
4.	Assistant Teacher (BGS)	Semi-structured interview	S1AT1
5.	Assistant Teacher (BGS)	Semi-structured interview	S1AT2
6.	Assistant Teacher (BGS)	Semi-structured interview	S2AT1
7.	Assistant Teacher (BGS)	Semi-structured interview	S2AT2
8.	Assistant Teacher (BGS)	Semi-structured interview	S2AT3
9.	Assistant Teacher (BGS)	Semi-structured interview	S2AT4
10.	Assistant Teacher (BGS)	Semi-structured interview	S3AT1
11.	Assistant Teacher (BGS)	Semi-structured interview	S3AT2
12.	Assistant Teacher (BGS)	Semi-structured interview	S3AT3
13.	Student (Grade VII)	Focus Group Discussion	S1FGD1
14.	Student (Grade IX)	Focus Group Discussion	S1FGD2
15.	Student (Grade VIII)	Focus Group Discussion	S2FGD1
16.	Student (Grade X)	Focus Group Discussion	S2FGD2
17.	Student (Grade VIII)	Focus Group Discussion	S3FGD1
18.	Student (Grade IX)	Focus Group Discussion	S3FGD2

3.6 Rigor and Trustworthiness

Graneheim and Lundman (2004) suggest that research findings should be trustworthy and a research study must be examined in relation to the processes employed by the researcher to create conclusions. To ensure rigor and reliability, I followed a number of strategies. From the beginning of data collection to writing report, I behaved as if someone was looking over my shoulder to guarantee I was reliable in collecting data and analysis (Yin, 2014). ‘Prolonged engagement’ is a significant part of creating trustworthiness and to raise the possibility of credible findings (Lincoln & Guba, 1985). I spent a considerable time collecting my data to become an accepted member of the school community and comprehend the context of the schools and the culture of all three schools. With the participants, I cultivated positive relationships and trust. To guarantee the accuracy of data collection, processing, and reporting results, Silverman (2011) suggests "the criterion of using low-inference descriptors" (p.365).

Johnson (1997) describes ‘low-inference descriptors’ as “the use of description phrased very close to the participants’ account and researchers’ field notes. Verbatim (i.e., direct quotations) are a commonly used type of low inference descriptors” (p. 283). To ensure this kind of reliability, I presented substantial data extracts in the research findings (Silverman, 2011; Zohrabi, 2013).

Another important technique is data triangulation which is a qualitative research technique that involves combining data from many sources to test validity (Carter, 2014). Akter (2014) defined triangulation as the insertion of comparable data from a variety of sources using different data collection techniques in research. I attempted to increase the internal validity of this study using data triangulation. In this triangulation process, data were verified by the agreement with other data collected from other sources. For instance, BGS teachers' interview data were verified with classroom observation and students’ FGD data. It was also strengthened by the data gathered from students and head teachers. The data triangulation process of this research is presented in the following figure:

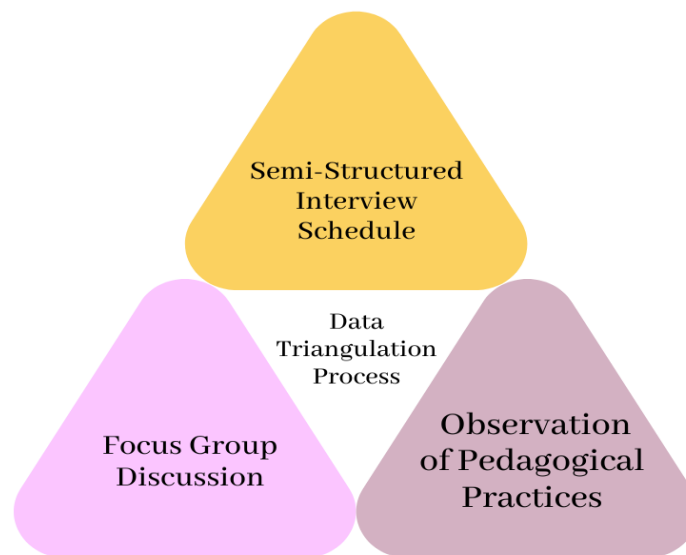


Figure 3.2 Data Triangulation Process

3.7 Ethical Consideration

Research initiatives should strictly adhere to ethical considerations while working with human subjects (Alshenqeeti, 2014). Cohen et, al. (2007) stated that, given the length of time allocated and the sensitivity of the questions addressed, interviews are regarded as an invasion of respondents' privacy and that, therefore, and strict ethical standards should be upheld. Thus, ethical issues have been taken into account throughout the whole data collection procedure.

This study was conducted in strict compliance with academic research ethics and institutional guidelines. Formal ethical clearance was received from the IER Research Ethics Committee of the Institute of Education and Research (IER) of the University of Dhaka (Appendix A). The entire research proposal, including the theoretical framework, research background, objectives, and methods, were examined and approved by the IERREC. To ensure the participants' safety, rights, and dignity, the committee also

examined and approved the consent forms and study instruments. All participants gave their informed consent after being given an explanatory statement of the study's goals, expected length, methods, possible risks, and advantages. Respondents were made aware of their freedom to decline or withdraw at any time without facing any repercussions because participation was entirely voluntary. In complete compliance with the IERREC's guidelines, all data have been anonymized, safely stored, and used only for academic reasons. In addition, I got permission from the school administration by providing explanatory statement about the study and a formal letter.

3.8 Chapter Overview

This chapter outlined the methodology of the study. I have explained the philosophical perspective of this investigation. Subsequently, the chapter has described the details of the study design, including sample procedures, data gathering methods and devices, and methods of data processing and analysis. I continued by talking about how I dealt with the ethical concerns related to this research and the measures I took to ensure the study was reliable and rigorous.

Chapter Four

Data Analysis and Findings

4.0 Introduction

In Chapter Four, I have analyzed the collected data, expanded on data interpretation, and presented the study's findings. As stated in Chapter Three, data analysis includes interacting with data, organizing it, dividing it into manageable portions, interpreting it, coding it, and looking for themes (Bogdan & Biklen, 2007). Since this is a qualitative study, the data are often textual and are either verbatim or transcripts of different participants. As a result, the information gathered from the semi-structured interviews and focus group discussions was transcribed for analysis.

This chapter analyzed data based on study questions and extracted information from various interviews, FGDs, and observations on the viewpoints of participants. Following the five research questions, the analysis is presented in five sections. Section 4.1 provided an in-depth analysis of the national curriculum for investigating technology-integrated pedagogies in this document; Section 4.2 articulated the opinions and understandings of social science and head teachers regarding technology-integrated pedagogy practices; Section 4.3 illustrated how students felt about using technology in BGS classes, while Section 4.4 gave an overview of the current state of technology use in the BGS teaching and learning process; Section 4.5 discussed the difficulties in integrating technology based pedagogy in secondary schools concerning BGS classrooms.

4.1 Technology-Integrated Pedagogies in Social Science Curriculum

Technology integration in education has transformed traditional teaching and learning approaches, making lessons more interactive, engaging, and practical (Ghavifekr & Rosdy, 2015). Therefore, various countries of the world are taking significant steps to integrate technology into education (Rasinen, 2003). In this regard, it is essential to establish pathways for the incorporation and application of technology in the education

system of Bangladesh. However, the National Curriculum and Textbook Board (NCTB), founded in 1983, contributes to the development of curricula and textbooks in Bangladesh. In 1995, the national curriculum was revised with an emphasis on universal primary education and the assessment system. After that, the existing comprehensive curriculum was developed in 2012. Although the National Curriculum Framework was prepared in 2021, the interim government postponed it. As a result, I have conducted a detailed and in-depth review of the secondary curriculum 2012 for this study.

4.1.1 National Curriculum and its Generic Parts

The generic parts of the curriculum provide ideal information for all subjects within a comprehensive curriculum. It aims to foster holistic development, critical thinking, and lifelong learning. It contains foundational principles and core features of the curriculum. This part serves as a foundation for the development of specific subject curricula and instructional materials. It provides a shared vision and set of principles that guide the design and implementation of quality education for all learners. Components of the generic parts of the National Curriculum-2012 are given below;

1. Foreword
2. Introduction
3. Rationale for Curriculum Development
4. Model followed in Curriculum Development
5. Process followed in Curriculum Development
6. Features of National Curriculum 2012
7. Curriculum Outline
8. Teaching and Learning Methods and Strategies
9. Student Evaluation
10. Committees concerned with Curriculum Development

A table summarizing all the components and technology integration within key areas of the curriculum is provided below.

Table 4.1*Technology Integration in the Generic Part of the Curriculum*

Theme	Relevant Content of Generic Parts of the Curriculum	
1. Technology Consideration in Developing Curriculum	4.2 Curriculum Outline	4.2.1 Curriculum Development Principles
2. Technology in Learning Objectives	6. Curriculum Framework	6.1 Aims and Objectives of Education from vi- xii
3. Technology in Teaching Learning Methods	5. Features of National Curriculum 2012 8. Teaching and Learning Methods and Strategies 11. Team collaborative learning method	5.13 Increasing the use of technology in classroom activities 8. 1 A few words about ensuring student learning 11.9 Demonstration Method
4. Technology in Assessment and Evaluation	13. Student Evaluation 14. Continue assessment	14.1.1 Classwork 14.1.2 Homework

Technology Consideration in Developing Curriculum

Curriculum development is a continuous process. After 1995, a comprehensive curriculum was released in 2012. The process of situation analysis and development began a few years prior to its 2012 publication. In order to determine whether technology was

taken into account when developing the curriculum, I analyzed these sections. The generic parts deal with the rationale, model, development process, and principles of developing a new curriculum. As a component of the curriculum framework, the curriculum development principles explicitly mention the use of educational technology. There is a clear focus “on making students science-minded and work-oriented, creating opportunities to acquire skills in using modern technology, and increasing opportunities for practical and applied education along with theoretical knowledge” (NCTB, 2012, p.2). The study results indicate that technology integration was a primary concern in the curriculum development phase, as the principles clearly intended to prepare students with contemporary technology skills and provide balance between practical and theoretical learning.

Technology in Learning Objectives

The content analysis of the learning objectives showed that the curriculum prioritizes technology use, especially in relation to stimulating students’ interest and confidence in ICT and in developing scientific perspectives. However, the curriculum framework of the National Curriculum 2012, which views grades 6–12 as secondary, contains one goal and nearly twenty objectives. The aim is “to create knowledgeable, skilled, rational and creative patriotic human resources with human, social and moral qualities through the overall development of the student” (NCTB, 2012, p. 3).

Among the general objectives, I identified some that required technology integration into direct learning. For example,

J. To make students interested in technology and to make them confident, productive, and creative in the use of information and communication technology.

K. To help students acquire scientific perspectives and competencies to apply scientific processes and methods to investigate and solve various life-related problems to improve the quality of life. (NCTB, 2012, p. 8)

The analysis of the curriculum's aims and objectives found that the reflections of technology integration in this phase are limited and not specific. However, the aims and

objectives indirectly include technology integration for the secondary level.

Technology Integration in Teaching and Learning Methods

Teaching techniques instruction is one of the curriculum's key components (Taba, 1956). While examining the general curriculum, this study found that the National Curriculum-2012 highlighted the importance of enhancing the use of technology in classroom activities in its characteristics section (NCTB, 2012, p. 7).

In the analysis of the section on teaching and learning methods and strategies, this study found that the curriculum focused on two key areas to support student learning. The most important one is the active cooperation of the class teacher and the proper application of appropriate teaching and learning methods and strategies, and the second is the correct use of quality textbooks and other teaching materials. In both cases, the teachers' role is significant. This section also stated-

The correct use of appropriate teaching aids is very important in learning. There is an opportunity to use teaching aids to a greater or lesser extent in all subjects. With the help of teaching aids, a complex and abstract subject can be presented simply and concretely to give a clear idea of the subject. It is not possible to get the correct idea as easily as by displaying a small tree in the class and showing different parts of the tree or a solar eclipse in multimedia. If there is no opportunity to use multimedia, a representation or chart of the moon, earth, and sun can be used. (NCTB, 2012, p.11)

In addition, this study explored some teaching-learning methods that need technology to be applied in the classroom. For instance, the team collaborative learning method and the demonstration method. The use of technological tools can significantly enhance these methods, making them more beneficial for students by improving engagement and supporting deeper learning.

Technology in Assessment and Evaluation

The efforts to achieve the intended learning objectives and outcomes through teaching and learning activities should be thoroughly examined and evaluated. As a result, the curriculum offers the guidance and strategies required to validate the student's learning objectives. For evaluating student performance, the curriculum of 2012 mentions two types of assessment strategies based on time and methods.

Formative and summative assessments are used to evaluate students' progress. Classwork, homework, and class tests assess cognitive and psychomotor domains. The affective domain is assessed through activities like science fairs, Math Olympiads, and Boy Scouts/Girl Scouts. Although the curriculum lacks direct, specific guidance on the use of technology during assessment, it does provide guidance to preserving information and records for each evaluation. This study found scope and potential for using technology to protect these records.

The findings from the above table and discussion suggest that the scope, usefulness and usage strategies of using technology have been indicated in various general guidelines of the National Curriculum-2012. In addition, as a rationale for developing the curriculum to create a 21st-century workforce, according to the report of the Deller's Commission, identifies four foundations as priorities: "Learning to Know, Learning to Do, Learning to Live Together and Learning to Be" (NCTB, 2012, p.1). According to this perspective, education is about learning, working, and growing. Moreover, there are direct and indirect instructions for the use of educational technology in the goals, objectives, teaching and learning activities, and assessment sections of the curriculum at different educational levels.

4.1.2 Social Science Curriculum

In the curriculum, the social science subject is designated Bangladesh and Global Studies (BGS), with the guidelines structured into two main sections. First, it is a

compulsory subject for students in grades VI-VII, and second, it is mandatory for students in grades IX-X who are enrolled in the science group. For this analysis, this study has divided the social science curriculum into two distinct parts, presenting them accordingly in the study under discussion.

4.1.2.1 Bangladesh and Global Studies (Grades VI-VII) Curriculum

At the beginning of the Bangladesh and Global Studies (BGS) curriculum for grades VI to VIII, marginal learning outcomes for the three grades have been identified in addition to the grade-based learning outcomes. The analysis found that the learning outcomes do not directly indicate the integration of technology in learning. However, most of the marginal learning outcomes have been presented in the form of action verbs, such as explaining, describing, identifying, and acquiring skills. Technology can indirectly assist in the application and achievement of which in practice. Some marginal learning outcomes with scope for integrating technology are listed below. Students-

- Will be able to explain the nature of human life in the process of evolution.
- Will be able to describe the political history and the history of the origin of the people of Bengal.
- Will be proud of the story of the struggle of the Liberation War.
- Will acquire the skill of applying statistical techniques in presenting information on social and economic issues. (NCTB, 2012, p.28)

However, the BGS curriculum is organized by chapter, content, learning objectives, teaching-learning instructions, and assessment instructions. The analysis of the teaching and learning instructions identified some consistent patterns across various grade levels. Consequently, the integration of technology within these instructional strategies is presented below.

Table 4.2

Technology Integrated Pedagogies in BGS (VI-VIII) Curriculum

Six	Seven	Eight
- The teacher will use various pictures, posters, theories, practical materials, maps, reports, reports published in newspapers, and pictures, as well as materials created by the teacher, to present the concepts related to the subject and make the lesson enjoyable. - The teacher will apply student-centered methods in the classroom to achieve specific learning outcomes, such as discussion methods, participatory methods, brainstorming projects, etc.		
- The teacher will show pictures in class and ask them to identify the aroma of culture from them. - The teacher will display pictures of agro-industrial and post-industrial societies.	- Prepare an investigative report by collecting various reports. - Make a chart of significant events related to the formation of the United Nations. - Collect examples using newspaper information and internet searches.	- Display of images of various historical events. - The instructor will lead students in exercises that foster their creative and hidden capabilities. - Instructions for preparing various investigative reports.

Source- NCTB, 2012, pp. 59-89

The analysis of the Bangladesh and Global Studies curriculum at grades VI-VIII has shown that, in addition to the educational goals, objectives, and learning outcomes, there are instructions and opportunities for the use of technology in teaching and learning activities. Although some specific instructions are generally kept at the same level, they encourage the use of technology in teaching and learning. It suggested using a variety of pictures, posters, models, maps, and other materials in the classroom to encourage the use of technology. However, the curriculum at these grades also mentions various teaching

methods, such as projects, discussions, and participatory activities. In addition, there are special instructions that allow and encourage the use of technology, such as collecting pictures of cultural activities and various reports, and using the Internet to display historical scenes.

In the assessment guidelines, the analysis found that the social science curriculum mentions two assessment methods to monitor students' learning progress. They are formative and summative. As part of formative assessment, the teacher will evaluate the students using multiple strategies. For example, asking questions during or after the lesson, taking written tests, and giving marks. In this case, the teacher will use creative and multiple-choice questions. Some instructions from curriculum are given below-

- Formative assessment is a continuous assessment process. It will be carried out through class activities. To ensure students achieve the learning outcomes, an assessment will be conducted during each lesson.
- As part of the final assessment, two interim tests and an annual test will be taken. Multiple-choice, short, and creative questions will be included in all these tests. (NCTB, 2012, p.83)

In both cases, the curriculum provided clear guidelines outlining the roles of both teachers and students. Formative assessment will be conducted through class interactions, including questioning, systematic observation, group work, and evaluation of task performance. These assessments are used to give students feedback on their performance. In addition, summative assessment will be conducted through two short-term tests and a final exam, consisting of MCQs, short questions, and creative questions, and the question paper is planned to consider various domains of Bloom's Taxonomy (NCTB, 2012).

The study revealed that the curriculum provides few guidelines to deploying technology in students' performance assessment. While formative assessments can be made more meaningful through the use of various tools such as questions, images, videos, Google Forms, and Google Classroom, the integration of technology remains limited. This study suggests integrating technology more throughout the formative and summative

assessment processes, especially in data collection and result presentation. In particular, it advises using technology to validate the accuracy of summative test items that will be used for measuring results.

4.1.2.2 Bangladesh and Global Studies Curriculum (Grades IX-X)

While analyzing the social science curriculum of grades IX-X, the study identified five major areas that serve as guidelines for each chapter. They are learning outcomes, subject matter, teaching-learning instructions, assessment, and special writer instructions. It was observed that the learning outcomes are presented using action verbs across the cognitive, affective, and psychomotor dimensions, and the subject matter is mainly topic-wise. For example, “students will be able to identify the components of socialization, elements of socialization” (NCTB, 2012, p.106). Therefore, the analysis found that the learning outcomes and contents lack integration of technology. Another central area of instruction is the teaching-learning guideline, which is analyzed below.

Table 4.2

Technology Integrated Pedagogies in BGS (IX-X) Curriculum

Various Units of BGS 9-10	Instructions are given in the Teaching and Learning portion of the Curriculum.
Unit 1 The Political Movement in East Bengal and the Rise of Nationalism (1947-1970)	• Show the differences in language and culture of the two parts through a chart. (The chart will show the differences in alphabet, language, clothing, food, etc.). • Show the number of Pakistanis speaking different languages in a pie graph. • Show pictures of the language movement. • Show the number of seats in the United Front and other parties in a chart.

	• Show the number of seats they won in the 1970 elections in a chart.
Unit 2 The Independent Bangladesh	• Show video/play audio of the March 7th speech • If possible, arrange to show a part of the movie "Muktir Gan" • Show pictures of the Father of the Nation and four national leaders
Unit 4 The Solar System and the Earth	• Concept of solar system planets through video images • Presenting the picture of tidal organization by showing the positions of different moons and suns through video images
Unit 6 The Rivers of Bangladesh and the Natural Resources	• Using a map of Bangladesh to show the flow paths of major rivers. • Amount of natural resources presented in a pie chart
Unit 8 The Organs of the Bangladesh Government and the Administrative Systems	• Video showing of the session of the National Assembly
Unit 10 The United Nations and Bangladesh	• Demonstrate the Pictures of Bangladesh's participation in various peacekeeping operations at the United Nations
Unit 11 The National Resources and the Economic Systems	• Distribution of national wealth displayed through pie charts.
Unit 12 The Economic Indicators and the Nature of the Economy of	• Display a Chart of GNP GDP and per capita income of some countries.

Bangladesh	
Unit 14 The Social Change of Bangladesh	• Presentation of images of villages and cities • Display of pictures of women's roles in various professions.
Unit 15 Social Problems of Bangladesh and Their Remedies	• Video presentation on road accidents

Source- NCTB, 2012, pp.100-125

The table showed that the Bangladesh and Global Studies (BGS) curriculum for grades IX-X provides guidelines for 15 chapters. In order to achieve the learning outcomes of these chapters, the National Curriculum 2012 has provided various types of instructions for conducting teaching-learning activities for each chapter. I have highlighted various parts of these instructions in the above list. This table shows the areas where technology has been mentioned or where there is an opportunity to use technology in social science education. The instructions include guidance on incorporating various types of charts, tables, graphs, and pictures, as well as suggestions for displaying videos and images. Moreover, the analysis identified that the curriculum emphasized task-based instructions related to the use of different materials and technologies.

Additionally, the analysis of assessment instructions found that the curriculum specifies methods and procedures for assessing student progress. Some of them are-

- Classwork
- Homework
- Chart creation
- Fill in the blanks
- Report prepared, etc.

Although these methods are not directly related to technology and do not provide instructions for its use, there is still an opportunity to make the evaluation meaningful and realistic by incorporating technology into the following categories: gap-filling,

comparative work, and report generation methods.

Furthermore, special writing instruction is one of the valuable aspects of the social science curriculum at grades IX-X. Considering the curriculum, these guidelines can be viewed as a first step in the development and execution of textbooks. These guidelines for authors also demonstrate the appropriateness of technology use. Some of the writing guidelines appropriate for incorporating technology are-

- Instructions for adding documentary images of various historical events to the lesson where applicable.
- Represent the structure of the solar system and the interior of the Earth through diagrams.
- Use a diagram to show the position of the earth as it orbits the Sun.
- Display pictures related to finance and banking.
- Add pictures of the changing roles of women to the lesson.
- Display of road accident images in picture form. (NCTB, 2012, pp.105-112)

This study of the secondary social studies curriculum explores dimensions of technology incorporation. The results indicated that the curriculum for grades VI-VIII has minimal guidance on how to integrate technology, while the curriculum for IX-X focused on pedagogies needing technological integration. Both parts of the curriculum have strong content grounded in significant educational aspects, but there is limited use of technology throughout.

Nevertheless, the analysis identified indirect forms for technology integration, especially in educational activities, assessment practices and methodologies. The results showed the strengths and scopes of technology-based pedagogy in teaching social science. They also offer critical suggestions for future directions of secondary education, advocating a more informed use of technology to enhance pedagogy.

4.2 Teachers' Views and Understanding of Technology Integration and Practice

Exploring teachers' perceptions and knowledge in relation to technology integration is crucial to the study of the extent of policy, infrastructure, and teaching practice convergence in secondary education. For this study, the data were collected from two different sources: head teachers, who provide information on institutional preparedness, policy implementation and resourcing and social science teachers, who provide classroom-based views and are involved directly in deploying digital resources in classroom practices. These two dimensions contribute to a more nuanced portrayal of technology integration by linking the TPACK model with everyday pedagogical praxis.

Similarly, recent research in Bangladesh indicates the same trends. Mallick and Salam (2024) observed that secondary school teachers, particularly those of the Bangladesh and Global Studies (BGS) subjects, have rather favourable attitudes towards integrating ICT. Yet, there are some variations across school types, gender, and teacher self-esteem. Conversely, Rahman (2023) found that technology integration has a positive impact on students' engagement and achievement at schools in Dhaka city. However, obstacles such as lack of training, poor infrastructure and uneven access remain significant barriers to effective implementation. This also provides a fidelity reference for the current study in relation to the views of head and social science teachers.

Hence, the analysis proceeds in two parts as follows:

1. Head Teachers' Perceptions – Focused on leadership role, school policies and resource management on integration of ICT.
2. Social Science Teachers' Perceptions - focused on classroom practices, pedagogical beliefs and challenges in integrating ICTs into teaching social science.

4.2.1 Head Teachers' Perceptions

The headteachers have been found to play a pivotal role with regard to the implementation of digital tools by expressing strategic leadership and creating a conducive atmosphere inside the school (Morshed, 2016). They have the role of developing a compelling vision for utilizing technology, facilitating the access to resources, and

promoting development of their professionals. For instance, transformational head teachers have been found to be actively engaged in digitalization practices, thereby enhancing teaching and learning achievements (Rahman et al., 2023). This study gathered insights from all three school heads on the integration of technology in schools, with a particular focus on social science classes, and examined current practices and the implementation of technology within classroom pedagogy.

Table 4.4

Head Teachers' Perception on Technology Integration

Major Themes	1. Perception of Technology in Modern Education 2. Policies and Guidelines for Technology Use 3. Availability and Use of ICT Tools 4. Curriculum and Pedagogical Issues 5. Teacher Readiness and Professional Capacity 6. Institutional Efforts and Infrastructure Development
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Perception of Technology in Modern Education

Headteachers of all cases involved in the research were found to be positively disposed towards employing modern educational technologies, noting that they are an instrument for improving the efficiency of teaching and learning processes, supporting student engagement, and achieving better learning outcomes. But their perspective differed depending on professional and real-life experience. Two headteachers (S1HT & S2HT) from cases one and two provided a surface-level understanding, while the third headteacher from case three offered a deeper insight, drawing on his own experience. For example, the head teacher (S1HT) said, “Through the use of technology, students can gain practical knowledge, and their learning becomes permanent.” Similarly, another participant (S3HT) noted that “modern education cannot be imagined without technology” and linked it to the global Fourth Industrial Revolution. He also compared Bangladesh with other countries,

including Switzerland and the USA, saying that Bangladesh could be one step behind if technology is not fully adopted. Technology supports teaching and learning by improving effectiveness, engaging students and developing learning outcomes, as reported by all three headteachers who took part in this research. This represents a broad recognition among school heads of the importance of technology in modern schooling and their willingness to promote its use as part of classroom pedagogy.

Policies and Guidelines for Technology Use

Participating headteachers were questioned about the policies and practices with regard to technology use and the presence of guidelines on this issue in their schools. The rural secondary school headteacher (S1HT) indicated that his school had general instruction on technology use. For example, every teacher can use the projector twice a week but needs to seek the headteacher's permission or approval from the ICT coordinator. Still, these are not in written form or in a specific guideline format. He (S1HT) also added that the teachers of his schools are regularly encouraged to use technology. Another head teacher of case two, the govt' secondary school, stated that "there are government policies for technology integration, but our school doesn't have any specific guidelines" (S2HT). This indicates a policy–practice gap, where guidelines exist but lack institutional clarity and enforcement.

On the other hand, the headteacher of case three, a private school in Chattogram, expressed a different opinion, saying that their school has guidelines for using technology through structured monitoring. He said, "We keep a record of how many classes a teacher have taken on which date through multimedia, and also observe and monitor that" (S3HT). In line with this opinion, I found a register book in which the teachers recorded class data for lessons conducted through technology.

Availability and Use of ICT Tools

The perception of head teachers in aspects relating to the availability, accessibility and use of the ICT tools varied. Two of the three headteachers (S1HT & S2HT) reflected that their schools were not sufficiently resourced with essential technology. The headteacher (S2HT) of case two counted only one multimedia room in their school. She also stated, “Our school has a huge students, and their expectations are also high. Therefore, that is not enough to ensure quality education” (S2HT). But the head (S3HT) of the third case said that his school had basic access to technological tools for teaching, though advanced technology was lacking. Advanced facilities, such as smartboards, CCTV, and tablets, were mentioned only by case three (S3HT). The basic accessories they use in their institutions include well-known devices such as laptops, projectors, audio systems, microphones, and globes (S1HT; S2HT, & S3HT). Besides, S1HT stated that all teachers are allowed to use the computer lab, whereas S2HT noted, “restrictions on access, especially ICT teachers get the priority”. However, the headteacher from case three (S3HT) mentioned that teachers are always encouraged to use technology, as every classroom is equipped with a built-in projector, and teachers also have access to personal computers within the school.

Curriculum and Pedagogical Issues

The absence of explicit curriculum requirements for ICT integration in education is apparent from headteachers' viewpoints. For instance, the head teacher of case one recognized the presence of curriculum rules but stated that they are “not well-defined” (S1HT), whereas the second school head (S2HT) was unaware to any such policies. On the contrary, the head of the third case (S3HT) showed updated insight, noting the suspension of the new curriculum, which has engendered further confusion, underscoring the uncertainty and contradictions in the guidelines for integrating ICT into education. Besides, S2HT noted that students frequently exhibit a dread of the BGS subject, while S3HT highlighted that although social science encompasses goals, objectives, and pedagogical methods, it is deficient in ICT-specific integration. This may imply that the social sciences

discipline is being more traditional and non-technical compared to other school disciplines.

However, the analysis of their data revealed differences in the ideologies of all three headteachers regarding pedagogical matters within the curriculum. Although they were involved in the implementation of the curriculum at the grassroots level, most of them lacked clarity, understanding, and a strong grasp of the methodological guidelines.

Teacher Readiness and Professional Capacity

From the headteachers' perspectives, there are contrasting views on teacher training for integrating ICT in schools. Headteachers from cases one and two mentioned that training opportunities are limited or inconsistent, while the third one (S3HT) said that training facilities are available but not always comprehensive. This discrepancy is an indication of inequality in access to professional development activities and also the level of support they receive for the integration of ICT within their classroom practices. Specifically, S1HT noted the absence of specialized ICT training, whereas S2HT reported conducting monthly in-house training focused on innovative techniques and multimedia instruction. However, the S3HT outlined yearly programs that provide practical training in content creation and video production.

This analysis found that some teachers receive more extensive ICT training, especially in urban areas, whilst rural teachers do not receive targeted development in ICT pedagogy. Concerning encouragement and motivation, S1HT indicated that teachers are "motivated through multimedia classes," while S2HT noted that such sessions are predominantly limited to ICT and science disciplines. Besides, S3HT expressed an initiative to deploy smartboards to develop more participatory classrooms. These comments indicate favourable intentions toward ICT integration, although they also expose a subject-specific bias, with social sciences receiving comparatively less emphasis in multimedia and ICT support.

Institutional Efforts and Infrastructure Development

Methodological, pedagogical, and professional standards are influenced by the educational environment in schools and by institutional attempts to enforce them. The integration of ICT varies significantly across schools. While case three seems well prepared with infrastructure, others exhibit difficulties using technology effectively. For instance, the head teacher of urban private school said, “There are some schools where all classrooms have projectors (S3HT)”. By contrast, S2HT stated that “our school is equipped with a multimedia room”. The finding specifies a more limited condition in which ICT infrastructure is limited to a specific room, which can inhibit the spreading or promoting effects of technology use in classes.

Additionally, the institutional efforts to monitor the ICT-based classes are not uniform among the three case study schools. The headteacher of school three (S3HT) noted, “We keep records of ICT-based classes by dates and teacher participation”. He also demonstrated an active effort to monitor and ensure the use of ICT in education. However, the other cases did not refer to such systems, so there is variation in how schools hold teachers accountable for ICT use in their teaching. These variations indicate that, even though some schools are forward-looking and proactive in introducing ICT integration into their programmes of study, some schools might not have a solid implementation plan for technology in the classroom.

4.2.2 Social Science Teachers’ Perception

One of the significant areas of concern in this research is to obtain responses from social science teachers on incorporating technology into the classroom. For that purpose, participants have been selected from three case study schools located in rural and urban areas. This section explored how teachers view technology as a pedagogical tool, and how this view influences their classroom practice. This study identified key areas of concern through interviews to understand teachers' opinions on incorporating technology in the classroom for social science, and in line with the curriculum guidelines.

Table 4.5

Social Science Teachers' Perception on Using Technology

Major Themes	1. Understanding of the Social Science Curriculum 2. Understanding Curriculum Guidelines for Technology Use 3. Perceptions of Technology Integration in Curriculum and Teaching 4. Perceived Effectiveness of Technology 5. Teacher Readiness and Training
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Understanding of the Social Science Curriculum

The main goal of this study was to look into how technology is embedded in the social science curriculum and how well it is being used in schools. A substantial cohort of social science teachers was interviewed for this objective. All of the teachers in the sample had favorable things to say about the social science curriculum. Still, there were significant disparities, especially in how they understood the main idea. A social science teacher (S2AT1) said,

It looks like the curriculum for 2012 is changing, and so is the way students learn. There are some challenges when we look at international standards, but not all of them are caused by things outside of our control. One big problem is that the textbooks don't do a good job of explaining the relationship between society and technology. Also, I've noticed that the diagrams and pie charts utilized in the curriculum are old and don't fit worldwide standards for education. (S2AT1)

Another social science teacher (S2AT3) from case two expressed the surface-level concept of the social science curriculum, saying, "Overall, the subject focuses on introducing Bangladesh and the Global Concept. Students will first learn about Bangladesh, followed by a global perspective. This is the ultimate goal of the subject."

According to interviews with social science teachers from all three cases, this study finds that many teachers view social science as a multidisciplinary subject that combines history, social studies, political science, geography, economics, and other relevant areas into a single course. The curriculum gives fairly broad rules for how to teach and how to

assess. The teachers also said that they read it a while ago. They are less interested in keeping an eye on it all the time because this update hasn't been issued yet.

Understanding Curriculum Guidelines for Technology Use

The curriculum is a complete set of guidelines that includes learning goals, teaching and learning methods, and ways to test students. However, the analysis of the interview data suggests that teachers of social sciences, especially those in case study two, regard the curriculum as focused on general, broad objectives and orientations rather than detailed, subject-based prescriptions. More specifically, they showed little concern for explicit prescriptions related to technology integration in the social science curriculum. For example, an assistant teacher of the government high school mentioned,

I don't know what the rules are for using technology in the social science curriculum. However, by providing real-life applications for the topic of Social Science using technology, just as they already are for other subjects, it will help them learn more effectively and even have fun in the process. (S2AT3)

A general belief exists among the teachers of case study three that the curriculum ought to contain more technology. A participant from school three reflected,

The curriculum has to be updated because of the technological changes that are occurring. Technology is advancing, and if the mode of teaching is not updated, students will not be ready for the modern age that is computer-oriented. It is thought that this is a crucial step towards revolutionizing conventional teaching methods. (S3AT2)

The results indicated a lack of consensus on the guidelines of curricular technology integration. The results also showed differences in understanding among case study schools. The urban private school (case three) participants had an understanding of the technology-based subject curriculum, whereas participants in cases one and two lacked understanding. The participating assistant teachers who expressed their understanding felt

the curriculum should incorporate more technological integration. They had little new information about how to improve the curriculum section, but they recommended strengthening it and reminding them that students are interested and excited by technology integration.

Perception of Technology Integration in Curriculum and Teaching

The integration of technology into the curriculum and teaching practices was perceived differently by the participants, particularly across the three case study schools. The data that was retrieved through semi-structured interviews has found that the social science teachers of the urban private school, compared to the rural social science teachers, are more knowledgeable and pragmatic in terms of utilizing technology in the classroom. They believed that technology ought to be used in ways that enhanced learning, promoted socialization, and supported curriculum objectives. A social science teacher from case study school three said,

We know that lessons in geography, like those related to planets and stars, are more effectively communicated using technology in class. Using a visual presentation of this information makes it more meaningful. Seeing something with our eyes is a better way of retaining what we heard compared to just listening to it. (S3AT3)

Similarly, a young social science teacher from case study two also expressed his perception, saying, “Effective integration means using technology to support traditional teaching techniques and engage students, making them more involved and interested” (S2AT3). On the contrary, the social science teachers in the rural school expressed concern about technology use in class. A teacher of case study one stated,

We always have a heavy workload with limited time. It's challenging to plan technology use in lesson planning. As we often have to manage multiple consecutive classes, our ability to engage with students depends on our mental state and other external factors. (S1AT1)

Results showed that teachers perceive technology to be an essential tool not only

for a good exposition of content but also for a positive effect on the learning process. But constraints such as the workload and mental state do influence their perception.

Perceived Effectiveness of Technology

The exploration of the perceived effectiveness of technology in social science education revealed complex insights obtained from semi-structured interviews with social science teachers across all three case study school contexts. These schools provided contrasting contexts that influenced teachers' perceptions and decisions regarding the use of technology in their teaching. In the first two case study schools, where technological tools were rarely utilized, social science teachers reported generally positive perceptions of the technology's impact on education. As one assistant teacher from case study school one stated, "We are expected to use these tools but aren't always given enough support or resources by the school" (S1AT2). A participant from school two noted a practical view, stating:

I think technology guidance should be included in two to four chapters, where it can be effectively demonstrated through multimedia or submitted via mobile, laptop, or email from home. Incorporating such a partial section would be beneficial for our students and us. (S2AT3)

This suggests that though technology has the potential to transform learning, its perceived effectiveness is significantly influenced by resource adequacy, utilization frequency, and continuing school support.

In the case of school three, the participant remarked that technology is a strong medium of instruction that helps students to make abstract ideas more relatable and interesting. A teacher from the school reflected, "Our school has the availability of ICT tools, which enabled me to tailor lessons in an interesting way using projectors" (S3AT2). Conversely, classroom observation indicated that teachers were not effectively integrating technology in content delivery and pedagogy even when they had positive attitude towards technology.

Overall, the results indicate that social science teachers consider technology highly effective in improving teaching and learning quality. However, these perceptions are more likely to be realized if they receive school support, access to educational resources, and can integrate the TPACK framework.

Teacher Readiness and Training

Planning, preparation, and training are the components that directly impact technology integration. They are essential to involve teachers and students in the learning process and to adjust classroom activities to meet students' needs. students' necessities. The data analysis indicated that social science teachers have called for extensive training in the utilization of educational resources and technology. In response to inquiries regarding training on the application of technology in social science education, a teacher from case study one stated, "Yes, I understand. I completed training focused on ICT subjects. However, I did not undergo any formal training in social sciences" (S1AT1). On the other hand, S3AT3 pointed out that "I did combined training. This training included a 1-hour session on educational technology. But I did not have any special training in technology integration. Similarly, a social science teacher from case study school two said, "ICT training was also part of my experience. Although this happened a considerable time back, I do not remember the details" (S2AT3). The headteacher of the case study school two also supported the findings by providing information on the lack of teacher training in ICT integration.

The responses indicated that although some teachers had been trained in ICT, it was conventional and too general with no clear guidelines on the infusion of technology into the social science curriculum. They emphasized that with appropriate training, they could include technology in their pedagogical strategies. Besides, the urban school teacher mentioned that the training will help them effectively use digital tools, learning software, and interactive materials to enhance learning.

4.3 Students' Perceptions of Tech-based Social Science Class

Teaching and learning activities are a teacher-student-centered two-way process. In addition to the teacher's ideas, interests, and abilities, the effectiveness of technology use also depends on students' participation, interest, and understanding. Therefore, I participated in focus group discussions (FGD) with secondary students at all three case study schools to gain insight into their perspectives, satisfaction, and expectations regarding the use of technology in social science classes. The results obtained are analyzed based on the themes below.

1. Classroom Experience and Teaching Methods
2. Technology Use in Learning Social Science Content
3. Student Engagement and Motivation
4. Effectiveness of Technology
5. Expectations

4.3.1 Classroom Experience and Teaching Methods

The analysis of classroom experiences and teaching methods, based on Focus Group Discussions (FGDs) with students from three case study schools, provides valuable insights into how teaching practices are perceived. However, this study found various points of students' views on their social science class. In case study school one, both FGDs revealed that students' experiences in social science classes are similar to those in a general class. Some participants of the rural school agreed, and one of them expressed,

The teacher comes to the class and asks which chapter is being taught in the textbook, then asks us to open it to the page number of that chapter. Sometimes we read the text aloud, and the teacher explains it. Sometimes teacher explains the text by answering the questions. (S1FGD1P3)

The findings revealed that the students used to experience the same pattern of teaching and learning activities regularly. Besides, the students at school two had different opinions about the social science class. For example, “A new teacher has come to our

school. Who not only takes our social science class through lectures but also allows us to discuss in groups at different times. Once we acted out the Liberation War” (S2FGD2P6). On the contrary, the third school's students expressed very different viewpoints on their class experiences. In the group discussion, they all agreed on the use of technology in school. A student from the urban private school shared that “one of our social science teachers always uses projectors and multimedia with slides and videos in BGS contents. We enjoyed her class most” (S3FGD2P1)

The results indicated differences in students' experiences in the classroom activities among the three case study schools. Rural and government schools offer a near-similar experience to the students, featuring a few common teaching techniques. On the other hand, urban private school students showed a broad point of view in which technology was integrated in every classroom and directly affects their learning context.

4.3.2 Technology Use in Learning Social Science Content

The analysis of FGD data revealed varied perceptions among students regarding learning social science subject matter. The students of case study schools one and two expressed high expectations for attending technology-based classes. A participant of school one (S1FGD1P3) noted that “Our school has only a projector, and our social science teachers have informed us that we will attend projector-based classes once we reach class ten”. Similarly, case two school students shared, “There is a classroom dedicated to multimedia, often used for ICT classes. However, we would like to use this resource-oriented room for social science classes as well” (S2FGD2P4)

Conversely, in School three, students have a predominantly positive attitude to technology in learning social science content interactively. However, this school has built a projector in each classroom. The students also talked about taking online classes through applications like Zoom and Google Classroom. For example, a group of students agreed that online courses help them to participate in classes from home using technology

(S3FGD2P4). They also mention some limitations in online courses, particularly for social science classes. A student from urban school said –

In social science, when we participate in classes directly in class, the teacher shows project videos. He explains it again through discussion. There, we can see and understand easily, and many times, there is also an opportunity for discussion. Once again, with the social science classes online, even if the teacher is good at explaining content, we sometimes feel bored due to the lack of a classroom environment where we can interact. (S3FGD1P5)

In general, the results show that these students recognize the value of technology to enhance learning in social studies. However, its effectiveness depends on an interactive classroom, reliable resources, and balancing traditional and digital teaching.

4.3.3 Student Engagement and Motivation

Typically, learning depends on students' interest, attention, engagement, and motivation. The FGD also focused on the factors and technology use in the classroom. The FGD data suggest that, in general, students enjoy learning with technology, particularly when it is interactive and engaging, such as videos, animations, globes, and interactive maps. In terms of school one, some participants expressed their expectation to enjoy classes with digital technologies. A participant from S1FGD2 mentioned, “Our school has a multimedia projector, and sometimes we attend ict class using it. We enjoyed the class than others, where we can observe real objects through videos, animation, slides, etc. We don’t miss the class”. This expression showed that students are eagerly waiting and looking forward to the tools-based class. At the same time, students at School Two, a government urban school, expressed mixed reactions to technology integration. One student remarked, “Our social science teacher sometimes brings his laptop to class and uses it to show us slides in the multimedia room. We like the class, but it's hard to learn because there are so many students” (S2FGD1P3). In contrast, at School three, a private urban school with rich technology infrastructure, students had more positive experiences. A student from School three explained, “Our social science teacher teaches with new interesting videos and slides

every week. We also want to see what the teacher will present and teach us next” (S3FGD2P6).

The results indicate that technology plays an essential role in increasing student engagement and motivation. But it is mainly dependent on class size, teacher quality, and school environment. Schools with good resources and more qualified teachers, such as School Three, experienced higher student motivation. Though schools one and two had fewer resources, the students of the schools also expressed expectations to use technology in class. Social science teachers from case study school three also generally agreed that students are much more motivated and active when technology is incorporated into lessons, and that students show greater interest.

4.3.4 Effectiveness of Technology

According to the FGD analysis, students generally believe that using technology in class is helpful to improve understanding of content, and mainly of social science subjects. The impact of technology was assessed in terms of students’ involvement, students’ performance, and participation in class activities.

In the case study School One, a rural primary school, students were both enthusiastic and experienced difficulties using technology in class activities. As one student shared, "There is a computer lab in our school. But we have limited access to use this lab. I can remember the contents that I learned last year through participating in the class in the computer room” (S1FGD1P3). Similarly, students at case study School Two, a government urban school, acknowledged their regular presence in classes that incorporate technology. The students' participation and sustainable learning outcomes indicated the effectiveness of technology. At the same time, participants from School Three expressed mixed views on the impact of technology on the classroom. A participant shared, “Technology material helps us to learn with real-life examples in the classroom. But it has some problems. Our teachers often faced challenges when technical problems arose during class time” (S3FGD2P5).

The data analysis reveals that technology integration is a helpful learning aid because it breaks down complex material and makes the content livelier and more interactive. Technical problems, power outages, and students' problem behavior could reduce the effectiveness of technology, especially in a limited class duration.

4.3.5 Student Expectations on Social Science Class

The FGD data analysis provides valuable insights into students' perceptions of their Social Science lessons. Perceptions and expectations varied across their school context. In school one, participants expressed a desire to attend participatory, interactive social science classes with minimal technology integration. In school two, a government high school, students have described a range of expectations regarding social science lessons and teaching-learning activities. A student of the science group from school two remarked,

BGS is one of the theoretical subjects that consists of vast amounts of information, unlike other subjects in the science group. Now, most of the time, I depend on memorizing its content. If you can learn it holistically using digital tools, I think we can ensure the learning outcome is adequately achieved. Our teacher can help us with this. (S2FGD2P3)

This data suggests that the students expect a participatory, active learning environment for social science lessons, especially grade IX-X students who belong to the science group. In the case study school three, participants hold high expectations as their school possession of regular educational technology. They want better access to online teaching platforms and digital resources that provide flexibility and more timely facilities. For example, a student said,

Although multimedia tools are available at our school, we also expect to use other educational tools. We want to use more tools, such as interactive maps, smart boards, and apps like Google Classroom and Google Forms, as shown in YouTube videos. It makes learning Social Science more interesting and easier to understand. (S3FGD2P5)

Findings from the FGDs indicate that students in all three case study schools desired more interactive and technology-enhanced learning. However, expectations vary based on students' grade level, school resources and teachers' capabilities for effective integration.

4.4 Current Scenario of Technology Use in Social Science Teaching-Learning Activities

The development of various educational policies, guidelines, and strategies for utilizing technology, combined with positive attitudes from teachers and students, yields good results only when they are reflected and practiced in the classroom. One of the primary objectives of this study is to examine the current state of technology-integrated pedagogies in social science teaching. The study collected data through interviews with teachers, FGDs with students, classroom observations, and visits to the classroom and the school's technological facilities to explore the objectives. The collected data is discussed in relation to the following key areas.

1. Availability and Accessibility of Technology
2. Use of Technology in Social Science Teaching
3. Student Digital Literacy
4. Teacher Readiness and Training

The findings on the current state of technology integration in the study emerged from three case study schools.

4.4.1 Availability and Accessibility of Technology

This study sample included three case study schools, with varying availability of technological tools in rural and urban settings. The observation findings suggest that the urban school (School Three) was technologically more advanced than the rural school. In the rural school (School One), there was only one multimedia room, whereas multimedia was built into almost every classroom of the urban private school. However, the situation in an urban government school differed. There were not enough ICT tools, as reported by the headteacher (S2HT) and the social science teachers (S2AT2), and this was evident during my visit as well. Consequently, this study revealed a severe shortage of ICT devices

in secondary schools.

School one and school two have computer laboratories equipped with more than 10 computers, each featuring microphones, a sound system, a projector, and a whiteboard. In contrast, the urban private school (School Three) has three computer laboratories with more than 30 computers, though some of which are non-functional. A continuous internet connection is also a challenge in all three case study schools, as reported by the headteacher. Not all computers are functional or connected to the internet, suggesting that reliable internet access is not consistently available to learners. These findings are further supported by the responses from the head teacher (S2HT) and social science teacher (S2AT1). For Instance, “Although our schools have a lot of computers, I’ve seen that not all the computers in the lab work, and sometimes they aren’t connected to the internet” (S2HT).

On the other hand, most of the teachers in the school one and two are not privileged to have access to technology. ICT teachers are given priority to use and manage the equipment. Besides, social science teachers can utilise computers and projectors only after consultation with the headteacher or a predetermined fixed schedule. This limits social science teachers’ chances to incorporate technology in a comprehensive way into their teaching.

4.4.2 Use of Technology in Social Science Teaching

To collect information on technology use within the social sciences, I observed six lessons across these three target schools. This finding enabled us to investigate the association between teachers’ beliefs and their employment of different strategies for integrating technology into classroom activities. I looked at the classes based on the checklist (Appendix E), and observed three phases for each class: lesson planning, content delivery, and assessment.

The findings revealed that while teachers often express an intention to plan for technology use, the actual classroom scenario differs. At School One, social science teachers were seen not to be incorporating technology during observed periods. While they had positive attitudes toward integrating technology, they did little of it. Despite possessing good content knowledge, the teachers seemed not pedagogically competent. Therefore, they depended mostly on didactic lectures.

Conversely, social science teachers at School Three demonstrated consistent use of multimedia projectors, comparable to other subject teachers, due to the school's strict policies and clear administrative directives on technology integration. When asked about her use of technology in teaching, one social science teacher stated, "I consistently integrate technology into my classes, particularly in history and geography, by incorporating educational videos and interactive maps to enhance students' understanding and engagement" (S3AT3). However, the teachers also provided information about the use of technology across different phases of teaching, as the interview schedule included relevant questions. A teacher from School Three stated,

I plan to use technology in my classes, sometimes through slides or videos. Although I incorporate technology in my presentation of content, it is not used for assessment. The school's assessment system is general, consisting of paper-and-pencil tests with short-answer and essay-type questions. (S3AT2)

The classroom observations showed that technology integration varied significantly between different teaching phases. Although teachers used multimedia projectors in compliance with school rules, they showed limited awareness of preparatory planning for technology use. Additionally, the technology was used only in a limited way to engage students during classroom instruction and for assessment purposes. Overall, the findings imply that technology remains partially integrated into teaching, designed for content delivery, and situational in-application but largely restricted to school's compliance and being absent from the assessment practices.

4.4.3 Student Digital Literacy

The role of students' digital literacy is an important factor in determining the extent to which technology will become integrated in classrooms. Observations of teaching indicated that students' skills with digital tools and platforms varied across the case study schools. In rural school, students expressed an interest in technology but had little experience with most digital tools. According to focus group discussion (SFGD1), secondary school level students in the rural school rarely engaged with technology in their learning. Therefore, technology elicited students' curiosity rather than being effectively used for learning.

Conversely, each of the urban schools included in the case study discovered student familiarity as they shared various educational tools that would be used in schools. A student from school three said,

We did online classes in the pandemic, and we studied through so many YouTube videos prepared by using technology tools like smart boards and speakers for the science chapter. We thought that having the same types of facilities would help us to learn better in school. (S3FGD2P4)

The results demonstrate a clear gap in the digital literacy of students from rural and urban schools, resulting in an overall level and quality of classroom technology integration. Rural students did not have extensive access to digital tools and were curious about them, but were unable to use the technology for learning. In contrast, urban school students were familiar with educational technology due to prior experience and their more in-depth utilization of technology-supported instruction.

4.4.4 Teacher Readiness and Training

Teacher readiness and training are fundamental to the successful integration of technology into teaching practices. Data from classroom observations, semi-structured interviews, and focus group discussions revealed noticeable differences in teachers' preparedness and professional training among the three case study schools.

In Schools One and Two, social science teachers' readiness to use technology in their teaching was relatively low. They also reported lower interest in training programs on ICT integration. Consequently, school administrators rarely selected social science teachers for professional development on technology. However, some teachers expressed concerns about this situation. One teacher stated, "In my professional career, I have been to many training courses, and they were not technology integration classes. The new curriculum and creative question-setting were the main focus of many of the training sessions" (S1AT1).

In School Two, teachers had several trainings concerning the use of technology, but were unable to really apply these skills effectively because there were not enough resources available at the school. By comparison, Social Teachers in School Three mentioned that more opportunities for professional development were available as the school frequently arranged in-house training events on various teaching and learning matters. They also get a yearly hands-on workshop on digital content creation. A findings table showing the present condition in rural, governmental, and urban private schools is presented below.

Table 4.6

The Current Scenario of Technology Integration in Different Case Study Schools

Major Theme	School One (Rural High School)	School Two (Urban Government School)	School Three (An urban private school)
Availability & Accessibility of Technology	Only a multimedia and a computer lab are available at the school, with ICT teachers given priority.	A dedicated multimedia room and two computer laboratories are available for	Each classroom has built-in multimedia projectors, teachers have computer facilities in their

		teachers, but permission from the ICT teacher is required.	classrooms, and there are three computer labs for all teachers.
Use of Technology in Social Science Teaching	Rare use of technology in Social Science.	Minimal use of technology in social science class, but change is observed.	An everyday use of technology is like other subjects. Slides and Video-based pedagogies found.
Student Digital Literacy	Students showed interest, but lack digital literacy	Students are highly enthusiastic and have moderate digital literacy.	The students are used to technology integration in regular class and expressed high levels of tech integration while holding advanced-level literacy.
Teacher Readiness & Training	Attended many trainings, but not a specific ICT training. Depending on the ICT teachers to integrate technology into classroom activities.	In-house training by ICT teachers. Found a trend in integrating technology among some of the social science teachers.	Hands-on training is given to all teachers, especially on content creation. All teachers are accustomed to integrating technology. Found a gap in applying the

			TPACK framework in classroom activities.
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4.5 Challenges of Implementing Technology-Integrated Pedagogies

The advantages of ICT integration in education led developing countries to adopt technology in school teaching and learning practices. This integration is a modern innovation in education, and it faces challenges. Technology integration challenges are complex and involve schools, teachers, and students (Mustafa et al., 2024). However, this research explored the difficulties in practicing technology-integrated pedagogies in the BGS classroom through teacher interviews, discussions with students, and observations of classrooms and school environments from rural and urban perspectives. Implementing technology-integrated pedagogies in the BGS classroom faces multiple challenges, including inadequate infrastructure and resources, insufficient teacher readiness and training, pedagogical and classroom management difficulties, and gaps within the existing curriculum and policy framework.

Table 4.7
Challenges of Implementing Technology-Integrated Pedagogies

	1. Infrastructure and Resource Constraints
Major Themes	2. Teacher Readiness and Training
	3. Pedagogical and Classroom Challenges
	4. Curriculum and Policy-related Issues

4.5.1 Infrastructure and Resource Constraints

In the context of education, infrastructure and resource constraints are the lack or insufficiency of financial, technological, and physical resources, such as ICT equipment, dependable electricity, internet access, and well-equipped classrooms, that impede the efficient use of technology-integrated instructional strategies (Tondeur et al., 2017; UNESCO, 2019).

Shortage of ICT Devices and ICT-equipped Classroom

Technology integration mostly depends on the availability of ICT equipment. Though the government has provided ICT tools at the secondary level through various projects, they are still not sufficient in our institutions. All three schools found a remarkable shortage of devices, especially in rural and government high schools. The headteacher and social science teachers from the rural secondary school highly expressed the issue. For instance, the head teacher said, “The number of students is high, the classrooms are small, and the technology is poor” (S1HT). Similarly, an assistant teacher from the rural school said,

Our school has a shortage of teachers. A teacher must conduct almost six to seven periods daily. Besides, all classrooms do not have multimedia; I have to go to a specific room for teaching. Since one room has multimedia, other teachers cannot use it simultaneously. (S1AT1)

At the same time, the government school also found a lack of availability of ICT tools and limited ICT-equipped classrooms. The headteacher of the government school stated,

I consider power outages and the shortage of equipment as the main obstacles in technology integration. Our school has multiple sections in each class, which runs in two shifts, yet our school has only one multimedia classroom. It is supervised by one of our skilled ICT teachers. If a teacher is interested in taking a class in that room, they can, but they have to schedule it in advance. (S2HT)

In line with these findings, the assistant teacher of the school also stated that, “All classrooms do not have multimedia; I have to go to a specific room for teaching. Since one

room has multimedia, other teachers cannot use it simultaneously” (S2AT2).

This shortage in rural and government schools was also observed during the school and class observations. The FGD data also represent the findings. For instance, “Our school has a projector, our BGS teacher informed us that we will have the opportunity to attend multimedia classes when we will obtain classes 9 and 10 (S1FGD1P4)”. The scarcity of ICT devices and the limited number of ICT-equipped classrooms disrupt the continuity of technology-supported pedagogy in the BGS class and reduce its effectiveness.

On the contrary, the private school in urban area have better access to technology. According to the headteacher and assistant teachers, as well as findings from school observations, every classroom is equipped with built-in multimedia projectors. Therefore, the challenge of ICT divides is mostly in rural and government schools. This shortage directly hinders effective technology-based teaching.

Unreliable Electricity and Internet Connectivity

Frequent electricity failures and internet issues were another significant barrier to technology integration. This issue has different scenarios regarding rural and urban schools. The headteacher of the rural school said, “The tendency of electricity going out in the villages is high. Sometimes, even on stormy days, it can be seen that there is no electricity for about a week” (S1HT). The FGD also expressed that “it takes time to resume classes when there is a power outage, and as a result, the expected content cannot be completed on time” (S2FGD1P6). The school observation found no internet connection in the rural school. While urban schools do, it’s inconsistent. The urban private school headteacher said, “Our school has internet-connected multimedia rooms, but in general, it is seen that most of the time it does not work and there are frequent network connection issues” (S3HT).

Maintenance and Technical Issues

In addition to device shortages, maintenance and technical issues further

complicate the integration of ICT in classrooms. In three case study schools, teachers indicated that the most common disruptions they faced were power failure and equipment breakdowns as well as device incompatibility with teaching materials. As one teacher in a government school mentioned, “Class activities is affected frequently by the power failure and malfunction of devices” (S2AT1). Similarly, the physical burden of conveying personal devices to school represents another additional challenge as noted by a teacher, “It is hard to bring a laptop every day to school” (S3AT1). These technical issues not only waste precious class time but also deter teachers from using ICT tools on a regular basis. Rural and urban schools experience similar technical problems, but schools in urban areas, especially private ones, have better maintenance of ICT tools, and the resolution of their challenges is faster. For example, urban private school headteacher said, “Sometimes the projector does not work, technical problems happen, but we have mechanical persons and very soon they solve” (S3HT). These kinds of infrastructural issues disturb continuity of lessons and reduce reliability of technology use, especially in rural and government schools.

4.5.2 Teacher Readiness and Training

Teacher readiness emerged as a critical factor influencing the integration of technology into classroom practices. Although many teachers expressed a positive attitude toward digital tools, their readiness to effectively use ICT was constrained by various factors. These findings reveal that readiness is not only about access to technology but also about the professional competence, confidence, and institutional support required to apply ICT meaningfully in pedagogy.

Lack of Digital Pedagogical Skills

Teachers' pedagogical and technological knowledge largely determines the effective use of ICT. Teachers also showed a high level of consciousness about the role to be played by ICT in education. However, the headteachers of the rural, urban government, and urban private schools had differing opinions on how assistant teachers should

implement the technology in classrooms. A headteacher of a government secondary school admitted,

“To be honest, Social science teachers do not use much technology in class, and their technological skills are lacking as not using technology for a long time. Besides, they are not used to using the tools. However, if they are interested in using it, ICT teachers help them” (S2HT).

Additionally, the rural school teachers and urban government school teachers also showed a lower degree of pedagogical skills related to technology and technology integration. Teachers at the private urban schools were consistently observed as having higher levels of technology knowledge. Instead of developing independent competence, many teachers depend heavily on their colleagues, particularly ICT in-charge staff, to operate multimedia devices or solve technical issues. For example, one teacher stated, “I often take help from ICT teachers for multimedia use” (S2AT2). This reliance suggests that although peer support is valuable, it cannot substitute for individual capacity-building.

However, pedagogical deficiencies persisted in urban private schools. Urban and rural assistant teachers have limited digital pedagogical competence to effectively incorporate technology into their classroom practices, as the observation found. A student in a private school mentioned that “although our BGS class teacher conducts lessons using a multimedia projector, if a technical issue occurs, she often cancels the class for the day. Sometimes we are unable to connect the teacher's lecture with the content she was showing” (S3FGD2).

Indeed, classroom observations found that the use of technology by social science teachers is generally restricted to routine actions, such as PowerPoint presentations, without resorting to interactive and student-centered strategies. This skill gap limits the potential of ICT to promote critical thinking and active learning in general, in the classroom.

Lack of Training and Capacity Building

A common complaint among all teachers was a lack of adequate training or capacity building on how to integrate ICT effectively. ICT training is seen as crucial not only for improving teachers' confidence but also for developing positive attitudes toward ICT use. Teachers were found to have different perceptions regarding the demand for training in ICT integration into teaching. Rural school teachers reported that "ICT-related training is mainly attended by ICT teachers, who are given priority, while social science teachers are sometimes not considered"(S1AT2). Additionally, the government school teacher shows little interest in attending training. As one assistant teacher stated, "We receive training, but we are unable to practice in the school premises because the tools that are needed are not there, and also due to having a very high number of students" (S2AT1). Similarly, the headteachers of rural and government schools noted a lack of opportunities for capacity-building in the use of technology in the social science classroom. The headteacher of the government school mentioned, "ICT training is largely aimed at ICT teachers. While we provide in-house training for all of our teachers, it is never enough" (S2HT).

Instead of developing independent competence, many teachers depend heavily on their colleagues, particularly ICT in-charge staff, to operate multimedia devices or solve technical issues. For example, one teacher stated, "I often take help from ICT teachers for multimedia use" (S2AT2). This reliance suggests that although peer support is valuable, it cannot substitute for individual capacity-building.

Workload and Time Constraints

Teachers also described workload and time constraints as significant barriers to adopting ICT-based teaching. Preparing multimedia lessons requires additional time and effort, which can be difficult for teachers already burdened with syllabus completion, administrative tasks, and large class sizes. A teacher of social science at the rural school said,

My schedule is packed with a full workload because every day I have to conduct 7–8 periods. I run up and down the stairs from the first to the second floors, which

burns me out quite a bit. As a result, I am unable to plan and integrate technology effectively in having such a workflow. (S1AT1)

Similarly, a government school teacher explained the challenges,

I joined as a Geography teacher, but I also conduct Bangladesh and Global Studies (BGS) classes due to the shortage of teachers in our school. In many cases, I have to take adjustment classes on the same day. Despite my interest in using technology in teaching, I am often unable to integrate it under these circumstances. (S2AT2)

By contrast, social science teachers in private schools did not get a workload but spoke of time constraints throughout the class schedule. For example, a teacher commented,

In our school, there are three social science teachers, and the work pressure is not that much. Nevertheless, the BGS class usually comes after tiffin and is only 40 minutes long, which does not really inspire our students or us to put technology into practice. (S3AT2)

Furthermore, six of the nine teachers stressed that short class duration prevents effective use of ICT within social science lessons. More specifically, it was rural school and government school teachers who indicated that engaging with multimedia technology, troubleshooting technological issues, and conducting instruction in a 35–40-minute period are difficult. Due to this limitation, social science teachers are often constrained to use the traditional lecture method rather than an interactive, ICT-based pedagogy. As one teacher from the government school put it, “Class hours are too short to prepare and set up for multimedia use properly” (S2AT4).

4.5.3 Pedagogical and Classroom Challenges

Teachers reported several pedagogical and classroom challenges that hinder the meaningful integration of ICT in teaching. Such as-

Large Class Size and Classroom Management

Teachers pointed out that large class sizes pose a significant barrier to effective ICT-based teaching and learning. Generally, in rural schools, a class has around 100 students per section. Same scenario in government school too. The observation also found this large class size, so it is extremely challenging for teachers to manage classes with portable technology tools. A social science teacher from the rural school said,

When I use technology in social science class with a multimedia projector, slides, or content, it is visible to the last rows of the class. However, students often struggle to hear properly because there is no sound system in the classroom. (S1AT1)

The findings revealed that teachers encounter pedagogical challenges when using digital tools, particularly in classroom management, especially with large numbers of students. The finding also reflects the urban private school scenario. The classroom observation found that social science teachers mostly become focused on slides and content, neglecting to monitor student engagement of the whole class. One participant stated, “In large classes, it is difficult to manage multimedia teaching because not all students can pay attention” (S2AT3).

Student Engagement and Distraction

Another issue that arises when teachers incorporate technology into BGS classes is student distraction, particularly in large classrooms. A social science teacher of the rural school stated,

Sometime, I try to conduct class through using digital tools. I found students are curious to enjoy the class but at the same some of them become busy with chatting themselves in the classroom. As our school has huge student in every class, I was unable to make them engage in class. (S1AT3)

Another social science teacher from a rural school stated,

Sometimes, I try to conduct the class using digital tools. I find most of my students are interested and willing to learn. However, some get distracted and begin talking to each other. Besides, the room is not spacious enough for the large number of

students. Therefore, I face challenges to effectively engage all the students during the lesson. (S1AT1)

The story is no different when it's about urban schools, both governmental and private. Students often talk to each other when the teacher is teaching. A participant mentioned, "sometimes students get distracted and focus more on the pictures rather than the lesson" (S3AT3). Overall, the findings revealed that although technology integration increases students' interest, it can also distract them from classroom activities.

4.5.4 Curriculum and Policy-related Issues

In addition to infrastructure and pedagogical constraints, the teachers emphasized curriculum and policy issues that restricted the use of ICT in secondary schools. There were no clear guidelines for curriculum, limited support from the institutions and lack of government efforts to sustain the use of ICT in teaching.

Curriculum Guidelines for Technology Use

Teachers emphasized that curriculum guidelines are not clear enough about how ICT should be incorporated systematically in the teaching of social science subjects. While there is a government role in promoting the use of ICT, it lacks direction at the subject level and teachers are left to make decisions for themselves about what and when to teach with digital tools. This can lead to variation in practice between institutions. A social science teacher of the rural school also highlighted that there were no guidelines in the textbooks on using technology in teaching social science lessons (S1AT1). The teachers at the three case study schools also share the same view of these drawbacks. One teacher reflected, "The curriculum provides instructions to use different tools in various chapters. But, it did not explain how to apply it in our subject" (S2AT2).

4.6 Chapter Overview

The chapter four presented all the data that were collected, and analyzed it based on the research questions. The findings from all study instruments have been organised in

line with the research objectives. Many fundamental aspects of technology use in secondary social science classes emerge from the data analysis. Findings from the data also showed that some of the teachers use technology in teaching social science contents, while others operate with traditional modes of teaching. Moreover, students are found enthusiastic and motivated to enjoy the BGS classes in which technology is employed. However, there are some challenges related to the implementation of technology in secondary social science classrooms. The next chapter presents a discussion of the major findings and their implications for the research.

Chapter Five

Discussion

5.0 Introduction

This discussion chapter focuses on a critical analysis of the findings in relation to the purpose of the study and existing literature. It investigates the inclusion of technology in education, specifically within the social science curriculum, by analyzing how policies and curricula encourage or obstruct its use. The chapter also addressed teachers' and students' views on the use of technology in the classroom, as well as the barriers to implementing such pedagogies in social science classes. In the context of implications, the chapter explores the practical implications that can be derived from the results for more purposeful approaches to the integration of technologies into social science education. It offers recommendations for professional development and policy for both teachers and students.

5.1 Critical Discussion of Major Findings

Based on the major findings and research questions, this section presents a critical discussion with proper argumentations below:

5.1.1 A Comprehensive Technology-Integrated Social Science Curriculum Framework

A comprehensive and detailed curriculum can serve as a true and ideal path for implementing any innovations or steps taken in the educational sector. The global perspective on technology integration in education through proper educational planning is also evident in existing literature (Vatanartiran & Karadeniz, 2015; Vrasidas, & McIsaac, 2001; Gülbahar, 2007; Arstorp, 2021). Policymakers have emphasized achieving substantial educational and pedagogical improvements that benefit both students and teachers through ICT integration in education, as Rahman (2023) stated. Alamin et al. (2023) also stated, citing China's education policy, that educational reform largely depended on technology to meet the requirements of a knowledge-based society. Bailey et al. (1996) further pointed

out that technology planning is crucial before integrating technology into curricula. This includes ensuring key stakeholders' involvement and addressing the "how" and "where" of curriculum integration occurred. Besides, integrating technology into the curriculum has a significant impact on students' learning and educational achievement (Sisco, 2008). In line with this global trend, Bangladesh's education policy also acknowledged the integration of technology in its objectives and level-wise principles (MoE, 2010). However, my document analysis focused on the secondary social science curriculum to explore technology-integration guidelines.

The findings suggested that the social science curriculum indirectly formed technology integration through educational activities, assessment practices, and methodologies. It lacks in-depth guidelines for classroom practices. Furthermore, the curriculum has not explored a holistic framework for technological integration practices and pedagogical approaches. I can urge that the social science education teachers have not provided a comprehensive curriculum guideline for pedagogical practice. But the existing global research strongly emphasizes integrating technology into the social studies curriculum for developing skills of the 21st century among students and making children's learning process meaningful and more interesting (Gulbahar & Guven, 2008; Acikalin & Duru, 2005; Hong, 2016; Erol, 2021; Farisi, 2016; Diem, 2000). Therefore, I strongly urge that ICT-integrated pedagogies be more comprehensively incorporated into the curriculum across all subjects at the secondary level, including social science, through the use of advanced digital tools, the TPACK framework, and specific, clear guidelines for classroom practices.

5.1.2 Leadership Role in Improving Technology-based School Culture

The school leaders, particularly principals, vice-principals, and head teachers, play significant roles "in implementing new programs or teaching practices," and they are seen as an important source of motivation (Leonard & Leonard, 1999, p.238). More particularly, the role of school leaders in promoting the practices of technology-integrated pedagogies

in the classrooms and schools is strongly supported by different recent studies (Adewale, 2025; Alshidi & Rashid, 2025; Alajmi, 2022; Baharuldin et al., 2019; Claro et al., 2017; Donaldson & Jackman, 2024; Geresola & Lausa, 2024; Gyeltshen, 2021; Jamil et al., 2024). Accordingly, the study found that headteachers of all three case study schools generally support technology integration, recognizing its potential to enhance student engagement and learning outcomes.

However, Adewale (2025) conducted a systematic review and identified eight leadership strategies that can enhance technology usage among teachers in secondary schools. The strategies are: leadership and vision, professional development programmes, digital learning culture, infrastructure and resources, pedagogy and instruction, systemic improvement and evaluation, digital citizenship and responsibility, and support services for teachers. Similarly, the results revealed a mixed picture of the leadership role at the secondary level. While the head teacher of the urban private school was found to be dynamic, technical, action-oriented and innovative-minded, other head teachers of rural and government schools could be described as static, non-technical and traditional in school management. As a result, the urban private school provided technology integration facilities in every class, and the headteacher maintained a guideline and a record book for weekly ICT-based classes, whereas the rural school lacks clear guidelines. I can argue that there is a significant gap in leadership roles between urban and rural contexts of technology integration.

Besides, Maala & Lagos (2022) observed that school leaders are key actors who pushed for new technologies and encouraged teachers and students to work together to use tech-based resources for learning. The observation is also supported by Bakia (2014) and A'mar and Eleyan (2022), who emphasize the importance of school leadership, particularly that of the head teacher, to support successful technology integration. Whereas Bakia (2014) highlighted the need for technology infrastructure, A'mar and Eleyan (2022) based their study on the role of head teachers in instructional technology integration. Therefore, I urge the school leader to be more active, dynamic, and digitally minded, particularly in

rural and urban schools, to encourage teachers to incorporate and manage institutional needs to ensure quality education and ensure ICT-based pedagogies.

5.1.3 Teachers' Perceptions: Lack of integration between policy concerns and practices in the School

Subject teachers' perceptions are significant, as they can directly influence the application of teaching methods and approaches in classroom settings. The teacher's positive attitude and the application of technology in their instructional practices are significantly associated (Abbasi et al., 2021). Similarly, Akram et al. (2022) conducted a systematic review focusing on teachers' perceptions and technology use. They found that teachers' attitudes, technological knowledge, and skills were significant requirements to integrating technology into their pedagogical approaches. Additionally, clear and specific curriculum guidelines among subject teachers made class activities meaningful and effective (Shkedi, 2009; Behar, & George, 2013). However, my study found that social science teachers in three case study schools perceive a common, surface-level concept of the social science curriculum and use technology sparingly in regular classroom practices, except in the urban private school. These findings revealed a significant gap between policy concerns and school practice among social science teachers. Additionally, the study of Rakes & Casey (2002) focused on teachers' positive mindset and feelings toward technology to successfully integrate it into the classroom (Rakes & Casey, 2002). In this regard, I can argue that social science teachers demonstrated minimal knowledge and limited practice of ICT-based pedagogy, particularly among rural and government school teachers.

Furthermore, the attitudes and opinions of teachers are strong factors that significantly impact the activities that take place in the classroom (Groff & Mouza, 2008; Hong, 2016). Ghavifekr & Rosdy (2015) found that one of the key elements in the effectiveness of technology-based teaching and learning is the teacher's adequate preparation with ICT resources and tools. However, my findings indicated that social

science teachers across all three case study schools were less prepared to integrate technology into their classes. Though some teachers found incorporating technology, its use was limited to content delivery. A significant gap exists in the integration of pedagogy and technology. These findings are supported by the BANBEIS (2022) report, which found that social science teachers were given priority in conducting ICT-based sessions at the secondary level (4.7%). Therefore, I can urge that social science teachers are less interested in incorporating technology into their classes. They should focus on technology integration using the TPACK framework.

5.1.4 Students' Digital Literacy, Motivation, and Engagement

The impact of technology as an effective means of creating flexible learning opportunities and meeting diverse learning needs is currently particularly noticeable (Chen et al., 2024; Tjebane, 2023). Due to the availability of technology and the expansion of ICT facilities, students' attitudes, interests, and perspectives towards technology in the teaching-learning process are clearly evident in the existing literature (Asdies et al., 2015; Beckman et al., 2014; Godzicki et al., 2013). All students who participated in the study agreed that technology integration increased their active participation in class activities and their motivation. Simultaneously, Greenberg & Zanetis (2012) and Alavi et al. (1995) emphasize that using technology in the classroom appears to inspire and involve pupils in their own learning.

Additionally, the study also found that students from different case study schools varied in digital literacy. Urban private school students were accustomed to attending multimedia-based classes regularly and expected advanced technology such as smart boards, interactive maps, and online teaching platforms. Conversely, students at the rural school and the governmental school expressed a desire to attend participatory, interactive social science classes with minimal technology integration. These findings are also supported by Kormos and Wisdom (2021) and Wang (2008), who found differences in the experiences and preferences of urban and rural students regarding the use of technology to

learning, especially interactive whiteboards. I can argue that school facilities and the regular use of ICT devices can improve students' digital literacy. Therefore, urban governmental school students demonstrated advanced knowledge of educational technology.

The findings further suggested that students enjoyed using technology with high engagement for interactive and visual learning, especially in subjects like social science, which can benefit from tools such as videos, interactive maps, and simulations. However, a lack of digital literacy can minimize students' motivation and engagement. Therefore, school technology facilities and introductory ICT practice sessions can promote students' digital literacy.

5.1.5 Urban-Rural Gap in Technology Integration: A Challenge to Quality Education

Recently, digital dividend has received research attention in contemporary society, including education. The digital gap in integrating technology into education is a key area of current research (Afzal et al., 2023; Kormos & Wisdom, 2021; Albakri & Wood-Harper, 2025). Wang (2013) noted significant differences in technology availability, teachers' tech integration levels, and students' perceptions between urban and rural schools. These differences are also noted in the study by Yulianto (2025), who further disclosed that urban areas have much better digital infrastructure than rural areas. The findings of the study also indicated that the urban private school of Bangladesh has better infrastructure and ICT resources compared to the rural school.

Additionally, the findings indicated that the government school also had inadequate digital resources, restricted teacher-training facilities, and a limited scope for ICT integration across all subjects, including social science. Whereas the learning environment, student engagement, and teacher quality are significant factors in ensuring quality education (Tripon, 2025). Besides, SDG-focused educational equity largely depended on access to education, the availability of digital resources, and an inclusive learning environment (United Nations, 2015; Wagner, 2017). Therefore, I urge that, without minimizing the existing gaps in technology integration, especially in rural-urban and

government-private schools, it is quite impossible to achieve equitable quality education and SDG-4.

5.1.6 Challenges to Practice: Infrastructure, Teacher Readiness, and Policy Support

Although technology plays a crucial role in enhancing education, teachers still face difficulties in designing effective learning environments using technology, as Groff and Mouza (2008) argued. Various national and international research studies have examined technology integration challenges in education (Sarkar, 2018; Mou, 2016; Talukder & Sikder, 2024; Chen et al., 2025; Joshi & Khatiwada, 2024; Ansari et al., 2024). Similarly, Kilinc et al. (2018) identified that limited administrative and technical support was a major challenge. However, the current study's findings suggest that secondary schools still face numerous challenges, especially in the teaching and learning processes of social sciences.

The findings indicated numerous challenges, including infrastructure and resource constraints, teacher readiness and training, pedagogical and classroom difficulties, and curriculum- and policy-related challenges, all of which are connected to the secondary level in Bangladesh. Infrastructure issues, such as a shortage of ICT devices, unreliable electricity, and poor internet connectivity, hamper effective technology use in classrooms, especially in rural areas. In view of this finding, a good number of researchers, among them Tarman et al. (2019), Demirbilek (2024), Unal and Ozturk (2012), have identified many challenges like inadequate resources, limited teacher knowledge and confidence, curriculum constraints, and resistance to change. I can urge that the lack of ICT-equipped classrooms minimizes the scope of integration for social science teachers.

Furthermore, Limited class time is a challenge for integrating technology into social science classes, as much of the time falls after the tiffin break, leaving only 40 minutes for class. Similarly, Buabeng-Andoh (2012) noted that limited instructional time is a major barrier to ICT integration. Bingimlas (2009) also stresses that effective ICT pedagogy requires additional time for planning and execution, which is rarely accommodated in tight

schedules. In this regard, I can urge seeking additional class time or revising the timetable to schedule the BGS class with enough time.

On the other hand, challenges related to curriculum guidelines for technology integration in BGS classes include outdated structures that limit flexibility and improper instructions in incorporating technological tools. Voogt and Pelgrum (2005) argue that curriculum frameworks often promote ICT integration in general terms without offering detailed pedagogical strategies. Similarly, Kozma (2008) points out that policy documents should be integrated with subject-level curriculum to ensure that ICT is being used in ways that truly enhance learning.

Pedagogical problems such as overcrowded classrooms and student distraction are also marked as challenges to integrating technology in the classroom. Teachers also find it difficult to balance technology use with the existing curriculum within the limited class time available. This problem is well-documented in large-scale studies overseas, for instance, Blatchford et al. (2011) observed that an increase in class size means teachers are less able to give individual attention which reduces the efficacy of including technology-supported active learning. Furthermore, UNESCO (2015) notes that the overcrowdedness of classes in developing countries weakens efforts for ICT integration through teacher overloading.

Teacher readiness and training are significant challenges. Many teachers have received general ICT training, but they lack specific skills to integrate technology into social science teaching effectively. There is a high dependency on peer support, with some teachers needing help from ICT specialists to use the tools. I strongly urge that comprehensive technology integrated curriculum, adaptive digital literacy training for both teacher and student, and proportional device distribution is need for ensuring ICT-based quality social science education.

5.2 Implications of the Study

The implications of this study offer some insights for policy, practice, and Future research on the successful integration of technology in social science education at the secondary level in Bangladesh.

5.2.1 Implications for Policy

NEP 2010 offers a futuristic vision of integrating technology, but falls short in presenting specific and clear guidelines for its practical dissemination in curriculum. This gulf between what the policy envisages and what happens in the classroom is evident in the spotty implementation of ICT, especially within social science. The findings of this study stress the importance of providing more practical and clear curriculum guidelines that help to ensure technological effectiveness in teaching and learning.

Moreover, the study indicates that while the curriculum offers some opportunities for technology use, there are no specific guidelines for integrating ICT into the teaching of social sciences. The curriculum tasks should also be revised to provide explicit steps for using technology as part of lessons, assessments, and instructional practice. Clearly, if the desired learning outcomes within social science education are to be accomplished, and the efficacy of using ICT is to be enhanced, a systematic approach to applying ICT in this context is required. Additionally, support is required for integrating digital tools into assessments more directly, so that students receive real-time feedback and learning can be kept in a constant state of motion.

5.2.2 Implications for Practice

Despite positive perceptions of technology among teachers, there is an essential lack of digital pedagogical competency. Most teachers have been trained for general ICT skills, but it is not a learning area focused on or based on the current teaching requirements. To maximize the potential of technology, more comprehensive, hands-on, and subject-specific professional development programs are needed. This would build teacher

confidence and competence in utilizing technology to enhance learning, particularly in the social science classroom.

Moreover, one of the key challenges identified in the study is poor infrastructure, which comprises limited ICT devices, inadequate internet access, and lack of maintenance of the technological resources. These barriers are particularly pronounced in rural schools, where exposure to multimedia tools and uninterrupted power supply is scarce. This has led to a significant gap in the way students learn between urban and rural areas. To this end, the government should invest in infrastructure to level technology access across schools.

5.3 Chapter Overview

The chapter provided a critical analysis of the study's findings, focusing on three primary areas. They are policy and curriculum-related findings, teacher-student perceptions, and challenges of technology integration in social science. Based on the findings, the chapter also delineated the implications for policy and practice. The next and final chapter will present recommendations and provide a conclusion to the study.

Chapter Six

Conclusion

6.0 Introduction

This is the last chapter of the study. This chapter begins by revisiting the research focus and summarizing the key findings of the study. It also addressed the potential areas for future exploration. In this concluding section, I attempt to reflect on the research experience and its results. Furthermore, a series of recommendations is proposed to address the identified challenges and enhance future practices, with a focus on improving the overall efficacy and sustainability of the BGS subject under study. Finally, the chapter will conclude by summarizing the main conclusions drawn from the research and suggesting directions for further inquiry in the field.

6.1 Revisiting Research Focus

Technology integration in education has had a significant impact on effective, meaningful learning, making teaching and learning activities more interesting, participatory, and student-centered. Efforts to incorporate technology in the education system of Bangladesh through planned initiatives and multifaceted steps have been ongoing for a long time. Therefore, Bangladesh's education policy has also recognized ICT and technology integration across various sections. The policy expected the education system to be modern and up to date by formulating educational goals and providing level-wise instructions on the use of technology and ICT materials. In addition, different educational planning initiatives and national and international research have shown the integration of technology in education.

However, the purpose of this study was to explore the notion of teaching and learning activities involving technology in the existing social science curriculum and, at the same time, to highlight the scenario of its practice at the secondary level. For this

purpose, this study also highlighted teachers' and students' perceptions of using technology in social science education, the school's facilities and opportunities, and the existing challenges.

More specifically, this study was guided the following research questions:

- i) How is the technology embedded in the secondary-level social science curriculum in Bangladesh?
- ii) What are the views and understandings of social science teachers and the head teachers regarding technology integration in the curriculum and practices in the classrooms and schools?
- iii) How do the students perceive technology-integrated teaching and learning practices in the classrooms and in the schools?
- iv) How do social science teachers use technology in their regular classroom practices?
- v) What are the challenges in implementing technology-integrated pedagogies for teaching and learning of social science?

This study adopted a qualitative case study approach in collecting and analyzing research data. Based on the data obtained from different cases of urban-rural and public-private secondary schools, a comparative picture of the use of technology in social studies education has been drawn.

6.2 Summary of the Key Findings

For the qualitative case study, data have been collected from various sources, including documents and human subjects. The data have been analyzed, discussed in previous chapters. In this section, I presented the key findings of the study in response to the five research questions.

6.2.1 Technology Integration in the Social Science Curriculum

By analyzing the national curriculum, this study sought to explore how technology is embedded at various grades of secondary level for promoting pedagogical practices,

especially in social science curriculum. The analysis identified several sections within the document, including the generic parts, objectives, subject matter, teaching-learning instructions, assessment methods, and special writing instructions. Findings indicate that although the generic parts, applicable to all disciplines, highlight technology integration in the curriculum development process, objective setting and teaching-learning strategies, there is a significant gap concerning technology use in assessment methods. The results of the BGS curriculum analysis indicated that the curriculum for grades VI-VIII has minimal guidance on how to integrate technology, while the curriculum for IX-X focused on pedagogies needing technological integration. Both parts of the curriculum have strong content grounded in significant educational aspects, but there is limited use of technology throughout. Overall, though the analysis identified indirect forms of technology integration, especially in educational activities, assessment practices, and methodologies, a holistic framework for technological integration practices and pedagogical approaches has not been explored by the curriculum.

6.2.2 Perceptions of Social Science Teachers and Head Teachers

One of the main areas of emphasis of this study was teachers' perceptions of integrating technology in schools and classrooms. Almost all social science teachers in the three case study schools expressed positive attitudes towards technology integration, showing enthusiasm for technology integration in their classes. However, their beliefs varied regarding practical and professional experience, school infrastructure, and training opportunities. Assistant teachers from rural and government schools expressed their high expectations for using technology and participating in ICT training, as their schools have insufficient technological resources and limited training opportunities. However, social science teachers from private schools in the city had practical experience and reported various practical issues, such as using slides, maps, and speakers. Additionally, the findings indicate that teachers with adequate ICT facilities in their schools lacked integration in accordance with the TPACK framework, especially in technological and pedagogical aspects. Other teachers who lacked adequate facilities were interested in engaging in pedagogical activities using technology.

Furthermore, The results of the objective revealed differences in the views of head teachers and social science teachers, as well as in urban and rural contexts. The results of the qualitative case studies suggested that all head teachers had positive attitudes towards technology integration in schools. However, the results revealed a mixed picture of the leadership role. While the head teachers of urban private schools were found to be dynamic, technical, action-oriented and innovative-minded, other head teachers of rural and government schools could be described as static, non-technical and traditional in school management. This indicates the gap between urban-rural as well as government-private schools in leadership practices.

6.2.3 Students' Perceptions

To explore the practice of technology integration in the classroom, this study conducted focused group discussions (FGDs) with secondary-level students at three case study schools. The findings indicated that students perceived technology integration as a valuable, interactive learning process. Their perceptions are multifaceted with encompassing use, classroom experiences, engagement, motivation, effectiveness, and expectations. All students who participated in the study agreed that technology integration increased their active participation in class activities and their motivation. However, perceptions varied mainly among students from different case study schools regarding technology use and classroom experiences, especially in BGS classes. Urban private school students were accustomed to attending multimedia-based classes regularly and expected advanced technology such as smart boards, interactive maps, and online teaching platforms. Conversely, students at the rural school and the governmental school expressed a desire to attend participatory, interactive social science classes with minimal technology integration, whereas urban governmental school students demonstrated advanced knowledge of educational technology. Overall, the findings suggested that students across three case study schools hold positive perceptions of learning social science content through technology integration, though their beliefs varied by school context.

6.2.4 Technology Integration in the Social Science Classrooms and Schools

This study explored current practices and scenarios regarding technical capabilities in secondary schools. For this purpose, FDGs, interviews and school observation data have been analysed. The findings showed a huge disparity in resources, usage, student literacy and teacher readiness among the three case study schools. In every aspect, the rural school lagged behind in ICT integration. This school had limited access to technology, particularly in social science classes, and students are interested but lack digital literacy. Teacher training is generic, ICT teachers are mostly responsible for technology integration. Similarly, the urban government school showed gradual improvement in technology integration, but usage remains inconsistent. In contrast, urban private school highlighted exemplary models of technology integration with its pervasive use of technology in every classes including social science, strong student digital literacy and extensive teacher training but could benefit from a more consistent application of pedagogical models such as TPACK. In general, the findings suggested that the current scenario of teaching learning process remained unchanged. Though the private school has made some advancements, they are limited to content delivery, with only slides used. The integration of technology in accordance with content and pedagogical approaches is absent in all three case study schools.

6.2.5 Challenges Associated with Technology Integration

Although technology-integrated guidelines have been included in education policies and stakeholders have adopted positive attitudes, the state of technology integration remained challenging, as evidenced by field data. The data analysis indicated numerous challenges, including infrastructure and resource constraints, teacher readiness and training, pedagogical and classroom difficulties, and curriculum as well as policy-related challenges. The rural school and the urban government school had a severe shortage of ICT tools, with only a multimedia projector and a computer lab. Unstable electricity and

internet access negatively affected the integration of ICT in those schools as well. The urban private school faced practical challenges in integrating technology into social science classes. They mentioned that large classroom size, students' disengagement, and the challenge of managing classroom activities using technology are the primary concerns. There are also some challenges that appeared across all three case study schools. The social sciences teachers were not equipped with pedagogical skills, had poor access to ICT-related professional development, and faced time constraints due to heavy workloads. On the whole, vague curriculum instruction and inadequate school policies for technology use also compounded the problem of integrating technology.

6.3 Recommendations

In the previous chapter, data analysis and key findings provided an extensive view of technology-integrated pedagogies in the social science curriculum and their practices in secondary schools. Therefore, this section attempted to present some meaningful recommendations based on its key findings.

Developing a Holistic Framework for Technology Integration in the Curriculum

Findings from the document analysis suggested that the secondary social science curriculum has not provided a holistic framework for technological integration practices and pedagogical approaches. Therefore, developing a comprehensive curriculum framework focusing on technology integration, particularly social science education, is strongly recommended. Providing specific, explicit pedagogical guidelines that can focus on technological, pedagogical, and content integration is also recommended.

Providing ICT-based Leadership Training

The findings revealed that there are significant differences in leadership roles in developing school environments for technology integration. Therefore, all secondary

school headteachers, including those in rural schools, should be provided with ICT-based leadership training facilities that foster their innovative and technical mindsets.

Strengthening Monitoring and Supervision at School Level

The finding showed that the urban private school maintained a monitoring book for supervising ICT integration in classroom practices and got positive results in social science pedagogical practices. Therefore, the study recommended that school plans should emphasize incorporating technology into BGS classes, ensuring a structured approach to its use.

Developing a Teacher's Guide for Social Science Teachers focusing on Technology-Integrated Pedagogy

This study found that social science teachers are in lack of specific instructions on maintaining class activities. In this regard, developing a teacher's guide on secondary social science education that incorporates multiple teaching perspectives, including perspectives on technology integration, is recommended.

Ensuring Availability of Technology-Related Tools in the Schools

Secondary social science teachers are highly ambitious about integrating digital tools in classroom practices. But the school limited the opportunity to make this ambition a reality. Therefore, the study recommended that teachers should be supplied with the materials required by the policy and curriculum to support effective classroom practice.

Use of Technology for a Holistic Purpose of Teaching Learning Activities

Social sciences teachers who are used to utilizing technology in their regular classroom practices found a gap in technological and pedagogical skills. The findings revealed that the teachers mainly focused on technology in content delivery, paying less

attention to lesson planning and assessment. Consequently, social science teachers are recommended to use technology in lesson planning, classroom motivation, and student performance assessment.

Equipping Social Science Classrooms with Resources, Reducing Class Size and Increasing Class Time

The study found social science classes with large numbers of students, limited class time, and a lack of built-in technology resources. Accordingly, it is recommended to enrich the social science classroom with a combination of minimal regular resources, such as a projector, speaker, and maps. Besides, a standard student-teacher ratio should be followed to ensure quality education, and class time should be lengthened to provide greater space for the construction of social norms through experiential learning.

Teachers' Professional Development on Technology-Integrated Pedagogy

The results of the study revealed that ICT subject teachers received priority in ICT-based professional training, which included technology integration techniques and pedagogical management with digital devices. As a result, social science teachers' skills in this perspective are limited, and they have to rely on their colleagues when planning to use technology in class. Therefore, training on ICT use should be available to all secondary school teachers, particularly social science teachers.

Specialized Training on TPACK Model

The findings of the study revealed that technology integration in social science classes does not depend only on teacher perceptions and availability of devices, but also on teachers' technological and pedagogical skills. Hence, offering training opportunities on the TPACK framework is strongly recommended.

Initiatives for Increasing Level of Digital Literacy of the Students

The findings of the study suggested that the students' digital literacy significantly affected classroom technology integration, and the level of student literacy varied between urban and rural schools. Accordingly, it is also recommended to organize sessions, workshops, or introductory classes to familiarize secondary-level students with ICT tools.

Policy Initiative for Reducing Gaps Between Different Kinds of Schools

The case study analysis provided a comparative lens of technology integration scenarios among schools. The findings suggested a significant gap between urban and rural schools in the practice of technology-integrated pedagogies. Therefore, formulating government policies and initiatives focused on ICT-based infrastructure and pedagogical development in rural and government schools, especially in social science education, is recommended. Thus, existing urban-rural gaps in pedagogical practices may be minimized.

6.4 Areas identified for Future Research

Future studies could benefit from employing more structured or mixed-method approaches to triangulate data and ensure the robustness of findings.

- Impact of technology integration in teachers' professional development;
- The study area was confined to the Chattogram districts. The same study might be conducted for the whole country;
- A similar study could be conducted in comparison with Bangladesh and some foreign country.
- Use of technology in the other disciplines of education at various levels;
- Effects of introducing technology for enhancing teaching learning at different levels of education;
- The same study could be done comparing practices between schools in urban and rural areas, the School and Madrasah system.

- Assessment of stakeholders' participation by using ICT in quality education;
- Usages of Technology in different level of education.

6.5 Conclusion

The world is changing quickly with technology, and it has been making a noticeable impact on the education system. Many researches emphasis the importance of technology for improving educational practices. In this context, the importance of technology-based education in Bangladesh has been acknowledged in policy frameworks. As an integrated and multi-disciplinary subject, Bangladesh and Global Studies (BGS) is part of this vision, offering social, national, and global learning contents. It has been proposed to incorporate such technology-driven approaches into the educational framework. However, research indicates that the integration of technology in social science education remains minimal, often misaligned with the curriculum and overall educational progress. Although stakeholders express a positive outlook toward the adoption of technology in teaching, it is evident that the effective implementation of technology-based teaching in social science encounters various obstacles. Nevertheless, the researcher is optimistic that, if the challenges identified in this study are addressed and the relevant authorities implement the recommendations provided, the quality of education will improve significantly, leading to positive advancements in the current state of social science education.

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Appendices

Appendix A: Ethics Approval



IER Research Ethics Committee

Institute of Education and Research, University of Dhaka, Dhaka 1000

Certificate of Approval

Title: Technology-integrated Pedagogies in Social Science Curriculum and Practices at
Secondary Schools in Bangladesh

Study Code: IERREC/In-MPhil_1

Research Site: Chattogram district of Bangladesh

Principal Investigator:

Abdul Mannan
MPhil Researcher
Roll: 21-905
Registration No: 06
Academic session: 2020-2021
Phone number: 01521222881
Email: abdul-na-2020550006@ier.du.ac.bd

Supervisor:

Dr. Md. Khairul Islam
Designation: Professor
Department: Social Science Education (SSE)
Institute of Education and Research (IER)
University of Dhaka
Email: khairulislam@du.ac.bd

This is to certify that the IER Research Ethics Committee has reviewed the above-mentioned research proposal titled “Technology-integrated Pedagogies in Social Science Curriculum and Practices at Secondary Schools in Bangladesh” and the following documents. Concerning the scientific rigor and ethical issues related to studies involving humans, the committee has approved the implementation of the research study mentioned above.

Dr. Md. Ahsan Habib
Convener
IER Research Ethics Committee
Institute of Education and Research
University of Dhaka

শিক্ষা ও গবেষণা ইনস্টিটিউট
ঢাকা বিশ্ববিদ্যালয়
ঢাকা-১০০০, বাংলাদেশ



Institute of Education and Research (IER)
University of Dhaka
Dhaka-1000, Bangladesh
Fax: +880-2-9667222
Web : www.du.ac.bd

IER Research Ethics Committee

Institute of Education and Research, University of Dhaka, Dhaka 1000

Protocol received: 20 May 2025

Date of Approval: 10 July 2025

Expired date: 10 July 2026

Documents reviewed:

- ☒ Cover Letter to the Chair of the IER Research Ethics Committee by the Principal Investigator
- ☒ Filled-up Application form for IER Research Ethics Committee clearance
- ☒ Full research proposal
- ☒ Explanatory statement-English
- ☒ Explanatory statement-Bengali (if applicable)
- ☒ Informed consent form-Bengali (if applicable)
- ☒ Declaration Form
- ☒ Research tools
- ☒ CV of Principal Investigator

Appendix B: Permission Letter

শিক্ষা ও গবেষণা ইনস্টিটিউট ঢাকা বিশ্ববিদ্যালয় ঢাকা-১০০০, বাংলাদেশ		Institute of Education and Research (IER) University of Dhaka Dhaka-1000, Bangladesh Fax: +880-2-9667222 Web : www.du.ac.bd
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Date: 27 January 2025

Consent Letter

To _____

Bangladesh.

Subject: Permission to allow the researcher to collect information for his MPhil Study.

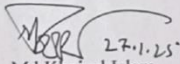
Dear Sir,

I am pleased to inform you that Mr. Abdul Mannan bearing roll 21-905, a Master of Philosophy (M.Phil.) student of the Department of Social Science Education, Institute of Education and Research (IER), University of Dhaka, has been conducting a research work to explore, "Technology integrated pedagogies in Social Science curriculum and its practices in secondary schools" to fulfill his partial requirement of M.Phil degree.

To complete this research work, he needs your valuable cooperation and help in collecting data and information from the secondary social science teachers and students of your school. It will be very convenient for him if you provide him with these opportunities for collecting data. I am assuring you that the collected data will be used only in this study and the participants' social identities will not be disclosed.

Therefore, I am requesting you to allow the researcher to collect data from your school.

Thank you very much for your cooperation.


Dr. Md Khairul Islam
Professor
Department of Social Science Education
Institute of Education and Research (IER)
University of Dhaka
Email: khairulislama@du.ac.bd

1

Appendix C: Explanatory statement

For Teachers

Research Project: Technology-integrated pedagogies in the social science curriculum and practices in secondary schools of Bangladesh

Researcher	Supervisor
Abdul Mannan MPhil (Researcher) Institute of Education and Research (IER) University of Dhaka Phone: +8801521222881 Email: abdul-na-2020550006@ier.du.ac.bd	Dr. Md Khairul Islam Professor Institute of Education and Research(IER) Phone: +8801716304044 Email: khairulislam@du.ac.bd

You are invited to participate in this research. Before determining whether or not to participate in this study, please read this Explanatory Statement in its entirety. If you have any questions about this project, please contact the researchers at the phone numbers or email addresses mentioned above.

What does the research involve?

The specific objectives of the study are to:

- a) explore the technology integration in social science curriculum in secondary level of Bangladesh;
- b) reveal the views and understandings of social science teachers, and the head teacher about technology integration in the curriculum and practices in the classrooms and schools;
- c) understand the students perception of technology-integrated teaching and learning practices in the classrooms and in the schools;
- d) identify the challenges of implementing technology-integrated pedagogies for teaching and learning of social science.

Why were you selected to participate in this study?

You are selected as a participant because you are the head teacher/social science teacher of a secondary school, and your opinion as a head teacher/subject teacher is important to achieve the objectives of this study.

Source of funding (optional - include if relevant)

This research is being conducted with the personal funding of the student/researcher. However, the student has been awarded an MPhil research scholarship by Dhaka University.

Consenting to participate in the project and withdrawing from the research

Your participation in the study is voluntary. Before the final report is submitted, you have the option to stop taking part in this study at any moment. Your name, address, identity, name of institution will not be disclosed in the report or any other forms research output. The data you provide will be used only for research purposes.

Possible benefits and risks to participants

The participation in this study is voluntary. No potential benefits or risks are associated to this study.

Confidentiality

Anonymization: We will remove your identifiable information from data, and use codes or pseudonyms to represent participants.

Informed consent: We will give you an informed consent letter for your signature before collecting data.

Securing data storage and controlling access: We will store all data in secure, password-protected, and encrypted systems. Only the principal investigator and the co-investigator will have access the data

Ethical Guidelines: In all process of the study, we will follow ethical guidelines for research involving human subjects to ensure compliance with confidentiality standards.

Storage of data

All data will be stored in the personal laptop of the chief investigator. All files will be protected by unique password. Only the principal investigator and the co-investigator will have access the data.

Results

A summary report of the study will be shared with the participants including you as well as relevant organizations. However, confidentiality of the participants will be ensured. Published journal articles/ book chapters will be also shared if you are interested. In addition, you will be able to call the investigator using the phone number (01521222881).

Complaints

If you have any questions or grievances about the project's behavior, please contact investigator Abdul Mannan at abdul-na-2020550006@ier.du.ac.bd or 01521222881.

Thank you,

Abdul Mannan

*For Student***শিক্ষার্থীদের জন্য গবেষণা সম্পর্কে বিবৃতি (Explanatory Statement for Students)**

গবেষণা শিরোনাম	
বাংলাদেশে মাধ্যমিক সামাজিক বিজ্ঞান শিক্ষাক্রমে প্রযুক্তি সমন্বিত শিখন শেখানো কার্যক্রম ও বিদ্যালয়ে তার চর্চা (Technology integrated pedagogies in the social science curriculum and practices at secondary schools in Bangladesh)	
গবেষক	গবেষণা তত্ত্বাবধায়ক
আবদুল মান্নান এম.ফিল গবেষক শিক্ষা ও গবেষণা ইনস্টিটিউট, ঢাকা বিশ্ববিদ্যালয়। ফোন: ০১৫২১২২২৮৮১ ই-মেইল: abdul-na-2020550006@ier.du.ac.bd	ড. মো. খাইরুল ইসলাম অধ্যাপক শিক্ষা ও গবেষণা ইনস্টিটিউট, ঢাকা বিশ্ববিদ্যালয় ই-মেইল: khairulislam@du.ac.bd

এই গবেষণার উদ্দেশ্য হলো বাংলাদেশে মাধ্যমিক বিদ্যালয়গুলোতে সামাজিক বিজ্ঞান শেখানোর ক্ষেত্রে প্রযুক্তির ব্যবহার কেমন, তা খুঁজে বের করা। আমরা জানতে চাই, শিক্ষকরা কীভাবে প্রযুক্তি ব্যবহার করেন এবং শিক্ষার্থীরা এ সম্পর্কে কী মনে করেন। আমরা আরও জানতে চাই, প্রযুক্তি ব্যবহারে কী কী সমস্যা আছে।

আপনাদের কেন নির্বাচিত করা হয়েছে?

মাধ্যমিক বিদ্যালয়ের শিক্ষার্থী হওয়াই আপনাদের এই গবেষণার জন্য বেছে নেওয়া হয়েছে এবং আপনাদের মতামত এই গবেষণার জন্য অনেক গুরুত্বপূর্ণ।

আপনাদের অংশগ্রহণ কি বাধ্যতামূলক?

না, এই গবেষণায় অংশগ্রহণ করা বা না করা সম্পূর্ণ আপনাদের ইচ্ছা। আপনারা চাইলে যেকোনো সময় গবেষণা থেকে নিজেদের নাম প্রত্যাহার করে নিতে পারেন।

আপনাদের কি কোনো সুবিধা বা সুবিধা আছে?

এই গবেষণায় অংশ নিলে আপনাদের কোনো আর্থিক সুবিধা বা সুবিধা নেই।

গোপনীয়তা কিভাবে রক্ষা করা হবে?

আপনাদের ব্যক্তিগত তথ্য গোপন রাখা হবে। আপনাদের নাম প্রকাশ না করে কোড বা ছদ্মনাম ব্যবহার করা হবে। আপনাদের কাছ থেকে তথ্য নেওয়ার আগে আমরা একটি সম্মতিপত্র দেব, যেখানে আপনাদের স্বাক্ষর লাগবে। আপনাদের দেওয়া সব তথ্য সুরক্ষিত রাখা হবে। শুধুমাত্র গবেষক ও গবেষণা তত্ত্বাবধায়ক এই তথ্য দেখতে পারবেন।

ফলাফল কি জানানো হবে?

হ্যাঁ, গবেষণার একটি সংক্ষিপ্ত ফলাফল আপনাদের স্কুলের সাথে শেয়ার করা হবে, তবে আপনাদের পরিচয় গোপন রাখা হবে। আপনারা যদি আগ্রহী হন, তাহলে গবেষণার উপর প্রকাশিত কোনো প্রবন্ধ বা বইও আপনাদের সাথে শেয়ার করা হবে।

আপনাদের কোনো প্রশ্ন বা অভিযোগ থাকলে কার সাথে যোগাযোগ করবে?

আপনাদের যদি এই গবেষণা নিয়ে কোনো প্রশ্ন বা অভিযোগ থাকে, তাহলে গবেষক আব্দুল মান্নানের সাথে ই-মেইল (abdul-na-2020550006@ier.du.ac.bd) বা ফোনে (০১৫২১-২২২৮৮১) যোগাযোগ করতে পারবেন।

ধন্যবাদ

Appendix D: Consent Forms

Consent Letter (Teacher)

Research Title: Technology-integrated pedagogies in the social science curriculum and practices at secondary schools in Bangladesh

Name of Researcher: Abdul Mannan

Name of Supervisor: Professor Dr. Md. Khairul Islam

Consent Statement: I have been asked to participate in the research study described above. I have understood the explanatory statement and I hereby consent to participate in this study.

I consent to the following -	
Willing to participate in answering the questionnaire	☐ Yes ☐ No
Willing to participate in the interview	☐ Yes ☐ No

Participant's name _____

Designation _____

Participant's signature _____

Date _____

(Bangla Translation of Consent Form for Teacher)

সম্মতিপত্র (শিক্ষক)

গবেষণা শিরোনাম: বাংলাদেশে মাধ্যমিক সামাজিক বিজ্ঞান শিক্ষাক্রমে প্রযুক্তি সমন্বিত শিখন শেখানো কার্যক্রম
ও বিদ্যালয়ে এর চর্চা

গবেষকের নাম: আবদুল মান্নান

গবেষণা তত্ত্বাবধায়কের নামঃ প্রফেসর ড. মোঃ খাইরুল ইসলাম

সম্মতি বিবৃতিঃ আমাকে উপরে উল্লেখিত গবেষণা কার্যক্রমে অংশ নিতে বলা হয়েছে। আমি ব্যাখ্যামূলক
বিবৃতি বুঝতে পেরেছি এবং আমি এতদ্বারা এই গবেষণায় অংশ নিতে সম্মতি জানাচ্ছি।

আমি নিম্নোক্ত বিষয়ে সম্মতি দিচ্ছি -	
প্রশ্নমালা উত্তরের জন্য অংশগ্রহণ করতে ইচ্ছুক	☐ হ্যাঁ ☐ না
সাক্ষাৎকারে অংশগ্রহণ ইচ্ছুক	☐ হ্যাঁ ☐ না

অংশগ্রহণকারীর নাম _____

পদবী _____

অংশগ্রহণকারী স্বাক্ষর _____

তারিখ _____

a. Consent Letter (Student)

Research Title: Technology-integrated pedagogies in the social science curriculum and practices at secondary schools in Bangladesh

Name of Researcher: Abdul Mannan

Name of Supervisor: Professor Dr. Md. Khairul Islam

Consent Statement: I have been asked to participate in the research study described above. I have understood the explanatory statement and I hereby consent to participate in this study.

I consent to the following -	
Willing to participate in answering the questionnaire	☐ Yes ☐ No
Willing to participate in the focus group discussion (FGD)	☐ Yes ☐ No

SL	Participant's name	Class	Participant's signature

(Bangla Translation of Consent Form for Students)

সম্মতিপত্র (শিক্ষার্থী)

গবেষণা শিরোনাম: বাংলাদেশে মাধ্যমিক সামাজিক বিজ্ঞান শিক্ষাক্রমে প্রযুক্তি সমন্বিত শিখন শেখানো কার্যক্রম
ও বিদ্যালয়ে এর চর্চা

গবেষকের নামঃ আবদুল মান্নান

গবেষণা তত্ত্বাবধায়কের নামঃ প্রফেসর ড. মোঃ খাইরুল ইসলাম

সম্মতি বিবৃতিঃ আমাকে উপরে উল্লেখিত গবেষণা কার্যক্রমে অংশ নিতে বলা হয়েছে। আমি ব্যাখ্যামূলক
বিবৃতি বুঝতে পেরেছি এবং আমি এতদ্বারা এই গবেষণায় সম্মতি অংশ নিতে জানাচ্ছি।

আমি নিম্নোক্ত বিষয়ে সম্মতি দিচ্ছি -	
প্রশ্নমালা উত্তরের জন্য অংশগ্রহণ করতে ইচ্ছুক	☐ হ্যাঁ ☐ না
ফোকাস গ্রুপ আলোচনায় অংশগ্রহণে ইচ্ছুক	☐ হ্যাঁ ☐ না

ক্রমিক নম্বর	অংশগ্রহণকারীর নাম	শ্রেণী	স্বাক্ষর

Appendix E: Observation Checklist**Classroom Observation Checklist**

School Name: _____ Address: _____

Subject: _____ Class Duration: _____

Class Teacher: _____ Date: _____

SL. No.	Step	Indicators	No	Yes	Full y	Moderately / Partially
01	Planning & Beginning of Class Activities	Teacher plans for technology use before class activities.				
02		Teacher prepares technology tools before class.				
03		Teacher determines realistic learning outcomes following curriculum and teacher guidelines.				
04		Teacher motivates students and checks prior knowledge.				
05		Uses technology in motivation and prior knowledge check.				
06	Content & Teaching-Learning	Relevant discussion matches learning objectives, content, and student age.				
07		Teacher is aware of teaching methods and skills.				
08		Uses teaching aids.				
09		Teaching aids and technology align with subject matter.				
10		Integrates modern technology in teaching aids.				
11		Teacher is proficient in using teaching				

	with	aids.				
12	Technolog	Students participate in technology use.				
13	y	Students participate in activities after teacher instructions.				
14		Students remain active throughout the lesson.				
15		An interactive learning environment exists between teacher and students.				
17	Assessment & Follow-up	Teacher evaluates students' progress using technology during class.				
18		Provides feedback after assessment.				
19		Learning outcomes of the day are achieved.				
20		A good pace and positive environment exist in class.				
21		Technical interruptions (technology failure, power outage, technical support issues).				
22		Homework is assigned.				
23	Other Notes	Other observations: _____				

(Bangla Translation of Classroom Observation Checklist)

শ্রেণীকক্ষ পর্যবেক্ষণ চেকলিস্ট

বিদ্যালয়ের নাম : _____ ঠিকানা _____

বিষয়: _____ শ্রেণির সময়কাল _____

শ্রেণী শিক্ষক: _____ তারিখ: _____

ক্রমিক নং	ধাপ	বিষয়	না	হ্যাঁ	সম্পূর্ণভাবে	মুঠামুঠাবে	আংশিকভাবে
০১	শ্রেণি পরিকল্পনা ও	শ্রেণীকার্যক্রমের পূর্বে শিক্ষক প্রযুক্তি ব্যবহারের পরিকল্পনা করেন।					
০২	শ্রেণি	ক্লাসের পূর্বে প্রযুক্তি উপকরণ প্রস্তুত রাখেন।					
০৩	কার্যক্রমের শুরু	শিক্ষক শিক্ষাক্রম ও শিক্ষক নির্দেশিকা অনুসরণ করে বাস্তবসম্মত শিখনফল নির্ধারণ করেন।					
০৪		শিক্ষক শ্রেণিতে প্রেষণাদান ও পূর্বজ্ঞান যাচাই করেন।					
০৫		প্রেষণাদান ও পূর্বজ্ঞান যাচাইয়ে প্রযুক্তি ব্যবহার করেন।					
০৬	বিষয়বস্তু (কনটেন্ট)	প্রাসঙ্গিক আলোচনা শিক্ষণের উদ্দেশ্য, বিষয়বস্তু ও শিক্ষার্থীর বয়সের সাথে সামঞ্জস্যপূর্ণ।					
০৭	ও শিখন	শিক্ষক শ্রেণিতে শিক্ষণ পদ্ধতি ও কোশল সম্পর্কে সচেতন থাকেন।					
০৮	শেখানো (পেডাগজি)	শিক্ষা উপকরণ ব্যবহার করেন।					
০৯	কার্যক্রম ও	বিষয়বস্তুর সাথে উপকরণ ও প্রযুক্তির সামঞ্জ্যতা রয়েছে।					
১০	প্রযুক্তির সমন্বয়	উপকরণে আধুনিক প্রযুক্তির সমন্বয় করেন					
১১		উপকরণ ব্যবহারে শিক্ষক পারদর্শী					

১২		প্রযুক্তি ব্যবহারে শিক্ষার্থীর অংশগ্রহণ রয়েছে					
১৩		শিক্ষকদের নির্দেশের পরে শিক্ষার্থীরা বিভিন্ন কার্যকলাপে অংশগ্রহণ করতে পারে।					
১৪		শিক্ষার্থীরা পাঠ জুড়ে সম্পূর্ণভাবে সক্রিয় থাকেন।					
১৫		শিক্ষক এবং শিক্ষার্থীদের মধ্যে ইন্টারেক্টিভ শিক্ষণ পরিবেশ বিদ্যমান।					
১৬							
১৭	মূল্যায়ন ও তার পরবর্তী কার্যাবলী	শিক্ষক পাঠের সময় প্রযুক্তি ব্যাবহারের মাধ্যমে শিক্ষার্থীদের অগ্রগতি মূল্যায়ন করেছেন					
১৮		মূল্যায়ন পরবর্তী ফিডব্যাক প্রদান করা হয়েছে।					
১৯		আজকের শিখনফলগুলো অর্জিত হয়েছে।					
২০		শ্রেণিতে পাঠের সাধারণ গতি ও উত্তম পরিবেশ বিদ্যমান।					
২১		ক্লাস চলাকালীন প্রযুক্তি উপকরণের ব্যাঘাত (প্রযুক্তির ব্যাঘাত, বিদ্যুৎ বিভ্রাট, প্রযুক্তিগত সাহায্য)					
২২		বাড়ির কাজ দেওয়া হয়েছে					
২৩		অন্যান্য নোট:					

Appendix F: Semi-Structured Interview Schedule (Head Teacher)**Semi Structured Interview Guide for Head-Teacher**

(প্রধান শিক্ষকের জন্য সাক্ষাৎকার সহায়িকা)

What are the views and understandings of the head teacher about technology integration in the curriculum and practices in the classrooms and schools?	
Sub-Question (English)	1. How would you describe the role of technology in modern education?
	2. What kind of guidelines or policies are there for the use of technology in your school?
	3. What are the most widely used technologies in your school?
	4. Please specify your ideas about the curriculum guidelines for the use of technology in the classroom.
	5. Do you have any opinions on the social science curriculum?
	6. Please state your ideas about the integration of technology in the social science curriculum and classroom.
	7. What visible steps have you taken or do you think are important to take to ensure the use of technology in the classroom?
	8. Whether the school has an in-house training system for the use of technology, and if so, please provide some details.
	9. Does the school have a computer lab for students to use? What is the scope of its use for each class and subject?
Bangla Translation	১. আধুনিক শিক্ষায় প্রযুক্তির ভূমিকাকে আপনি কীভাবে বর্ণনা করবেন?
	২. আপনার বিদ্যালয়ে প্রযুক্তি ব্যবহারের কোন ধরনের নির্দেশনা বা নীতিমালা রয়েছে?
	৩. আপনার বিদ্যালয়ে বহুল ব্যবহৃত প্রযুক্তি সমূহ কী কী?
	৪। শ্রেণিতে প্রযুক্তি ব্যবহারের জন্য শিক্ষাক্রমের নির্দেশনা বিষয়ে আপনার ধারণা সুনির্দিষ্ট করে বলুন।
	৫। সামাজিক বিজ্ঞান শিক্ষাক্রম নিয়ে আপনার কোন মতামত আছে কিনা?
	৬। সামাজিক বিজ্ঞান শিক্ষাক্রম ও শ্রেণীকক্ষে প্রযুক্তি সন্নিবেশ করার বিষয়ে আপনার ধারণা বলুন।
	৭। বিদ্যালয়ে শ্রেণিতে প্রযুক্তি ব্যবহার নিশ্চিতকল্পে আপনি কী কী দৃশ্যমান পদক্ষেপ নিয়েছেন বা নেওয়া

	জরুরী মনে করেন?
	৮। বিদ্যালয়ে প্রযুক্তি ব্যবহার বিষয়ক ইন-হাউজ ট্রেনিং এর ব্যবস্থা রয়েছে কিনা, থাকলে সে বিষয়ে একটু বিস্তারিত বলুন।
	৯। বিদ্যালয়ে শিক্ষার্থীদের ব্যবহারের জন্য কম্পিউটার ল্যাব রয়েছে কিনা? প্রত্যেক শ্রেণি ও বিষয়ের জন্য তা ব্যবহারের সুযোগ কেমন?

How do teachers use technology in their regular classroom practices?	
Sub-Question (English)	1. Do teachers in your school have regular opportunities to use technology in their daily teaching?
	2. Are there sufficient technology resources in the school? And do all teachers have equal access to them?
	3. Give your opinion and suggestions on the use of technology by the social science teacher in your school.
	4. What are the facilities for using technology in the classroom?
	5. What role do you play in conducting teaching and learning activities according to the curriculum?
	6. Do teachers follow the planned tasks, and do you play any role in this?
	7. Can teachers effectively assess students with the help of technology? If yes, how?
	8. What kind of steps is the school taking to improve technology-based teaching skills?
Bangla Translation	১. আপনার বিদ্যালয়ে শিক্ষকরা দৈনন্দিন পাঠদানে নিয়মিত প্রযুক্তি ব্যবহারের সুযোগ রয়েছে কী?
	২। বিদ্যালয়ে প্রযুক্তি উপকরণ পর্যাপ্ত কিনা? এবং তা ব্যবহারে সকল শিক্ষকের সমান প্রবেশাধিকার রয়েছে কিনা?
	৩। আপনার বিদ্যালয়ের সামাজিক বিজ্ঞান শিক্ষকের প্রযুক্তি ব্যবহারের ব্যাপারে আপনার মতামত ও পরামর্শ বলুন।
	৪। শ্রেণিতে প্রযুক্তি ব্যবহারের জন্য সুযোগ সুবিধা কেমন রয়েছে?
	৫। শিক্ষাক্রম অনুযায়ী শিখন শেখানো কার্যক্রম পরিচালনায় আপনি কেমন ভূমিকা পালন করেন?
	৬। পরিকল্পিত কাজসমূহ শিক্ষকরা অনুসরণ করেন কিনা, এ ক্ষেত্রে আপনি কোনো ভূমিকা পালন করেন?

	৭. শিক্ষকরা প্রযুক্তির সাহায্যে শিক্ষার্থীদের কার্যকরভাবে মূল্যায়ন করতে পারেন কিনা? যদি হ্যাঁ, তাহলে কীভাবে?
	৮। প্রযুক্তি নির্ভর শিক্ষাদান দক্ষতা বৃদ্ধির জন্য বিদ্যালয় কী ধরনের পদক্ষেপ নিচ্ছে?

What are the challenges of implementing technology-integrated pedagogies for teaching and learning of social science?	
Sub-Question (English)	1. How successfully are teachers currently implementing technology-based teaching? Tell us your opinion.
	2. What are the biggest obstacles in using technology in schools?
	3. What kind of problems do teachers face in technology-based teaching?
	4. What kind of steps do you think are important to take to resolve them?
	5. What kind of training is needed to improve teachers' technology-based teaching skills?
	6. What kind of steps can the government take to improve the technology-based teaching situation?
	7. Do you think there are any challenges from the social science curriculum and teachers?
	8. Do you think there are any challenges for students in using technology?
Bangla Translation	১. বর্তমানে শিক্ষকরা প্রযুক্তিনির্ভর শিক্ষাদান কতটা সফলভাবে বাস্তবায়ন করতে পারছেন? আপনার অভিমত বলুন।
	২। বিদ্যালয়ে প্রযুক্তি ব্যবহারের ক্ষেত্রে সবচেয়ে বড় বাঁধাগুলো কী কী?
	৩. শিক্ষকরা প্রযুক্তিনির্ভর শিক্ষাদানে কোন ধরনের সমস্যার সম্মুখীন হয়?
	৪। তা নিরসনে কোন ধরনের পদক্ষেপ নেওয়া জরুরী বলে আপনি মনে করেন?
	৫। শিক্ষকের প্রযুক্তিনির্ভর শিক্ষাদান দক্ষতা বৃদ্ধিতে কী ধরনের প্রশিক্ষণ প্রয়োজন?
	৬। প্রযুক্তিনির্ভর শিক্ষাদান পরিস্থিতি উন্নয়নকল্পে সরকার কোন ধরনের পদক্ষেপ নিতে পারেন?
	৭। সামাজিক বিজ্ঞান শিক্ষাক্রম ও শিক্ষকের পক্ষ থেকে কোনো চ্যালেঞ্জ আছে বলে আপনি মনে করেন কী?
	৮। প্রযুক্তি ব্যবহারে শিক্ষার্থীদের জন্য কোনো চ্যালেঞ্জ আসতে পারে বলে আপনি মনে করেন?

Appendix G: Semi-Structured Interview Schedule (Assistant Teacher)

Semi Structured Interview Guide for Social Science Teacher

(সামাজিক বিজ্ঞান শিক্ষকের জন্য সাক্ষাৎকার সহায়িকা)

What are the views and understandings of the social science teachers about technology integration in the curriculum and practices in the classrooms and schools?	
Sub-Question (English)	a) Have you studied the social science curriculum? Tell us your general idea about the social science curriculum according to the National Curriculum 2012.
	b) Explain your idea about the guidelines for using technology in the classroom according to the social science curriculum. Do you think that any revisions to the guidelines are necessary?
	c) What are the uses of technology mentioned in the curriculum? If you know, tell us.
	d) In your opinion, how effective is the use of technology in teaching social science?
	e) How do you plan to use technology in your lesson plan?
	f) Which aspects of technology are given more importance in the social science curriculum?
	g) Which guidelines of the social science curriculum do you always try to follow?
	h) Have you received any training on the use of educational materials or technology? If so, please specify.
	i) What is the concept of teaching-learning activities in the social science curriculum? Do you try to follow it?
	j) Do you think that more technology needs to be included in the social science curriculum? Why?
Bangla Translation	ক) আপনি কি সামাজিক বিজ্ঞান শিক্ষাক্রম পড়েছেন? জাতীয় শিক্ষাক্রম ২০১২ অনুযায়ী সামাজিক বিজ্ঞান শিক্ষাক্রম সম্পর্কে আপনার সাধারণ ধারণা বলুন।
	খ) সামাজিক বিজ্ঞান শিক্ষাক্রম অনুযায়ী শ্রেণিতে প্রযুক্তি ব্যবহারের কী রূপ নির্দেশনা রয়েছে সে সম্পর্কে আপনার ধারণা সুস্পষ্ট করে বলুন। উক্ত নির্দেশনায় কোন পরিমার্জন আনা জরুরী বলে আপনি মনে করেন

	কি?
	গ) শিক্ষাক্রমে কী কী প্রযুক্তি ব্যবহারের কথা উল্লেখ আছে? আপনার জানা থাকলে বলুন।
	ঘ) আপনার মতে প্রযুক্তি ব্যবহার করলে সামাজিক বিজ্ঞান বিষয়ে শেখানো কতটা কার্যকর হয়?
	ঙ) আপনার পাঠ পরিকল্পনায় কীভাবে আপনি প্রযুক্তি ব্যবহারের পরিকল্পনা করেন?
	চ) সামাজিক বিজ্ঞান শিক্ষাক্রমে প্রযুক্তির কোন কোন দিকের উপর বেশি গুরুত্ব দেওয়া হয়েছে?
	ছ) সামাজিক বিজ্ঞান শিক্ষাক্রমের কোন কোন নির্দেশনাবলী আপনি সবসময় অনুসরণ করার চেষ্টা করেন?
	জ) শিক্ষা উপকরণ কিংবা প্রযুক্তি ব্যবহার সংক্রান্ত কোনো প্রশিক্ষণ আপনি গ্রহণ করেছেন কিনা? করলে তা সুনির্দিষ্ট করে বলুন।
	ঝ) সামাজিক বিজ্ঞান শিক্ষাক্রমে শিখন-শেখানো কার্যক্রমের ধারণা কী? তা আপনি অনুসরণের চেষ্টা করেন কি?
	ঞ) আপনি কি মনে করেন, সামাজিক বিজ্ঞান শিক্ষাক্রমে প্রযুক্তির আরো বেশি অন্তর্ভুক্তি প্রয়োজন? কেন?

02. How do the students perceive classroom technology-integrated teaching and learning practices?	
Sub-Question (English)	a) Are students satisfied with the use of technology in the classroom? How would you explain their satisfaction?
	b) How interested are students in using technology in the classroom? How do they enjoy it?
	c) What are the differences between teaching through technology and traditional teaching in student learning?
	d) Do you think the use of technology creates any discrimination among students in the classroom?
	e) Do you think students need any skills to use technology in the classroom? What kind of skills?
Bangla Translation	ক) ক্লাসে প্রযুক্তি ব্যবহারে কি শিক্ষার্থী সন্তুষ্ট হয়? তাদের সন্তুষ্টিকে আপনি কিভাবে ব্যাখ্যা করবেন?
	খ) প্রযুক্তি ব্যবহার করা ক্লাসে শিক্ষার্থীর আগ্রহ কেমন? তার কেমন উপভোগ করে?
	গ) শিক্ষার্থীর শিখনে প্রযুক্তির মাধ্যমে পাঠদান ও প্রচলিত পাঠদানে কী পার্থক্য করে?
	ঘ) প্রযুক্তির ব্যবহার শ্রেণীতে শিক্ষার্থীদের মধ্যে কী কোনো বৈষম্যের সৃষ্টি করে বলে মনে করেন?
	ঙ) শ্রেণীতে প্রযুক্তি ব্যবহারে শিক্ষার্থীদের কোনো দক্ষতার প্রয়োজন আছে বলে মনে করেন কী? কোন ধরনের দক্ষতা?

03. How do teachers use technology in their regular classroom practices?	
	a) Do you have the opportunity to use the existing educational materials and technologies in the school as a social science teacher?
	b) What kind of plan do you follow for using technology in the classroom?
	b) What other technologies do you use besides textbooks? Please specify.
	c) How do you get motivated to use technology in the classroom?
	d) How satisfied are you with the class using technology?
	e) In which lessons do you prioritize the use of technology? Do you think there is a need to use different technologies for lessons such as society, history, economics, geography, etc.
	f) At what level of teaching are you accustomed to using technology? (Instruction, teaching or assessment)
	f) Is there a separate computer in the school for teacher use? How much time do you use it daily/weekly?
Bangla Translation	ক) বিদ্যালয়ে বিদ্যমান শিক্ষা উপকরণ ও প্রযুক্তিসমূহ আপনি সামাজিক বিজ্ঞান শিক্ষক হিসেবে ব্যবহার করার সুযোগ রয়েছে কিনা?
	খ) শ্রেণিতে প্রযুক্তি ব্যাহারের জন্য আপনি কী ধরনের পরিকল্পনা অনুসরণ করেন ?
	খ) আপনি পাঠ্য পুস্তকের পাশাপাশি অন্য কী কী প্রযুক্তি ব্যবহার করে থাকেন? সুনির্দিষ্ট করে বলুন।
	গ) শ্রেণিতে প্রযুক্তি ব্যাহারের আপনি কিভাবে প্রেষণা পেয়ে থাকেন?
	ঘ) প্রযুক্তি ব্যবহার করে ক্লাস নিয়ে আপনার সন্তুষ্টি কেমন?
	ঙ) কোন পাঠে আপনি প্রযুক্তি ব্যবহার প্রধান্য দিয়ে থাকেন? সমাজ, ইতিহাস, অর্থনীতি, ভূগোল ইত্যাদি পাঠ সমূহের জন্য আপনি আলাদা আলাদা প্রযুক্তি ব্যবহার প্রয়োজন আছে বলে মনে করেন কী।
	চ) শিক্ষণের কোন স্তরে প্রযুক্তি ব্যবহারে অভ্যস্ত? (প্রেষণাদান, পাঠদান অথবা মূল্যায়ন)
	চ) শিক্ষকের ব্যবহারের জন্য বিদ্যালয়ে আলাদা কোনো কম্পিউটার রয়েছে কিনা? আপনি দৈনিক/সপ্তাহিক কত সময় ব্যাহার করেন?

04. What are the challenges of implementing technology-integrated pedagogies for teaching and learning of social science?	
Sub-Question (English)	a) What are the main challenges in using technology in accordance with the curriculum?

	b) Do you have any challenges in using technology from your personal perspective? What steps can be taken to improve them?
	c) Are there any specific limitations in the school? Please be specific.
	d) Do you face any challenges from students in the classroom in using technology?
	e) Have you noticed any particular advantages and disadvantages of using technology in class? Please be specific.
	f) What suggestions would you give to improve the use of technology in social science classes?
Bangla Translation	ক) শিক্ষাক্রম অনুসরণ করে প্রযুক্তি ব্যবহারের ক্ষেত্রে প্রধান চ্যালেঞ্জ কী?
	খ) আপনার ব্যক্তিগত দিক থেকে প্রযুক্তি ব্যবহারে কোনো চ্যালেঞ্জ রয়েছে কি? তা উন্নয়নে কী প্রদক্ষেপ নেওয়া যেতে পারে?
	গ) বিদ্যালয়ের সুনির্দিষ্ট কোনো সীমাবদ্ধতা আছে কী? সুনির্দিষ্ট করে বলুন।
	ঘ) প্রযুক্তির ব্যবহারে শ্রেণিকক্ষে শিক্ষার্থীর পক্ষ থেকে কোনো ধরনের চ্যালেঞ্জের সম্মুখীন হন কিনা?
	ঙ) ক্লাসে প্রযুক্তি ব্যবহারের বিশেষ কোনো সুবিধা ও অসুবিধা আপনার নজরে এসেছে কিনা? সুনির্দিষ্ট করে বলবেন।
	চ) সামাজিক বিজ্ঞান শ্রেণিতে প্রযুক্তি ব্যবহার উন্নত করার লক্ষ্যে আপনি কী পরামর্শ দিবেন?

Appendix H: FGD Guideline

Focus Group Interview Guide for Students

(ফোকাস গ্রুপ আলোচনা নির্দেশিকা)

1. Was there a social science class today? Briefly describe what you learned.
2. How did the teacher teach the content? Did you use any planned activities?
3. What technology or materials does the teacher use in class? Was it effective?
4. Does the teacher use any methods other than lecture?
5. What are the methods? Which methods do you prefer? Why?
6. Are social science classes held using a computer lab or projector? What kind of difficulties do you face using them?
7. What is your experience using technology in social science classes? I would like to know your experience focusing on a particular subject.
8. Which technological medium (multimedia slides, videos, smart boards, online classes, etc.) did you find most useful in class? Why?
9. Do you enjoy studying social science more when using technology? Why?
10. Has a particular technology or medium ever made you more interested in learning?
11. How do you benefit from using videos, animations, or interactive maps?
12. Do you think the technology used in the class is easy to use? Have you ever faced any confusion or problems using technology in the class? Are there any other problems using technology? (e.g. electrical problems, internet problems, lack of devices, etc.)
13. Has the use of technology in the class ever caused confusion, attention problems, or learning obstacles?
14. What are the negative aspects of relying on technology in social science classes?
15. How can the use of technology in social science classes be improved?
16. Is there a specific technology that you would like to use more? Give examples.
17. What other materials and methods would you enjoy using in social science classes?
18. What kind of problems do you face using technology materials in school?
19. Is your teacher's skill in using technology very good?/ How do you evaluate the

skill?
20. Overall, give your opinion on the teaching-learning activities of the social science class.
Bangla Translation of Focus Group Interview Guide for Students
১. আজ কি সামাজিক বিজ্ঞান ক্লাস ছিল? কী শিখলে তা সংক্ষিপ্ত করে বলো।
২. শিক্ষক বিষয়বস্তু কীভাবে শেখালেন? কোনো পরিকল্পিত কাজের ব্যবহার করেছেন কিনা?
৩. শ্রেণিতে শিক্ষক কোন প্রযুক্তি বা উপকরণ ব্যবহার করেন? তা কি কার্যকর ছিল?
৪. শিক্ষক বক্তৃতা পদ্ধতি ছাড়া আর কোন পদ্ধতি ব্যবহার করেন কিনা?
৫. পদ্ধতিগুলো কী কী? কোন কোন পদ্ধতি তোমাদের পছন্দনীয়? কেন?
৬. কম্পিউটার ল্যাব কিংবা প্রজেক্টর ব্যবহার করে সামাজিক বিজ্ঞানের ক্লাস হয় কি? তা ব্যবহার তোমরা কোন ধরনের অসুবিধার সম্মুখীন হও?
৭. তোমাদের সামাজিক বিজ্ঞান ক্লাসে প্রযুক্তি ব্যবহারের অভিজ্ঞতা কেমন? কোনো একটি বিষয়বস্তুকে কেন্দ্র করে অভিজ্ঞতা জানতে চাই।
৮. ক্লাসে কোন কোন প্রযুক্তিগত মাধ্যম (মাল্টিমিডিয়া স্লাইড, ভিডিও, স্মার্ট বোর্ড, অনলাইন ক্লাস ইত্যাদি) সবচেয়ে বেশি উপকারী মনে হয়েছে? কেন?
৯. প্রযুক্তি ব্যবহার করলে কি সামাজিক বিজ্ঞান পড়তে তোমাদের বেশি ভালো লাগে? কেন?
১০. কোনো নির্দিষ্ট প্রযুক্তি বা মাধ্যম কি কখনো তোমাদের শেখার প্রতি বেশি আগ্রহী করেছে?
১১. ভিডিও, অ্যানিমেশন বা ইন্টারেক্টিভ মানচিত্র ব্যবহার করে তোমরা কেমন উপকৃত হও ?
১২. তোমাদের কি মনে হয়, ক্লাসে ব্যবহৃত প্রযুক্তি সহজে ব্যবহারযোগ্য? ক্লাসে প্রযুক্তির ব্যবহারে কি কখনো বিভ্রান্তি বা সমস্যার সম্মুখীন হয়েছে? প্রযুক্তি ব্যবহার করতে আর কোনো সমস্যা হয় কি? (যেমন: বৈদ্যুতিক সমস্যা, ইন্টারনেট সমস্যা, ডিভাইসের অভাব ইত্যাদি)
১৩. ক্লাসে প্রযুক্তি ব্যবহারের ফলে কি কখনো বিভ্রান্তি, মনোযোগের সমস্যা বা শেখার বাধা তৈরি হয়েছে?
১৪. সামাজিক বিজ্ঞান ক্লাসে প্রযুক্তির উপর নির্ভরতার নেতিবাচক দিক কী কী হতে পারে?
১৫. সামাজিক বিজ্ঞান ক্লাসে প্রযুক্তির ব্যবহার কীভাবে আরও ভালো করা যেতে পারে?
১৬. এমন কোনো নির্দিষ্ট প্রযুক্তি কি আছে, যা তোমরা বেশি ব্যবহার করতে চাও? উদাহরণ দাও।
১৭। সামাজিক বিজ্ঞান ক্লাসে আরো কী কী উপকরণ ও পদ্ধতি ব্যবহার করলে তোমরা উপভোগ করবে?
১৮। বিদ্যালয়ে প্রযুক্তি উপকরণ ব্যবহারে তোমরা কোন ধরনের সমস্যার সম্মুখীন হও?
১৯। প্রযুক্তি ব্যবহারে শিক্ষকের তোমাদের শিক্ষকের দক্ষত কি খুব ভালো?/ দক্ষতাকে কিভাবে মূল্যায়ন করছো?
২০। সামগ্রীকভাবে সামাজিক বিজ্ঞান শ্রেণির শিখন-শেখানো কার্যক্রম নিয়ে তোমাদের মতামত বলো।

Appendix I: MPhil Registration of Dhaka University

M. Phil. Registration

২৭.৩.২০

ঢাকা বিশ্ববিদ্যালয়
বিজ্ঞপ্তি

এতদ্বারা সংশ্লিষ্ট সকলকে জানানো যাচ্ছে যে, এই তালিকায় উল্লেখিত গবেষকগণ ২০২০-২০২১ শিক্ষাবর্ষে এম.ফিল. প্রোগ্রামে ১ম বর্ষে ভর্তি হয়েছেন। নিম্নে গবেষকদের নাম, বিভাগ/ইনস্টিটিউট, যোগদানের তারিখ, হল, রেজিস্ট্রেশন নম্বর ও শিক্ষাবর্ষ উল্লেখ করা হলো :

ক্রঃ নং	নাম ও বিভাগ/ইনস্টিটিউট	শিরোনাম	হল	রেজিস্ট্রেশন নম্বর ও শিক্ষাবর্ষ
১.	মোঃ মোকাররম হোসেন (শিক্ষা ও গবেষণা) যোগদান : ৭/২/২০২১	Impact of Learning and Assessment Course of Bachelor of Education Curriculum on Teachers' Classroom Assessment Literacy	হাজী মুহম্মদ মুহসীন	০২/২০২০-২০২১
২.	সুলতান মোঃ সালাউদ্দিন সিদ্দিক (শিক্ষা ও গবেষণা) যোগদান : ১৫/০২/২০২১	Learners' Personalized e-Learning in Higher Education: Current Status and Potentials	সূর্যসেন	০৩/২০২০-২০২১
৩.	মুহাম্মদ কবির হোসাইন (শিক্ষা ও গবেষণা) যোগদান : ৯/২/২০২১	Teachers' Perceptions in Implementing Inclusive Education at Rural Government Primary Schools in Bangladesh	জাতির জনক বঙ্গবন্ধু শেখ মুজিবুর রহমান	০৫/২০২০-২০২১
৪.	আবদুল মান্নান (শিক্ষা ও গবেষণা) যোগদান : ০৯/০২/২০২১	Technology-integrated pedagogies in the social science curriculum and practices at secondary schools in Bangladesh	জাতির জনক বঙ্গবন্ধু শেখ মুজিবুর রহমান	০৬/২০২০-২০২১
৫.	আবদুল হুদুস (শিক্ষা ও গবেষণা) যোগদান : ৯/২/২০২১	Blended Learning in Higher Education in Bangladesh: Scopes, Challenges and Way Forward	জাতির জনক বঙ্গবন্ধু শেখ মুজিবুর রহমান	০৭/২০২০-২০২১
৬.	হুমায়রা আক্তার (আধুনিক ভাষা) যোগদান : ৯/২/২০২১	Teaching English through Creative Writing at Tertiary Level in Bangladesh	রোকেয়া	১২/২০২০-২০২১
৭.	ফারিয়া তানজিলা (আধুনিক ভাষা) যোগদান : ১১/০২/২০২১	Alternative Assessment Practices in the English Departments of the Private Universities in Bangladesh	রোকেয়া	১৪/২০২০-২০২১
				১৮/২০২০-২০২১

Appendix J: Offer Letter for MPhil Program

১৪/১২/২০



ঢাকা বিশ্ববিদ্যালয়

২০২০-২০২১ শিক্ষাবর্ষে এম.ফিল. প্রোগ্রামে ১ম বর্ষে ভর্তির জন্য অন্মতিপ্রাপ্তদের তালিকা

এতদ্বারা সংশ্লিষ্ট সকলকে জানানো যাচ্ছে যে, বোর্ড অব এডুকেশন সীটিজের সভার (৮/১২/২০২০) সুপারিশ এবং একাডেমিক পরিষদ সভার (১০/১২/২০২০) সিদ্ধান্ত অনুযায়ী অত্র তালিকায় উল্লিখিত প্রার্থীদের নামের পাশে বর্ণিত গবেষণা শিরোনামে ও তত্ত্বাবধায়কের অধীনে কুল-একটি যাচাই, সংশোধন ও নিয়ম/বিধি অনুযায়ী মধ্যস্থত থাকা এবং তত্ত্বাবধায়কের কোমিটি বসি থাকা সাপেক্ষে ২০২০-২০২১ শিক্ষাবর্ষে এম.ফিল. প্রোগ্রামে ১ম বর্ষে ভর্তির অনুমতি দেয়া হয়েছে। যাচাইয়ের পর যাদের আবেদনপত্র সঠিক প্রতীয়মান হবে তাদেরকে ভর্তির অনুমতিপত্র দেয়া হবে। প্রয়োজনে আবেদনকারীগণকে এম.ফিল. ও পিএইচ.ডি শাখায় (কক্ষ নং-৩২৩) যোগাযোগ করতে হবে।

উল্লেখ্য, একজন তত্ত্বাবধায়ক এম.ফিল ও পিএইচ.ডি প্রোগ্রামে দুটো মিলিয়ে এক সাথে সর্বমোট (পূর্বাপর) অর্থিক এককভাবে ৮ (আট) জন অথবা যৌথভাবে ১০(দশ) জন গবেষকের তত্ত্বাবধায়ক হিসাবে দায়িত্ব পালন করতে পারবেন।

শিক্ষা ও গবেষণা ইনস্টিটিউট

ক্র. নং	প্রার্থীর নাম	গবেষণাশিরোনাম ও তত্ত্বাবধায়কেরনাম	শিক্ষাপত্র যোগ্যতা ও অন্যান্য	মন্তব্য
✓	এহতেশাম আহমেদ	Perceived Levels of Confidence and Knowledge of Autism among Rehabilitation Professionals, School Teachers, Students, and Parents of Children with Autism in Bangladesh Supervisor: ড. মুহাম্মদ মাহবুবুর রহমান, সহযোগী অধ্যাপক শিক্ষা ও গবেষণা ইনস্টিটিউট, ঢাকা বিশ্ববিদ্যালয়	এস.এস.সি : ৭০৯/১০০০ এইচ.এস.সি : ৫৫৫/১০০০ বি.এড. (সম্মান) : ৪.১৫/৪.০০ এম.এড : ৩.৯০/৪.০০	
✓	মোঃ মোকররম হোসেন	Impact of Learning and Assessment Course of Bachelor of Education Curriculum on Teachers' Classroom Assessment Literacy Supervisor: অধ্যাপক হোসেন আর কোর শিক্ষা ও গবেষণা ইনস্টিটিউট, ঢাকা বিশ্ববিদ্যালয়	এস.এস.সি : ৫.০০/৫.০০ এইচ.এস.সি : ৪.৫০/৫.০০ বি.এড. (সম্মান) : ৩.৫৭/৪.০০ এম.এড : ৩.৭৮/৪.০০	
✓	সুলতান মোঃ সালাউদ্দিন সিদ্দিক	Learners' Personalized e- Learning in Higher Education: Current Status and Potentials Supervisor: শাহ সাদিক আহমেদ সহযোগী অধ্যাপক শিক্ষা ও গবেষণা ইনস্টিটিউট ঢাকা বিশ্ববিদ্যালয়	এস.এস.সি : ৫.০০/৫.০০ এইচ.এস.সি : ৫.০০/৫.০০ বি.এড. (সম্মান) : ৩.৮০/৪.০০ এম.এড : ৩.৯০/৪.০০	
৪.	মোঃ নাসিম মাহমুদ	Title: Distance Learning for Adult Education: Bangladesh Perspective Supervisor: অধ্যাপক ড. মোঃ আবদুস সালাম শিক্ষা ও গবেষণা ইনস্টিটিউট ঢাকা বিশ্ববিদ্যালয়	এস.এস.সি : ৫.০০/৫.০০ এইচ.এস.সি : ৫.০০/৫.০০ বি.এড. (সম্মান) : ৩.৫০/৪.০০ এম.এড : ৩.৭০/৪.০০	
✓	মুহাম্মদ করিম হোসাইন	Teachers' Perceptions in Implementing Inclusive Education at Rural Government Primary Schools in Bangladesh Supervisor: ড. তাপস কুমার বিশ্বাস, সহযোগী অধ্যাপক Joint Supervisor: ড. অসীম দাস, সহকারী অধ্যাপক শিক্ষা ও গবেষণা ইনস্টিটিউট ঢাকা বিশ্ববিদ্যালয়	এস.এস.সি : ৪.১৯/৫.০০ এইচ.এস.সি : ৪.৭০/৫.০০ বি.এড. (সম্মান) : ৩.৫৩/৪.০০ এম.এড : ৩.৫৭/৪.০০	
✓	আবদুল মান্নান	Technology-integrated pedagogies in the social science curriculum and practices at secondary schools in Bangladesh Supervisor: ড. মোঃ খাইরুল ইসলাম, সহযোগী অধ্যাপক শিক্ষা ও গবেষণা ইনস্টিটিউট ঢাকা বিশ্ববিদ্যালয়	এস.এস.সি : ৫.০০/৫.০০ এইচ.এস.সি : ৪.৯০/৫.০০ বি.এড. (সম্মান) : ৩.৯৬/৪.০০ এম.এড : ৩.৭৫/৪.০০	

RAN.

Appendix K: MPhil First Part Result

ঢাকা বিশ্ববিদ্যালয়

২৪/৭/২০২২ তারিখের আদেশক্রমে

নিম্নবর্ণিত পরীক্ষার্থীগণ ২০২২ সনের মার্চ মাসে অনুষ্ঠিত ২০২১ সনের প্রথম পর্ব এম.ফিল. পরীক্ষায় অংশগ্রহণ করিয়া নিম্নে উল্লিখিত বিষয়ে কৃতকার্য হইয়াছে। এই ফলাফল সিডিকিটের অনুমোদন সাপেক্ষে সাময়িকভাবে প্রকাশিত হইল।

২০২১ সনের প্রথম পর্ব এম.ফিল. পরীক্ষার ফলাফল

পরীক্ষার রোল নং	হলের নাম	গবেষকের নাম	ফলাফল
১	সূর্যসেন হল	সুলতান মোঃ সালাউদ্দিন সিদ্দিক	উত্তীর্ণ
২	জাতির জনক বঙ্গবন্ধু শেখ মুজিবুর রহমান হল	মুহাম্মদ কবির হোছাইন	উত্তীর্ণ
৩	জাতির জনক বঙ্গবন্ধু শেখ মুজিবুর রহমান হল	আবদুল মান্নান	উত্তীর্ণ
৪	জাতির জনক বঙ্গবন্ধু শেখ মুজিবুর রহমান হল	আবদুল কুদ্দুস	উত্তীর্ণ
৫	হাজী মুহাম্মদ মুহসীন হল	মো. মোকাররম হোসেন	উত্তীর্ণ
৬	শামসুন নাহার হল	জাম্নাতুল ফেরদৌস মৌসুমী	উত্তীর্ণ

০৬ (ছয়টি) নাম টাইপ করা হইল

ফলাফলের পরিসংখ্যান

উপস্থিত	উত্তীর্ণ	পাসের হার
০৬	০৬	১০০%

মেমো নং: ২৬২২/শা/ফ/প. তারিখ: ২২/৮/২০২২ বঙ্গাব্দ
২৬/৭/২২ খ্রিস্টাব্দ

এক প্রস্তুত ফলাফল অবগতি ও প্রয়োজনীয় ব্যবস্থা গ্রহণের জন্য পাঠানো হইল:

প্রশাসনিক ভবন
ঢাকা বিশ্ববিদ্যালয়

মোঃ বাহাদুল হক চৌধুরী
পরীক্ষা নিয়ন্ত্রক
ঢাকা বিশ্ববিদ্যালয়

Appendix L: Nomination for MPhil Scholarship

634 M.Phil Scholar-2

A & R
18/11/21

ঢাকা বিশ্ববিদ্যালয়

এতদ্বারা সংশ্লিষ্ট সকলকে জানানো যাচ্ছে যে, এম.ফিল ও পিএইচ.ডি. বৃত্তি মঞ্জুরী (১১/০৯/২০২০) কমিটির ও একাডেমিক পরিষদের (২৬/০৯/২০২০) সুপারিশ এবং সিন্ডিকেটের (২৭/০৯/২০২০) অনুমোদনক্রমে নিম্নোক্ত গবেষকগণকে তাঁদের নামের পাশে উল্লেখিত হারে ২০২০-২০২১ শিক্ষাবর্ষে ১ম বর্ষ এম.ফিল. প্রোগ্রামে যোগদানের তারিখ থেকে ১ (এক) বছরে জন্য বৃত্তি মঞ্জুর করা হয়েছে। গবেষকগণকে চিঠি ইস্যুর তারিখ থেকে ১ (এক) মাসের মধ্যে বৃত্তির অঙ্গিকারপত্রসহ প্রয়োজনীয় সকল কাগজপত্র রেজিস্ট্রারের অফিসের এম.ফিল. ও পিএইচ.ডি. শাখায় (কক্ষ নম্বর-৩২৩) জমা দিতে হবে। উক্ত সময়ে মধ্যে সকল কাগজপত্র জমা না দিলে তাঁর বৃত্তি বাতিল বলে গণ্য হবে। গবেষকগণ বিশ্ববিদ্যালয়ে বা কোন সংস্থায় চাকুরীর থাকলে বা কোন প্রতিষ্ঠান থেকে গবেষণা বৃত্তি/আর্থিক মঞ্জুরী পেয়ে থাকলে এই বৃত্তি ভোগ করতে পারবে না। নিম্নে বৃত্তিপ্রাপ্ত গবেষকদের নাম, বিভাগ, রেজিস্ট্রেশন নম্বর, হল, এম.ফিল. প্রোগ্রামে ১ম বর্ষে যোগদানের তারিখ ও বৃত্তির মাসিক হার উল্লেখ করা হলো :

এম.ফিল. বৃত্তি শিক্ষাবর্ষ-২০২০-২০২১

ক্রমিক নং	গবেষকগণের নাম, বিভাগ/ইনস্টিটিউট ও রেজিস্ট্রেশন নম্বর	হল	যোগদানের তারিখ	মাসিক বৃত্তির হার
১.	কামারুন মুহসীনা (ট্যুরিজম এন্ড হসপিটালিটি ম্যানেজমেন্ট) রেজিঃ ২০৫-২০২০-২০২১	শামসুন নাহার	৫/৯/২০২১	১০,০০০/-
২.	মোঃ আব্দুল মুকিত পারভেজ (ট্যুরিজম এন্ড হসপিটালিটি ম্যানেজমেন্ট) রেজিঃ ১৭৭/২০২০-২০২১	জাতির জনক বঙ্গবন্ধু শেখ মুজিবুর রহমান	৪/১০/২০২১	১০,০০০/-
৩.	মোঃ সোলায়মান ইসলাম (ট্যুরিজম এন্ড হসপিটালিটি ম্যানেজমেন্ট) রেজিঃ ২০৬/২০২০-২০২১	জাতির জনক বঙ্গবন্ধু শেখ মুজিবুর রহমান	২৬/৯/২০২১	১০,০০০/-
৪.	ফাহিমদা তাসনিম লিজা (প্রাণিবিদ্যা) রেজিঃ ০২৯/২০২০-২০২১	রোকেয়া	৩/২/২০২১	১০,০০০/-
৫.	সুদীপ্ত দেবনাথ (জিন প্রকৌশল ও জীব প্রযুক্তি) রেজিঃ ৩৪/২০২০-২০২১	জগন্নাথ	২৪/১/২০২১	১০,০০০/-

ক্রমিক নং	গবেষকগণের নাম, বিভাগ/ইনস্টিটিউট ও রেজিস্ট্রেশন নম্বর	হল	যোগদানের তারিখ	মাসিক বৃত্তির হার
✓ ১০.	সুলতান মোঃ সালাউদ্দিন সিদ্দিক (শিক্ষা ও গবেষণা) রেজিঃ ০৩/২০২০-২০২১	সূর্যসেন	১৫/২/২০২১	১০,০০০/-
১১.	মোঃ মোকাররম হোসেন (শিক্ষা ও গবেষণা) রেজিঃ ০২/২০২০-২০২১	হাজী মুহম্মদ মুহসীন	৭/২/২০২১	১০,০০০/-
✓ ১২.	আবদুল মান্নান (শিক্ষা ও গবেষণা) রেজিঃ ০৬/২০২০-২০২১	জাতির জনক বঙ্গবন্ধু শেখ মুজিবুর রহমান	৯/২/২০২১	১০,০০০/-
১৩.	রেবেকা সুলতানা (সমাজকল্যাণ ও গবেষণা) রেজিঃ ১৮৪/২০২০-২০২১	বঙ্গমাতা শেখ ফজিলাতুন্নেছা মুজিব	১/৬/২০২১	১০,০০০/-
১৪.	হোসাইন মাহমুদ (সমাজকল্যাণ ও গবেষণা) রেজিঃ ১৮৭/২০২০-২০২১	শহীদ সার্জেন্ট জহুরুল হক	২৪/৫/২০২১	১০,০০০/-
১৫.	ফারিহা তানজিলা (আধুনিক ভাষা) রেজিঃ ১৪/২০২০-২০২১	রোকেয়া	১১/০২/২০২১	১০,০০০/-
১৬.	মোঃ মাহফুজুর রহমান (স্বাস্থ্য অর্থনীতি) রেজিঃ ১৫/২০২০-২০২১	সূর্যসেন	০৪/০২/২০২১	১০,০০০/-

বৃত্তিপ্রাপ্ত এম.ফিল. গবেষকদেরকে নিম্নোক্ত নিয়মাবলী অনুসরণ করতে হবে।

- বৃত্তিপ্রাপ্ত গবেষকদেরকে বিশ্ববিদ্যালয়ের সাধারণ তহবিল থেকে তাঁদের গবেষণা কাজে তত্ত্বাবধায়কের সন্তোষজনক মতামত সাপেক্ষে যোগদানের তারিখ থেকে ১ বছরের জন্য এম.ফিল. বৃত্তি প্রদান করা হবে।
- কোন গবেষক চাকুরীরত থাকলে বা অন্য কোন সংস্থা থেকে বৃত্তি অথবা আর্থিক সহযোগিতা পেলে এই বৃত্তি ভোগ করতে পারবেন না।
- এম.ফিল. বৃত্তির জন্য মনোনীত প্রার্থীগণ সময়মত অঙ্গীকারপত্র এবং অন্যান্য প্রয়োজনীয় কাগজপত্র জমা না দিলে এই বৃত্তি বাতিল বলে গণ্য হবে এবং উক্ত বিভাগের/ইনস্টিটিউটের মেধা তালিকা থেকে পরবর্তী গবেষককে সংশ্লিষ্ট ডিন/পরিচালকের সুপারিশ অনুযায়ী উপাচার্য মহোদয়ের অনুমোদন সাপেক্ষে উক্ত বৃত্তি উদ্ধৃত বৃত্তি হিসেবে মঞ্জুর করা হবে।
- বৃত্তিপ্রাপ্ত গবেষককে ৩০০/-টাকা মূল্যের নন-জুডিসিয়াল স্ট্যাম্প অঙ্গীকারপত্র জমা দিতে হবে। অঙ্গীকার পত্রে নিশ্চয়তা প্রদানকারীকে ঢাকা বিশ্ববিদ্যালয়ের শিক্ষক/কর্মকর্তা/সরকারী কর্মকর্তা হতে হবে।
- সদ্য তোলা পাসপোর্ট সাইজের ১ কপি ছবি সংশ্লিষ্ট তত্ত্বাবধায়ক/ চেয়ারম্যান/ পরিচালক কর্তৃক সত্যায়ন করে অঙ্গীকারপত্রের সাথে জমা দিতে হবে।
- ২য় বর্ষের বৃত্তি নবায়নের ক্ষেত্রে রেজিস্ট্রেশনের মেয়াদের মধ্যে থিসিস জমা দেয়ার পর বৃত্তিপ্রাপ্ত গবেষককে বৃত্তি নবায়নের জন্য আবেদন করতে হবে।

১৪.১১.২০২১
উপ-রেজিস্ট্রার(শিক্ষা-১)
ঢাকা বিশ্ববিদ্যালয়

স্মারক নং- রেজিঃ/শিক্ষা- ৬৬৬৬৫ - ডি

তারিখ : ০৪/১১/২০২১

অবগতি ও প্রয়োজনীয় ব্যবস্থা গ্রহণের জন্য অনুলিপি পৌঁছে দেয়া হলো :-

