Application of Constructivism, Active Learning and Formative Assessment in the History Classrooms: A Study on Rajshahi College, Bangladesh

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Abstract

The active learning constructivist approach is a pedagogical concept and a subject of global discourse to ensure quality education and lifelong learning. In addition, experts suggest the formative assessment to provide the chance of improvement for the learners. These theories attract scholars, and accordingly, many researches are conducted on the subject, discussing their prospects and limitations within distinct contexts, more specifically, in the educational institutes of developed countries. In contrast, this article presents the rationale for using these concepts to learn history topics in an honors-level education, especially the 'History of the Emergence of Independent Bangladesh' course. To test the feasibility of the theories in the Bangladesh context, it also examines their effectiveness in the selected field. Following experimental research design with mixed methods, the study concludes by comparing the performance of the students who get instructions based on the concepts with those who have not. It optimistically shows the positive impact of the theories on student performance.

Keywords: *Constructivism, Active Learning, Formative Assessment, History classrooms, Rajshahi College*.

Introduction

The method of instruction by which teachers of Bangladesh provide education to the student is exclusively teacher-centered. The teachers, like political leaders, deliver their speeches before students. Here, students are passive listeners and hardly participate or involve in the learning process. The system does not ensure an environment to exchange their ideas with the teachers and their peer learners. So, they remain inactive and become mind-numbing in learning. Students

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remain under-skilled, and eventually, the goal of achieving quality education seems to fail.

The developed countries achieve modern and effective education systems through a series of research that invent new concepts and techniques. They put them (concepts and techniques) forward to the application level and reach the destination- quality education. We should follow their paths and use these concepts, especially constructivism, active learning, and formative assessments, to enhance the quality of education in Bangladesh (Splitter, 2009; Felder & Brent, 2009; Beichner, 2014; Shively, 2015; Coorey, 2016).

There is a good number of empirical research conducted on constructivism, active learning, and formative assessment and accordingly, a vast literature exists on these subjects (Karahoca, Karahoca, & Yengin, 2010; Bennett, 2011; Cavanagh, 2011; Hwang & Chang, 2011; Coulson, Jacobson, Feltovich & Spiro, 2012; Satlow, 2012; Bozkurt, 2013; Kivunja, 2014; Beichner, 2014; Brown, 2015; Perron, Louis-Simonet, Cerutti, Pfarrwaller, Sommer & Nendaz, 2016; Coorey, 2016; McPhail, 2016; Grosas, Raju, Schuett, Chuck & Millar, 2016; Grosas, Raju, Schuett, Chuck & Millar, 2016; Lui, Andrade, Valle, & Mir, 2017). However, they hardly include all three concepts within a single platform and scarcely examine their applicability in elective areas of a specific context. In addition, most of the researches tend to exhibit the optimistic role of these concepts and show their essentiality to achieve quality education. While others extend their effort to condemn them as ineffective (Michael, 2006). In contrast, this study examines the feasibility of the approach (application of constructivism, active learning, and formative assessment) in a specific context, the history classrooms of Rajshahi College. It tests the practicability of these concepts in the classes of the 'History of the Emergence of Independent Bangladesh' (HEIB) course, a compulsory common subject for the students of all disciplines- science, social science, arts, and commerce, studying Rajshahi College for their honors degrees from National University, Bangladesh.

Constructivism: definition and overview

Constructivism is a teaching philosophy based on the concept that learning (cognition) is the result of mental construction. The students construct knowledge rather than merely receive or accumulate it from their teachers through a simple transmission of information- it believes (Ben-Ari, 2001, 45; Richardson, 2003, 1624). They do not only grasp the facts, ideas, or beliefs from reading books or listening to lectures from the teachers but construct their understanding by reflecting on their personal experiences (Ben-Ari, 2001, 45). They relate the new knowledge with what they already know. They construct an idiosyncratic version of the knowledge by accumulating new ideas with the existing concepts (Ben-Ari, 2001, 45). One of the dominating principles of the doctrine is 'Learning is the search for meaning'. To ensure effective learning, the teacher must help the students to explore their self-meaning of the subject. In

other words, Constructivism is a learning theory derived from cognitive doctrines that accept students as active in the classroom and recognize them as the primary builders of new knowledge (Riad, 2015, 13). The teacher works as a partner in learning and intentionally creates organized and cohesive experiences that connect to the key concepts (Riad, 2015, 13).

Rationale of choosing Constructivism

The students of undergraduate programs in Bangladesh have an experience twelve academic years as their qualification of enrolment in this level is Higher Secondary Certificate (HSC) or its equivalent. Students come to this level from many distinct institutes and branches- HSC in Business management colleges and *Dakhil* from Madrasas, along with the general branches of Science, Arts, and Commerce from colleges. Accordingly, university-affiliated colleges have a mixed group of the undergraduate students. Some students have the experience of learning history, while others have not. As a compulsory subject, students from all disciplines come to the HEIB classes. Some students come from science and commerce backgrounds or from the subjects of these disciplines who have not even touched history in their lifetime. Therefore, the understanding level of our students differs from each other. Providing a commonly graspable lecture for such a peculiar class is defficult. The constructivist class provides scopes to construct students' knowledge individually or in a group, and helps the students to comprehend a specific subject content. It increases their concentration in class sessions and gradually makes them active learners. It draws the students into class sessions and gives them scope to participate in the class tasks. Eventually, it makes the class session interesting by reducing the boringness of the students. Therefore, Constructivism, the impressive theory, could be applied in learning the course HEIB.

Critical discussion

Constructivism prefers to understand the cognitive levels of the learner and transform the learning process from what the teacher teaches to how the students are ready to learn (Coulson, Jacobson, Feltovich, & Spiro, 2012). Such a changing environment in the classroom encourages students to learn and to become confident and enthusiastic in learning.

To apply this concept in practice, the teacher can start the class session with some tasks, like showing a short video clip or raising a question that gives the scope to guess the students' understanding level of the topic. It also warms up the students and draws them to readiness for the class session. The teacher can engage them in group work and individual assignments to provide scope to participate in the learning process.

As a mixed group of students, the learners have distinct experiences and perceptions of the learning content of the HEIB. The application of

constructivism in such a context is essential. Because the concept helps the teacher to determine students' experience level, what (extent of) knowledge do the students currently have? Consequently, he can fix the teaching method to enhance learning by giving scope to every level of student. Eventually, the teacher can make the session successful. Of course, the application of the concepts will be helpful to enhance productive learning and to ensure the justice of learning.

Notwithstanding many advantages of the constructivist concept, there are some limitations. It requires more time than the typical lecture method, as it tries to clarify the subject matter through the participation of all the students in a class session. Unlike the lecture method, it is impossible in the constructivist approach to deliver all the information within the scheduled time. According to the concept, the learner will construct the knowledge through interaction. To what extent of interaction would be required to satisfy the learner? How much time will be allocated to build up a conceptual model in the learners' minds?

By definition of the concept, the level at which the learning is inclined, should be taken into consideration, the existing knowledge of low-standard students, so that it benefits every student in the class (Hyslop-Margison & Strobel, 2007; Schweitzer & Stephenson, 2008). In our context, some students have even no experience of learning history. In this study, to guess the level of students' understanding, when a teacher asked the question at the beginning of the class session, a majority of them came from science and commerce and had no experience of learning history in their lifetime, remained silent. How can a teacher guess their level?

Irrespective of lesson planning, designed as typical or constructivist or as something in between, to understand the subject, the learners ultimately construct their mental models (DiCarlo, 2009). This implies using constructivist approach is fundamental to understanding and meaningful learning (Prakash, 2010, 26).

Active Learning: definition and overview

To give an unanimously accepted definition for active learning is difficult. Scholars use diverse terms to address the concept (Prince, 2004, 223). Some scholars call the idea 'collaborative' or 'cooperative' learning, while others mention it as 'problem-based' learning (PBL).

Although having tendencies to call different names, it is possible to determine the main characteristics of active learning. It is anything related to the course that calls upon all students in the class session to do rather than only listen and take notes from the lecture (Felder & Brent, 2009). Researchers suggest that students must do more than only listen. The students need to be engaged in reading, writing, discussing, and solving the problems (Bonwell & Eison, 1991,

2). Student involvement in learning process ensures their engagement in higher-order thinking tasks like analysis, synthesis, and evaluation. In this framework, a definition of active learning means the instructional activities that involve the students in doing things and thinking about what they are doing (Bonwell & Eison, 1991, 2).

Many researchers prove the effectiveness of active learning to enhance education (Bonwell, & Eison, 1991; Ebert-May, Brewer & Allred, 1997; Frost, 2000; Prince, 2004; Michael, 2006; Oros, 2007; Gauci, Dantas, Williams, & Kemm, 2009; Browning, 2009, Gier & Kreiner, 2009; Trowler, 2010; Cavanagh, 2011; Swiderski, 2011; Satlow, 2012; Stout, Kretschmer & Stout, 2016; Coorey, 2016; Grosas, Raju, Schuett, Chuck & Millar, 2016). They show that the concept is imperative to improve students' performance in small group sessions (Yoder & Hochevar, 2005, 94; Gauci, Dantas, Williams, & Kemm, 2009, 60). However, the application of active learning is challenging in a large class. In most cases, the teachers do not have enough time to include all of the students in the learning process, close the sessions with minimal student participation or interaction, and eventually finish it within a traditional lecture format (Gauci, Dantas, Williams, & Kemm, 2009, 60). As a result, students may have to emphasize the information of the lecture content and memory retention rather than comprehension or understanding of the subject matter (Gauci, Dantas, Williams & Kemm, 2009, 60).

Rationale for Choosing Active Learning

Like other arts subjects, History learning at the undergraduate level has multiple goals (Oros, 2007, 294). It is essential to transmit the basic knowledge of the course content, and the students will have to think about the subject matter critically and be able to make logical arguments on the subject matter. They will have communication skills in writing and verbal presentation. At the same time, they will acquire the skill of conducting research (Oros, 2007, 294).

Contemporary studies show that the lecture method cannot ensure students' engagement in the learning process and fails to encourage the students to think about the subject (Schmidt, Wagener, Smeets, Keemink, & Molen, 2015, 13). The students, diverted from the aim of acquiring knowledge, are interested in knowing the answers to the questions asked in their final examination. On the contrary, the application of active learning makes the class interesting by enhancing participation and interaction between the teacher and student and between peer learners. It reduces students' boredom and leads them to enjoy the class.

Critical discussion

The classroom settings of Rajshahi College are a barrier to implementing the active learning approach and are inappropriate for ensuring student engagement

(Machemer & Crawford, 2007; Gier & Kreiner, 2009). We can transform it by changing static benches with moveable seats so that learners and teachers can move freely and approach each other easily.

It is complicated to change the perception of the teachers where an established system of teacher-centered learning prevails and is inherited from generation to generation. Teachers need training to become knowledgeable and skilled in teaching-learning. The college could provide in-house training to change the perception of the teachers. Simultaneously, the teachers should try to change the perception of the students and their parents so that they can know the new learning method.

Implementing active learning in a large class with a hundred students is complicated. The teacher could reduce the number by splitting them into sections consisting of forty or fifty students. It should be borne in mind, that the student-teacher ratio in Bangladesh is extensively high. The number of teaching posts in the colleges is insufficient. In contrast, RC has a good number of teachers. The number of teachers in the Department of History is twelve. Accordingly, the department could split the classes into sections and distribute among them.

Notwithstanding using PowerPoint, the teachers have a lack of knowledge in technology usage that prevents to encourage students to be engaged in learning and invite them to be involved in higher thinking. By providing training on technology, we can meet the problem.

Implementing the concept at the application level, the teachers can follow different techniques. Tey can ask questions to encourage students to learn actively (Gauci, Dantas, Williams & Kemm, 2009, 60). Ensuring interaction between teachers and students and between students is a difficult task in a large class. A few numbers of students could be able to take the chance to answer whether most of them suffer and remain inactive. In this case, the participation rate in the learning process remains very poor, and the promotion of active learning persists to be ensured. Gauci, Dantas, Williams, and Kemm comment that engaging students in several small groups may be more effective (Gauci, Dantas, Williams & Kemm, 2009, 60).

Color-coded cards, one useful instrument, could be used to enhance student participation in class sessions (Gauci, Dantas, Williams, & Kemm, 2009, 60). The teacher can distribute these cards among the students and ask questions randomly to a specific cardholder, *i.e.* green, yellow, red, etc. so that all the students can be aware of the questions. According to the color-coded cards, the teacher could divide the students into small groups and give them tasks in the class. Consequently, the teacher could draw the student's concentration in the class session and eventually ensure active learning. However, in viewing the responses to each other, the students may have less confidence in their

responses, and duplicate only the answer obstructs active learning and critical thinking (Gauci, Dantas, Williams, & Kemm, 2009, 60). During the lecture, the electronic response system could provide exact and prompt feedback from the students on their understanding. It encourages students to promptly respond to the questions posed by the teacher (Gauci, Dantas, Williams, & Kemm, 2009, 60). Using multiple-choice questions (MCQ), and a numerical response system (NRS) ensures individual responses of the students. The teacher should display the responses graphically through a PowerPoint presentation (PPT). He could consider pending the exhibition of the student's answers and continue to solve the questions so that the previous answers could be revised or compared (Gauci, Dantas, Williams, & Kemm, 2009, 60). However, introducing such a technic is less viable in the Bangladesh context. Although the country emphasizes introducing technology in educational institutes, the logistic support from the authorities is inadequate. On the other hand, notwithstanding the frequent use of mobile phones, most students do not have modern gadgets.

Notwithstanding limitations of infra-structural and logistic support, the active learning concept could be applied in History classrooms. The tentative impact of its application is the change in the present scenario of the learning environment. As it ensures the participation of the students in the learning process, it will convert the class sessions from mind-numbing to stimulating, providing an enjoyable environment for the students. The lesson content will be transformed into a simple and understandable form for the students as they have to share in the learning process. It will transform the students from passive receivers to self-regulated learners and eventually shift the responsibility of learning from teachers to the learners. The goal of the course, to diffuse national feelings to the learners, will be achieved. Consequently, the generation will turn into a patriotic path and become 'golden citizens' of Bangladesh, sympathetic to the country and its people.

Formative Assessment: definition and overview

The formative assessment is a systematic assessment process that collects evidence about learning continuously and uses it to identify students' present level of learning. It approves lessons that help them to reach expected learning goals. In this process, the students are active participants with their teachers rather than passive adaptors of their information (Nicol & Macfarlane- Dick, 2006). They share the learning goals and the process by which they could achieve them. They have an understanding of, how they progress their learning, what efforts they need, and how to take them in action (Heritage, 2007, 141).

There are four fundamental components of formative assessment. Firstly, to identify the gap between a student's current position in learning and desired instructional aims and to determine the policy to overcome it, differing from student to student (Black & Wiliam, 2005, 8). Secondly, providing feedback at multiple levels from the teacher regarding the existing level of the student's

understanding. It determines what should be the next steps in learning. Moreover, it guides students to fix their subsequent steps. An effective teacher's feedback, essentially clear, descriptive, criterion-based information, indicates students learning progression and how their understanding differs from the expected learning goal. It also guides them on how they can move forward for improvement (Heritage, 2007, 141; Bennett, 2011). Thirdly, the Active involvement of students improves learning through formative assessment. In this process, to ensure collaborative learning, students learn the skills of self and peer assessment (Heritage, 2007, 141). They collaborate with teachers to improve 'a shared understanding' of their current learning status. At the same time, to determine what they need to do to move forward in the learning. Finally, Formative assessment offers simultaneous direction to the teachers and students that links to learning progression. It is complicated to give a clear idea of progression for understanding, and even to provide a clear picture of the expected learning is difficult (Heritage, 2007, 141). Learning progressions show the big picture of the learning content and what to learn. They help teachers determine students existing learning position on the continuum along which students' expected progress (Heritage, 2007, 141).

Rationale

Constructivism and Active learning seek to involve the students in the learning process through the knowledge construction of what they already have. The core concept is to shift learning responsibility from teachers to students (Nicol & MacFarlane-Dick, 2006, 200). However, the existing assessment system is as stagnant as it previously was. The teachers control it, and they are solely responsible for it. In the formative assessment system, in contrast, the teacher evaluates the student's work and gives them feedback for further improvement. The assessment is exclusively in the hands of the teachers, and it is difficult for the students to be empowered and develop themselves as self-regulated learners. Self-regulated learning makes them skilled for learning outside the institute and throughout life (Nicol & MacFarlane-Dick, 2006, 200).

Teacher feedback ensures the assessment of the students formatively, gives them the scope for improvement in learning, and encourages them to be self-regulated learners. But in most cases, feedback messages are complex and hard to comprehend. They hinder the scope of constructing knowledge through discussion before they regulate it to performance (Nicol & MacFarlane-Dick, 2006, 200). Considering feedback as a cognitive process, the document should not be a letter of transferring information and ignoring interactions with motivation and beliefs.

Formative assessment, an optimistic evaluation system during the course time, helps to enhance students' learning and provides scope for improvement. It also gives them a chance to take control of their learning and eventually makes them self-regulated learners (Nicol & Macfarlane, 2006).

There is a formative assessment system in the RC during the learning time, which values 20% percent of the total marks. Teachers give the mark based on a simple written test rather than evaluate the students' performance during learning time. Usually, they ask the student short questions and hardly give them feedback on their answers. Consequently, the students lose the scope to improve their learning. The formative assessment approach should be applied to change the situation and to make the students self-regulated learners (Nicol & MacFarlane-Dick, 2006, 199).

Critical discussion

Unlike the conceptions of teaching-learning, the formative assessment does not draw the attention of the concerns and remains in the hands of the teachers. The teachers evaluate and give feedback on the student's assigned task, its strengths and weaknesses, and students consider their feedback important for further progress (Nicol & MacFarlane, 2006, 200). But the process has some problems. Firstly, remaining formative assessment exclusively in the teachers' control hinders students' empowerment and obstructs to obtain self-regulation skills essential for learning outside the classrooms and for lifelong learning (Nicol & MacFarlane, 2006, 200). Secondly, there is a perception that the teachers' feedback deciphers into the formative assessment. However, feedback is complicated for the students who can hardly understand them. They require the chance to construct an understanding of feedback before utilizing it to improve performance (Nicol & MacFarlane, 2006, 201). Thirdly, considering feedback as a cognitive process that involves only the transfer of information overlooks feedback's impacts on motivation and beliefs (Yorke, 2003; Nicol & MacFarlane, 2006, 201; Hwang & Chang, 2011). However, feedback regulates and at the same time, is regulated by motivational beliefs. Fourthly, the rising number of students in academic sessions and the enlarging class size year by year increase the workload of the faculties. In this respect, the students and their peers should be responsible for formative assessment (Nicol & MacFarlane, 2006, 201).

Students are supposed to occupy a dominant and vital role in all feedback processes. Because in terms of expected goals and strategies, they observe their performance. As the student-centered and constructivist concepts suggest, they also construct their understanding of feedback (Black & Wiliam, 1998). Therefore, it is logical to share the responsibility of formative assessment with the students and their peers.

How a teacher could implement the concept in practice? Providing group work and presentations to the students on what they do is a process by which a teacher can implement the formative assessment concept. The teacher could observe students' activity in groups and individual performance, take notes, and give them feedback. Simultaneously, to involve them in this process, the teacher could also take an evaluation of the students.

The teachers could consider the MCQ and short questions for taking tests. He could consider assignments for individual tasks of the student. The teacher must provide feedback to the students by mentioning the strengths and weaknesses of the work so that they can improve their learning.

To evaluate the effectiveness of these new concepts in the Bangladesh context, the researcher conducts an empirical study to test the feasibility. At first, he creates a lesson outline based on the theories and uses them in class sessions. He compares the performance of the students who get new classes with those who have not. The following paras discuss the process in brief.

Materials and Methods

The researchers designed the study to explore the effectiveness of newly adopted lesson plans by experiments following mixed methods. Participants are the students of 1st year honors students from three departments, History, Physics, and Marketing, at Rajshahi College under the National University of Bangladesh. The total number of students in these departments is more than 500, while 60 are purposively selected and involved in the experiments. They divided them into two sections- experimental and controlled groups consisting of 30 students in each. The researchers choose a compulsory course (History of the Emergence of Independent Bangladesh) for both groups. However, the first researcher conducted all classes of both groups. The methods of instruction for the two groups are different. The researcher continued the typical lecture method for the classes of the controlled group. He used a whiteboard, marker, and multimedia projector for the class session. The researcher, in contrast, developed lesson plans based on the constructivist approach and active learning and followed them for the experimental group. He took four classes for each group for two weeks (twice a week). After the classes, both groups took three tests (MCQ 2, SQ 1) simultaneously with the same questions. The researchers compared the results of the two groups- the experimental and controlled, to conclude. They surveyed by structured questionnaire to know the perceptions of the students of the experimental group who experienced the lesson plan-based classes. However, due to time constraints, the researchers could not attempt to include all stakeholders in this venture. In addition, to clear respondents' views, they did not consider any FGD or KII for the same reason.

Lesson Outlines

A lesson outline helps a teacher to conduct the class effectively. It could be divided into four distinct parts: - 1. the objectives, 2. presentation, 3. guided practice and collaboration with instructor's reflection, and 4. assessment of the student's learning. What students will be able to do after attaining classes is the objective. The presentation explores and explains the subject matter of the lesson content. At the same time, it determines the readiness and experience of the learners. Guided practice and collaboration with the instructor's reflection

decide the student's work with the presented material and determine the teacher's learning through reflection during the activity. Assessment of student's learning gives the chance to know how students learn and what they need to learn. Simultaneously, it assesses whether the objectives of the lesson are realized or not. A warm-up session should be conducted at the beginning of the class so that students can be attentive to the class session while wrapping it up at the end to conclude the session.

In applying the key concepts (constructivism, active learning, and formative assessment) in practice, a series of lesson plans on the HEIB course are given below.

Lesson plans

Title and Description of Lesson: 'Description of the country and its people'. Actually, it is the introductory part of the HEIB that comprises of-

1. Geographical features and their influence.
2. Ethnic composition.
3. Language.
4. Cultural syncretism and religious tolerance.
5. Distinctive identity of Bangladesh in the context of undivided Bengal.

To make the learning easy and comprehensive, the researcher will divide the chapter into four consecutive parts (Lessons 1, 2, 3 & 4).[1] At first, he will deal with the geographical features of the country and their influence on its people., and then turn gradually into the rest of the chapter:- the ethnic composition of the people of Bangladesh and their language, the tradition of cultural syncretism, and finally, the distinctive identity of Bangladesh in the context of undivided Bengal.

Critical reflections

Usual teaching or classroom practice

Like other educational institutes in Bangladesh, the classroom practice in RC is highly teacher-centered, where the teachers deliver lectures and students listen and take necessary notes from them. In most cases, like a political leader's speech before the audience, the teachers give lectures before the students standing on the dais, a comparatively high place in the classroom, and students sit before him. During the delivery, they hardly move in the classroom so that students attend the lecture. They do not use multimedia projectors or modern technologies to make the lesson comprehensible. Finally, after finishing the 'speech', they leave the classroom without student feedback.

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[1] Lesson plans are given in the appendices.

RC has the facility of using multimedia projectors and laptops for conducting classes. The researchers use technology tools like PowerPoint in the class. However, they cannot use all necessary tools effectively because of the lack of adequate knowledge of technology usage. Even though, in using PowerPoint, they are solely confined to showing some points of the lecture topic over the screen and explaining them in the lecture. In terms of interactive learning, they do nothing. They could not engage students in class sessions. Accordingly, the students are not attentive to the class nor responsive to the learning.

In this situation, finding no connection with real life, students are supposed to believe that history is a boring subject (Angeli & Tsaggari, 2016). This situation affects the learning of the subject, especially the 'History of the Emergence of Independent Bangladesh (HEIB)' that aims to diffuse patriotism and national feelings into the students by giving them a chance to be acquainted with the glorious past of the Bengali nation. How did their ancestors sacrifice their lives and show their bravery in the time of the nation's need and finally achieve the independence of the country? What was the dream that makes them inspired to do anything for the country, even to sacrifice their lives?

Classes based on the lesson plans

The newly adopted lesson plans have a good impact on learning. The application of the new lesson plans has changed the environment of the classroom. In all classes based on new lesson plans, the students feel free to exchange their views. They actively participated in group work, especially in discussing the problems with their group mates, which made the learning-friendly environment. Although giving the presentation, some students felt too shy to express their ideas before the class, most of them took part in the task. It could be assumed that the new lesson plan-based sessions increase students' confidence and make them enthusiastic and interested in learning.

The students' thinking regarding the application of the concepts was very enthusiastic. Among 30 students (male 17 and female 13; rural 21, urban 9; science 8, commerce 7, arts 11, BM 2, madrasa 3), 18 highly agreed with the statement, 'the method facilitates understanding the lesson content easily. The major portion of the students (16 highly agreed and 11 agreed) consider the concepts as logical, while only two are not in favor of applying the concepts, probably because of their habit of learning.

Corresponding observation, evaluation, and feedback exhibit that the students from all levels, in constructing knowledge, take the scope of participation, and accordingly, they perform in the learning process. As they did the tasks, what the researchers gave them inside or outside the classroom proved it. Therefore, the concepts ensure participation in the learning process and make students enthusiastic. Consequently, the perception toward learning is changed, as the students think they can do.

Impact analysis of theoretical ideas on the lesson

Before having the idea of constructivism, the researchers did not understand the significance of knowing learners' previous knowledge of the subject to be taught, rather than being confined to giving them some information regarding the topic. In most cases, they hardly met the demand, the actual needs of the student, and how to learn them. At the same time, they had no idea of active learning that translates the learning from boredom to interactive, and from numbing to the interesting matter in a true sense. Although there is a 'so-called' formative assessment, the researchers did not know how it works to improve learning.

The researchers used the concepts in application to change the teaching-learning environment. Firstly, constructivism provided the researchers the scope to know how far the students know the subject. To determine it, the researchers posed a question before students at the beginning of their class session that warmed the students up. The concept enhances students' engagement in their learning, what active learning suggests with ensuring effective participation in the learning process. To achieve the goal, the researchers divided the students into groups and gave them tasks. The students consulted each other within the groups, did the task, and presented it before the class. During the presentation, they faced questions raised by others and answered them impressively. These activities created a friendly and cooperative environment among the students, and eventually, ensured students' participation in the learning process and made them able to think critically about the subject matter.

Formative assessment helps the students to improve their learning condition. The researchers took three tests during the class sessions. The students paid attention in class sessions to adopt this provision in the lesson task. They provided the students with feedback that helped them for further improvement. Moreover, for the application of the concepts, students' perception toward the learning was changed, as they thought they could do.

Outcomes

To compare the performance of the two groups, the researchers took three written tests on short questions (SQ) and multiple choice questions (MCQ). All the participants (N 60 of both groups, experimental and controlled) took the tests. The results of the experimental group were satisfactory. However, they have done better in MCQ than in SQ. In contrast, the control group could not show impressive performance in the tests. The following table exhibits the results, while the bar chart presents them graphically.

Table 1: Comparison of students' performance in the tests (in-course)

Assessment	Experimental group					Controlled group				
	No. of Student	15-20	10-14	5-9	0-4	No. of Student	15-20	10-14	5-9	0-4
Test 1 (MCQ)	30	23	04	02	01	30	00	01	08	21
Test 2 (MCQ)	30	24	04	00	02	30	00	02	09	19
Test 3 (SQ)	30	05	19	04	02	30	00	01	05	24
Average	**30**	**17.33**	**9.00**	**2.00**	**1.66**	**30**	**00**	**1.33**	**7.33**	**21.33**

Source: Formative tests results (In-course), conducted by the researchers, 2022
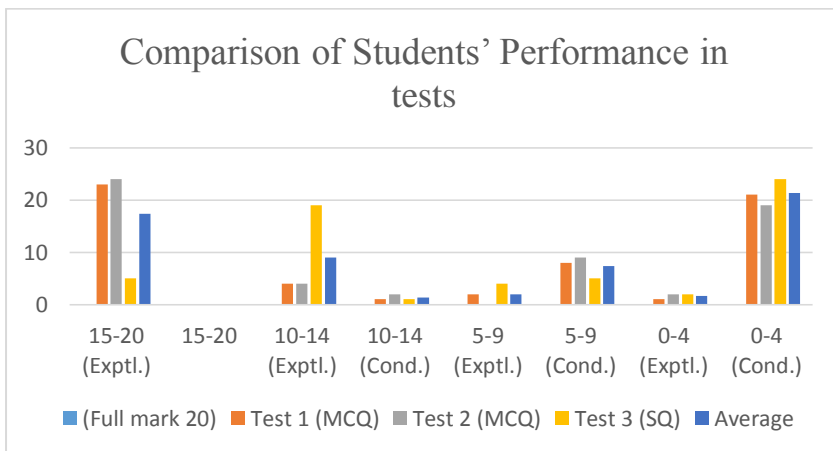

Figure 1: *Comparison of performance of the experimental group with the control group*

Besides, the researchers' observation, concerning the impact of new lesson plans on learning, is hopeful. Although a few students have not responded frequently to the questions asked in the class, most of them enthusiastically replied. When they asked to know the subject matter, the students discussed and explained it. The researchers invited students to mention the strengths and weaknesses of the discussion and got imperative evaluations from them. Notwithstanding some limitations, therefore, the objective is achieved. New lesson plans are more effective in reaching objectives than the previous one.

In achieving the objectives of learning, students' feedback was also positive. The students were asked, 'After attaining the classes based on new lesson plans, no extra effort is required to memorize the lesson content.' 16 among 30

participants highly agreed with the statement, and the majority (9/13) of the rest agreed. None of them disagreed, but one remained neutral.

Strengths and Weaknesses

The concepts, in every respect, could be considered helpful to ensure quality education and meet the challenge of the changing world. In the 21st century, where students are distinct in manner, and the contexts are dissimilar in environment, the concepts make the class sessions interesting and draw student's attention to the learning process. The students become enthusiastic about learning and grasp the class content easily. However, the concepts have not been accepted unanimously by the scholars. As there is no specific definition, they have no restricted distinctive areas but overlap each other. Sometimes, three concepts meet together to engage students in the learning process through their participation.

The concepts do not meet the demands of a large class (where the number of students is a hundred or more) what the lecture method deals with. Therefore, they are hardly applicable in the context of a high teacher-student ratio. They require adequate infrastructure and logistic support. Moreover, without knowing the concepts, the teachers cannot apply the concepts in practice. The new approach takes more time than the existing lecture method. If the teachers are not adequately knowledgeable and honest, the formative assessment will become an effective tool to deteriorate the quality of education. Besides this, there is no remedial measure to ensure the efficacy of the concepts.

Conclusion and Recommendations

Notwithstanding some theoretical and practical limitations, application of the concepts in RC proven enthusiastic. It shifts the classroom from boredom to an enjoyable and friendly place, and the students engage in learning therein. It gives scope to improve students' learning through application of formative assessment. The approach makes the lesson content understandable to the students and eventually helps to reach the goal- diffusion of national feelings in the students and make them patriot.

The study suggests some recommendations to improve the instructional system of RC. These are as follows:

1. The concepts should be applied to transform the instruction system of the college from teacher-centered to student-centered learning.

2. Emphasis should be given on how the students learn, rather not on what teachers teach.

3. Static classroom settings should be changed with moveable seats and provide adequate space so that teachers and students can move freely.

4. All kinds of logistic and technological support should be provided to enhance the classrooms' facilities.

5. To make the teachers knowledgeable and efficient in teaching-learning, training should be provided to them.

Acknowledgment

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Appendices

Appendix 1: Lesson plans

Lesson plan 1

Title and Description of Lesson: 'Description of the country and its people'. But this lesson plan (Lesson Plan 1) deals with a portion of the topic, the 'geographical features and their influence' comprises of the geographical condition of Bangladesh, its landscape, and the influence of the geographical features on the political and socio-economic life of the people.

Lesson Objectives: By the end of the lesson, students will be able to discuss, explain, and analyze-

1. The geographical condition of Bangladesh.

2. The landscape of Bangladesh and its characteristics.

3. The influence of the geographical features on the political and socio-economic life of the people.

Teaching/Instructional Method: The method of instruction will be a combination of the three; - lecture, discussion, and group work. The teacher will provide the lecture on the topic, give the students a chance to discuss the subject and divide them into small groups according to the tasks. They will do group work and present their tasks.

Instructional Materials and Resources needed: Computer, multi-media Projector, PowerPoint, broad paper sheets, and hand-out.

Time (Minute)	Subject	Activities	Task	Teacher's work	Students' work	Concept/s
05	Geographical feature of Bangladesh	Using PPT/Showing the map of Bengal delta over the projector screen.	Asking question/taking feedback/guess the knowledge of the student on the topic.	Raising question on the topic/Are you looking at the boundary of our country?	Giving answer to the question asked	Constructivism
20	Geographical features of Bangladesh and their influences.	Lecture	Lecture on the topic with using PPT.	Providing lecture on the geographical features of Bangladesh with giving maximum information and explanation.	Actively listening the lecture with concentration	Active learning
15	The influences of geographical condition on the people of Bangladesh.	Group work	Discussion within small groups and solve the problem	Divide student in small groups, provide necessary	Discuss the topic within group members, write the subject in	Active learning

Time (Minute)	Subject	Activities	Task	Teacher's work	Students' work	Concept/s
				elements, like broad sheet paper, marker etc.	bullet form on the paper and display it	
10	The influences of geographical condition on the people of Bangladesh	Group presentation	Exhibit and explain the group work	Ensure the explanation by asking questions to the members and assess them individually	Discussing and explaining the ideas/giving answer to the question asked	Active learning & Formative assessment
10	MCQ on the topic	Test	Test	Distribute question paper	Answer the question delivered	Formative assessment

Lesson plan 2

Title and Description of Lesson: 'Ethnic composition and Language of the people'. As the first portion of the topic already discussed in the previous lesson plan, this lesson plan deals with another portion of the content, the ethnic composition of the people of Bangladesh and their languages.

Lesson Objectives: After having the lesson, the students will be able to discuss, explain, and analyze the following subjects

1. The ethnic composition of the Bengali nation.

2. The language of the people who live within the boundary of Bangladesh territory.

Teaching/Instructional Method: The method of instruction is the same as the previous lesson.

Teaching/Instructional Materials and Resources needed: Ice-cream sticks (30, 6 different colors, 5 of them are the same color), Computer, multi-media Projector, PowerPoint, broad paper sheets, markers, and hand-out.

Time (Minute)	Subject	Activities	Task	Teacher's work	Students' work	Concept/s
At the entrance in the classroom	Divide students into small groups	Distribution of colour sticks	Formation of small groups	Distributing colour sticks	Taking colour sticks	Active learning
05	Discussion on previous topic & introduce the new that to be discussed	Question & responding	Changes of views and connect the class lesson	Asking question on the previous class content & introduce the top what to be learnt to-day	Responding the question	Active learning

Time (Minute)	Subject	Activities	Task	Teacher's work	Students' work	Concept/s
05	Understanding ethnicity	Showing video clip regarding ethnic problem/ video clip on Nelson Mandela/Martin Luther King's speech	Asking question/taking feedback/guess the knowledge of the student on the topic	Raising question on the topic/What do you know about the ethnicity?	Giving answer of the question asked	Constructivism
15	The ethnic composition of the Bengali and their language	Lecture	Lecture on the topic with using PPT, white board and marker	Providing lecture on the 'Ethnic composition and Language of the people'	Actively listening the lecture with concentration	Active learning
15	The ethnic composition of the Bengali and their language	Group work	Discussion within small groups and solve the problem	Divide student small groups according to their stick colour, provide necessary elements, like broad sheet paper, marker etc.	Discuss the topic with group members, write the subject in bullet form on the paper and display it	Active learning
10	The ethnic composition of the Bengali and their language	Group presentation	Exhibit and explain the group work	Ensure the explanation by asking questions to the members and assess them individually	Discussing and explaining the ideas/giving answer to the question asked	Active learning & Formative assessment
10	MCQ on the topic	Test	Test	Distribute question paper	Answer the question delivered	Formative assessment

Lesson plan 3

Title and Description of Lesson: 'Cultural syncretism and religious tolerance'.

The topic deals with the tradition of cultural syncretism and religious tolerance of the Bengali nation.

Lesson Objectives: After the lesson, the students will be able to discuss, explain, and analyze the cultural syncretism in Bangladesh and the Bengal's tradition of religious tolerance.

Teaching/Instructional Method: The method of instruction is the same as the previous lesson plan.

Teaching/Instructional Materials and Resources needed: Computer, multi-media Projector, PowerPoint, broad paper sheets, markers, and Hand-out.

Time (Min.)	Subject	Activities	Task	Teacher's work	Students' work	Concept/s
05	Discussion on previous topic & introduce the new that to be discussed	Question & responding	Changes of views and connect the class lesson	Asking question on the previous class content & introduce the top what to be learnt to-day	Responding the question	Active learning
05	Understanding culture and religious tolerance	Showing video clip regarding religious intolerance	Asking question/taking feedback/guess the knowledge of the student on the topic	Raising question on the topic/Can you tell me an example of religious intolerance? Why it is occurred?	Giving answer of the question asked	Constructivism
15	The cultural syncretism and the Bengal's religious tolerance	Lecture	Lecture on the topic with using PPT, white board and marker	Providing lecture on the 'Ethnic composition and Language of the people'	Actively listening the lecture with concentration	Active learning
15	Causes and consequences of the cultural syncretism and the Bengal's religious tolerance	Group work	Discussion within small groups and solve the problem	Divide student small groups and provide them necessary elements, like broad sheet paper, marker etc.	Discuss the topic with group members, write the subject in bullet form on the paper and display it	Active learning
10	Causes and consequences of the cultural syncretism and the Bengal's religious tolerance	Group presentation	Exhibit and explain the group work	Ensure the explanation by asking questions to the members and assess them individually	Discussing and explaining the ideas/giving answer to the question asked	Active learning & Formative assessment
10	Short question on the topic	Test	Test	Distribute question paper	Answer the question delivered	Formative assessment

Lesson plan 4

Title and Description of Lesson: 'Distinctive identity of Bangladesh in the context of undivided Bengal'

The lesson plan tries to explain the position of Bangladesh's territory when it was within undivided Bengal. It extends the effort to examine the situation that led the Bengali to be divided into two countries. Simultaneously, it tries to find an answer that generally arises, "Was the division inevitable?"

Lesson Objectives: After the lesson, the students will be able to discuss, explain, and analyze the situation that led to divide the Bengal and the results of this division.

Teaching/Instructional Method: Formerly followed method.

Teaching/Instructional Materials and Resources needed: Computer, multi-media Projector, PowerPoint, broad paper sheets, markers, and hand-out.

Time (Minute)	Subject	Activities	Task	Teacher's work	Students' work	Concept/s
05	Discussion on previous topic & introduce the new that to be discussed	Question & responding	Changes of views and connect the class lesson	Asking question on the previous class content & introduce the top what to be learnt to-day	Responding the question	Active learning
05	Understanding communalism	Showing video clip regarding communal conflict	Asking question/taking feedback/guess the knowledge of the student on the topic	Raising question on the topic/What do you mean by communalism? Can you give an example?	Giving answer of the question asked	Constructivism
15	The division of Bengal and its aftermaths	Lecture	Lecture on the topic with using PPT, white board and marker	Providing lecture in explaining the situation that led the Bengal to be divided and its results'	Actively listening the lecture with concentration	Active learning
15	Causes and consequences of the division of Bengal	Group work	Discussion within small groups and solve the problem	Divide student small groups and provide them necessary elements, like broad sheet paper, marker etc.	Discussion within small groups and mention at least 5 points on causes and on consequences	Active learning
15	Causes and consequences of the division of Bengal	Group presentation	Exhibit and explain the group work	Ensure the explanation by asking questions to the members and assess them individually	Discussing and explaining the ideas/giving answer to the question asked	Active learning & Formative assessment
05	Assignment (2000 words approximately)	Writing Assignment	Writing Assignment	Distribution of topics	Write assignment within scheduled time	Formative assessment

Appendix 2: Tables

Table 1: Students' feedback on the classes based on lesson plans

Rating	5	4	3	2	1
The method effectively involve me in the class session	19	11	0	0	0
The method facilitate to understand the lesson content easily	18	12	0	0	0
The method is logical in our context	16	13	1	4	0
After attaining the class of this method, no extra effort is needed to memorize the lesson content	14	13	1	2	0
This type of method should be applied in our context	19	11	0	0	0
I am fully satisfied with the class conducted by new method	14	16	0	0	0

Note: 5= strongly agreed, 4= agreed, 3= neutral, 2= disagreed, 1= strongly disagreed

Table 2: Participants' gender and their urban-rural distribution

Male	Female	Rural	Urban	Total
17	13	21	09	30

Table 3: Back-ground of the participants

Science	Arts	Commerce	B.M.	Madrasa	Total
08	11	07	02	03	30