

Critical Reflection on Applying Active Learning, Formative Assessment and Hidden Curriculum in the Course ‘Intermediate Microeconomics’

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Abstract: This investigation is intended to explore the relevance of three pertinent concepts: active learning, formative assessment and hidden curriculum in the context of student centered learning. To assess the reflection of these concepts of contemporary educational process in Bangladeshi government colleges, the course ‘Intermediate Microeconomics’ has been selected from the economics honors syllabus. Evaluating the students’ reflection and achievement four model lesson outlines prepared and applied in the consecutive four classes. The result was more than expected level and student engagement observed fantastic. The study outcome suggests that incorporating these three techniques in the four lesson plans makes the teaching procedure more intensive, attractive and fruitful. Here active learning, formative assessment and hidden curriculum function as complementary activities to each other. Each of the techniques has innate quality to intensify learning outcome.

Keywords: Active learning; Formative Assessment; Hidden Curriculum, Student Centered Learning, Teacher centered Learning

1.0 Introduction

Like many others things teaching and learning methods is now science. It means teaching and learning process is not a random phenomenon rather its methodology abide by the scientific rules. The education methodology now tells us how teaching would be more effective, system loss would be reduced and learners would be able to enhance their learning outcome efficiently. In fact the whole concept of teaching and learning procedure has been changed from teacher centered to student centered. According to new concept of teaching role of a teacher as an instructor has been changed as a facilitator. To achieve the goal of the new paradigm of teaching lot of scientific procedure and techniques has been introduced by the education researchers. Active learning (AL) (Freeman, McDonough, Smith, Okoroafor, Jordt & Wenderoth, 2014), Formative Assessment (FA) (Haghi, 2014) and Hidden Curriculum (HC) (Alsubaie, 2015) are three influential techniques among these. AL engages students in the time of learning during class session. FA is a continuous evaluation and feedback procedure throughout the teaching procedure. HC is the circumference of teaching procedure except direct teaching activities. Four lesson plan of a 2nd year course ‘Intermediate Microeconomics’ has been designed incorporating AL, FA & HC to

assess how all these modern techniques do impact on the learning procedure of our students, department of economics, Rajshahi College (RC). As a result, how our education system as a whole can be benefited by introducing all these new paradigms of the student centered teaching (SCT) theories in our day to day education practices.

2.0 Operational Definition

2.1.0 Active Learning

AL is a new concept in modern education science though it has history of ancient practice. It becomes the subject of interest among educators since 1970s (Corrigan, 2013). After the formulation of constructivism theory of learning in the second half of twentieth century the concept of AL begins to utter again and again by renowned educationists in the advanced countries (Bull, 2009). By this time AL has been incorporated in the education system in advance countries and it has taken a concrete shape. Though for long, the term was ambiguous to them. In our country we are not still familiar with the concept and do not know the benefits and utilities of AL. In national level incorporating of AL in our education system is not still an agenda. Throughout 1980s education researchers constantly insisted college and university faculty in advanced countries to involve and engage students actively in the process of learning. As a result they have turned their traditional lecture based teaching to AL (Park, 2003). Despite the importance of AL, still in our country, traditional lecture methods, in which professors talk and students listen, dominate college and university classrooms. In fact, our teacher does not know the meaning of AL. They think that all learning is inherently active and that students are therefore actively involved while listening to formal presentations in the classroom. It does not mean that anything not related to lesson plan are done by the student in class time or outside class is called AL. A teacher may ask a question to a student and immediately call on for answer is not AL. Similarly, teacher may give students a break in a long class session for removing tiredness and boringness (wearysome) but it is also not called AL. What the students do not related to course is not AL (Felder & Brent, 2009).

2.1.1 Definition and Overview of Active Learning

Broadly AL is a process which engages students in the learning procedure directly but narrowly AL define the shape of the learning activities. Here activities do not include home work but meaningful involvement and thinking activities to assimilate the lessons only during class session (Prince, 2004). The objectives of AL are to involve students in reading, writing and discussing, or be engaging in solving problems. AL engages students in two aspects – doing things and thinking about the things they are doing. According to Felder & Brent (2009) in spite of merely passive hearing the lecture of the teacher, something related to course are asked to do or involve all the students in the class is called AL. In a different article Felder (2007) said AL means learning has to be ensured not mere getting information by the teacher in class rather it is a direct involvement technique by

which students involves in the learning process. Intensity of AL varies on the level of involvement (Michael, 2006).

2.1.2 Rationale of Active Learning

AL promotes deep learning, helping to develop critical thinking and writing skills of the students, is linked with engagement and understanding of course material and with student's motivation. But it does not mean total giving up of lecturing and making the class always a place of festive temperament rather avoid lecturing the only mode of teaching. A lecture session with inclusion of relevant activity for a minute here or 30 second there enhance visible and mentionable learning outcome at the end of the session (Felder, 2009). AL has been found to assist in the creation of learning environments that engage, inspire and motivate students to learn both the unit material and the soft skills required for their future careers (Auster & Wylie 2006; Richards & Marrone, 2014). Due to active learning, teaching session always remain agile, students does not become bore. All the mentioned characteristics of AL has been provoked me to introduce AL teaching techniques in the 'Intermediate Microeconomics' course with hope that its positive impact will lead us introduce modern teaching techniques in place of traditional teaching techniques in our education system. Further, I have convinced that AL is the best method for educating pupil in the classroom.

2.1.3 Impact of Active Learning on Teaching and Learning Experience (TLE)

Hoke & Robbins (2005) in concluding remarks in one of their article regarding impact of AL on nursing students cited that AL provides encouragement to nursing students those who are exposed to the AL environment, and the impact can be more if systematic studies can be ensured. Freeman, Eddy, McDonough, Smith, Okoroafor, Jordt & Wenderoth (2014) do a meta analyses on 225 studies on student performance of AL in science, engineering, and mathematics subjects find that on average AL increases exam performance. It raises average grades by a half a letter or average examination scores improved by about 6% in AL sections and that failure rates under traditional lecturing increase by 55%. Gibbs & Coffey (2004) mentioned in an article that training regarding AL do effect on the teaching qualities of the university teachers and afterward of training due to positive teaching performance, learning of the students have improved measureable by improve scores of the learning scale. Prince (2004) in his article with the citation of different educator tried to prove that AL has profound impact on learning procedure.

2.2.0 Formative Assessment

Evaluation or assessment is the associate activity of formal education system. Assessment can be categorized like diagnostic, formative and summative ("Assessment Types," n.d.). Traditionally we are used to with summative assessment which occurred at the end of the course. By summative assessment one can be able to assess the overall progress of the learner and can give the verdict whether the learner would pass or fail. But summative assessment does not give any feedback to the learner for their correction and development; on the

other hand teacher also cannot judge his performance of teaching in terms of learning of the students (Ronan, 2015). This lacking of summative assessment can be overcome by introducing FA in education system. In advanced countries FA has already been introduced in their education system. Like advanced countries introducing FA association with AL will impact on our learning outcome solidly.

2.2.1 Definition and Overview of Formative Assessment

In order to achieve the learning goals, combination of both formal and informal evaluation, done by the teachers, during teaching session for awakening the learning state of both teacher and students is called FA (Crooks, 2001). Crooks (2001) further mentioned with citation of the Ministry of education, New Zealand that regular basis formal and informal assessment, which is done by the teacher, during class session in order to modify and enhancing learning and understanding procedure of the students is called formative assessment. According to Carol (2002) in order to enhance the learning outcome of the students, response and identification of the learning progress of the learners both by teacher and students during the learning procedure, is called FA. Haghi (2014) mentioned FA provides information both to teacher and student as feedback to assess and modify both teaching and learning procedure to enhance the learning outcomes.

2.2.2 Rationale for Formative Assessment

Goal and the central theme of FA are to improvement of learning outcome and feedback. Incorporating FA in teaching learning procedure depends on its innate qualities that is, it enables teacher to know the state of students' standards, to modify their teaching instruction to reach the maximum students, to design for appropriate lesson plan and to guide and inform students of their current state of learning. On the other hand, through FA students become motivated, responsible to their learning and able to assess themselves. For better learning assessment and teaching both should be proportionate. The intrinsic outcomes of FA with introducing AL must enhance the learning outcome further, this hope appeal me to introduce FA in the 'Intermediate Microeconomics' course.

2.2.3 Impact of Formative Assessment on TLE

FA does positive impact on learning outcome. In favor of FA, Association of American Medical Colleges on their curriculum reforming report proposed for FA (Krasne, Wimmers, Relan and Drake, 2006). In the same article (Krasne & et al., 2006) mention that other researchers have also found that due to formative assessment performance of subsequent summative assessment has also improved. Though Karee & Sean (2009) is not certain regarding the degree of impact of FA but Black & Wiliam (2010) cited that meta-analysis indicate significant learning gains occurred in the areas of knowledge, skills, content areas, level of education due to ensuring formative assessment on regular basis. "Hanover Research" (2014) in their publication cited that formative assessment may do disproportionate benefit to the students but it has great impact on learning outcome.

2.3.0 Hidden Curriculum

Education is a wide concept. Learning is influenced by various ways, some have direct impact and others have indirect impact (Alvior, 2014). AL, FA and many other things influence learning mechanism directly but teacher's attitude, the mood of the teachers or the students, behavior, the peer influence, the teacher-learner interaction, lecture style, internal class environment, routine, disciplinary measures, timetables, physical facilities all these influence learning activities slowly and shape the mentality of the learner over time (Alsubaie, 2015). Learning is a psychological phenomenon so the things which have positive psychological impact on learners to enhance learning should take into account. All these act as a catalyst to enhance learning. Until now in our country the catalyst of learning procedure have not gotten due attention but in advanced countries the catalyst has taken seriously. In education literature all these catalysts named as HC. Thus, awareness of hidden curricular issues becomes a consideration in education system, which has both negative and positive influences.

2.3.1 Definition and Overview of Hidden Curriculum

Education literature classified two sorts of curricula. The principal one is formal or official curricula prepared by the recommended authorities contains a details description of objectives and activities. The second one is not included in the formal curricula and is not clearly and definitely laid out even it is not written down (Yüksel, 2005; Lempp & Seale, 2007). But every institution has its own agenda; the agenda may be influence by locally or nationally, which the institution wants to achieve through educational procedure is called HC (Yüksel, 2005). According to Lempp & Seale (2004) HC is the set of factors that influences the institutional structural attitude e.g. customs and rituals of the institutions which ultimately do impact on the discipline of the student, time management, responsibility to carry out certain tasks in or out of class. In short, the school or teacher's methods of classroom management may be called unstudied or HC (Kentli, 2009).

2.3.2 Rationale for Hidden Curriculum

Intellectual and moral development should be the aim of education. The educational institution can inject the ethical principles into the students to make them a free and powerful character. 'However, Hidden Curriculum is more effective than the official curriculum in the process whereby values are learned' (Yüksel, 2005, p.330). Not only moral development is amplified by the influence of HC, intellectual development is also augmented by HC. Cleanliness, orderliness, punctuality, discipline, scenic beauty of the campus, easy availability of utilities, and good mannerism of the surroundings make a learning friendly environment which make the learning procedure smooth and easy. HC is implemented by the side of teaching stuffs; student does not engage here actively, they are just influenced. Impact of introducing AL and FA will solidify more by the HC. So, as a course teacher I shall also give attention how HC do impact positively on learning outcome.

2.3.3 Impact of Hidden Curriculum on TLE

HC has both positive and negative impact but level of degree is not measured yet sufficiently. Research literature regarding quantitative impact of HC is not available. Among few, Bayanfar (2013) in his research article, mentioned that there is correlation between HC and academic achievement though it is not significant at the level of 0.05. Further, with the aid of R^2 he claimed that at least a quarter of students' academic achievements have been influenced by HC. Çubukçu (2012) in his article on Primary School Students' Character Education Process concludes that supportive activities and included values in elementary schools' curriculum for HC have great importance in internalizing and the development values of the students. Nami, Marsooli & Ashouri (2013) do a research on 97 university students to verify the effects of HC. They concluded that there exists positive correlation at significant level between social environments, organizational structure of the educational institutions, and appearance of faculty members, student-student relation, and student-teacher relation with the quantity of academic achievement. But no relation has been found between academic achievement and physical structure of the educational institutions.

3.0 Model Lesson Outline for Assessing Feedback

I apply the above mentioned three techniques to teach the 1st chapter of the 2nd year 'Intermediate Microeconomics' course, Department of Economics, Rajshahi College. The learning outcomes of the full chapter were divided into four lesson plans. Total 36 students were planned to participate in the session. According to plan class room were arranged with 10 tables, each for one group comprised of four students. Group arrangement was not 100% random rather emphasis has been given to gender mixing and new rapport building. For every session 50 minutes has been allocated. The Outline of the four lessons is as follows.

3.1 Cardinal and Ordinal Utility

Lesson Outline		Lesson-1
Subject: Microeconomics	Topic: Cardinal & Ordinal Utility	Course: BSS Economics 2 nd Year Total Time: 50 minutes
Learning Objectives: The learner will be able to <ul style="list-style-type: none"> • Describe utility, cardinal utility, ordinal utility and diminishing marginal utility • Explain the reason of decreasing marginal utility • Develop a situation where marginal utility decrease • Analyze why cardinal utility does not match with real world 		
Hidden Objectives: Achieving learning objectives of the text are not the only targets rather students have to attain the following attributes during sessions: <ul style="list-style-type: none"> • Orderliness • Discipline • Cleanliness • Attentiveness • Tolerance • Accommodativeness • Caring • Amicability • Patriotism 		
Starter Activity to engage student	Divide class into 9 groups and each group have to mention the name of the measuring unit one for tangible and other for intangible things.	5 minutes

Introducing with key words	<ul style="list-style-type: none"> ● Utility ● Cardinal utility ● Ordinal utility ● Diminishing marginal utility 	
Description of Activities	Students' Activity & level of learning Outcome:	30 minutes
	Activity 1: Each group will read the definition of one key word in sound and will give the answer of other group's query on it. (Knowledge).	08 minutes
	Activity 2: Group members will discuss among themselves regarding the reasons of gradual decreasing of utility and write a 100 words paragraph. (Understanding).	08 minutes
	Activity 3: Each group will read diminishing marginal utility from the text and will graphically present the concept with the help of new example in a mojo paper. (Application).	08 minutes
	Activity 4: Each group will write a reason why the assumption of constant utility of money is not realistic. (Understanding).	06 minutes
	Teachers' Activity & assessing hidden objectives:	12minutes
	<p>PPT presentation for the whole session will be prepared.</p> <p>For Activity 1, Teacher will give his/her opinion and amend the opinion of the students if necessary.</p> <p>For Activity 2, Teacher will ask some groups to read the paragraph and will invite opinion from the students.</p> <p>For Activity 3, Teacher will give his/her opinion and invite eager student to correct the graph.</p> <p>For Activity 4, Teacher will ask some group to read the written paragraph, and will give his/her opinion.</p>	
Review and assessment of learning (Keyword Identifying)	Every group will be asked to write the key words of the today's learning outcome.	3 minutes
Looking Forward: Identify next steps for learning	<p>Topics : Indifference Curve (IC)</p> <p>Activities : Students have to make a chart for keywords related to IC</p>	

3.2 Indifference Curve (IC)

Lesson Outline		Lesson-2
Subject: Microeconomics	Topic: Indifference Curve (IC)	Course: BSS Economics 2 nd Year Total Time: 50 minutes
Learning Objectives: The learner will be able to <ul style="list-style-type: none"> • Describe Indifference Curve, Budget line and Consumer equilibrium • Explain the reasons of Consumer equilibrium attained at the tangent point between IC & budget line • Develop a situation of consumer equilibrium if price of the both goods or any one is changed 		
Hidden Objectives: Achieving learning objectives of the text are not the only targets rather students have to attain the following attributes during sessions: <ul style="list-style-type: none"> • Orderliness • Discipline • Cleanliness • Attentiveness • Tolerant • Accommodative • Caring • Amicability • Patriotism 		
Starter Activity to engage student	Step by step portion of the consumer equilibrium picture will be unfolded and students will be asked what it is?	5 minutes
Introducing with key words	<ul style="list-style-type: none"> • Indifference Curve • Budget line • Consumer equilibrium 	
Description of Activities	Students' Activity & level of learning Outcome:	26 minutes
	Activity 1: Each group has to explain one characteristic of IC. (Understanding).	8 minutes
	Activity 2: Each group has to read how consumer equilibrium is achieved and have to draw imaginary consumer equilibrium. (Application)	8 minutes
	Activity 3: In case of price change of the product what may happen to equilibrium. Every group has to do group presentation in mojo paper. (Higher Order)	10 minutes
	Teachers' Activity & assessing hidden objectives:	14 minutes
	PPT presentation for the whole session will be prepared. For Activity 1, teacher will give his/her opinion and amend the opinion of the students if necessary. For Activity 2, Teacher will ask every groups to pass the consumer equilibrium graph to the next group for peer evaluation. For Activity 3, Teacher will give different case for different group. At the time of group presentation teacher will give his/her opinion and invite eager student to correct the graph.	
Review and assessment of learning: (MCQ)	At the time of departing session every student has to solve a multiple choice questionnaire of 10 marks.	5 minutes
Looking Forward: Identify next steps for learning	Topics : Separation of price effect Activities : Students have make three short questions of the topics	

3.3 Separation of Price Effect

Lesson Outline		Lesson-3
Subject: Microeconomics	Topic: Separation of price effect	Course: BSS Economics 2 nd Year Total Time: 50 minutes
Learning Objectives: The learner will be able to <ul style="list-style-type: none"> Describe Price effect, income effect, substitution effect, normal goods and inferior goods Separate price effect into income and substitution effect for normal and inferior goods- using Hicks and Slutsky's methods. 		
Hidden Objectives: Achieving learning objectives of the text are not the only targets rather students have to attain the following attributes during sessions: <ul style="list-style-type: none"> Orderliness Discipline Cleanliness Attentiveness Tolerant Accommodative Caring Amicability Patriotism 		
Starter Activity to engage student	Pictures of different goods will be displayed through multimedia projector and student has to say whether it's consumption increase or decrease with the increase of income.	5 minutes
Introducing with key words	<ul style="list-style-type: none"> Price effect Income effect Substitution effect Normal goods Inferior goods 	
Description of Activities	Students' Activity & level of learning Outcome:	25 minutes
	Activity 1: PowerPoint presentation, how price effect is separated into substitution and income effect. (Application).	20 minutes
	Activity 2: Group presentation of new equilibrium for compensatory budget line. Each group do different situation e.g. Hicks, Slutsky, normal and inferior goods. (Higher Order).	15 minutes
	Teachers' Activity & assessing hidden objectives:	15 minutes
	PPT presentation for the whole session will be prepared. For Activity 1, teacher will give his/her opinion and amend the opinion of the groups if necessary. For Activity 2, Teacher will give different case for different group. At the time of group presentation teacher will give his/her opinion and invite the opinion regarding best one.	
Review and assessment of learning: (Departing Assessment)	At the end of the learning before departing classroom each student has to submit a sheet on how price effect can be separated.	5 minutes
Looking Forward: Identify next steps for learning	Topics : Deriving demand curve Activities : Students have to watch a video clip on demand curve	

3.4 Derivation of Demand Curve

Lesson Outline		Lesson-4
Subject: Microeconomics	Topic: Deriving demand curve	Course: BSS Economics 2 nd Year
Learning Objectives: The learner will be able to <ul style="list-style-type: none"> Define Price consumption curve, Income consumption curve, Engel curve, Marshallian and Hicksian demand curve Draw different demand curves Interpret the both Marshallian and Hicksian demand curves and analyze which one is realistic. 		Total Time: 50 minutes
Hidden Objectives: Achieving learning objectives of the text are not the only targets rather students have to attain the following attributes during sessions: <ul style="list-style-type: none"> Orderliness Discipline Cleanliness Attentiveness Tolerant Accommodative Caring Amicability Patriotism 		
Starter Activity to engage student	Showing students a selection of images and ask them to explain how it is related with the previous lessons.	5 minutes
Introducing with key words	<ul style="list-style-type: none"> Price consumption curve (PCC) Income consumption curve (ICC) Engel curve Marshallian demand curve Hicksian demand curve 	
Description of Activities	Students' Activity & level of learning Outcome:	30 minutes
	Activity-1: Each group has to identify four differences of PCC, ICC and Engel curves. (Understanding)	6 minutes
	Activity-2: A debate has to be done among the groups regarding better one between Marshallian demand curve and Hicksian demand curve. (Higher Order).	14 minutes
	Activity-3: Each group has to be draw Marshallian and Hicksian demand curve in a mojo paper. (Application).	10 minutes
	Teachers' Activity & assessing hidden objectives:	10 minutes
	PPT presentation for the whole session will be prepared. For Activity 1, Teacher will give his/her opinion and amend the opinion of the groups if necessary. For Activity 2, Teacher will initiate & anchoring the debate and finally will give his judgment. For Activity 3, Teacher will ask the groups to present the graph and give his/her opinion.	
Review and assessment of learning (Short Exam)	After ending formal learning session students have to give a short exam, 5 questions 5 marks.	5 minutes
Looking Forward: Identify next steps for learning	Topics : Equi-marginal utility Activities : Students will read on the differences between IC and Equi-marginal utility	

4.0 Critical Reflection on Teaching the Lessons

Applying AL, FA and HC techniques was new to students. They were curious about what's going to be. Seeing the group sitting arrangement instead of traditional bench sitting arrangement their curiosity increase many folds. Due to positive feedback from the student side starting of the class was soothing and friendly for me. Prior starting class white board, board marker, multimedia projector, sound system, necessary PowerPoint presentation, mojo paper, sign pen, scotch tape all the necessary materials were arranged. Even for refreshment of the student tea and some snacks has been arranged by me.

4.1 A Description of Usual Classroom Practice

Traditionally the class is compact of 120 students and above. After roll call, which takes 10 minutes, I start to give lecture. Within lecture I sometimes give real world example and do some jokes for making class alive. Asking question is a regular phenomenon of my teaching method even some time I asked student to come in front of whiteboard for presenting the learning outcome. But none of the mentioned activities was 'group work' but 'individual work' and random. No systematic effort was done by me as though the entire student can participate actively in the learning procedure. No formative assessment for implementing feedback was done by me. I was not even formally conscious regarding the impact of HC and no conscious effort was taken by me to achieve the HC objectives during class.

4.2 Using the Lesson Plan in the Classroom

It has already mentioned that at the time of implementing prescribed lessons plans, sitting arrangement has been rearranged and number of students has been reduced to 35. The session has been continued at a stress of 3.5 consecutive hours. The above mentioned 4 lessons comprised of the whole 1st chapter out of six of the 'Intermediate Microeconomics' course. Every lesson was comprised of 50 minutes, so four lessons were taken 3 hours and 20 minutes. After ending of first two lessons 10 minutes were given for refreshment. To achieve the objectives of HC class and teaching environment has been arranged accordingly, simultaneously cited examples to enhance learning objectives has been matched with the objectives of HC. Lastly at the end of the sessions participants had to fill up a questionnaire.

4.2.1 Observation

Traditionally, six classes have been conducted in six hours to complete the 1st chapter of the 'Intermediate Microeconomics' course. But here we became successful to complete the whole chapter within three and half hours. However, it is observed that this teaching learning procedure was more successful in terms of accruing learning outcomes more intensively and time management more efficiently. By these three and half hours four assessments were completed and both teacher and students have got the feedback of learning achievement. Though, the lesson plan was developed completely prior the session thus, the session could continue smoothly and steadily. Throughout the session, participants not only have tried to achieve the learning outcomes of the text but also have tried to acquire the HC objectives.

4.2.2 Main Trends in Students' Feedback

Learning outcomes of these four lessons tries to achieve all the tiers of Bloom's taxonomy that means students have to know and understand the concepts; have to apply the knowledge in new situation and have to analyze and synthesize. After completing every lesson formative assessment has taken; and prior starting next lesson through starter activity knowledge and understanding of the previous lessons has revised again. In fact a starter activity in this case has worked as formative assessment also. No doubt in my assessment student's response in every cases were lively, authentic and up to the learning outcome. Students were active and lively throughout the session. Students have also maintained orderliness, discipline, cleanliness, attentiveness, tolerances, accommodativeness, caring and amicability within the class during session. During session it has penetrated in their mind that achieving learning objectives of the text are not their only aim rather achieving the above mentioned attributes are also their goal.

4.3 Outcome of Designed Lesson Plan

This type of implementation in teaching procedure was new both to me and to our students. First of all I should say we were not used to do this sort of formal lesson plan, usually we do some plan regarding the teaching content of the class. But formal lesson plan with detail description like these were first to me. I have taken 4 lessons plans at a stress which has taken 3.5 hours. The session was unhindered, disciplined and guided. The whole 3.5 hours were compact and productive.

To make the session fruitful some physical, mental and behavioral steps have taken prior starting session. Classroom was arranged compatible with active learning and achieving objectives of HC; classroom was also cleaned and brightened sufficiently. Students has been inspired not only to keep and maintain orderliness, discipline, cleanliness, attentiveness, tolerances, accommodativeness, caring and amicability during session but also to integrate all these attributes into their daily practices. At the end of the two sessions light food and tea was arranged for refreshment.

At the end of the session to get the feedbacks of the students a questionnaire has been distributed among the participants to give their opinion regarding the session. The questionnaire was divided into three parts. First part was regarding personal information; second part was regarding AL, FA & HC. Both the first and second parts were closed questionnaire but the third part was open to give suggestion on AL, FA & HC.

4.3.1 Observation

On the basis of the first part of the questionnaire this subsection has been written. Number of participant in my session were 35, among these 13 were male and 22 were female, not in this these particular session in fact female students is double than male students in the whole class. Only 22 students out of 35 students have easy access to internet facilities, in percentage it stands 57%. Almost 94% students have smart phone, none has tab but 17% have Dextop or Laptop. This finding is

important for completing implementation of active learning, though not for present session, because for group communication, flipped classroom, brainstorming, assignment writing having modern gadget is important.

4.3.2 Main Trends in Students' Feedback

There were 12 questions in the second part of the questionnaire. Among 12, first 5 questions were regarding AL, middle 4 questions were regarding FA, the next 2 questions were regarding HC and last question was regarding the complete transformation of teacher centered teaching to student centered teaching.

Out of 5 in case of AL related questions most of the students strongly agreed with the statement of 4 AL related questions that means most of the students strongly agreed that AL increase critical and creative thinking, problem-solving quality, adaptability, communication and interpersonal skills; it increase enthusiasm for learning of the students; it cover more learning outcome in the same duration period than the traditional lecture-based delivery and all teaching procedure should be taken applying AL procedure. In case of question 3 participants does not strongly believe that AL improve the student's perceptions and attitudes towards information literacy but they agreed with the point. In case of question 4 only 1 student disagreed with the statement.

For the next 4 questions most of the students did not strongly agree with statements of the questions, but they agreed with the statements. In case AL learning uncertainty regarding statements of the questions were very few but in case of FA number of uncertainty regarding statements of the questions has increased. The feedbacks of the participants indicate that they are less certain regarding the positive impact of FA than the positive impact of AL. But above all, all the participants are agreed with facts that timeliness of FA enables teachers to adjust instruction quickly, while learning is in progress; Students can use the FA results to adjust and improve their own learning; FA-Questioning, Peer/Self Assessments, Constructive Quizzes-accelerate the impact of AL and FA should be taken on regular basis at the end of every lesson.

Like AL most of the students strongly agreed with the statements of HC related questions. It means most of the students strongly agreed with the facts that fine-looking and clean campus of RC has positive impact on the students to shape their attitude and teacher's discipline, regularity, orderliness, smiling face and cordial behavior are as important as the effective delivery of lecture.

In response to the last question most of the students either strongly or moderately agreed that Teacher centered teaching should be changed into Student centered teaching. Only one participant was disagreed with the statement of the question.

In the questionnaire in section three there were three open ended questions. The first one was 'In your opinion, how teaching could be more interactive in a large classroom?' No students have become able to give answer specific to the question rather their desire for group teaching has expressed by the opinions. In response to

this question most of the students have suggested to make several groups of the students in time of teaching. Almost every student have appreciated the benefits of group works and some students specifically have admitted that in spite of only hearing teacher's lecture some un-solving problem become clear through group discussion. Three students have said they have no opinion and one student has said not always but once in a week this procedure may become helpful

The second question was 'In your opinion, what will be the motivating factors of a teacher to enhance student's learning?' In response of this question most of the students have given opinion that teaching is a moral responsibility of a teacher so out of responsibilities a teacher would teach the students. Some added that student's performance is desirable matter to a teacher so a teacher would teach one's student more adorably.

Third question was 'In your opinion, how formative assessment has helped you to achieve the learning outcomes of this courses?' In response of these questions almost all students have admitted that FA assessment is important, it helps them to perfect their learning and they desire that assessment should be held more frequently.

4.3.3 Outcome of Assessment

In section two of the questionnaire, participants have given their opinion more decisively in favor of AL, FA and HC but in section three, where questions were open, it seems that the participants were indecisive and irrelevant regarding their opinions. But overall outcomes of the assessment were positive. Participants have given their opinion positively to the impact of AL, FA and HC and in favor of implementation of AL, FA and HC in teaching procedure.

4.4 Impact of theoretical idea on the lesson Plan

On the basis of students' reaction and my personal realization it can say without hesitation that AL, FA & HC have huge impact on students learning procedure. In the following section with the support of theory it has explained why all these has huge impact on learning procedure.

4.4.1 Impact of Active Learning

In the prescribed four lesson plans there were 11 learning outcomes, among these 4 were knowledge related, 2 were understood related, 4 were application related and the 2 were higher order (analysis, synthesis and evaluation) related (Cullinane, 2009). To achieve all these outcomes 11 activities along with lecture were applied in the teaching procedure. It is seemed that at least group wise learning outcomes have been achieved. During the time of activities all the group members were participated to complete the activities. Traditionally, students do not read text, do not discuss problem related with peer students, do not do brainstorming activities during class session but here they have involved with all the activities. As a result, most of the learning portion has done during the class session.

4.4.2 Impact of Formative Assessment

In four lessons plan there were 4 formative assessments, each was different. Each formative assessment has taken only 5 minutes. Every group or group member has participated in the assessment procedure enthusiastically. Both activities and assessment along with lecture accelerated the lecturing outcome. At the end it could say confidently that students were able to absorb the learning outcomes in the class time. Traditionally, we have remained blank whether students have received the teachings objectives. But through FA in every session it gives me confidence that students have received teaching objectives.

4.4.3 Impact of Hidden Curriculum

In addition with achieving learning objectives of the academic curriculum my hidden objective was also to transmit norms and values of orderliness, discipline, cleanliness, attentiveness, tolerance, accommodative, caring, amicability & patriotism into the students. Throughout the session motivational and affectionate attitude towards the students was shown. To sum up the impact of HC it should say that it is a continuous and long run phenomenon, overnight its impact cannot be measured but it can say that all the activities in the session was completed in time, students were disciplined, calm and attentive. Their attitude towards each other was friendly. At the end of session classroom was also neat and clean. Traditionally, students have remained alienated with most of the students but through the sessions they feel amicability with each other. At the time of individual work during formative assessment most of the students have done it without copying or taking helps from others. Traditionally, all these attributes has not addressed and measured seriously but throughout the session most of the students were cautious.

4.5 Strength and Weakness of the Lesson Plan and the Lesson

I have implemented three modern educational concepts in four lesson plans in a day. Not all the students of the whole class were participated in this practical session, only 35 students out of 120 were the participant. The session has given me mixed feelings.

4.5.1 Practical and Theoretical Strength

As mentioned in education literature students of the practical session have responded accordingly to AL, FA & HC which have already been mentioned in the previous section. AL, FA & HC are not only beneficial to enhancing learning outcome but it also make the teaching procedure comfortable for the student. Due to AL, FA & HC learning procedure has become smooth and easy; student did not feel boringness or tiredness. Class size was small so interaction between me and the students were more interactive and productive. In response to these special classes most of the students has shown positive attitude for transforming the whole teaching procedure into this or student centered teaching procedure. As a teacher we should also welcome this sort of teaching and learning procedure because it is less tiring but more productive. If lesson plan could be done wisely fewer hours would be needed to complete the learning outcomes or syllabus.

4.5.2 Practical and Theoretical Weakness

Theoretically it is suggested that class size should be small for AL & FA but in Bangladesh it is hardly possible to implement. In such a big class group work and complete FA is not practically possible. So I have to apply AL, FA and HC on a portion of students of the whole class. The session was not also value neutral because students were highly influenced positively by the new arrangement. The students were ready to get something from the session. True response of the students can be measured only after neutralizing the enthusiasm. Only one session is not enough to measure the impact of AL, FA & HC on the students. Nation wide implementation of these techniques in our education system thinking stagnation is the main barrier. Psychologically and mentally teachers and education administrator of our country is not still prepare to implement all these modern techniques into our education system. Preparing proper lesson plan is another important hindrance to implement student centered teaching techniques. For implementation modern techniques in teaching procedure lesson plan has to be made very carefully, for these every course teacher has to spend much time at the beginning, every teacher has to be honest in this regard. Like AL and FA impact of HC is a long run procedure, overnight or in a day subject material of HC is not possible to change and improve. Implementation of HC and impact of HC is a lengthy and continuous procedure.

4.5.3 Areas for Improvement

True implementation of AL, FA and HC that is components of SCT techniques in our education system we have to do many things. Improvements have to be ensured in many areas. In the following section major areas have been mentioned: (1) **Segmenting Class size:** Class size comprises of 200+ students is not compatible to implement AL and FA. This large class should be segmented into various sections and each section should not exceed more than 70 students; (2) **Arranging Class Room:** For implementing SCT, class has to be rearranged and decorated according to need. In place of bench square tables has to be replaced, for group presentation required equipments e.g. necessary space, multimedia projector, hanging supporting accessories has to be arranged; (3) **Compatible Class Routine:** Traditional class routine is not suitable to implement AL learning. Instead of 45 minutes class duration it should be at least 2 hours indeed a handsome quantities activities can be done in a session; (4) **Introducing Lesson plans:** We are not used to take class guided by lesson plan but for implementing SCT, lesson plan is must. Every session has to be abided by lesson plans. Lesson plan will ensure implementing AL, FA and HC in the teaching procedure; (5) **Incorporating Bloom's Taxonomy:** Bloom's taxonomy has to be incorporated in the lesson plans. Learning outcomes, AL, FA and HC activities has to be arranged targeting different stage of learning of Bloom's taxonomy; (6) **Motivating Stake Holders:** Institution's administrators, teachers, students and guardians all should have to be motivated first that SCT procedure is beneficial. Course teacher mentally and intellectually has to be taken it as challenge; (7) **Ensuring Class Attendance:** Habits of irregular attendance of students in class have to be changed for ensuring benefits of SCT. Group work is very important

component of AL- will not take shape if regular attendance is not ensured; (8) **Ensuring Teaching Materials:** For AL, teaching materials e.g. hand note, reading materials, group presentation accessories has to be ensured as if time is not waste in vein; (9) **Training of the Teacher:** Teachers need training to know the inside and outside of AL, FA and HC that is components' of SCT techniques. By this teacher would become familiar with the techniques and be able to choose the appropriate one.

5.0 Conclusion

AL, FA & HC are the components of SCT. There are various mechanisms, besides these three, to provide education following student centered methods. But for assessing the impacts of student centered teaching only these three techniques have been selected in our case to apply in the teaching procedure. Feedbacks of the participants suggest that incorporating these three techniques in the four lesson plans makes the teaching procedure more intensive, attractive and fruitful. Here AL, FA & HC function as complementary activities to each other. Each of the techniques has innate quality to intensify learning outcome. AL is directly related with teaching activities, FA is related with evaluation activities and HC is related with the teaching environment. Incorporating these three components from three regions of the learning procedure makes an environment where each one has been accelerated by the influence of others. The responses of the participants demonstrate a positive indication that our age old teacher-centered teaching practice could be replaced with student-centered teaching method.

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