



Promoting Active Learning in Post-graduate Economics Classes at R Government College, Bangladesh by Using Scaffolding and Collaborative Learning/Group Work Techniques

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Abstract

In the context of Bangladeshi higher education, it has been found that 'Teacher-Centered Learning (TCL)', or, 'Passive Learning (PL)', was prevalent in the Post-graduate Economics Program in the affiliated colleges of 'National University of Bangladesh' (NUB) (Ahmed, 2018), while it has been explored the enormous advantages of 'Active Learning (AL)' in the education related literature. In this scenario, this paper aims at promoting active learning in the instructional practices of Post-graduate Economics Program at R College, Bangladesh by using Scaffolding and Collaborative Learning/Group Work techniques so that students could engage more actively in their learning activities, thereby they could attain the desired learning objectives of the program.

Focusing on these issues, this paper presents three AL-incorporated lesson plans in the context of the instructional practices of Post-graduate Economics Program based on the constructivism (focusing on Scaffolding and Collaborative Learning/Group Work techniques) learning theory. To be noted here that, the necessary ways in ensuring AL in the context of Post-graduate Economics Program in the college level higher education in Bangladesh is still a less focused area by the researchers and academicians. Hence, the fundamental goal of this paper is to contribute to this area targeting improvements in the instructional practices prevailing here. From the critical discussions and guidelines of this paper, it can be articulated that, the combined and comprehensive application of the teaching technique of scaffolding and the learning method of collaborative learning will ensure AL most effectively. As for instance, scaffolding strategies like modelling, guided practicing and contextualization will ensure the meaningful learning of new ideas and skills of the learners (Harragi, 2017; Wilson & Devereux, 2014). Similarly, the learning method of collaborative learning will assist learners to co-construct knowledge with their tutor and peers that is the key essence of constructivism and connectivism (Sawyer & Obeid, 2017). Moreover, formative assessment tasks like oral and written questioning, peer assessment, authentic assessment, presentation of creative tasks, etc. will enhance the HOTS (Higher Order Thinking Skills) of learners (Baht & Bhat, 2019; Lynch, 2016). Hence, as the ultimate consequence, this new instructional practice will not only ensure AL, but also provide great supports to attain the aims of the Post-graduate Economics Program as well as extend guidelines for quality education in all sorts of educational institutions.

SECTION 1

INTRODUCTION

1.1 Overview – Active Learning

‘Active Learning (AL)’, which is a constructivist learning approach, emphasizes the involving and engaging, above all, active participation of learners (Carr, Palmer, & Hagel, 2015; Chi & Wylie, 2014; Felder & Brent, 2009). The most vital attribute of active learning, that pointed out by Carr, Palmer, & Hagel (2015), is that it offers a wide variety of structured and custom-made pedagogical methods to learners, and, thereby, providing the most congenial learning environment to the learners. Through this process, eventually, the learners are transformed as active self-directed learners. As a consequence, these unique features have made active learning as a best practicing learning approach for applying in diversified areas of different educational environments (Carr, Palmer, & Hagel, 2015; Emaliana, 2017). In a similar fashion, it has, in the meanwhile, secured its applicability, and adaptability as well, in the field of economics for the purpose of providing an ideal learning engagement (Dorestani, 2005; Salemi & Walstad, 2010).

Several learning theories are the theoretical anchor regarding active learning, which have the fundamental potential to create an ideal interactive learning atmosphere (Attenberg & Provost, 2011; Tekle & Fesshaye, 2017). Among these learning theories, ‘Constructivism’ has gained a special emphasis in literature (Land & Jonassen, 2012; Mensah, 2015). Furthermore, among the different methods of Constructivism, ‘Scaffolding’ and ‘Collaborative Learning/Group Work’ are such methods which can be used combinedly in an interrelated manner to ensure the applicability of active learning (Chiriatic, 2014; Van de Pol, Volman, & Beishuizen, 2010).

In the context of Bangladeshi higher education, it has been found that Teacher-Centered Learning (TCL), or, Passive Learning (PL), was prevalent in the Post-graduate Economics Program in the affiliated colleges of ‘National University of Bangladesh’ (NUB) (Ahmed, 2018), while the literature above explored the enormous advantages of AL.

In this scenario, this paper aims at promoting active learning in the instructional practices of Post-graduate Economics Program of R College, Bangladesh by using Scaffolding and Collaborative Learning/Group Work techniques so that students could engage more actively in their learning activities, thereby they could attain the desired learning objectives of the program.

1.2 Context

This paper is based on the ‘R’ Government College of Bangladesh, which has a similar-fashioned teaching-learning environment of the affiliated colleges of National University of Bangladesh (NUB) (Ahmed, 2018; Dutta & Islam, 2017). It is a district-level government college of Bangladesh, continuing its operation with fourteen subjects, each of which has undergraduate and post-graduate program. Likewise, in case of the department of Economics, it offers ‘Undergraduate (Honors) Economics Program’ (B.S.S. Honors in Economics) and ‘Post-graduate Economics Program’ (M.S.S. in Economics). To be more specific, I focused on the instructional practices of post-graduate economics classes. I have practical experiences about the instructional practices of post-graduate economics program as I have been serving as an ‘Assistant Professor’ of the ‘Department of Economics’ of ‘R Government College’ for more than twelve years.

In the next section, instructional practices of post-graduate economics program are presented in a brief-detail.

SECTION 2

INSTRUCTIONAL PRACTICE

2.1 Existing Instructional Practice in Post-graduate Economics Program at R College

Familiarizing students with the theories, principles, and conceptual frameworks of advanced economics, and making them proficient in applying these theories, principles, and conceptions in the real social and economic environments, are considered as the core objectives of the Post-graduate Economics Program (Bergstrom & Miller, 1999; Salemi & Walstad, 2010). The program duration is 1 year. The instructional strategies, here, are followed as delivering conventional one-way face-to-face lectures with the help of instructional materials/teaching-learning aids like whiteboard, multimedia projector, desktop/laptop, textbooks, and some others, if necessary. In most of the cases, however, the instructional practice that followed by most of the teachers is only the delivering of lectures using whiteboard. For assessment, a year-end arrangement of summative conventional handwritten examinations is conducted by NUB, containing in-total 66.67% (approximately) marks of the whole program. Besides, there is a provision of arranging 2/3 in-course exams (marks calculated as average), which has been conducted through the on-going class sessions of all the courses of the program, containing 16.67% (approximately) marks. The provision of in-course exams has been introduced in fulfilling the objectives of formative assessment method, however, observed to conduct also in summative fashion. The students have to submit a conventional term paper, which contains 8.34% (approximately) marks, and there is 8.34% (approximately) marks on viva-voce, but it is also taken by conventionally in summative style after the completion of the year-end handwritten examinations. Hence, it is noticeable that, Teacher-Centered Learning (TCL), or Passive Learning (PL) and Summative Assessment (SA) are dominating in the instructional practice here (Ahmed, 2018; Dutta & Islam, 2017; Islam & Himel, 2018). While, in literature, it has been pointed out in numerous studies, that Active Learning (AL) and Formative Assessment (FA) as fitting for attaining the objectives of any Economics Program (Dorestani, 2005; Salemi & Walstad, 2010; Walstad, 2001).

In the next section, this argument has been supported by an analytical discussion.

2.2 Proposed Changes in Instructional Practice and Rationale

The pressing need in Post-graduate Economics Program of R College is to change and improve the two aspects- the instructional practice that is teacher-centered and the use of summative assessment. Necessarily, there needs to build a modern student-centered pedagogy into provision. Specifically, student-centered learning– or active learning as it is often called – needs to become the common practice (Carr, Palmer, & Hagel, 2015; Emaliana, 2017). Besides, modern days’ effective assessment method- formative assessment, side by side with summative assessment- should also be utilized (Cauley & McMillan, 2010; Lynch, 2016). This proposition is supported by two major factors – the benefits of the new teaching-learning approach (Carr, Palmer, & Hagel, 2015), but also deficiencies in the way that lessons are currently delivered, and assessments are carried out (Del Campo, Negro, & Nunez, 2012).

That student-centered approaches to learning are more effective than their alternative has been much highlighted by research (Carr, Palmer, & Hagel, 2015; Emaliana, 2017). As Emaliana (2017) discovered, student-centered learning can improve academic outcomes to a great extent. Techniques such as scaffolding and collaborative group work have been shown to improve student motivation (Freeman et al., 2014), build academic skills (Carr, Palmer, & Hagel, 2015) and enhance levels of assessment submission (Lynch, 2016). That having been said, some commentators are less certain, pointing out that the connections are more correlative than causal (Emaliana, 2017). It has been pointed out, for example, that factors other than teaching and learning style– home background, class attendance, supportive infrastructure, modern effective learning tools, etc., being some examples – have much to do with students improving their outcomes (Rashid, & Rahman, 2017). Even so, the balance of evidence would suggest that moving the responsibility in education from teacher-centered to learner-centered approaches brings in considerable benefits in terms of student attainment (Carr, Palmer, & Hagel, 2015). Nevertheless, the overall levels of student achievement argue for a change in practice.

The prevailing instructional practice in post-graduate economics program has limited interactive facilities, i.e., the interactions with teachers and learners, and learners and learners themselves. Besides, field-study, simulation, scope of gaining suggestions and guidelines from experts of diversified educational and non-educational practical fields together with formative and authentic assessment methods, i.e., any sort of active learning strategies was not found to be used by the teachers in most of the cases (Ahmed, 2018; Dutta & Islam, 2017; Islam & Himel, 2018). These sorts of prevailing inflexible instructional practices are, not only overlooking the active learning of the learners of the Post-graduate Economics Program, but also bypassing the delivery of its instructional materials using modern days’ effective teaching-learning tools (Ahmed, 2018; Dutta & Islam, 2017; Islam & Himel, 2018).

In addition, the summative assessments, both year-end exams and in-course exams, are, by and large, assess only the Lower Order Thinking Skills (LOTS) of the learners, and there is no scope of checking the plagiarism of the term-papers in this conventional assessment system (Ahmed, 2018; Dutta & Islam,

2017). Thereby, rote learning, or, passive learning, is being promoted with these sorts of instructional practices, and, ultimately, active learning and the much-needed Higher Order Thinking Skills (HOTS) improvement required for analytical and critical work, are being neglected (Ahmed, 2018; Dutta & Islam, 2017).

Wherefore, a paradigm shift is of the utmost importance (Ahmed, 2018; Baran, 2013). Conducting in-class (face-to-face) and beyond-class (online-mediated) teaching-learning activities, then, through the effective use of active learning strategies is one of the much-needed steps for ensuring the paradigm shift in taking place (Ahmed, 2018; Carr, Palmer, & Hagel, 2015), and, as a necessary consequence, Active Learning (AL) incorporated lesson plans would serve as a road-map in this regard to ensure students' active engagement in the learning process and to attain the best possible learning outcomes (Baran, 2013; Islam & Himel, 2018). Focusing on these issues, this paper presents three AL-incorporated lesson plans in the context of the instructional practices of Post-graduate Economics Program based on the constructivism (focusing on Scaffolding and Collaborative Learning/Group Work techniques) learning theory. To be noted here that, the necessary ways in ensuring AL in the context of Post-graduate Economics Program in the college level higher education in Bangladesh, is still a less focused area by the researchers and academicians. Hence, the fundamental goal of this paper is to contribute in this area targeting improvements in the instructional practices prevailing here.

SECTION 3

THE THEORETICAL IDEAS USED IN THIS PAPER

3.1 Constructivism

The fundamental assumption of constructivism is that learning is not simply to acquire knowledge, but a process of constructing knowledge (Abida & Azeem, 2012). Learners' social and contextual settings have been got strong emphasis in this modern effective learning theory, which considers learners as the active agents of their learning processes, thereby, stresses that, the learners construct knowledge on the basis of their prior and day-to-day experiences (Chiriac, 2014). In congruent to this philosophical point of view, Mensah (2015) considered it as a theoretical underpin of Student-Centered Learning (SCL), or, Active Learning (AL), which emphasizes on assisting learners in the construction of novel ideas rather than just transmitting those.

To promote active learning, various constructivist strategies including collaborative and cooperative learning/group work, scaffolding, self-guided learning, inquiry learning, problem-based learning and authentic learning can be applied in education (Mensah, 2015). In this paper, two key constructivist strategies- scaffolding and collaborative learning/group work, which are claimed to be highly needed in higher education of Bangladesh (Ahmed, 2018; Dutta & Islam, 2017), will be analyzed critically and utilized in three linked lesson plans in a post-graduate economics course for ensuring students' active participation in their learning processes, thereby achieving the best possible learning objectives.

3.2 Critical Discussion of the Theoretical Ideas

A. Scaffolding

As a part of social constructivist theory, Jerome Bruner (1958) first introduced 'The Theory of Scaffolding'. Woods, Bruner, & Ross (1976) and some other theorists (Mariani, 1997; Wilson, 2014) described Scaffolding as a learning assisting tool of "High Challenge: High Support". The idea of 'Scaffolding' is inspired by Lev Vygotsky's concept of an expert's assistances to a novice, or a beginner (Wikipedia; Haider & Yasmin, 2015; Vygotsky, 1938). Lev Vygotsky (1978) defined 'Scaffolding' as providing guidance to the learners through their 'Zone of Proximal Development (ZPD)' - the area up to which the learners' potential development, that is beyond their capacity to achieve independently, has been occurred through guidance of More Capable Others (MKO)- teachers, mentors, coaches, or more capable peers.



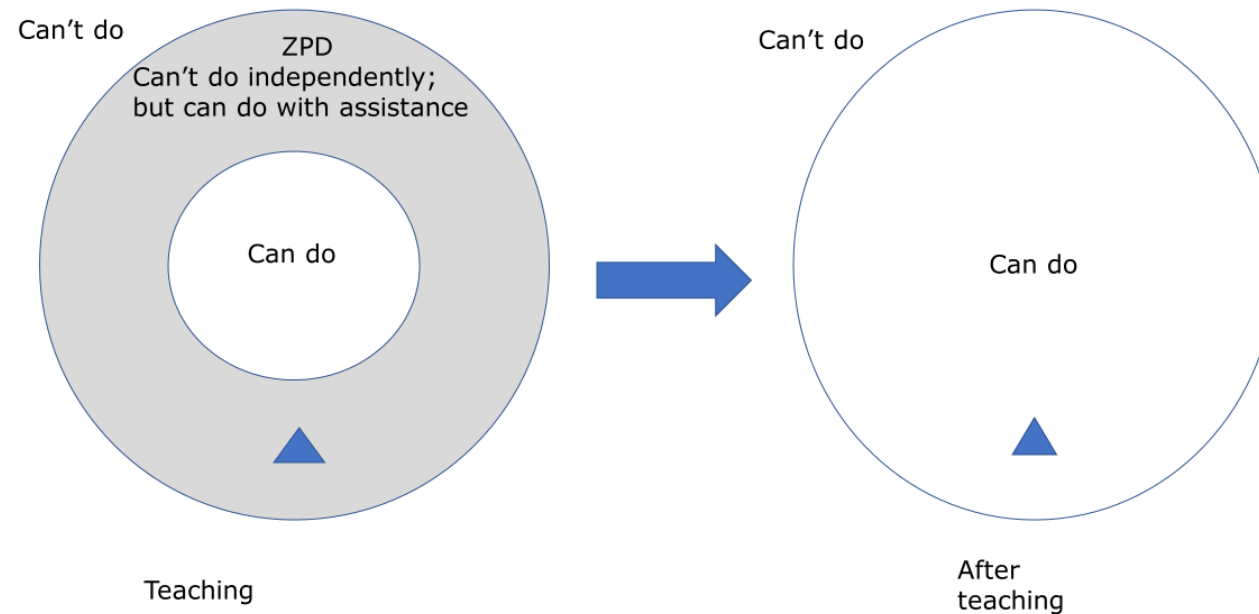


Figure 1. Completing a task (or, a learning problem) in students' ZPD with proper teaching assistance (Scaffolding) so that students can do the task on their own later in similar situation (Was & Golding, 2014)

In supporting learners, the process of scaffolding is carried through in two stages- in assuming control of the learning process - “Scaffolds-with-fading” (Poorahmadi, 2009), and task completion- “Scaffolds-for-performance” (Belland, 2014).

In different scaffolding approaches, teachers are observed to utilize a wide variety of methods and techniques (Harraqi, 2017; Murtagh & Webster, 2010; Wilson & Devereux, 2014). In higher educational contexts, generally three types of Scaffolding are observed to be utilized: Sensory (e.g., Illustrations, Demonstrations, Modelling, etc.), Interactive (e.g., Pairs, Small-groups, Online Meetings, etc.), and Graphic (e.g., Charts, Graphs, Tables, Visual Organizers, Infographics, etc.) (Harraqi, 2017; Wilson & Devereux, 2014). In addition to this, some researchers pointed out that scaffolds can take any

form like Illustrations, Demonstrations, Asking Questions (Socratic Questioning), Citing Instances, Procedural prompts, Verbal Prompts, Consultation with Teachers or Peers, Think-Pair-Share, Cooperative and Collaborative Group Works, etc., in accomplishing a learning task step by step through a series of sub-tasks, which eventually targets to achieve the furthest margin of the predetermined ZPD from the initial stage of learning (ZCD- Zone of Current Development) (Harraqi, 2017; Murtagh & Webster, 2010; Shabani, Khatib, & Ebadi, 2010; Wilson & Devereux, 2014). In case of Technology-based scaffolding, the forms of scaffolds are online scaffolds, digital scaffolds, and computer-mediated scaffolds (Van de Pol, Volman, & Beishuizen, 2010). Scaffolds may be classified as: hard, fixed, and nonnegotiable (technology-based scaffolds); and, soft, custom-made, and negotiable (based on interactions with the learners); however, a combination of both the approaches can also be utilized (Belland, 2014; Poorahmadi, 2009). Various forms of hard scaffolds are observed to be utilized, such as, procedural prompts (guidelines in task-accomplishment process); question prompts (analytical questions to explore a task from different point of views); text prompts (texts that clarify the concepts). For hard scaffolds, fading is practised as providing supports to learners in their preliminary learning stages, and gradually reducing supports so that learners themselves can tackle more complex tasks (Poorahmadi, 2009). Soft scaffolds can be utilized as interactions between teachers and students supporting longitudinal development and feed forward (Belland, 2014). In the context of the instructional practices of Post-graduate Economics Program of R College, I will utilize those scaffolding methods and techniques that best suited in the specific situations when conducting the class sessions, targeting to actively engage my students in the learning processes and to attain the best possible learning objectives (see in section 4.1, in the linked three lesson plans).

In the context of higher education, utilization of scaffolding strategies raises a number of issues and challenges (Harraqi, 2017; Sabel, 2020). To be noted first, where the scaffolds are linked to the assessment, the practice of fading may be considered as necessary by the teachers, whereas may be perceived as detrimental by the students (Poorahmadi, 2009). To overcome this issue, related studies suggest utilizing ‘Scaffolds-with-fading’ as a part of an exploratory learning process, but to avoid linking with the assessment process (Poorahmadi, 2009; Wood, Bruner, & Ross, 1976). Furthermore, there requires a recognition of the variant roles of scaffolds. Again, the recognition of the difference between task-based scaffolding approaches and scaffolds designed to support metacognitive and strategic skills is also required. Thus, the appropriate selection of scaffolds is very crucial in leading learners towards a self-governed learning accomplishment process with gradual progression (Harraqi, 2017; Wilson & Devereux, 2014). In the contexts of higher education, to devise the proper scaffolds as per individual learning needs, along with the essential form and size of assistance, is challenging, especially in a technologically supported environment and large classes. For overcoming this challenge, a preliminary assessment of learners’ existing understanding is required so as to deploy the most appropriate scaffolds (Van de Pol, Volman, & Beishuizen, 2010). Again, teachers need to improve the existing

scaffolds with judicious modifications and manipulations. Moreover, where required, teachers need to select and apply new scaffolds in their lessons (Harraqi, 2017; Sabel, 2020).

In the courses of Post-graduate Economics Program, to attain the desired learning objectives of a lesson, it is crucial to ensure that the selected supporting tools (scaffolds) are not designed through mere structuring the learning environment, rather needs to ensure that the successive sub-tasks (sub-topics) are designed on the basis of problematized and evaluative asking (Harraqi, 2017; Sabel, 2020). As for instance, students are provided with a lecture on the concept of ‘the effective stage of production’. Attending on the lecture as a passive listener, the students might be able to complete the task of describing the process of selecting the effective production stage. But they will not be able to understand why the selective stage will be considered as the effective production stage and in what ways the producers maintain the effective production stage in their production units for a long time. Hence, they will not gain the competency to solve the similar-fashioned problems next times. The fundamental reason behind this is that, in such cases, students are not guided to learn in the way to make independent, or peer assisted pair and group-based evaluation (Figure 2) in a critical way by participating in collaborative group works, or other active learning engagements (Harraqi, 2017; Facione, 1990; Sabel, 2020). These sorts of structuring drawbacks can be overcome by the well-equipped and well-organized scaffolds that incorporate, along with structuring, the provision of the critical problematization of the learning tasks and active engagements of the learning processes (Harraqi, 2017; Facione, 1990; Sabel, 2020).



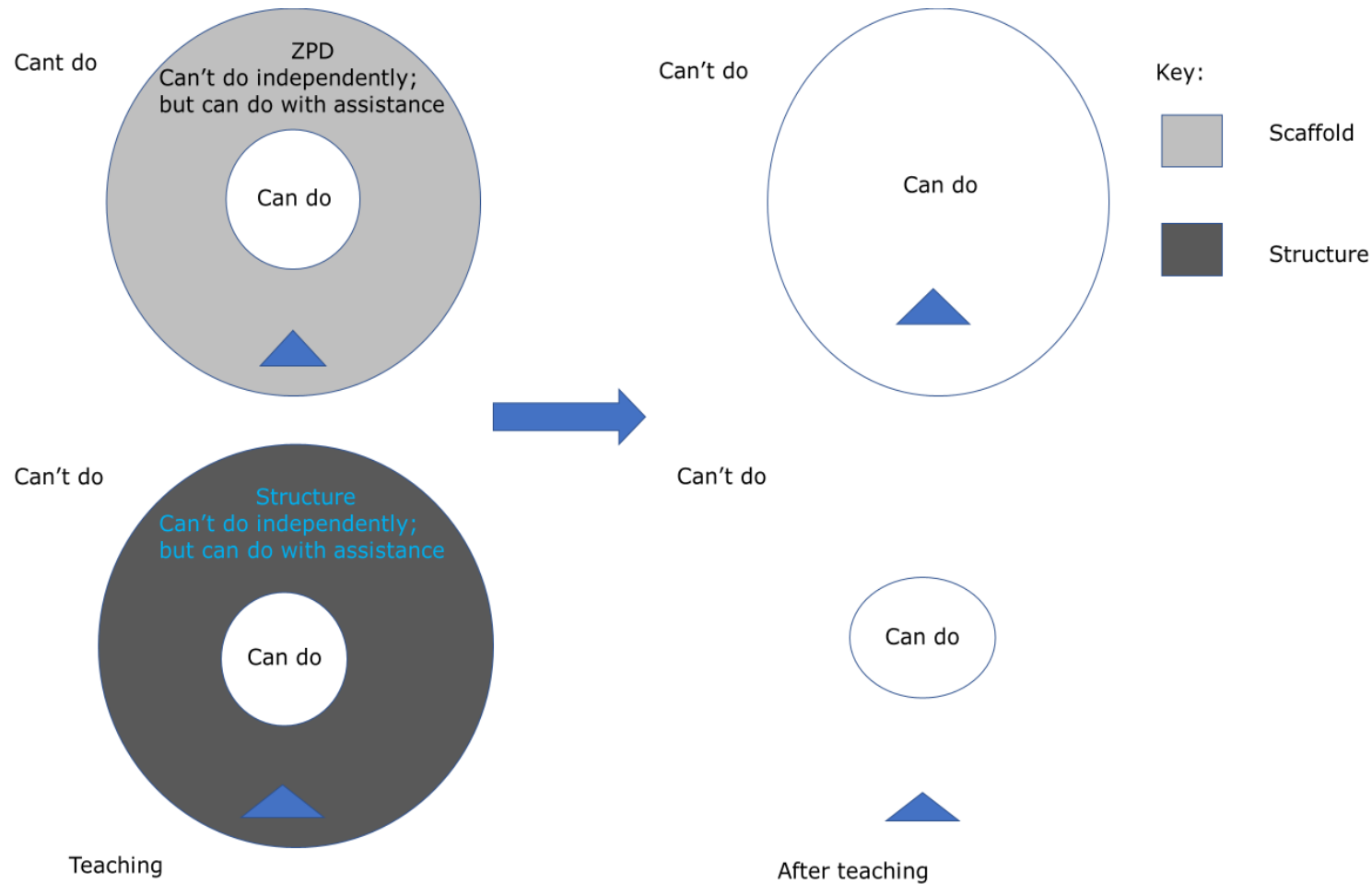


Figure 2: A task (the triangle) has been scaffolded through the in teaching –learning so that the students can do similar task later on their own; while the same task can be done by the students with assistance in structuring, though they cannot do similar tasks later independently, i.e., scaffolding doesn't take place (Was & Golding, 2014)

B. Collaborative Learning/Group Work

The roots of Collaborative Learning/Group Work (CL/CGW) have been found in both the social constructivism and the cognitive developmental theories of Vygotsky (1934; 1978; 1986) and Piaget (1951). CL denotes as learning situations that involve two or more individuals who are attempting with their

active participation engaging in group work activities to have a shared educational experience, like completing a task, solving a problem, creating a product, and so forth (Bruffee, 1993; Sawyer & Obeid, 2017).

In structuring CL activities, a variety of ways have been identified in literature (Chiriac, 2010; Sawyer & Obeid, 2017). As for instance, an ideal format is ‘Reciprocal Teaching’- an interactive CL arrangement, in which tutors and learners take turns assuming “Leader” and “Respondent” roles (Palincsar, 1987; Sawyer & Obeid, 2017). According to the use of various reward and task structures, a number of particular formats can also be found in operation (Bossert, 1988; Chiriac, 2010; Sawyer & Obeid, 2017). ‘Learning Together’ is an example, in which 4–5 students work in heterogeneous groups, targeting of a single group task accomplishment (Bossert, 1988; Sawyer & Obeid, 2017). An opposite picture is prevalent in ‘Jigsaw’ technique- that splits the whole task into portions- each learner is instructed to learn a single portion in an ‘Expert Group’ comprised of others assigned to the same portion, and finally, share their outcomes with their original groups (Perkins & Saris, 2001; Tran & Lewis, 2012). “Group Investigation” is a similar-fashioned group format as ‘Jigsaw’, except having more freedom in selecting their own topics and in assigning their group members’ individual roles (Bossert, 1988; Sawyer & Obeid, 2017). Another format is ‘Student Team Learning’, in which students are instructed to work in small heterogeneous groups in the role of helping one another for quizzes preparation that students’ teams compete on against one another (Bossert, 1988; Sawyer & Obeid, 2017). In case of ‘Team Assisted Individualization’, each student is assigned with an individual task, but there is provision of seeking help from his/her other group mates (Bossert, 1988; Chiriac, 2010; Sawyer & Obeid, 2017). In literature, a number of other methods, e.g., ‘Role Play’, ‘Student Teams Achievement Divisions’, ‘Think–Pair–Share’ ‘Intelligent Tutoring Systems’, ‘Question and Answer’, etc., can also be found (Nguyen, 2008; Pham, 2010; Sawyer & Obeid, 2017). A vital consideration to be granted here is that teachers are advised to manipulate the reward and task structures with the appropriate scaffolding strategies in accomplishing the specific learning goals (Chiriac, 2010; Sawyer & Obeid, 2017). All these group formats can be utilized in the context of the learning of Post-graduate Economics Program of R College. For simplicity and staying in the scope of this paper, I have selected only three group formats- Reciprocal Teaching, Jigsaw and Learning Together- to infuse in the linked three lesson plans.

Some main barriers to the effectiveness of CL such as students’ lack of CL skills, free-riding, degree of ability, and friendship have also been reported in literature (Baker & Clark, 2010; Le, Janssen, & Wubbels, 2018). The first barrier can be described as the students’ lacking in interpersonal and teamwork skills that hinder group interactions (Le, Janssen, & Wubbels, 2018; Shimazoe & Aldrich, 2010). The second barrier, ‘free-riding’, i.e., getting the group grade as their own without participating in group tasks, or, participating in a lesser degree, is the ultimate consequence of the first barrier (Freeman & Greenacre, 2010; Le, Janssen, & Wubbels, 2018). The third barrier, ‘degree of ability’ entails that of collective learning suppression in the

way that, low-ability students are hold back to participate actively and are underestimated every now and then, whereas high-ability peers, having gained more opportunities to contribute, may tend to pay no heed to the efforts of low-ability members (Le, Janssen, & Wubbels, 2018). Finally, the fourth obstacle, friendship, denotes as a group that organized on basis of friendship, may function ineffectively due to the fact that, rather than concentrating on group activities, friends may incline to other social engagements (Le, Janssen, & Wubbels, 2018). Besides, three interrelated antecedents have been identified- teachers' inefficiency and indifference in setting CL goals; inappropriate instructions in guiding students CL activities; and unsuitable assessment mechanisms (Le, Janssen, & Wubbels, 2018). Various classroom management issues around engagement, such as, class size, seating arrangements, class duration, time management, and so on, have also been found (Buchs, Filippou, Pulfrey, & Volpe, 2017; Le, Janssen, & Wubbels, 2018). In implementing CL in the context of the instructional practices of Post-graduate Economics Program of R College, I also have to face all the mentioned barriers. Therefore, to make CL effective, it is necessary to give proper emphasis on the dual purposes (i.e., the cognitive and collaborative aspects combinedly) of CL; to make provisions of adequate students' trainings in collaborative skills prior to their engagements; and, to equally assess both individual and group efforts (Kreijns et al., 2003; Le, Janssen, & Wubbels, 2018). The classroom management issues can be solved by judiciously handling and managing the activities of CL (Buchs, Filippou, Pulfrey, & Volpe, 2017).

3.3 Rationale of Applying the Theoretical Ideas

The traditional lectures that have hitherto been the common medium of instruction at R College are not constructivist. They do not involve students in the construction of knowledge, since students are cast in the role of passive recipients- thereby, creating less competent learners in achieving the desired goals of higher education (Ahmed, 2018; Dutta & Islam, 2017). In this respect, they also fail to advance knowledge of various fields in general, since their lack of criticality does not allow ideas to be subjected to the stress-testing of discussion and argumentation (Gaytan & Mcewen, 2016). Scaffolding and Collaborative Learning - the two key constructivist learning methods, then, have the fundamental potency in moving forward from this by overcoming the prevailing challenges of teacher-oriented teaching approach, and, thereby, motivating students' participatory schooling behaviors that focus on teachers' effective supervision regarding attainment and proper implementation of knowledge (Gaytan & Mcewen, 2016; Sawyer & Obeid, 2017).

Despite the objections that could be raised, group work, in particular, offers the chance for students to take a novel stance with regard to their learning that is based on what they can construct, discover, transform, and transfer, not what they can simply remember (Sawyer & Obeid, 2017). In effect, it propels them up Bloom's taxonomy from levels that are based purely on understanding to those that bring in analysis, synthesis, and, above all, creativity (Le, Janssen, & Wubbels, 2018; Sawyer & Obeid, 2017). Moreover, the collaborative learning activities promote students to engage more in on-task

behavior than to take part in individualistic and competitive learning activities (Le, Janssen, & Wubbels, 2018; Xie, 2018). Therefore, the attempt to introduce collaborative learning/group work into lessons of the Post-graduate Economics Program of R College would represent a significant step forward in pedagogical practice. Thus, the incorporation of CL in my pedagogical practices is justifiable in ensuring active learning in my context.

My enthusiasm is also to adopt some vital scaffolding strategies/techniques in my instructional practices, upholding the necessity to assist my students in making confident in their learning processes (Harraki, 2017; Harland, 2003; Wilson & Devereux, 2014). In the class sessions of the Post-graduate Economics Program, therefore, my motive is to scaffold my students in their task-completion activities (Scaffolds-for-performance), and, gradually to withdraw my supports so as to make them as self-directed learners (Scaffolds-with-fading) (Harraki, 2017; Livengood, Lewallen, Leatherman, & Maxwell, 2012). In my consideration, the fundamental goals of the scaffolding techniques that I will utilize in my lessons will be: to encourage and motivate learners to learn more; to minimize their frustration and monotony; to increase their engagement and active participation in all sorts of in-classroom and beyond-classroom activities ; to enhance quality of teaching-learning practices; to uplift productivity in fulfilling learning objectives; to make decision on the necessary scaffolding level with the proper measurement of ZPD; to guide them to be self-governing; and so forth (Harraki, 2017; Sabel, 2020; Wilson & Devereux, 2014). Through the deployment of appropriate scaffolding strategies, my plan is to create a level classroom that will ensure guidance for each and every student according to their specific needs in the equal and equitable manner, since the TCL often fails to do so (Sabel, 2020; Wilson & Devereux, 2014). Thus, my hopeful belief is that the wise utilization of my scaffolding strategies will move students' learning one step ahead and will diminish their negative feelings in attempting to accomplish the complex tasks without any assistance (Harraki, 2017; Sabel, 2020).

SECTION 4

THE LESSON PLANS

4.1 The Lesson Plans



This section presents three lesson plans that have been developed to demonstrate how Scaffolding and Collaborative Learning/Group Work techniques can be infused in an Economics course.

LESSON PLAN 1

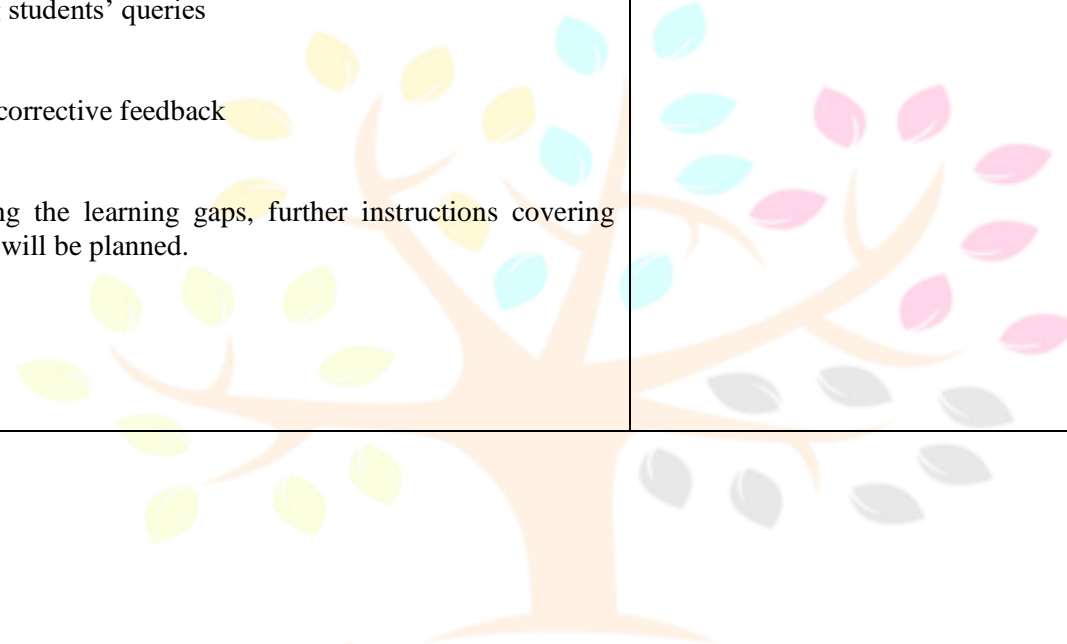
Lesson outline			
Teacher's Name: Tapos Kumar Dutt		Date: 01/03/2021	
Subject: Economics		Program: M.S.S. in Economics	
Course: Advanced Microeconomics		Chapter: Chapter 3 (Production, Production Cost and Income)	
Number of students: 50		Duration: 60 minutes	
Lesson Topic: Basic concepts of production			
Learning Objectives (LOs):			
LOs	Targeting Skills of Bloom's Taxonomy	Trends of LOs regarding Bloom's Taxonomy (Cognitive Domain)	Comment
At the end of the session, students will be able to:			
Define 'Production' without any mistake.	LOTS (Remembering)		Potential ZPD-1
Classify different types of 'Technology of Production' with examples.	LOTS (Understanding)		
Examine the justification of producers' decision of selecting the stage of production as effective in accordance with theoretical directives.	HOTS (Analyzing)		
Lesson Steps			
Stages (Based on Gagne's 9 Events of Learning)	Activities and Assessment Tasks	Incorporated Theoretical Ideas	Comment

Beginning (11 minutes)			
<p>Stage 1</p> <p>Starter activity to engage students. (5 minutes)</p> <p>[T] ← [L]</p>	<p>Warm welcome (Both orally and with slideshow showing a welcome picture, or, flowers, etc.)</p> <p>Declaring topic of the day</p> <p>Sharing the ‘Ground Rules’ (1 minute)</p> <p>❖ Displaying in PowerPoint Slides some relevant terms and ideas in the forms of texts with key points, images, and a short video-clip from the taught chapter of ‘Consumers’ and Producers’ Behavior’ preceding this new chapter on ‘Production, Production Cost and Income’ (2 minutes)</p> <p>• Activity (Subtask)–1: Thought-Provoking Questions (1 minute)</p> <p>Providing Corrective Feedback in constructive, precise, and timely manner (1 minute)</p>	<p>Formative Assessment (Convergent Assessment task- for assessing LOTS)</p>	<p>Warm welcome and thought-provoking questions will draw the students’ initial attention that will motivate them to engage in this session’s learning activities.</p> <p>Ground rules will hold students accountable for their behavior.</p>

<p>Stage 2</p> <p>Introducing Learning Objectives (1 minute)</p> <p>[T]↔[L]</p>	<p>With a PowerPoint Slideshow, teacher will inform the LOs by providing hints and a quick reflection on the LOs orally</p>	<p>Scaffolding (Providing hints; Setting achievable goals)</p>	
<p>Stage 3</p> <p>Bridging to Prior Knowledge (5 minutes)</p> <p>[T]↔[L]</p>	<p>Displaying in PowerPoint Slides some relevant terms and ideas in the forms of texts with key points, images, and a short video-clip from the new chapter on 'Production, Production Cost and Income' (2 minutes)</p> <p>Activity (Subtask)2: Short -Answer Quizzes (2 minutes)</p> <p>Providing Corrective Feedback (1 minute)</p>	<p>Scaffolding (Identifying-Bridging prior knowledge)</p> <p>Formative Assessment (Convergent Assessment Task- for assessing LOTS)</p>	<p>These activities will stimulate the recalling of students' prior learning by which they will be able to bridge the learning outcomes of this session to their prior learning.</p>
<p>Determining ZCD towards ZPD</p>	<p>Students' initial average ZCD (Zone of Current Development) will be determined from their oral answers in Activity 1 & 2, which will guide the teacher to devise the next series of tasks- the determination of potential ZPD for this lesson targeting to achieve this level with the effective utilization of various scaffolding and collaborative group work techniques.</p>		
<p>Development (42 minutes)</p>			

<p>Stages 4 & 5</p> <p>(4) Explaining the content (Transferring new knowledge to the learners)</p> <p>And,</p> <p>(5) Proving Guidance (Covering LO 1, 2, 3 sequentially) (7+7 +7 = 21 minutes)</p> <p>[T] ↔ [L]</p>	<p>4.1 Mini Lesson</p> <p>Interactive lecturing, explaining the concepts of production with real-world examples (covering LO1) using Sensory (e.g., Illustrations, Demonstrations, Modelling, etc.) Interactive (e.g., Pairs, Small groups, etc.) and Graphic (e.g., Charts, Graphs, Tables, Visual Organizers, Infographics, etc.) Scaffolds through PowerPoint Presentation (PPP). (3 minutes)</p> <p>Activity (Sub-task) 3: Oral Questioning (special emphasis on Socratic Questions) → (2 minutes)</p> <p>If students need more clarification on the on-going lesson, they will be encouraged to make specific queries. (1 minute)</p> <p>The content will be explained through PPP (texts, images, short video-clips, etc.), oral explanation, writing in whiteboard to explain any complex concept, mathematical derivation, statistical analysis, and representation, and so on, if necessary, and, where appropriate.</p> <p>From students' responses on oral questions and Activity 3, having gained a clear picture of the current level of students' understanding and determining the learning gaps, corrective feedback will be provided and further instructions covering these gaps will be planned. (1 minute)</p>	<p>Scaffolding (Talking-aloud, illustrating, citing instances, modelling, oral questioning, Socratic questioning, incorporating audio-visual aids, guided teaching, observation, feedback- in section 4.1, 4.2 & 4.3)</p> <p>Formative Assessment (Both Convergent and Divergent type questions- for assessing both LOTS and HOTS)</p>	<p>Instructional scaffolds and teacher-student as well as peer interactions during the activities in sub-sections of 4.1, 4.2 & 4.3 will guide students in building 'Schema' (the conceptual structures of different sizes)</p> <p>→ Assimilation of Schema</p>
	<p>4.2 Mini Lesson</p> <p>Interactive lecturing, explaining the types of technology of production with examples (covering LO2) (3 minutes)</p>		

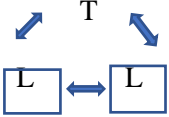
	<p>(Presentation procedures will be similar fashioned as 4.1)</p> <p>Activity (Sub-task) 4: Oral Questioning (Special emphasis on Socratic Questions) (2 minutes)</p> <p>Answering students' queries (1 minute)</p> <p>Providing corrective feedback (1 minute)</p> <p>Determining the learning gaps, further instructions covering these gaps will be planned.</p>	<p>→</p> <p>Formative Assessment (Both Convergent and Divergent type questions- for assessing both LOTS and HOTS)</p>	
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	<p>4.3 Mini Lesson</p> <p>Interactive lecturing, explaining the justification of producers’ decision on selecting the stage of production as effective (covering LO3) (3 minutes)</p> <p><u>Activity (Sub-task) 5: Oral Questioning (Special emphasis on Socratic Questions)</u> (2 minutes)</p> <p>Answering students’ queries (1 minute)</p> <p>Providing feedback (1 minute)</p>	<p>Formative Assessment (Both Convergent and Divergent type questions- for assessing both LOTS and HOTS)</p>	
<p>Stages 6 & 7</p> <p>6. Allowing students practice</p> <p>And,</p> <p>7. Providing Guidance and Feedback (Covering LO 1,2,3) (13 minutes)</p>	<p>Teacher will divide the whole class into 10 groups (Heterogenous Groups- 5 students in each).</p> <p>Group Format: “Learning Together” (See section 3.2 A.)</p>	<p>Scaffolding (Guided teaching and practicing; Applying the supporting to learn well technique - individual support, peer support, group support; Hard scaffolds-procedural prompts, question prompts, text prompts, etc.; Soft scaffolds-observation, feedback, etc.; Contextualization; Scaffold fading)</p> <p>Cooperative Learning/Group work</p>	<p>Collaborative Group work will ensure students’ active participation in critical thinking process through discussion and argumentation.</p>



	<p>Activity (Sub-task) 6: Collaborative learning/group work- Group presentation of creative task (covering LO 1,2,3) → (With Peer Assessment and Peer Review) (See in Appendix B)</p> <p>Teacher will monitor and facilitate the collaborative learning activities.</p> <p>Providing support (guidance) and feedback to each member of each group and to each group as a whole</p> <p>On-going guidance and feedback till to the ending of group tasks.</p> <p>Instructed to present their ideas to the whole class in groups. (Keeping the provision of asking any student to present)</p> <p>Arranging a class discussion on group presentations</p> <p>Providing feedback on group presentations, peer assessments and peer reviews</p>	<p>Formative Assessments (Divergent Tasks- for assessing HOTS)</p>	
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<p>8. Assessing Performance (Assessment for Learning) (8 minutes)</p> 	<p>Activity (Sub-task) 7: Performance Test: Open-Ended Questions (With Peer Assessment and Peer Review) (6 minutes) (See the Activity in Appendix C)</p> <p>Provide Feedback on performance, peer assessments and peer reviews. (2 minutes)</p>	<p>Formative Assessments (Divergent Assessment Tasks- for assessing HOTS)</p> <p>Scaffolding (Assessing performance- using various formative assessment strategies; Feedback)</p>	
<p>Ending (7 minutes)</p>			
<p>9. Enhancing Retention and Transfer</p> <p>9.1 Looking Back: review and assessment of learning (Retention) (4 minutes)</p> <p>9.2 Looking Forward: identify next steps for learning (Transfer) (3 minutes)</p> 	<p>Teacher will provide a revision and summarization of the above activities. Arranging a questions-answering session (Both orally and by a slideshow with some key issues)</p> <p>Activity (Sub-task) 8: Homework: Reflection Journals (with Peer Assessment and Peer Review) → (1 minute)</p> <p>Students are instructed to make collaboration in their Facebook Messenger Group and upload their thoughts about their on-going learning.</p> <p>Time to time teacher will facilitate the beyond-class collaborative learning activities and provide on-going guidance and feedback.</p>	<p>Scaffolding (Repetition; Motivation)</p> <p>Formative Assessments (Divergent Assessment Tasks- for assessing HOTS)</p> <p>→</p>	<p>→ Accommodation of Schema</p> <p>New ZPD(ZPD-1) as inbuilt in the accomplishment of beyond-class collaborative learning task which will be the new ZCD (ZCD-1) for Lesson Plan-2)</p> <p>→</p>

	<p>Reading through students' entries in Facebook Messenger Group, teacher will plan future lessons.</p> <p><u>Activity (Sub-task) 9: Exit Slip</u> (1 minute) →</p> <p>Providing feedback (1 minute)</p> <p>Based on the students' responses on Exit Slip, teacher will re-arrange groups and activities for the next lesson.</p> <p>Declaration of next session's topic</p> <p>Ending the class by giving thanks</p>	<p>Formative Assessment (Convergent Assessment Task- for assessing current understanding level and learning gaps)</p>	
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LESSON PLAN 2

Lesson Topic: Law of Production, Laws of Marginal Returns, and their applicability			Date: 08/03/21
Learning Objectives (LOs):			
<p>LOs</p> <p>At the end of the session, students will be able to:</p>	<p>Targeting Skills</p>	<p>Trends</p>	<p>Comment</p>
<p>State the 'Law of Production' and recognize its significance in detail.</p>	<p>LOTS (Remembering & Understanding)</p>	<p>LOTS</p>	<p>These are the potential ZPD (ZPD-2) of this lesson</p>
<p>Sketch the graphs of 'Diminishing, Increasing and Constant Marginal Returns' and provide explanation of the procedures with 95% accuracy.</p>	<p>LOTS (Understanding & Applying)</p>		

Make a judgement on the applicability of different types of marginal returns in different production fields as per theoretical directives.		LOTS & HOTS (Applying & Creating)		
Lesson Steps:				
Stages (Based on Gagne's 9 Events of Learning)	Activities and Assessment Tasks	Incorporated Theoretical Ideas		Comment
Beginning (11 minutes)				
Stage 1 Starter activity (2 minutes) [T] ↔ [L]	Warm welcome Declaring topic of the day <u>Activity (Sub-task) 1:</u> 'Thought-Provoking Questions' on today's topic Providing Feedback	Formative Assessment (Convergent - LOTS)		→ With initial ZCD(ZPD-1), this lesson begins
Stage 2 Introducing Objectives (1 minute) [T] ↔ [L]	As lesson plan 1	Scaffolding (As lesson plan 1)		

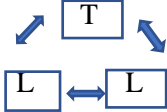
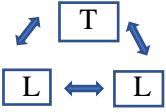
<p>Stage 3</p> <p>Bridging to Prior Knowledge (8 minutes)</p> <p style="text-align: center;"> T ↔ L </p>	<p>Recap (by one or two voluntary students and then by the teacher in brief) (2 minutes)</p> <p>Displaying in PowerPoint Slides some texts with key points, images, and a short video on the concepts of today's lesson. (2 minutes)</p> <p>Activity (Sub-task) 2: Oral Questioning (2 minutes)</p> <p>Providing feedback (2 minutes)</p>	<p>Scaffolding (As lesson plan 1)</p> <p>Formative Assessment (Convergent - LOTS)</p>	
<p>Determining ZCD towards ZPD</p>	<p>As Lesson Plan-1</p>		
<p>Development (42 minutes)</p>			
<p>Stages 4 & 5</p> <p>(4) Explaining the content, And,</p>	<p>4.1 Mini Lesson</p> <p>Interactive lecturing, explaining the concepts of LO1 (3 minutes)</p>	<p>Scaffolding (In section 4.1, 4.2 & 4.3, as lesson plan 1)</p>	

<p>(5) Providing Guidance (Covering LO 1,2,3 sequentially) (7+7+7=21 minutes)</p> <p style="text-align: center;"> T ↔ L </p>	<p><u>Activity (Sub-task) 3: Oral Questioning</u> → (2 minutes)</p> <p>Identifying learning gaps and plan further instructions accordingly</p> <p>Providing feedback (2 minutes)</p>	<p>Formative Assessment (Both Convergent & Divergent, and LOTS & HOTS)</p>	
	<p>4.2 Mini Lesson</p> <p>Interactive lecturing, explaining the concepts of LO2. (3 minutes)</p> <p><u>Activity (Sub-task) 4: Oral Questioning</u> → (2 minutes)</p> <p>Identifying learning gaps and plan further instructions accordingly</p> <p>Providing feedback (2 minutes)</p>	<p>Formative Assessment (Convergent & Divergent – LOTS & HOTS)</p>	

	<p>4.3 Mini Lesson</p> <p>Interactive lecturing, explaining the concepts of LO3. (3 minutes)</p> <p><u>Activity (Sub-task) 5: Oral Questioning</u> (2 minutes)</p> <p>Identifying learning gaps and plan further instructions accordingly</p> <p>Providing feedback (2 minutes)</p>	<p>→ Formative Assessment (Convergent & Divergent – LOTS & HOTS)</p>	
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<p>Stage 6 & 7</p> <p>(6) Allowing students practice</p> <p>And,</p> <p>(7) Providing Guidance and Feedback (Covering LO 1,2,3) (13 minutes)</p> 	<p>Group division (Heterogenous groups)</p> <p>Group Format: “Reciprocal Teaching” (See section 3.2 B.)</p> <p>Activity (Sub-task) 6: Collaborative learning/group work –Group presentation of creative task (Covering LO 1, 2, 3) (With Peer Assessment and Peer Review) (See the Activity in Appendix D)</p> <p>Teacher will monitor and facilitate the collaborative learning activities.</p> <p>Providing Guidance</p> <p>Group Presentation</p> <p>Arranging a class discussion</p> <p>Proving feedback on collaborative group presentations, peer assessments and peer reviews</p>	<p>Scaffolding (As lesson plan 1)</p> <p>Collaborative Learning/Group Work</p> <p>Formative Assessments (Divergent - HOTS)</p>	<p>Collaborative Group work will ensure students active participation in critical thinking process through discussion and argumentation</p>
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<p>Stage 8</p> <p>Assessing Performance (8 minutes)</p> 	<p>Activity (Sub-task) 7: Performance Test: Open-ended Questions (Focusing on Metacognition) (With Peer Assessment and Peer Review) (See the Activity in Appendix E) →</p> <p>Providing Feedback on performance, peer assessments and peer reviews</p>	<p>Scaffolding (As lesson plan 1)</p> <p>Formative Assessments (Divergent- HOTS)</p>	
<p>Ending (7 minutes)</p>			
<p>Stage 9</p> <p>Enhancing Retention and Transfer</p> <p>9.1 Looking Back: review and assessment of learning (Retention) (4 minutes)</p> 	<p>Revision and summary</p> <p>Checking homework (Arranging a joint analytical discussion on it with the whole class.)</p>	<p>Scaffolding (As lesson plan 1)</p>	

<p>9.2 Looking Forward: identify. next steps for learning (Transfer) (3 minutes)</p> <p>T ↔ L</p>	<p><u>Activity (Sub-task)8: Homework:</u> → Authentic Assessment- PowerPoint Presentation (Students will be instructed to prepare a PowerPoint Presentation engaging in collaborative groups. The task will be created by a ‘Resource Person’ from the industrial sector. Students have to present their work in the next class.) (With Peer Assessment and Peer Review) (See the Activity in Appendix F)</p> <p><u>Activity (Sub-task) 9: Exit Slip</u> →</p>	<p>Formative Assessments (Divergent - HOTS)</p> <p>Formative Assessment (Convergent Assessment Task- for assessing current understanding level and learning gaps)</p>	<p>→ Scaffolding at this point starts its Fading Phase</p>
<p>Determining ZCD towards ZPD</p>	<p>By reaching at this point, engaging actively in all the above activities, it is expected that the students will be able to understand the concepts of ‘Production, Production Cost and Income’ in general (ZPD of Lesson Plan-2), which will be the starting-stage ZCD for Lesson Plan-3, i.e., the application, synthesis and evaluation of the preceding concepts, targeting to reach the furthest margin of ZPD (ZPD-3)</p>	<p>Research Journal IJNRD</p>	

	Declaration of next session's topic Ending the class by giving thanks		
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LESSON PLAN 3

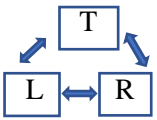
Lesson Topic: Production cost, Producers' Income, Fixed cost, Variable cost, Structures of production unit			Date: 15/03/21
Learning Objectives (LOs):			
LOs	Targeting Skills	Trends	Comment
At the end of the session, students will be able to:			
Make a list of various Production Costs and Producers' Income and identify their sources in detail.	LOTS (Remembering & Understanding)		Construction of new knowledge will be completed through achieving the LO3 of this Lesson Plan-3 as the final ZPD of the three linked lessons.
Distinguish between Short-run Production Cost (SRPC) and Long-run Production Cost (LRPC) and make a comparison between Fixed Cost (FC) and Variable Cost (VC) with 95% accuracy.	HOTS (Analyzing)		
Design an ideal structure of a production unit, which can be operated in competitive market environments according to theoretical directives.	HOTS (Creating)		
Lesson Steps:			
Stages (Based on Gagne's 9 Events of Learning)	Activities and Assessment Tasks	Incorporated Theoretical Ideas	Comment

Beginning (9 minutes)			
<p>Stage 1</p> <p>Starter activity (2 minutes)</p> <p>T ↔ L</p>	<p>Exchanging of greetings and a short introductory speech.</p> <p>Declaring topic of the day</p> <p><u>Activity (Sub-task) 1: Thought Provoking Questions (on today's topic)</u></p> <p>Providing Feedback</p>	<p>Formative Assessment (Convergent - LOTS)</p>	
<p>Stage 2</p> <p>Introducing Learning Objectives (1 minute)</p> <p>T ↔ L</p>	<p>As lesson plan 1</p>	<p>Scaffolding (As lesson plan 1)</p>	



<p>Stage 3</p> <p>Bridging to Prior Knowledge (6 minutes)</p> <p>T ↔ L</p>	<p>Recap (2 minutes)</p> <p>Displaying in PowerPoint Slides some texts with key points, images, and a short video on the concepts of today's lesson topic. (2 minutes)</p> <p>Activity (Sub-task) 2: Oral Questioning</p> <p>providing feedback (2 minutes)</p>	<p>Scaffolding (As lesson plan 1)</p> <p>Formative Assessment (Convergent - LOTS)</p>	
<p>Development (44 minutes)</p>			
<p>Stage 4 & 5</p> <p>(5) Explaining the content</p> <p>And,</p>	<p>4.1 Mini Lesson</p> <p>Interactive lecturing, explaining the concepts of LO1. (3 minutes)</p>	<p>Scaffolding (In section 4.1, 4.2 & 4.3, as lesson plan1)</p>	<p>→ Scaffolds continues to fade towards zero.</p>

<p>(6) Providing Guidance (Covering LO 1, 2, 3 sequentially) (7+7+10=24 minutes)</p> <p style="text-align: center;"> T ↔ L </p>	<p><u>Activity (Sub-task) 3: Oral Questioning</u> → (2 minutes)</p> <p>Providing feedback (2 minutes)</p> <p>Identifying learning gaps and planning further instructions accordingly</p>	<p>Formative Assessment (Convergent & Divergent – LOTS & HOTS)</p>	
	<p>4.2 Mini Lesson</p> <p>Interactive lecturing, explaining the concepts of LO2. (3 minutes)</p> <p><u>Activity (Sub-task) 4: Oral Questioning</u> → (2 minutes)</p> <p>Providing feedback (2 minutes)</p> <p>Identifying learning gaps and planning further instructions accordingly</p>	<p>Formative Assessment (Convergent & Divergent – LOTS & HOTS)</p>	

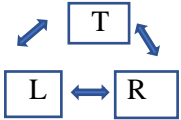
	<p>4.3 Mini Lesson</p> <p>Interactive lecturing, explaining the concepts of LO3. (3 minutes)</p> <p>In this stage, a Guest-speaker (Resource person) will be invited from the industrial sector to share the real-world (job-market related) experiences with the students. (3 minutes)</p> <p><u>Activity (Sub-task) 5: Oral Questioning</u> → (Will be asked by both the teacher and the resource person) (2 minutes)</p> <p>Providing feedback (2 minutes)</p> <p>Identifying learning gaps and planning further instructions accordingly</p>	<p>Formative Assessment (Convergent & Divergent – LOTS & HOTS)</p>	
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<p>Stage 6 & 7</p> <p>(6) Allowing students practice</p> <p>And,</p> <p>(7) Providing Guidance and Feedback (Covering LO 1,2,3) (13 minutes)</p> 	<p>Group division (Heterogenous groups)</p> <p>Group Format: “Jigsaw” (See section 3.2 B.)</p> <p>Activity (Sub-task) 6: Collaborative Group PowerPoint Presentation (Authentic Assessment, with Peer Assessment and Peer Review)</p> <p>At this stage, students’ collaborative groups will present their PowerPoint Presentations to the whole class. (This task was instructed by the Resource Person at the end of the 2nd lesson)</p> <p>Providing feedback on group presentations, peer assessments and peer reviews by both the teacher and the resource person</p>	<p>Formative Assessments (Divergent- HOTS)</p> <p>Collaborative Learning/Group Work</p> <p>Scaffolding (As lesson plan 1)</p>	<p>Collaborative Group work will ensure students active participation in critical thinking process through discussion and argumentation.</p>
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<p>Stage 8</p> <p>Assessing Performance (Assessment for Learning) (7 minutes)</p> 	<p>Activity (Sub-task) 7: Performance Test- Authentic Assessment, with Peer Assessment and Peer Reviews</p> <p>The Resource-person will set a question to assess the employability skills of the students. (See the Activity in Appendix G)</p> <p>Both the Resource-person and the Teacher will provide Feedback on performance, peer assessments and peer reviews.</p>	<p>Formative Assessments (Divergent- HOTS)</p>	
<p>Ending (7 minutes)</p>			
<p>Stage 9</p> <p>Enhancing Retention and Transfer</p>			

9.1 Looking Back: review and assessment of learning (Retention) (4 minutes)	Revision and Summary (As lesson plan 2)	Scaffolding (As lesson plan 1)	
Scaffolding towards ZPD-3	The mini lessons in 4.1, 4.2, 4.3 and the activities above (Activity 3, 4, 5, 6, 7) will scaffold students critical understanding on different aspects of 'Production, Production Cost and Income'. Thereby, this will be the final step prior to complete removal of scaffolding in the following activities towards achieving ZPD-3		



<p>9.2 Looking Forward: identify next steps for learning (Transfer) (3 minutes)</p> <p></p>	<p>Activity (Sub-task) 8: Homework: Creative Writing (Assignment) (With Peer Assessment and Peer Review) →</p> <p>Students will be instructed to write an assignment (2000 words) engaging in collaborative groups and upload in the Facebook Group prior to next session.</p> <p><u>Assignment Topic: Identifying Effective Production Stage and Designing an Ideal Production Structure</u></p> <p>Activity (Sub-task) 9: Exit Slip →</p> <p>Declaration of next session</p> <p>Ending the class by giving thanks</p>	<p>Formative Assessments (Divergent - HOTS)</p> <p>Formative Assessment (Convergent Assessment Task-for assessing current understanding level and learning gaps)</p>	<p>→ Removing Scaffolding: Activity 8 onwards</p>
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***Note:**

“T”, “L” & “R” refer to Teacher, Learners, and Resource Person respectively.

↔(The arrow sign) indicates the interaction pattern between the teacher and the students; among the teacher, the resource person, and the students; and, between the students themselves.

4.1.1 Discussions on Lesson Plans

On the basis of SMART (Specific, Measurable, Achievable, Relevant, Time-bound) Formula, the LOs are developed in the above three linked lesson plans (Bronson & Stern, 2011). Besides, the LOs are arranged chronologically in the way that maintain the order of the Bloom’s Taxonomy (Cognitive Domain), i.e., LOTS to HOTS

in ascending fashion (Anderson & Krathwohl, 2001; Bloom, 1979). Moreover, the three principles to determine the extent of fulfilment of the LOs accurately: Condition, Performance and Standard, e.g., on the eve of this class session's completion (condition), all students will gain the competency to define production (performance), in detail with real-life examples/95% accuracy (standard), are maintained (Veronin & Patry, 2001)

Targeting to fulfil the LOs, all the teaching-learning techniques and activities are organized. Thus, the teaching-learning techniques and activities of Scaffolding and Collaborative Learning/Group Work are used altogether in an inter-connected fashion to fulfil the LOs. The 'Biggs' Model of Constructive Alignment' is used to build the framework for learning and assessment (planning instruction), i.e., Learning Objectives, Feedback and Assessment Methods, and Teaching and Learning Activities are aligned constructively in an inter-connected fashion (Biggs, 2002; Biggs, 2003). The stage-by-stage activities of the lesson plans are designed as per Gagne's 9 Events of Learning (Driscoll & Driscoll, 2005; Gagne, 1985; Gagne, Briggs, & Wager, 1992).

4.2 Theoretical Discussion on the Assessment Tasks

In the three linked lesson plans above, I have adopted some Formative Assessment Tasks to assess the level of progression of students' learning and the learning-gaps in successive sub-steps towards achieving the predefined end-targets in a lesson, thereby accommodating the most-suited instructions and assistances, along with immediate feedback, on the on-going learning process, ultimately to ensure the attainment of the learning objectives (LOs) of a lesson (Cauley & McMillan, 2010; Lynch, 2016).

Theoretical Underpinning of the incorporated Assessment Tasks

In the procedures of an instructional design, assessment tasks are considered as the basic elements (Boud & Falchikov, 2006; Lynch, 2016). It is, however, always challenging to select the appropriate and rationale tasks in accordance with theoretical directives (Baht & Bhat, 2019). In this paper, hence, the assessment tasks are selected cautiously- keeping in mind the context and the applicability of the assessment tasks in accordance with the goals of the paper.

In this procedure, the theoretical basis and justification of the assessment tasks are presented in the table below.

Incorporated Assessment Tasks	Targeting skills of Bloom's Taxonomy (Cognitive Domain)	Assessment criteria	Justification for incorporation
Oral Questioning (Closed Questions), Exit Slip	Remembering	Formative and Convergent	For assessing LOTS
	Understanding		
	Applying		
Oral Questioning (Open and Socratic Questions), Open-ended Questions (written), Peer-assessment, Reflective Journals (Reflective Writing)	Analyzing	Formative and Divergent	For assessing HOTS
Peer-assessment, Metacognition	Evaluating		
Authentic Assessment, Peer-assessment, Group Presentation of Creative Tasks, Creative Writing (Assignment)	Creating		

**Oral
and**

Written Questioning

In the instructional practices of Postgraduate Economics Program my specific objective is to drive the students towards turning as critical thinkers and independent, creative problem solvers through students' active participation in their learning activities (Carr, Palmer, & Hagel, 2015; Sabel, 2020). To achieve this objective, my plan is to stimulate students' thinking abilities by guiding them to go beyond the factual recall or procedural levels, and to involve in higher order thinking practices including the analysis, synthesis, and evaluation of knowledge (Baht & Bhat, 2019). Hence, in my linked three lesson plans, I have used the technique of skillful

questioning (Blosser,1995; Jiang, 2014; Konopasek, Norcini, &Krupat, 2016). In this context, I have discussed the process of using oral and written questioning strategies to foster my students' deeper thinking skills in teaching the course of 'Advanced Microeconomics', thereby for all the courses of the program.

To this end in view, I have discussed about the different types of questions that I have infused in my lesson plans.

Types of Questions used in the Lesson Plans:

Bloom's Taxonomy (HOTS and LOTS assessing Questions)

I have classified one type of questions based on diversified cognitive levels of Bloom's (1956) Taxonomy. In accordance with the direction of lower to higher levels of thinking, these will be incorporated as, knowledge (remembering), comprehension (understanding) and application (applying)- for assessing lower order thinking skills (LOTS), and analysis (analyzing), synthesis (evaluating) and evaluation (creating)- for assessing higher order thinking skills (HOTS) (Baht & Bhat, 2019; Bloom, 1956; Lynch, 2016).

(See in Appendix A, examples of such questions targeting to measure students' learning level for all the LOs of Lesson Plan 1, 2, 3)

Open and Closed Questions (Divergent and Convergent type Questions)

For Closed (Cognitive Memory or Convergent Types) Questions, students will be given the opportunity to provide a limited number of admissible responses (right answers). This type of questions will be used to assess the LOTS of students that will be focused on recalling factual information from the prior and ongoing learning contexts (Blosser, 1995; Konopasek, Norcini, & Krupat, 2016). One example of this type of questions that I have used in the lesson plans is: 'what are the different types of technology of production' (used in Lesson Plan-1).

On the other hand, Open-ended (Divergent or Evaluative Thinking or Socratic) Questions will be formulated in targeting to extract multiple and free-flowing probable responses rather than limited numbers of right answers (Konopasek, Norcini, & Krupat, 2016). This type of questions will be used to assess the HOTS of students that will be focused on promoting students in the process of discussion and argumentation by encouraging them to interpret, justify, reflect, infer, hypothesize, discover, invent, create, identify implications, make judgements through sharing ideas with the peers and the teacher during the time of their engagements in collaborative learning or other active learning engagements (Konopasek, Norcini, & Krupat, 2016; Koufetto-Menicou & Scaife, 2000). Hence, this questioning technique will engage my students more actively in their learning activities. An example of this type of questions that I have used here is: 'what is the best way to demonstrate your understanding of these concepts- by your verbal response, or drawing a diagram, table, bar chart, or any sort of graphical, mathematical and statistical representation?' I will allow the students to select the appropriate answering methods, and their decision of selecting the particular methods will give me information of their level of understanding.

Peer Learning and Peer Assessment

Peer Assessment denotes as the provision for the students to assess their peers' tasks each other using assessment criteria, such as rubric(s), checklist(s), etc. (Baker, 2016).

In my linked three lesson plans, I have kept the provision of peer assessment during all sorts of learning activities. For implementing peer assessment, I will guide students to exchange their class notes during the ongoing class sessions so that students will get the vital chance to identify their learning gaps and each other's understanding differences. Students will be encouraged to share their draft assessments and develop questions, which will call for discussion by exploring the questions. This process will enhance students' active learning. In small groups, students will be guided to share the peer corrections and feedback on the draft of their assessment tasks. This will provide students with the valuable insights in their own work. I will guide the students to grade and comment on their peers' group presentations, performance tests, and other tasks at first and then to engage in a wider discussion and reflection on the grades and comments in pairs or small groups (Nicol, Thomson, & Breslin, 2014; Strijbos & Sluijsmans, 2010). Again, I will encourage the students to facilitate peer assessment by providing written and oral feedback on each other's tasks through a virtual learning environment (Facebook Messenger Group for this paper). Thus, in the process of evaluating each other's writing, a deeper learning will be taken place, by which students will be able to gather more ideas in seeking ways to modify their personal writing. Here, playing the role of their peers' assessor, students will gain deeper insights on the tasks. Besides, gaining feedback from their peers will allow students to identify the strengths and weaknesses of their works (Baker, 2016; Trautmann, 2009).

I have used the peer assessment in moving forward from TCL to SCL, or, AL by emphasizing and ensuring students' active engagements in their learning processes. Peer assessment has the vital potential to ensure learner responsibility and to establish a collaborative learning environment which will drive students in active learning engagements through discussion and argumentation (Boud & Falchikov, 2006; Spiller, 2012). Peer assessment will provide great opportunities for my students regarding understanding and engagement. The opportunity of using and/or formulating assessment criteria (rubrics, checklists, etc.) will take my students in a deeper state of their learning by allowing them to provide feedback and reflection on their learning engagements and to share the emerging new ideas with their peers and with me. All these processes of peer assessment will develop the analytical skills of my students. Again, they will learn the art of learning and involve in metacognitive practices, i.e., to reflect on their own cognitive processes (De Baker et al., 2012; Nicol et al., 2014). The practice of peer assessment and peer review will drive my students in gaining a more critical understanding of their learning gaps, thereby providing them the opportunity to acquire a better grip of their learning processes. This will reduce the power imbalance between teacher and students, thereby bringing for the students 'a sense of ownership' of the processes of assessment. Moreover, this will establish the practice of assessment as a part of learning, i.e., students will find their faults as opportunities to learn rather than considering those as their failures (Gielen, Dochy, Onghena, Struyve, & Smeets, 2011; Van Zundert, Sluijsmans, & Van Merriënboer, 2010). Furthermore, the provision of peer assessment in my lesson

plans will dramatically reduce the marking load on me, thus allowing me to keep more time in teaching and facilitating (Van Zundert, Sluijsmans, & Van Merriënboer, 2010).

Authentic Learning and Authentic Assessment

One goal of this paper is to ensure ‘Authentic Learning’ as an essential part of the journey of establishing ‘Active Learning’ in Post-graduate Economics Programme. For this purpose, I have infused authentic activities in my lesson plans which will be integrated with the authentic assessment tasks as complementary to each other (Herrington, Reeves, & Oliver, 2014; Simpson, 2016). Thus, I have infused Authentic Assessment (AA) in my lesson plans as a sophisticated component of Authentic Learning, targeting to gain my students’ competency to the application of real-world tasks (Mueller, 2017; Swaffield, 2011). In this process, my students will be able to demonstrate and utilize their attained new knowledge and skills in a more effective way. Moreover, this process will provide students the vital opportunity to apply and transfer their learnt knowledge and skills in different contexts (Kearney & Perkins, 2014).

One fundamental objective of any educational program is to prepare the students in such a way that they can get employed after their program completion. The technique of AA will develop students’ employability skills, thereby connecting students learning and outcomes with the job market (Herrington, Jan, Parker, & Boase-Jelinek, 2014; Mueller 2017).

How AA will ensure students’ active learning engagement

The incorporated authentic assessments in my lessons will provide opportunities for my students to actively engage in their learning activities. I will motivate my students by presenting the positive impacts of AA to them that AA will effectively develop their employability skills, thereby their employment opportunity will be ensured after their education. This vital motivation will drive my students to engage more with the assessment process, thereby they will interlink their learning outcomes with the professional skills and know-how (Gourlay, 2015; Kearney & Perkins, 2014). Furthermore, I have designed the authentic assessment tasks in my lessons in such a way that these will provide my students the vital opportunity to develop their skills regarding critical thinking and problem solving to perform efficiently in workplace (Hart et al. 2011; Kearney & Perkins, 2014). As a part of authentic learning, I have invited a resource person from the industrial sector to share his professional experiences and to explain the workplace relevance of the incorporated authentic assessment tasks, which will further engage my students more actively with their learning and assessment process (Mueller, 2017).

Rationale of technology incorporation for AA

In my lesson plans, I have kept the provision of a collaborative group PowerPoint presentation as an authentic assessment (Herrington, Jan, & Herrington, 1998; James, Karen, Burke, & Hutchins, 2006). My consideration is that this type of technology-enhanced assessment will better engage my students in their learning activities. At the same time, institutional resources at hand will be more efficiently utilized in this process to ensure enhanced learning outcomes (Bozalek, Ngambi, & Gachago, 2013; Keppell, Mike, Suddaby, & Hard, 2015). Moreover, technology incorporation will make my students tech-savvy and flexible, creative, and effective communicators that will increase their employability skills further (Bozalek, Ngambi, & Gachago, 2013).

Other Assessment Tasks

I have utilized the formative assessment techniques of ‘Reflective Journals (Reflective Writing)’ and ‘Creative writing (Assignment)’ to judge the analyzing, evaluating, and creating abilities of the learners effectively. I have infused these assessment tasks as homework at the end of class session which they will have to complete engaging in beyond-class collaborative groups in their ‘Facebook Messenger Group’. Thus, these activities will make them more actively engaged in their learning practices. Besides, they will be more tech-savvy and effective user of different virtual learning tools, social media, etc. which is the fundamental objective of modern 21st century’s ‘Connectivism’ learning theory- that learning should take place in anywhere and anytime to achieve the best possible learning objectives (Behrens, DiCerbo, & Foltz, 2019; Chapman & King, 2005).

Last but not least, at the end of the class session, I have utilized the formative assessment technique ‘Exit Slip’ by asking the students a question or posing a problem to solve to identify the students’ current understanding level and learning gaps, thereby to reorganize the next class session’s activities as more goal-oriented and to plan further instructions accordingly (Leigh, 2012; Marzano, 2012).

4.3 Anticipated Challenges and Possible Solutions

Having a review of the relevant literature, it has been anticipated that challenges will be emerged from mainly two sources, from teachers’ side and from learners’ side (Ahmed, 2018; Prince, 2004). Thus, from teachers’ side, the fundamental challenges can be pointed out as: activities facilitation, i.e., providing feedback in the proper manner; maintaining all learners in the right direction; selecting the formative assessment tasks as per theoretical directives and appropriateness; and, designing and evaluating these assessment tasks judiciously (Ahmed, 2018; Prince, 2004). According to Koc & Celik (2015), the main reason behind these challenges is the mismatch between the optimum number of learners that a teacher can facilitate at a time and the actual number that he/she has to facilitate within that timeframe. They mentioned the optimum number as nearly 20 learners. However, in my case, I have to facilitate 50 learners at a time. To overcome these challenges, my idea is to take help of the senior post-graduate students in the facilitation process, thereby, can be gained twofold benefits: the ease in the facilitation process and the application of More Knowledgeable Others (MKO) strategy of scaffolding (Schultze & Nilsson, 2018). Again, as per the argument of Boakye & Ampiah (2017), teachers experience the

issue of time management as always challenging, and, in my context, I might also have to face this because of large class size and learners' inhabitation with the new pedagogical practices. Hence, to solve this, in accordance with the guidance of Boakye & Ampiah (2017), learning activities are formulated in the way that could be accomplished by a short time, within the planned duration. Furthermore, to solve the issue of assessing the formative assessment tasks accurately, the effective use of rubrics will be considered, as suggested by Reddy & Andrale (2010). Peer- and Self-assessment will also be considered to reduce the workloads of the teacher so that he/she can get more time for facilitation, guidance, and feedback (Van Zundert, Sluijsmans, & Van Merriënboer, 2010).

On the other hand, the fundamental challenges, from learners' side, can be anticipated as: inhabitation with SCL, or, AL, since they are habituated with TCL, or PL (Ahmed, 2018; Islam & Himel, 2018). In addition, they will face difficulties in understanding the changing instructions accurately because of the new system (Boakye & Ampiah, 2017; Islam & Himel, 2018). To solve these problems, modelling and guided practices techniques of scaffolding will be utilized as per the guidelines of Harraqi (2017) and Wilson & Devereux (2014). Another possible challenge will be that some students might be reluctant to accept and adopt the new method by considering it as wastage of time, since this might reduce the time of their year-end summative exam preparation. Bringing the formative assessment system under grading could be possibly a good solution (Harraqi, 2017).

SECTION 5

CONCLUSION

In this paper, it has been identified that the instructional practice, that the Post-graduate Economics Program at R college follows, is based on TCL, or, PL, i.e., conventional passive lecturing method is predominant in the instructional practice (Ahmed, 2018; Dutta & Islam, 2017), but for achieving the aim of the Post-graduate Economics Program, modern ages' contemporary researches emphasize on the implementation of SCL, or, AL (Carr, Palmer, & Hagel, 2015). Therefore, to implement AL in Post-graduate Economics Program, three interrelated lesson plans have been presented, in which the teaching technique of scaffolding and the learning method of collaborative learning have been infused. Besides, several formative assessment tasks, that can assess both LOTS and HOTS of the learners of the Post-graduate Economics Program, have been incorporated. In addition to that, based on the context of R college as well as the college level higher education of Bangladesh, probable challenges in implementing these lesson plans successfully, have been anticipated, and practical solutions of these challenges have also been suggested.

From the critical discussions and guidelines of this paper, it can be articulated that, the combined and comprehensive application of the teaching technique of scaffolding and the learning method of collaborative learning will ensure AL most effectively. As for instance, scaffolding strategies like modelling, guided practicing and

contextualization will ensure the meaningful learning of new ideas and skills of the learners (Harraqi, 2017; Wilson & Devereux, 2014). Similarly, the learning method of collaborative learning will assist learners to co-construct knowledge with their tutor and peers that is the key essence of constructivism and connectivism (Sawyer & Obeid, 2017). Moreover, formative assessment tasks like oral and written questioning, peer assessment, authentic assessment, presentation of creative tasks, etc. will enhance the HOTS of learners (Baht & Bhat, 2019; Lynch, 2016). Hence, as the ultimate consequence, this new instructional practice will not only ensure AL, but also provide great supports to attain the aims of the Post-graduate Economics Program.

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7.0 Appendices

Appendix A

Questions classified according to Bloom's Taxonomy (used in the linked three lesson plans in different stages)

Question Type	Example of Question
Knowledge (Remembering)	How many types of technology of production are found to be used in different production fields?
Comprehension (Understanding)	<ul style="list-style-type: none"> ■ What does this graph tell you about how 'marginal returns' affects production?
Application (Applying)	Do you know another instance of production field other than agriculture where 'diminishing marginal returns' takes place?
Analysis (Analyzing)	Can you distinguish between short-run production cost and long-run production cost?

Synthesis (Evaluating)	How do you defend your position of selecting capital-intensive production strategy in a pharmaceutical industry?
Evaluation (Creating)	What way you can design an ideal production structure that can operate in competitive market environment?

Appendix B

Activity (Sub-task) 6: Collaborative Group Work- Group Presentation (Lesson Plan 1)

The Theory of Production, Technologies of Production and Effective Production Stage

Instructions:

- Watch the video (Students will be provided to watch a video in Multimedia Projector covering the above contents)
- After watching the video, discuss the following questions with your group members:
 - How can you define 'Production' with real-life examples? (In brief with key points)
 - How do you classify different types of 'Technology of Production' with examples? (In brief with key points)
 - How do you examine the justification of producers' decision of selecting the stage of production as effective? (In brief with key points)
- Be ready to share your ideas with the class.

(Teacher will select two or three groups to present)

Appendix C

Activity (Sub-task) 7: Performance Test- Open-ended Questions (Lesson Plan 1)

Instructions:

Answer the following open-ended questions. Provide analytical explanation in the open-ended manner that possible within the time limit.

- 'Production means to create utility'- Explain.
- How can you classify different technologies of production? Give examples of each type with justification regarding their usability.
- Can you distinguish between 'capital-intensive production strategy' and 'labor-intensive production strategy'?



Appendix D

Activity (Sub-task) 6: Collaborative Group Work- Group Presentation (Lesson Plan 2)

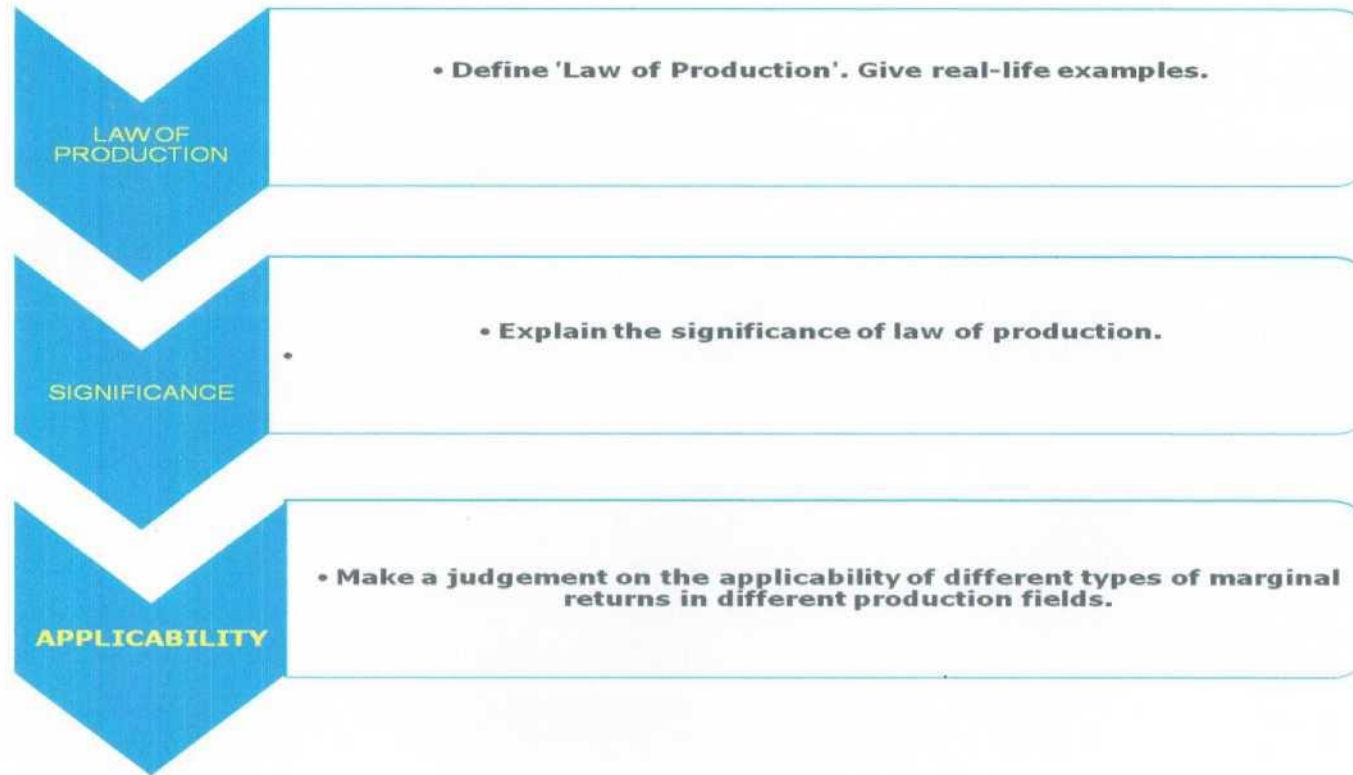
What have you learned?

Instructions:

Complete this activity in your group. Share with the class the key ideas that have learned from this session
Use the template below to help you organize your ideas **(in brief with key points)**.



Promoting Active Learning in Post-graduate Economics Classes at R Government College, Bangladesh by Using Scaffolding and Collaborative Learning/Group Work Techniques



Appendix E

Activity (Sub-task) 7: Performance Test- Meta-cognition (Lesson Plan 2)

Students will be provided with a printed handout on the contents of lesson plan 2 (a short essay covering the key materials).

Contents on: Law of Production, Laws of Marginal Returns and their applicability

Meta-cognitive Questions:

- 'A How can you connect this topic to your own life & make it relevant?
- A What kind of real-life problems might this information help you solve?
- 1 How could you connect these contents with other concepts of economics?

Appendix F

Activity (Sub-task)8: Authentic Assessment- PowerPoint Presentation (Lesson Plan 2)

Marginal Returns in Different Production Fields

Instructions:

Complete this activity with your group.

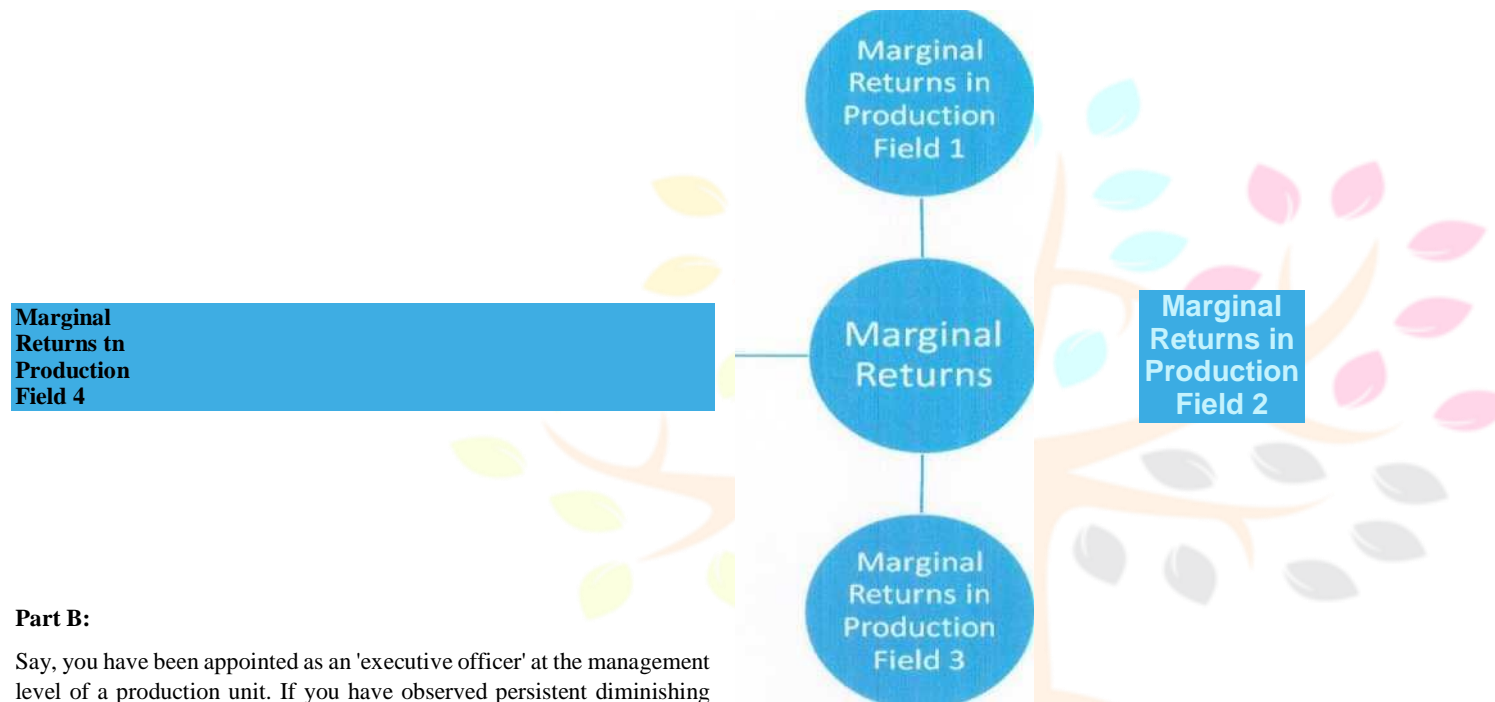
Part A:

Read the content on 'Marginal Returns in Different Production Fields'. Then prepare a Mind-Map. You have to indicate the scenario of marginal returns in different production fields and to make a judgement in terms of applicability. You can use the Mind-Map Template as a guide. You can change to suit your requirements.

(Reading material for this activity will be provided as a printed 'Hand-out' on the above content)



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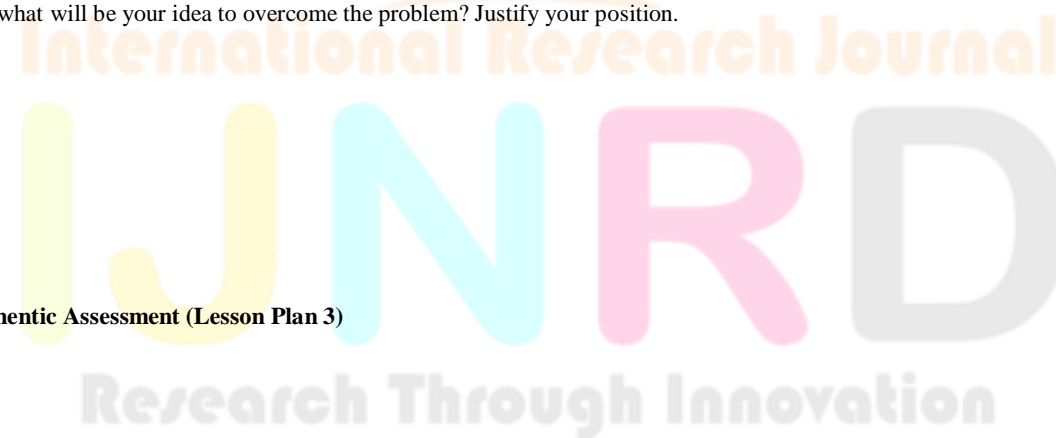


Part B:

Say, you have been appointed as an 'executive officer' at the management level of a production unit. If you have observed persistent diminishing marginal returns in the production process, then what will be your idea to overcome the problem? Justify your position.

Appendix G

Activity (Sub-task) 7: Performance Test- Authentic Assessment (Lesson Plan 3)



Question:

Design an ideal structure of a production unit, which can be operated in competitive market environments.

Consider that you have been appointed as 'Manager' of a 'Ready-made Garments Factory'. Explain in brief with key points, how you perform your assigned tasks most effectively. What challenges you may face there and how you solve those?

