

Ensuring learner-centred pedagogy in an open and distance learning environment by applying scaffolding and positive reinforcement

Learner-centred
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Abstract

Purpose – This study was intended to ensure learner-centred pedagogy in an open and distance learning environment by applying scaffolding and positive reinforcement techniques.

Design/methodology/approach – This study critically analysed the context and current instructional practice of Bangladesh Open University (BOU) via document analysis and literature review. The conceptual framework of this study was adapted from the ADDIE model, i.e. the analysis, design, development, implementation and evaluation model.

Findings – The study explored that the instructional practice of BOU was dominated by teacher-centred pedagogy. Hence, to ensure learner-centred pedagogy, the researchers developed three model lesson plans. These lesson plans infused the theoretical directives of scaffolding and positive reinforcement as well as several assessment tasks which can assess the learners' lower-order and higher-order thinking skills. The researchers also presented possible challenges for the sound implementation of these model lesson plans and suggested pragmatic solutions accordingly.

Originality/value – This study recommended that the combined application of scaffolding and positive reinforcement would effectively ensure learner-centred pedagogy.

Keywords Learner-centred pedagogy, Open and distance learning, Lesson plan, Scaffolding, Positive reinforcement, ADDIE model

Paper type Research paper



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1. Introduction

Learner-centred pedagogy (LCP) emphasises the active participation of learners that considers learners' knowledge, skills and attitudes as the influential factors for learning (Plessis, 2020; Lee *et al.*, 2017). It provides customised pedagogical methods and an appropriate learning environment to the learners, which helps them to become self-guided learners (Plessis, 2020). Due to these unique features, LCP has confirmed its adaptability in different fields of education, including open and distance learning (ODL) field (Hannafin *et al.*, 2014; Zhou *et al.*, 2019). Therefore, different learning theories are used in LCP to meet the needs of diverse learners. Among the learning theories, scaffolding and reinforcement are primarily used in LCP (Plessis, 2020).

This study is based on the MBA programme of Bangladesh Open University (BOU) because it is evident in the study by Ahmed (2018) that this programme is dominated by teacher-centred pedagogy (TCP). For example, regarding instructional practice, conventional face-to-face lectures are delivered in tutorial sessions. As a result, students do not get the chance to engage in class activities, making them passive learners. Regarding instructional materials, printed modules and audio–video lectures are provided to students. In assessment, mainly summative assessment is conducted, e.g. there is a final exam each semester where there is no scope for learners to get feedback. Besides, at the end of the semester, students also have to submit a term paper and assignments. On the other hand, there are only 10% marks for in-class participation, and for these marks, instead of any class activities, faculty members conduct a small conventional class test only. Hence, there is minimal opportunity for formative assessment.

This traditional teaching-learning practice decreases learners' motivation to engage actively in teaching-learning processes and prevents the development of students' higher-order thinking skills. Because of this, learners cannot acquire the necessary practical skills for the job market. As a result, the MBA programme cannot satisfy the learners' educational needs. To address this issue, Von der Heidt and Quazi (2013) and Ahmed (2018) suggested incorporating LCP to ensure that adult learners' educational needs are met.

In this regard, the objective of this study was to present a guideline by which learning theories can be infused into LCP-based pedagogy in the MBA programme. To that end, the present study has rigorously reviewed the literature on learning theories, especially on reinforcement, scaffolding and assessment, and therefore, this study develops LCP-based model lesson plans that can ensure LCP in the MBA programme at BOU. The following sections are described in detail.

2. Positive reinforcement and scaffolding

Learning can be defined as an individual's behaviour changing relatively permanently due to experiences (De Houwer *et al.*, 2013). However, it is a complex process and has been explained by many theories. There are mainly three theoretical frameworks on learning: behaviourist, cognitivist and constructivist learning theory. To change traditional instructional practices in the MBA programme at BOU and motivate adult learners, theoretical ideas of positive reinforcement under behaviourist theory and scaffolding under constructivist theory are chosen for the current study. Based on the best instructional practices designed from these two theoretical ideas, the sample of some lesson plans of one course is developed through this study whose implementation can bring positive changes in the instructional practice of the MBA programme. A critical examination of positive reinforcement and scaffolding theory, its pedagogical significance and strategies are outlined in this section.

2.1 Positive reinforcement (PR)

The behavioural approach to learning was influenced by the work of Skinner and his adherents, who stressed the significance of antecedents and consequences in behaviour

change. In behaviourism, learning is a behavioural change brought on by experience without much consideration for the mind or internal thought processes (Hoy and Miskel, 2013). That means learning is the acquisition of new behaviour resulting from a rewarded action or reinforcement. Although the word “reinforcement” is typically used to refer to rewards, it has a different meaning in learning theory. In behaviourism, behaviour is seen as reinforced by reward and punishment (Hoy and Miskel, 2013). Positive reinforcement refers to adding any stimulus (such as food, a prize or student attention) that raises the likelihood of a particular behaviour, whereas negative reinforcement refers to removing any stimulus that eliminates the learned behaviour (Hoque, 2013; Pritchard, 2009).

Therefore, adult learners can be inspired by a variety of physical (gifts, food), intangible (kind words, smiles, positive attention), token (marking work with symbols like ticks and stars) and social reinforcers (reading aloud together, participating in a favourite activity, group learning) (Gordan and Krishanan, 2014). Besides, adult learners find social and intangible reinforcers more satisfying than material ones (Sari and Paradina, 2018). For example, after a systematic review of 24 studies, Rafi *et al.* (2020) reported that 41% of educators applied praise for implementing PR that increased learners' motivation. Similarly, Royer *et al.* (2019) reviewed six studies and explored the application of praise increased learner attention on the task and decreased tiredness and inappropriate behaviours. Markelz *et al.* (2019), Markelz *et al.* (2018) and Schneider and Sanguinetti (2021) also reported the applicability of PR to the adult learner. Moreover, Kang *et al.* (2013) applied social reinforcers and found that it is effective in increasing student participation and developing a positive learning environment. Similarly, White *et al.* (2018) applied token reinforcers and explored that it effectively decreased unwanted behaviours. Based on the findings discussed, PR seems to inspire, engage and encourage students and teachers if the reinforcers are designed and implemented carefully. To gauge its effects on adult learners, some token and social reinforcement techniques have been implemented in the demo lesson plans in this study.

There are several challenges in implementing PR. One of the key aspects of reinforcement is matching the suitable reinforcers to the requirements of the learners and providing them at the proper frequency. The mismatch in such elements causes failure of the PR strategy. When used repeatedly, the same reinforcers lose their potency (Umegbewe *et al.*, 2010). Researchers Kinyanjui *et al.* (2015) explored that how people react to reinforcement relies on various variables, including ratio schedules, fixed schedules, socioeconomic class, gender and age. Royer *et al.* (2019) and Sigler and Aamidor (2005) highlighted that exploring the learners' needs, selecting the appropriate PR techniques and developing the PR delivery schedule are vital challenges. To meet these challenges, Partin *et al.* (2009) and Hardy and McLeod (2020) suggested that educators should develop a standard implementation model of PR. It is apparent from the discussion that the tutors need to implement different PR strategies based on adult learners' needs.

Educationalists argue that PR has an impact on instructional practices. For example, Sigler and Aamidor (2005) explored that PR promotes discipline and active learning because it motivates the learners to follow teachers' instructions properly. Again, after conducting an empirical study, Schieltz *et al.* (2019) found that PR improved the task accuracy of the learners because it eliminated the intention of escaping from the tasks. These three elements, the discipline of learners, active learning environment and self-motivation of learners, are the three catalysts of implementing LCP in an ODL environment revealed by Hermans *et al.* (2013). Similar results were found in the study by Sigler and Aamidor (2005), Markelz *et al.* (2019) and Schieltz *et al.* (2019), where PR has been proven to create a significant impact on these three catalysts. Besides, the study of Schieltz *et al.* (2017) and Gabor *et al.* (2016) revealed that PR effectively addresses the unsatisfactory actions of different types of learners. Hence, PR is most appropriate for the ODL environment since ODL learners have diverse backgrounds (Kuruppuarachchi and Karunanayake, 2017).

Following a gap from their initial education, adult learners return voluntarily to formal education. Hence, if they do not find the learning process engaging, they might become demotivated to learn (Sari and Paradina, 2018). PR can be applied in an ODL environment, but it should be designed carefully to suit ODL which leads to motivating the learners towards achieving more remarkable academic achievements. It may also assist teachers in encouraging adult learners to attend class and participate in various learning activities by helping them feel at ease and welcome in a setting that respects and acknowledges their experience (Cocquyt *et al.*, 2018). Tutors can incorporate different PR strategies while making lesson plans, for example, easily understandable and communicable reinforcers, immediate feedback and praise and proper frequency of PR based on learner's performance (Wheeler and Richey, 2014). Praise, social reinforcers and token reinforcers techniques of PR have been selected in this study because these techniques can be applied before and after the completion of any kind of learner-centred activities like peer works and group works (White *et al.*, 2018) and thereby will ensure LCP.

2.2 Scaffolding

Scaffolding emerged from the social constructivist theory developed by Russian psychologist Lev Vygotsky. The central idea of constructivism is that learning occurs when learners construct their knowledge actively about the world, and social interactions are crucial in that process of knowledge construction (Hoy and Miskel, 2013). The teacher, rather than being a knowledge provider, is a guide, facilitator and co-explorer who encourages students to question, confront and generate their ideas and views (Weegar and Pacis, 2012). Some experts stated that constructivism is a philosophy, not a strategy. Even so, in many prior studies, it is regarded as an essential method for designing instructional techniques and learning activities since it leads to the achievement of desired learning outcomes and fits the needs of adult learners (Karagiorgi and Symeou, 2005; Owusu-Agyeman *et al.*, 2018). This is because different learning strategies (scaffolding, collaborative learning, reciprocal teaching) are incorporated under constructivism which develops a complete learning system. Hence, applying constructivism to adult learning practice is strongly recommended by the literature (McCall *et al.*, 2018). Scaffolding has been chosen as one of the constructivist tactics in this study because it is appropriate for developing adults as independent and lifelong learners.

Scaffolding has been a promising instructional approach for several decades. Under the scaffolding technique, teachers and students make meaningful connections between the teachers' cultural knowledge and the student's everyday experience and knowledge (Hoy and Miskel, 2013). This definition highlights the dynamic interactive character of learning where teachers and learners co-construct knowledge and are considered experts on something. Interactions with the signs, tools, language and symbols in learners' environments help them to build skills (Kay and Kibble, 2016). Optimal learning occurs in a learner's zone of proximal growth or the gap in which a task provides a suitable level of difficulty given the learner's present knowledge and skills (McCall *et al.*, 2018). Learners can obtain expertise or get help from any source that is beneficial, feasible and relevant to the problem. As a result, any teacher, peer or resource can act as a more knowledgeable other (Yildiz and Celik, 2020). This technique scaffolds the learning process by offering only the information or assistance required to help the learner progress to the next level of knowledge (Kay and Kibble, 2016). Therefore, the learner's ultimate learning aim under this technique is to internalise new knowledge and skills and become an independent learner.

Scaffolding is the process of breaking challenging activities down into manageable, single-step components. This helps adult learners recognise their progress while making the

activity less stressful and achievable (Belland, 2014). A variety of scaffolding techniques, for example, active participation, inquiry, problem-solving and collaborative learning, can be used in adult learning (McCall *et al.*, 2018). Modelling, prompting, feedback with an answer and peer monitoring were among the best tactics Van de Pol *et al.* (2010) highlighted. Additionally, Jumaat and Tasir (2014) identified techniques, e.g. providing hints, bridging, modelling, contextualisation, schema building, text representation and repetition, as effective scaffolding techniques. Therefore, using a scaffolding approach to education entails providing adult learners with many learning opportunities. Scaffolding techniques are difficult to employ because lessons must be designed carefully. Too much scaffolding can impede the learning process (Carstens, 2016). Hence, to make the learner autonomous, the instructor must be a facilitator. In this current study, different scaffolding techniques have been incorporated into the demo lesson plans to demonstrate how classes can be scaffolded.

The scaffolding technique ensures LCP and has a significant impact on instructional practice. Belland *et al.* (2013) found that scaffolding accelerates self-learning by providing self-evaluation facilities. After implementing scaffolding techniques by Jumaat and Tasir (2014), learners become successfully engaged. Belland (2014) explored that scaffolding ensures higher-order thinking skills. Panadero *et al.* (2016) found that scaffolding ensured students' high academic performance. Jumaat and Tasir (2014), Aslam *et al.* (2017), Hosseinpour and Koosha (2016) and Barcena and Read (2004) became successful in implementing scaffolding in an ODL environment where the adult learners could develop as independent learners. All these findings indicate the effectiveness and applicability of the scaffolding technique in the ODL environment.

3. Methodology

A narrative literature review was carried out under a qualitative approach. To conduct the review systematically, the six steps guideline of Templier and Paré (2015) was followed. Figure 1 presents the research process. Prior studies on developing lesson plans are scarce to find, and it is a subjective matter. For that reason, the quantitative methodology is not appropriate for this study. Many quantitative studies were conducted on employing different PR and scaffolding techniques (Sari and Paradina, 2018; Kinyanjui *et al.*, 2015; Belland *et al.*, 2013; Van de Pol *et al.*, 2015). However, those studies only measured the effectiveness of the PR and scaffolding techniques and lacked an explaining how they planned the lessons. Therefore, a review of previous studies through qualitative research we used to know the best practices at one hand and also to demonstrate how classes can be planned effectively based on the best practices.

4. Conceptual framework of the study

The conceptual framework of this study is adapted from the ADDIE model, i.e. analysis, design, development, implementation and evaluation model Gustafson and Branch (2002). Thus, the researchers first analysed the context of learning in terms of MBA learners. Then, they design and develop instructional practices based on learning theories. After that, they prepared lesson plans for implementation and selected formative and summative assessments for evaluation (Figure 2).

5. The lesson plan

The lesson plan is considered a blueprint for effective teaching-learning, where classroom activities are described step-by-step (Drost and Levine, 2015). Therefore, a well-organised

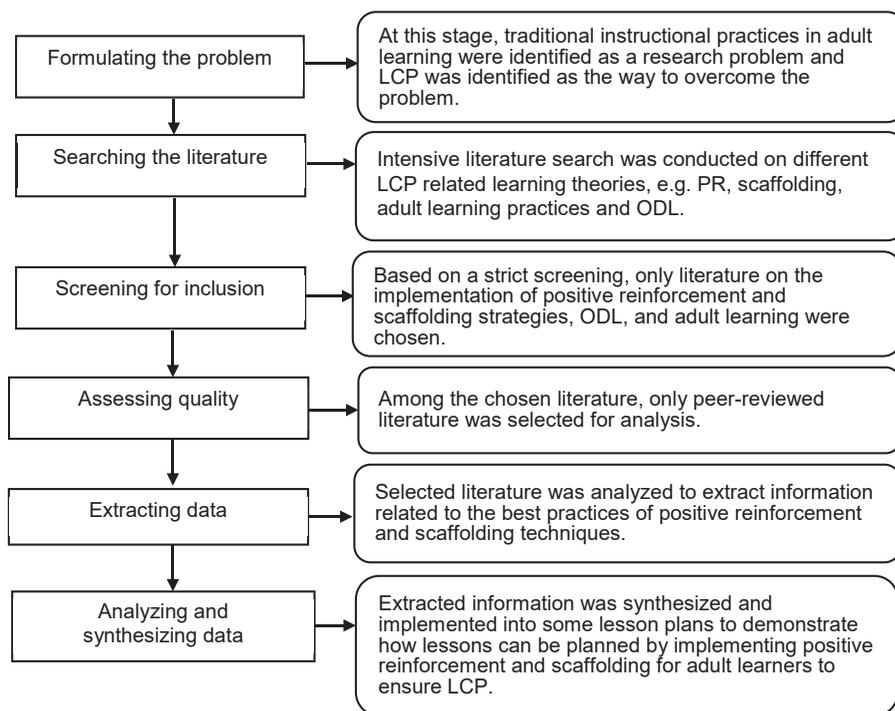


Figure 1.
Research process

lesson plan will achieve more remarkable learning outcomes. Three interrelated lesson plans will be presented in the following sections.

5.1 Description of the lesson plans

Tables 1–3 illustrate the lesson plans. The Learning Objectives (LOs) are determined as per the SMART formula (Specific, Measurable, Attainable, Relevant, Time-bound) and the hierarchy of Bloom's cognitive domain, i.e. Lower Order Thinking Skills (LOTS) to Higher Order Thinking Skills (HOTS) (Chatterjee and Corral, 2017; Khalil and Elkhider, 2016). Besides, for assessing LOs accurately, all LOs are developed based on the three principles: conditions, performance and standard, e.g. at the end of the tutorial session (condition), all learners will be able to identify three levels of products (performance), with 95% accuracy (standard) (Veronin and Patry, 2001).

The teaching techniques are determined as per LOs. Therefore, the teaching techniques of scaffolding (providing hints and bridging, modelling, guided teaching and practicing, contextualisation, scaffold fading and repetition) and PR (praise, social reinforcers, token reinforcers) are used combinedly. Gagne's nine events of learning served as a pillar for these lesson plans, which includes Attention gain, Informing learning objectives, Recalling prior knowledge, Explaining contents, Providing guidance, Allowing practices, Providing feedback, Assessing performance and Enhancing retention (Miner *et al.*, 2015).

The assessment tasks are determined as per LOs and teaching techniques. Thus, the convergent-related assessment tasks are selected for LOTS, and divergent-related tasks are selected for HOTS. Therefore, Biggs' constructive alignment model (alignment among the LOs, teaching-learning activities and assessments) has been maintained (Biggs, 2003; Chatterjee and Corral, 2017).

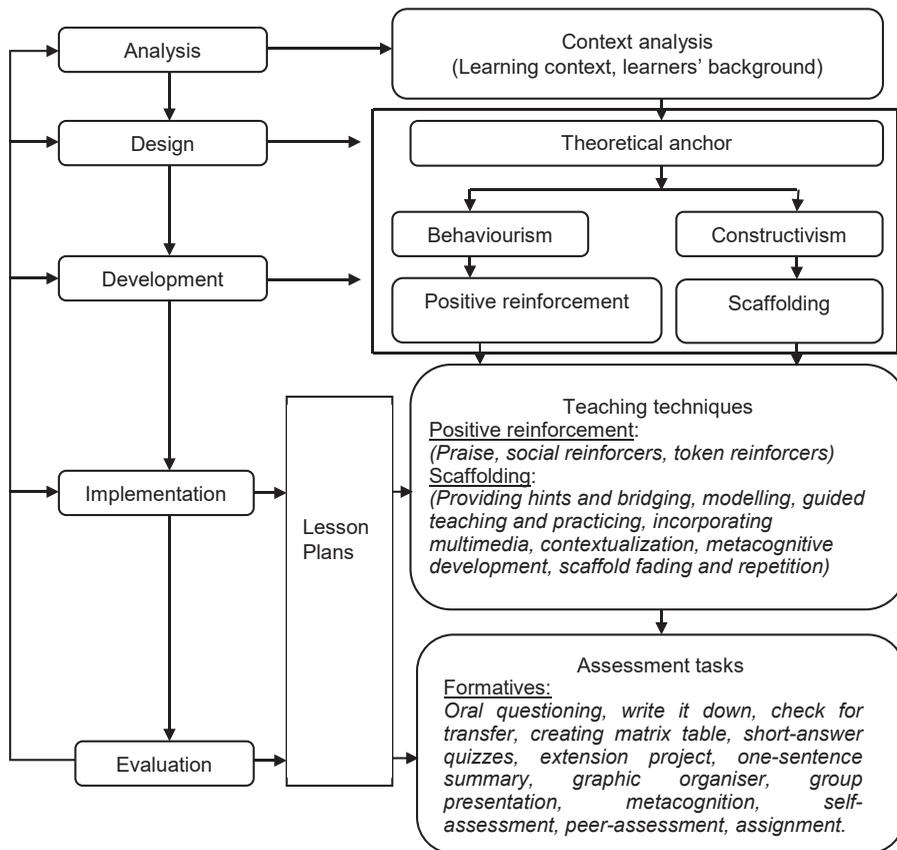


Figure 2.
The conceptual
framework of the study

5.2 Theoretical underpinning of the assessment tasks

Assessment tasks are the essential elements of an instructional design (Khalil and Elkhider, 2016). Choosing rational tasks as per theoretical directives is always challenging. Table 4 illustrates the theoretical underpinning of the assessment tasks.

Table 4 shows that a total of 13 assessment tasks are used. Among these, 1–5 are used for assessing LOTS and 6–13 are used for assessing HOTS, e.g. 1: Oral questioning denotes asking and answering questions in spoken form, and it was explored that sometimes it takes almost 40% of class time (Arslan, 2006 in Gunawan, 2019). Hence, Gunawan (2019) argued that it is the most common and inescapable assessment tasks. Similarly, 2: Short-answer quizzes indicate answering questions briefly, and McDermott *et al.* (2014) confirmed, “Frequent classroom quizzing with feedback improves student learning and retention” (p. 3). Likewise, 3: One-sentence summary means answering simple questions (what, who, where) about a topic which reveals a snapshot of learners’ remembering and understanding and when learners assess their tasks by themselves against a predetermined criterion, then it is called 4: Self-assessment (Panadero *et al.*, 2016). They suggested that despite the learners’ self-assessment, teachers should also give feedback on learners’ self-assessment. Lastly, for the 5: Graphic organiser, instead of writing, learners have to draw a diagram that covers the main information of a conceptive application. It is based on the philosophy, “A picture is worth a thousand words” (Praveen and Rajan, 2013).

Learning objectives (LOs)	Teaching techniques	Theoretical underpinning	Assessment tasks
1. Define the product without any mistakes	<ul style="list-style-type: none"> Individual tasks (Drawing diagram) <p>Each learner will be given a handout containing five definitions of product and instructed to draw a diagram mentioning the several features of products</p>	Scaffolding (Applying the supporting to learn well technique)	Graphic organiser Assessing applying abilities by drawing
2. Identify 3 levels of products with 95% accuracy	<ul style="list-style-type: none"> Peer learning (Think-pair-share) <p>Learners will be divided into pairs and instructed to think individually and then discuss with the pairs and then write the three product levels of their mobile phone and then share with others</p>	Scaffolding (Peer support to learn well)	Write it down Assessing analysing ability by real exercise
3. Classify different types of products with examples	<ul style="list-style-type: none"> Index card game <p>Learners will be divided into four groups to play a game. Two colour index cards will be given, one colour shows the type of consumer product, and the other shows examples of products</p> <ul style="list-style-type: none"> Brainstorming <p>Each group will be directed to write the features of each type of consumer product and, based on these features, present some real Bangladeshi products/product pictures</p>	PR (activity reinforcers-game, announcing winner) Scaffolding (Allowing guided practices)	Check for transfer Evaluating abilities will be assessed
4. Design an appropriate marketing strategy for each type of product as per theoretical directives	<ul style="list-style-type: none"> Application of knowledge by teamwork <p>Theoretical marketing strategies of each type of product will be presented in ppt</p> <p>Learners will be divided into four teams. Each team will be given one product type. Then they will be directed to develop marketing strategies of assigned product types for online marketing and present this in a matrix table on a flipchart</p> <p>Within a team, one member will be responsible for developing one aspect of marketing strategies. All matrix tables will be integrated finally</p>	Scaffolding (Guided practices) PR (Feedback and encouragement)	Creating a matrix table. Creating abilities will be assessed through creative exercise

Table 1.
Lesson plan 1:
understanding the
basic concept of
product

In short, the natures of the above five tasks are straightforward and require less cognitive effort. Therefore, these are formative and convergent-oriented tasks and appropriate for assessing LOTS, i.e. remembering, understanding and applying the domain of Bloom's

Learning objectives (LOs)	Teaching techniques	Theoretical underpinning	Assessment tasks
1. Explain NPD strategies without any mistakes	<ul style="list-style-type: none"> Interactive lecture Presenting NPD strategies by asking questions; What is NP? Why is it needed? What are the strategies for NPD? What are the marketing managers' tasks at every step?	Scaffolding (Guided teaching and questioning) PR (Social reinforcers-commenting)	One-sentence Summary Assessing remembering and understanding ability
2. Illustrate the steps of the NPD process with 95% accuracy	<ul style="list-style-type: none"> Group inquiry Learners will be divided into four groups. Each group will be given the same handout containing case studies of a newly developed environment-friendly shopping bag in Bangladesh called the "Sonali bag". These case studies were derived from national newspapers and the "Sonali Bag Brochure". Groups will be instructed to illustrate the flow chart of the NPD process of the "Sonali bag" and present this on a flipchart	Scaffolding (Guided practices by group work so that less knowledge one can learn from more knowledge one)	Graphic organiser Assessing applying ability by the task of sketching the NPD process
3. Identify marketing managers' tasks at every step as per theoretical directives	<ul style="list-style-type: none"> Information search Each group will be given a blank flowchart of the NPD process and marketing theories of NPD. They will be instructed to fill up the flowchart based on the discussion and theories In the flowchart, they have to describe marketing managers' tasks	Scaffolding (Contextualisation-direct practical experiences) (Schema building for NPD)	Write it down Analysing ability will be assessed
4. Develop a flowchart of the NPD process in the context of Bangladesh	<ul style="list-style-type: none"> Roleplay Learners will be divided into 6 Buzz groups They will be instructed to generate a new product idea in the context of Bangladesh Within a group, every member will have to play a different role, like supplier, manager, customer, etc. because new product ideas come from these entities. One leader from each group will have to present their new product idea via a mind map within two min	Scaffolding (Application of knowledge) (Collaborative learning) (Roleplay) PR (oral praising)	Group presentation Creating ability will be assessed by the innovative tasks of the groups

Table 2.
Lesson plan 2: new product development (NPD) strategies

(Khalil and Elkhider, 2016; Marashi and Akbar-Hosseini, 2019). Hence, it was justified to incorporate these tasks for assessing LOTS.

Conversely, 6: Write it down denotes writing the answers by giving instructions, and 7: Peer assessment means learners will assess the tasks of their peers via assessment criteria (Panadero *et al.*, 2016). These two are commonly used for assessing the analytical ability of learners (Chapman and King, 2005). However, Panadero *et al.* (2016) strongly recommended

Learning objectives (LOs)	Teaching techniques	Theoretical underpinning	Assessment tasks
1. Identify 5 stages of PLC without any mistakes	<ul style="list-style-type: none"> Hands-on learning Learners will be instructed to draw a PLC curve	Scaffolding (Guided practices)	Self-assessment Basic remembering and understanding of the PLC theory will be assessed
2. Describe the characteristics of each stage with theoretical directives	<ul style="list-style-type: none"> Envoys strategy Learners will be divided into five groups. Each group will be given a handout containing PLC related case study of "NOKIA N70" and instructed to write down the features of each stage of PLC. This activity will be done by envoy strategy. Selected envoys will go to the other groups and inform their own group's arguments and then return to their group with other groups' arguments	Scaffolding (Application-guided practices by cooperative learning; Bridging-applying theory by practical examples)	Peer assessment Assessing analysing ability by the case study
3. Implement different marketing strategies appropriate for each stage in the context of Bangladesh	<ul style="list-style-type: none"> Application of knowledge through by Jigsaw approach Discussing different marketing strategies fit for each stage of PLC. Then, divide the learners into equal five groups-(expert groups 1-5). Each group will be instructed to pick up one stage of PLC. Then they will be given a handout related to the PLC stage they have picked Groups will be asked to discuss and find out the appropriate marketing strategies for the PLC stage they got. After that, five jigsaw groups will be created. Each will be given a chart of several Bangladeshi products that belong to different PLC stages. They have to identify the right PLC stage for each product, and then they have to develop appropriate marketing strategies for each product. (As each member has expertise in one stage). They have to present it through a flip chart	Scaffolding (Jigsaw group learning)	Group presentation Creativity power to develop appropriate marketing strategies based on the PLC theory will be tested

Table 3.
Lesson plan 3: product life cycle (theory and practices)

using a rubric and checklist for these two tasks. 8: Check for transfer is used to check the learners' ability to transfer a learned concept from one domain to another. Similarly, 9: Metacognition is related to the reflection that allows learners to reflect on what they did in class and why they did it (Laveault and Allal, 2016). Hence, these two disclose the evaluation ability of learners' because without evaluation, it is impossible to complete these types of tasks (Chapman and King, 2005). 10: Creating matrix tables or creating something is commonly used to assess learners' creativity. The same argument is also true for 11:

Table 4.
The theoretical
underpinning of the
assessment tasks

Assessment tasks	Theoretical underpinning (Bloom's cognitive domain)	Types	Justifications	Literature
1: Oral questioning, 2: short-answer quizzes, 3: one-sentence summary, 4: self-assessment	Remembering Understanding	Formative and convergent	For assessing LOTS	Chapman and King (2005), Khalil and Elkhider (2016), Marashi and Akbar-Hosseini (2019)
5: Graphic organiser 6: Write it down, 7: peer assessment	Applying Analysing	Formative and divergent	For assessing HOTS	
8: Check for transfer, 9: metacognition 10: Creating matrix table, 11: extension project, 12: group presentation of creative tasks, 13: assignment	Evaluating Creating			

Extension projects, 12: Group presentations and 13: Assignment because learners have to demonstrate their creativity to complete these tasks. Hence, these are also appropriate for authentic assessment (Villarroel *et al.*, 2018).

Overall, for the above eight tasks (6–13), huge cognitive efforts are essential, which ultimately produces diverse outcomes. Hence, these tasks cannot be accomplished straightforwardly. Therefore, these tasks must be grouped as formative divergent tasks (Marashi and Akbar-Hosseini, 2019). Therefore, these are appropriate for assessing HOTS, i.e. analysing, evaluating and creating a domain of Bloom's (Khalil and Elkhider, 2016). Hence, it was justified to incorporate these tasks for assessing HOTS.

5.3 Anticipated challenges and possible solutions

It is anticipated that while implementing of the demo lesson plans in practice, challenges will arise from two sources: from the tutor's side and from the learners' side. From the tutor's side, challenges like facilitating the activities, providing necessary feedback, keeping all learners at the same pace and assessing the formative assessment tasks accurately may arise. These challenges will emerge due to the large number of students (Koc and Celik, 2015) at BOU. Employing large group activities, home tasks and Web 2.0 tools can solve the problem. Rubrics can be used as a tool to quickly assess the formative assessments in class (Reddy and Andrade, 2010). Boakye and Ampiah (2017) identified that time management could become challenging while implementing LCP techniques. A specific and limited number of learning objectives can help instructors to manage time.

Some learners may need to adjust and adapt to the new learning environment. They can become nervous and feel pressured and reluctant to engage in class activities and remain demotivated (Ahmed, 2018; Boakye and Ampiah, 2017). To solve these problems, PR techniques like praise, social and token reinforcers are very effective. Some learners may face difficulties in understanding the tutor's instructions correctly. In that case, modelling and guided practice techniques of scaffolding will solve these problems (Jumaat and Tasir, 2014; Walqui, 2006).

5.4 Research implications and limitations

The current study demonstrates how lessons can be organised and planned by implementing different PR and scaffolding techniques to ensure LCP in the context of BOU. If lessons can be

prepared and implemented in all courses of the MBA programme at BOU, it will change the scenario of the whole instructional process. It will make learning fun for the adults and also prove knowledge and skills at the same time. The most significant change after implementing these strategies is that the adults will become independent and lifelong learners, which will help them adapt to any changes in their professional life. Teachers will also become active in knowing and nurturing the best practices of LCP to make their lessons effective. Students will be monitored continuously by the teachers through formative assessments, leading to better academic results for the students.

Overall, the present study has shown how to develop an LCP-based adult learning system that can bring a paradigm shift in the current instructional practices in the MBA programme of BOU. However, due to the specific focus on LCP, the present study could not focus on cognitive learning theory. Moreover, the demonstration of a limited number of lesson plans is another limitation of this study. Therefore, future studies should focus on implementing and synthesising cognitive learning theory with PR and scaffolding to develop interactive lesson plans. The lessons of this study were not implemented as this is a review-based study. Hence, future studies can implement the lesson plans and measure the effectiveness of the strategies used in this study.

6. Conclusion

In this study, the researchers have explored that the instructional practice of the MBA programme of BOU is based on TCP. Still, for achieving the aim of MBA, recent studies emphasise the implementation of LCP in the MBA. Hence, to ensure LCP in MBA, they have presented three interrelated lesson plans that infused PR and scaffolding teaching techniques. Besides, they have included several assessment tasks that can assess both LOTS and HOTS of MBA learners. Again, they have presented possible challenges for implementing these lesson plans and suggested practical solutions based on the BOU context.

The combined application of PR and scaffolding teaching techniques will effectively ensure LCP. For instance, praise and social and token reinforcers of PR will motivate learners to achieve more remarkable academic achievements. Similarly, modelling, guided practice and contextualisation will help learners to learn new things meaningfully. Thus, these combined teaching techniques will ensure active learning. Moreover, assessment tasks like creating a matrix table and presentations of creative tasks will increase the HOTS of learners. Therefore, this new instructional practice will greatly ensure LCP and support to achieve the MBA's aim.

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