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PROBLEM-BASED LEARNING (PBL) CASE-DESIGN TRAINING AND MODEL FOR LANGUAGE PRACTITIONERS

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ABSTRACT

Background: Case/Problem is the core element for Problem-Based Learning (PBL). However, due to lack of knowledge and experience in crafting cases, practitioners often find it challenging to employ PBL approach in their classrooms. The purpose of this study was to train English language practitioners to craft their own PBL cases for a General English Course using 3C3R Case-Design Model (Hung, 2006) as the basis. The 3C3R model consists of two classes of components: core and processing components. **Methods:** This study employed the Action Research approach in which the four steps (planning, action, observation and reflect) were closely followed within two cycles of the action research procedure. Data were collected through observation checklist and focus group interviews with 8 participants who are English language practitioners. **Results:** The findings were two-fold: an emerging PBL case-design model for language courses (PBL Language Case-design Model) and the practitioners' experiences on the trainings. Some of the findings that led to the emerging PBL Language Case-design Model: a) issues on the content component in the 3C3R case design model (Hung, 2006); content was not the main aim when teaching language, b) the inclusion of affective angle in the model. **Conclusion:** In conclusion, the importance of the emerging PBL Language Case-design Model for language teaching and the valuable gains of the trainings in preparing PBL case crafters for language courses were the significant findings. The emerging model is not only expected to guide English Language practitioners with limited case-design knowledge but also practitioners teaching other languages, to craft PBL cases to meet their learners' language learning aims.

INTRODUCTION

The essence of PBL is learning around problems / cases rather than discrete subjects [1]. Students work in groups/teams to solve an ill-structured problem/case and not required to acquire a predetermined series of 'right answers'. The ill-structured problem presented in PBL requires learners to engage with a complex situation presented to them and decide what information they need to learn and what skills they need to gain to manage the situation effectively. Thus, PBL reflects the real-world scenario because the ill-structured problems encountered by learners are the potential type of problems learners might encounter in the real world where there will not be any predetermined solution or right answer. All that matters in this kind of learning is the ability to produce the most viable/possible solutions or options for the presented problem.

In examining the research on PBL, a majority of studies have focused on various implementation and learning outcome issues, such as the roles of tutors [2], students' perceptions [3], group size [4], group processing skills [5] and the rate of board exam passage [6] [7] [8].

Somehow, the concerns surrounding the design of cases seem to have received little attention. A few researchers [9] have discussed the design of PBL cases. Yet, the discussions are rather general and, therefore, inadequate in providing educators and practitioners with the conceptual framework needed to design effective PBL cases. Duch (2001) contended that the case itself is the key to the success of PBL [10]. To investigate the effectiveness of PBL problems/cases, Dolmans, Gijsselaers, Schmidt, and van der Meer [11] analyzed the correspondence between the instructors' intended objectives and the student-generated learning issues based on their interpretations of the PBL cases. They found that only 64% of intended content was identified in the student-generated learning issues. Hence, without assurance of the quality of problem or intended aims being met, the effects of PBL are unpredictable and questionable. Drummond-Young and Mohide (2001) proposed an eight-step PBL problem development process specifically designed for nursing education, which unfortunately rendered the process too domain specific to be used in a wider range of contexts [12].

Within the area of second language learning and teaching, problem-based learning aligns with approaches in which students learn the target language by using it, rather than being presented with and then practicing predetermined language structures [13]. To maximize language learning outcomes, ESL practitioners need to prepare students for the language demands of the problem-solving activity. Activities to prepare students vary depending on their proficiency levels. These may include pre-reading or prewriting exercises, discussions to link the problem with the students' knowledge and experiences, or pre-teaching vocabulary and structures that will be useful in finding solutions to the problem. However, not many language practitioners have the knowledge on crafting activities (cases / problems). To craft PBL cases, one needs training or guide to become case crafters. Lack of available resources on PBL cases for language and trainings compounded by the issue of using suitable PBL case-design models for language courses, have driven researchers to embark on the current study with these research questions:

Thus, this study seeks to answer the following research questions:

KEY WORDS
 Problem-Based Learning (PBL), PBL Case-Design Model, Action

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1. What are the English Language practitioners' experiences in the PBL case-design training?
2. How does the 3C3R PBL Case-Design Model (Hung, 2006) assist the English Language practitioners to craft PBL cases for General English Proficiency (GEP) Course?

Hung (2006) has developed a 3C3R PBL case design model [Fig. 1] which is expected to be a framework to design effective, precise and reliable PBL cases and this model is used as the theoretical framework for the current study [14]. The 3C3R model consists of two classes of components: core components and processing components. Core components include content, context, and connection, and are used to support content/concept learning; processing components, composed of researching, reasoning, and reflecting, concern the learners' cognitive processes of learning and problem-solving skills. The core components of the 3C3R model—content, context, and connection—are primarily concerned with the issues of appropriateness and sufficiency of content knowledge, knowledge contextualization, and knowledge integration. Thus, this case design is used as the basis for training the research participants on the PBL case design to discover their experiences in the training and the feasibility of the model for crafting PBL cases for language courses.

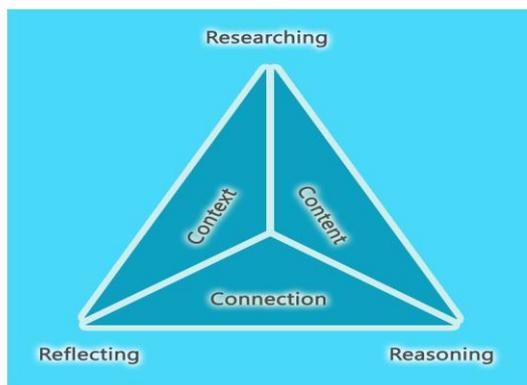


Fig. 1: The 3C3R case design model (Hung, 2006).

MATERIALS AND METHODS

This study was carried out using the Action Research approach in which the four steps (planning, action, observation and reflect) were closely followed within two cycles of the action research procedure. A total of 8 participants who are experienced English language practitioners with little or no PBL knowledge, took part in this study. These participants have been in the ESL teaching field at tertiary level between 10 to 15 years. These participants teach the university's English Language course, i.e. General English Course (GEP). GEP course is a foundation course that equips students with basic language skills and geared towards developing students to achieve a satisfactory level in the language.

Instruments used to collect data include observation checklist and focus groups interviews. *Observation checklist* consists of the items to be observed: the challenges experienced by the participants to craft the PBL cases and the feasibility of the components in the 3C3R case-design Model in assisting the practitioners to craft PBL cases. Data from the observation checklist provided useful prompts for the focus group interviews. The interviews were meant to explore the participants' experiences in the training sessions and the feasibility of the 3C3R case-design model in helping the novice PBL practitioners to craft cases for a language course i.e. GEP course. Open-ended questions were used in the interviews because this type of interviews provides parameters within which interviewees can formulate answers in their own words [15][17,18].

Data collection and analysis procedure

The participants underwent two trainings (two cycles in the action research procedure) on PBL Case-design model using the 3C3R case-design model (Hung, 2006). Following the action research procedure, Training 1 was conducted in Cycle One and Training 2 was carried out in Cycle Two. However, this paper is focused on data from Training 1 only.

In training 1, participants were exposed to PBL approach, the 3C3R PBL Case-Design Model (Hung, 2006), case crafting for GEP and reflecting session. The case crafting was done in small groups using the 3C3R case-design model. The participants were given access to computers and internet to assist with materials search for crafting cases and they were also encouraged to refer to their Course Textbook or Course Outline/Information to align the PBL cases with the intended GEP syllabus. The researchers were present in the crafting teams as participant observers with the observation checklist to tick the checklist accordingly and document the challenges and chasms experienced by the participants to craft the PBL cases and the use of the 3C3R case-design model.

After Training 1, the observation checklists were gathered from researchers and analyzed to be used as prompts for focus group interviews. The interviews were recorded and transcribed. Content analysis was done on the transcripts to arrive at themes. The data from the observation checklist and interviews were used to interpret the experiences of the language practitioners in crafting PBL cases for GEP with the aim to provide a better guide for them for crafting PBL cases in future.

RESULTS

In this section, the findings are presented and discussed based on the following research questions:

1. What are the English Language practitioners' experiences in the PBL case-design training?
2. How does the 3C3R PBL Case-Design Model (Hung, 2006) assist the English Language practitioners to craft PBL cases for General English Proficiency (GEP) Course?

The findings for the research question are termed as themes. The discussion of each theme is accompanied by extracts from the participants' answers for the prompts and open-ended questions in the interviews. The source of the extract is indicated by the use of 'P', so 'P2' refers to participant number 2.

As for research question 1, two themes that emerged from the data are discussed. They are *new knowledge and flexibility in case design steps*. In terms new knowledge, data show that the language practitioners expressed the worthiness of participating in the training. P2 stated that she did not know that PBL cases can be used to teach languages. Similar response was made by P6 that PBL is usually used in science and business courses. P3 was delighted with the new knowledge learnt and expressed her enthusiasm to use PBL cases in her classes. These themes are evidenced in the extracts below (Extract 1: P2; Extract 2: P6; Extract 3: P3).

Only after attending this training I knew that PBL cases can be used to teach English

(Extract 1: P2)

I have always thought that PBL cases are applicable for science and Business subjects

(Extract 2: P6)

It is really worth while attending this training and I am excited to use PBL cases to teach my English course

(Extract 3: P3)

Similar view was shared by P1 and P5 on the importance of PBL case-design training due to scarcity of available cases to be used for general English courses and thus, the training given was useful to craft cases for their English course. These points are illustrated in the following extracts (Extract 4: P1; Extract 5: P5).

I have heard about using cases to teach English but I could not find PBL cases that were suitable for my English course...learnt new things in this training

(Extract 4: P1)

The training was good; I discovered how to craft PBL

(Extract 5: P5)

Based on Extract 1-5, it is imperative that the language practitioners discovered new knowledge which is crafting PBL cases. They also further highlighted the importance of the new knowledge e.i. crafting PBL cases, specifically for teaching English language courses.

The second theme is flexibility in the case-design steps. Some general steps in case crafting were explained during the training and they were meant as a guide to get started with the crafting process for

novice PBL practitioners. However, the language practitioners expressed their concerns about using the case crafting steps as a guide. P8 mentioned that the steps in case crafting should be recursive instead of sequences. P7 and P4 expressed that they went back and forth when they were crafting cases because they were not much content to think about. These are the extracts (Extract 6: P8; Extract 7: P2; Extract 8: P4).

I think it is more helpful if the steps for case crafting have arrows to show they are recursive because it is all about language and not content

(Extract 6: P8)

The steps should be listed and not numbered because we are not building content but a case for language practice

(Extract 7: P2)

I did not follow the sequence in the steps for crafting cases because it is about language practice; I was moving back and forth when crafting

(Extract 8: P4)

The responses above reflected the participants concerns on wanting some flexibility when they are crafting the cases for an English language course. An interesting point that can be deduced here is that the practitioners were expecting more flexibility in the steps to craft cases since the emphasis for PBL cases for language teaching should be on the skills and not content. Based on Extracts 6-8, it can be surmised that the practitioners were thinking from language practitioners' perspective on the issue of content vs. language skills in teaching English Language which are elucidated in the next themes on the emerging PBL Language case-design model.

As for research question two, data from observation checklist and focus group interviews are included. The researchers documented their observation during the team PBL case crafting and interviewed the participants by using the data from observation as prompts. During the focus group interviews, the language practitioners were asked to reflect on the feasibility of the 3C3R case-design model when they crafted PBL cases for General English Proficiency Course. Several themes emerged from the data which are expected to arrive at an emerging *PBL Language Case-design Model* (specifically for Language Courses). However, only two themes are discussed in this section: issues on the content component in the 3C3R model and the inclusion of affective angle to the 3C3R model.

In terms of the content component in the 3C3R case design model, the language practitioners expressed the confusion they had in relating the term 'content' with language teaching. During the team PBL case crafting, the researchers documented in the observation that P3, P6 and P7 discussed on the confusion they had on the issue which brings about argument that the word 'content' should not be in the model if it is to be used for language case crafting. This point was further explored during the interviews. Extracts below are the responses from P3, P5, P6 and P7:

We are teaching general language, what is our content?; do we have any? I mean our focus should not be on content

(Extract 8: P3)

What is the content that we want to achieve in English Language, we are not teaching content subjects

(Extract 9: P5)

The word content should be changed to something related to language subject

(Extract 10: P6)

Content should be replaced; perhaps language skills would better suit

(Extract 11: P7)

The extracts above represented a paradigm from language practitioners on the use of the term 'content' which they believe as irrelevant in language teaching context; the emphasis is on the language skills.

The second theme is on the inclusion of the affective angle in the model. Based on the observation checklist and notes from the researchers, there were discussions, during the case crafting among P6, P7 and P8 about the possible ways to arouse learners' motivation. However, they did not find context component to boost the motivational aspect because there is no context for a General English Course. This issue was further explored during the interviews to gain more in depth insights. These are the extracts of the responses:

For example cases on biology, the context of a hospital can be of use with some motivational elements included...what context to include for teaching language skills? We might need to think about motivation as a component?

(Extract 12: P6)

We need to motivate students; maybe we can include their home town or topic of their interest

(Extract 13: P7)

It is important to have something close to their emotion; could be a different component coz there is no specific context for general English

(Extract 14: P8)

In the 3C3R model, the context component calls for an inclusion of the motivational element through context of the case. However, based on responses from P6, the context component can be connected with any motivation aspect since biology subject is content-based i.e. hospital context, which is not the context specific to language subjects. It is evidenced from the extracts above, language practitioners proposed for an inclusion of a separate motivational component. Despite the fact motivational aspect or affective angle is not a component by itself in the 3C3R Model, the importance of affective angle [16] has been highlighted as a new component in the PBL case-design model. Real life problems alone do not promote sense of belonging and engagement rather the cases that promote the psychological needs: subject presence, location proximity, personal interest, etc., can increase connection and ownership to involve in the case (Hung, 2006). In other words, if affective angle is crucial in content subjects where the content and context can be linked to create the motivational aspect what more with non-content subjects i.e. English language. P1 and P2 talked about placing the affective angle by itself and in the center of the model which signaled that this component is the most crucial for them in case crafting for language courses. These are the extracts:

I think affective or emotional aspect is the most important component in the model...maybe should be placed in the center

(Extract 15: P1)

Motivational aspect important and I think it is the most important to attract student attention for general English subject

(Extract 16: P2)

Thus, the themes suggest that case-design model for General English may need some adaptations to cater for the specific need of a language subject which is a non-content subject. Based on the preliminary findings presented in this paper, the emerging model is illustrated in [Fig. 2] below.

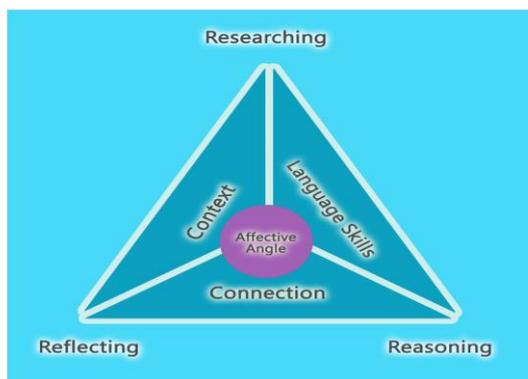


Fig. 2: The emerging PBL Language case-design model.

CONCLUSION

In conclusion, the practitioners' feedback on the training highlights the importance of PBL case-design training for novice PBL practitioners specifically for General English teaching because crafting cases for language subjects are slightly different compared to crafting cases for content subjects. There are two themes discussed on the PBL case design training experiences namely new knowledge and flexibility in the case design steps. These two themes reflect that the language practitioners were not aware that PBL cases can be employed in non-content subjects i.e. English Language. The themes related to the case design model: issues on the content and the inclusion of affective angle explicated the need for an emerging PBL case design model for language courses (PBL Language Case-Design Model). The findings further conclude the importance of the emerging PBL Language Case-design Model for language teaching and the valuable gains of the trainings in preparing PBL case crafters to teach language courses using PBL cases. It is also anticipated that this study compounded with the data from Training two of the case design model (on-going research), would yield a better explanation of the emerging case design model. However, more conclusive studies might be needed before establishing the possible emerging model specifically for language subjects. Hence, the emerging PBL Language Case-design Model is not only expected to guide English Language practitioners with limited case-design knowledge but also practitioners teaching other languages, to craft PBL cases to meet their learners' language learning aims.

CONFLICT OF INTEREST

There is no conflict of interest.

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