

# Problem-based Learning for Preservice Teachers of English as a Foreign Language

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## Abstract

Problem-based learning (PBL) is an appropriate teaching approach for university courses with a practical focus on real-world issues. This article exemplifies how PBL is implemented in a teacher education programme for preservice teachers of English as a foreign language (EFL). It shows the process of solving problems that may occur in an EFL teaching context. The article further explores the roles of the students and the teacher and concludes with seven benefits of PBL in a preservice teacher education programme: a tight connection between theory and practice; the acquisition of numerous skills; increased learner autonomy, agency, and self-regulation; teamwork; students' involvement in syllabus design; a raised level of motivation; and sustainable long-term learning effects.

*Key words:* problem-based learning, teacher education, English as a foreign language (EFL), student-centred teaching, learner autonomy

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## 1 What is PBL?

PBL places students at the centre of learning while the teacher acts as facilitator during class time. PBL lessons are characterised by scenario-based activities and teamwork. Students engage actively in the construction of knowledge and skills by jointly analysing and solving complex, close-to-reality problems. They exploit their own potential before consulting other resources and reflect on the collaborative problem-solving process. PBL provides classroom conditions that enable students to acquire and practice the knowledge and skills that they will need in their future professional lives.

PBL originated at the medical school of McMaster University in Hamilton, Canada, in 1969 and was adopted by the medical schools at the University of Maastricht in the Netherlands and the University of Newcastle in Australia in the 1970s. Today the approach is used at tertiary educational institutions around the globe for teaching in numerous disciplines that have a strong foundation in reality, such as law, psychology, engineering, and business studies. Some universities have developed whole curricula tracks for PBL to run exclusively or parallel to conventional courses (Donner and Bickley 1993).

Intended for adult learning in higher education and anchored in humanistic and socio-constructivist beliefs (de Graaff and Kolmos 2003; Hmelo-Silver 2005; Rotgans, Schmitt, and Yew 2011), PBL builds on the knowledge and skills students bring into the classroom. It values the importance of practical experience in learning and is conducted in a meaningful and experiential manner (Barrows 2000; Hmelo-Silver 2005; Torp and Sage 2002). Some of the skills acquired through PBL, which are transferable to other domains, include critical thinking and reflection (Filipenko, Naslund, and Siegel 2016) as well as respectful, open-minded, and constructive discussion practices (Baumann, Tarampi, and Prodan 2016). PBL fosters self-directed learning and student cooperation (Yew and Goh 2016) and appears to be more effective in terms of skill and competence development and long-term retention of knowledge (Strobel and van Barneveld 2009) compared to more traditional teaching approaches in higher education. PBL is a process that starts with the description of a close-to-reality scenario and leads to a structured team effort to solve a problem or multiple, interconnected problems. Finally, an evaluation of the problem-solving process and its outcomes may lead to the adjustment or repetition of part of it.

## 2 PBL in EFL Teacher Education

Teacher education is generally compatible with PBL due to its evident connection with reality. Moreover, PBL is an ideal supplement to the practical training in teacher education. This article refers to an undergraduate university course for preservice English teachers in Austria that runs parallel to the students' practical internship. The university course stretches over 15 weeks with one 90-minute class meeting per week. During the internship at local secondary schools, the students observe lessons and gain initial teaching experience. They witness natural conditions for real-life learning, which greatly benefits the PBL approach in the adjoined university course.

The teaching materials for the PBL course, which consist of a number of problem scenarios and problem statements, have been specifically developed to suit both the thematic focus of the teaching internship and the intense problem-orientation and learner-centredness of the PBL teaching methodology. In general, a problem should be interesting, authentic, and adapted to the students' level of prior knowledge (Schmidt, Rotgans, and Yew 2001). It should engage the students in discussion, motivate them to identify appropriate learning issues, and stimulate self-directed learning. Usually, problem scenarios in PBL course materials address the students directly (e.g., *You* are about to begin *your* teaching practice at a local secondary school). However, the scenarios and problem statements in this course describe the situations encountered by a fictive preservice teacher named Stefanie (figure 1). Stefanie's dilemmas have been designed to exhibit some typical problems of a preservice EFL teacher. Her character was introduced to support a safe, respectful learning environment where students can speak freely (Bauman, Tarampi, and Prodan 2016) without worrying about losing face. For PBL first-timers, it may be easier and safer to address someone else's problems (i.e., Stefanie's problems) rather than their own. The example of a PBL task in figure 1 will be used to explain how problem scenarios are addressed in the teacher education course.

UNIT 5
Amazing animals

● 1 Read the text.

**Saved by a pig**



August 5th, 2004 was a hot day in Worcester. Judith Crowe, her 5-year-old son Jeff and their little pig Bacon went swimming in the river near their home. Bacon was a very good swimmer. In fact, he was better than Jeff. Judith and her son played and swam in the water for an hour. All the time Bacon was with them. Then Jeff's mother got out of the water to get a towel. "Stay here for a minute," she said. When she turned round, she saw Jeff in the middle of the river. The water was deeper and more dangerous there. He was in trouble. Jeff's mother jumped into the water and started to swim. But Bacon was faster than Judith and got to the boy first. The little boy put his arms around the pig. But he was bigger than the pig and he was heavier. The boy and the pig both disappeared under the water. Jeff's mother didn't know what to do. Then suddenly she saw the little pig again. Jeff was on the pig's back. Her son was safe.

Source: MORE! 2, Student's Book  
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What do you think? What information should a lesson plan include? How would you structure it?

**Scenario 1:**  
Stefanie's practice supervisor asks her to teach a 20-25 minute segment of a lesson in the second grade she has been observing. The activity should be on the text 'Saved by a pig'.

**Problem:**  
Stefanie has no experience in planning teaching activities. She struggles with writing a lesson plan because she has no idea what she is supposed to do with this text and how she can use it for teaching. What is more, she is uncertain as to what should be included in a lesson plan.

Figure 1: Example of a PBL task in EFL teacher education

### 3 How to solve problems in PBL

There is no one-fits-all procedure in PBL to reach a solution as the nature of problems differs according to the discipline and the intended goals of a course (Boud 1995; Savin-Baden and Howell 2004). Instead, there is a variety of possibilities for problem solving (Moust, Bouhuijs, and Schmidt 2007; Schmidt and Moust 2000). The choice of an appropriate procedure depends on the nature of the problem, its complexity, and the learners' prior experience with PBL. With novice problem solvers in EFL teacher education, the following 7-step approach has worked well.

- Step 1. Clarify unclear terms and concepts in the problem text
- Step 2. Define the problem: What exactly needs explaining?
- Step 3. Problem analysis: Produce as many ideas as possible
- Step 4. Problem analysis: Arrange the ideas systematically and analyse them in depth
- Step 5. Formulate learning goals
- Step 6. Seek information from learning resources

## Step 7. Synthesise and apply the new information

(Moust, Bouhuijs, and Schmidt 2007, 22; see also de Graaff and Kolmos 2003)

In Step 1, a student reads the scenario and problem statement aloud. The students determine whether everyone understands the prompt and rephrase the given text to affirm that there are no ambiguities regarding the terminology (e.g., What does “supposed to” mean?; see figure 1) and content (e.g., At what proficiency level are learners in the second grade?). Students with a few weeks of experience with PBL tend to skip this step because they do not recognise its value. However, profound clarification at the beginning can prevent confusion and frustration at later stages in the process. Minor misinterpretations of the problem statement (e.g., through guessing the meaning of a phrase) may consequently lead to major misunderstandings. The purpose of Step 1 is hence to eliminate all ambiguities and to constitute a common base for all course participants.

There are usually multiple related issues woven into a problem scenario, which the students try to identify in Step 2. Groups with no or limited PBL experience usually appreciate some “hard scaffolding” (Schmidt, Rotgans, and Yew 2011) like the guiding questions in the thought bubble in figure 1. Such questions provide a starting point for tackling the problem in an explicit manner. More experienced students will not need such obvious scaffolding anymore. Defining the problem activates the learners’ prior knowledge, which is then “built upon further as the learners collaborate [...] to construct a theory or proposed mental model to explain the problem in terms of its underlying causal structure” (Schmidt, Rotgans, and Yew 2011, 793).

Step 3 is an open, unrestricted brainstorm, in which the students create a common knowledge base. They mainly draw on previous experiences and common sense at this point. For instance, some students may have seen lesson plans before, talked about lesson planning with their practice supervisors, or read about it in a teaching guide. All students should get an opportunity to contribute to this brainstorm without being judged or ridiculed even if they just share their personal beliefs or take a guess. The aim is to create an information basis that can be tested and altered in the steps to follow.

Then the students cluster the outcome of the brainstorm in Step 4 and arrange the gathered information in a systematic order (e.g., basic information about the learners’ proficiency level; specific information about reading comprehension). They determine which of the ideas are relevant to the problem-solving process and which can be discarded. They identify knowledge deficiencies related to the problem and start thinking about how these gaps can be bridged. Finally, they decide how the problem and its underlying issues should be analysed in depth to approach a solution.

In Step 5, the students formulate specific questions that need clarification in order to solve the problem. They discuss how these questions can be answered, for instance, by consulting the literature, seeking expert advice, or researching a topic online. Together the students divide the workload, which often starts with individuals volunteering to attend to a specific question or sub-question. Finally, they formulate learning goals in the plenum, which has two major advantages. First, it helps to keep track of the group's achievements. Second, it generates a feeling of togetherness as the students are planning a joint effort.

The actual information-gathering part of the process, Step 6, happens outside of class. The students complete the allocated self-study tasks individually, in pairs, or small teams. They read relevant printed and digital literature, consult online sources such as websites, blogs, vlogs, or videos (e.g., TED talks, YouTube clips), and ask advice from more knowledgeable people like experienced teachers at their practice school, their practice supervisor, academic university staff, or other experts who may be able to help. The students collect the findings and prepare suitable means to present them to the class in the following lesson.

At the beginning of the next lesson, the students present their research outcomes, synthesise the information that has been collected, and evaluate the findings as a seventh and last step in the process. They assess which questions and sub-questions have been satisfactorily answered and which outcomes are insufficient and need revision. At this point the students may notice that some of the questions were inappropriately phrased. In that case, they return to Step 5, rephrase the questions accordingly, and decide who will answer them by the following lesson. Steps 5 to 7 can be repeated in this manner multiple times as often as necessary to arrive at an acceptable outcome. The reflection and revision in Step 7 “helps students (a) relate their new knowledge to their prior understanding, (b) mindfully abstract knowledge, and (c) understand how their learning and problem-solving strategies might be reapplied” (Hmelo-Silver 2005, 247).

#### 4 What are the Students' Roles in PBL?

A crucial characteristic of PBL is that each person in the classroom plays an important role in the problem-solving process, which may include a

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- *facilitator*, who moderates discussions, keeps the team on task and makes sure everyone works and has the opportunity to participate and learn;
- *researcher*, who finds the material needed by the team;

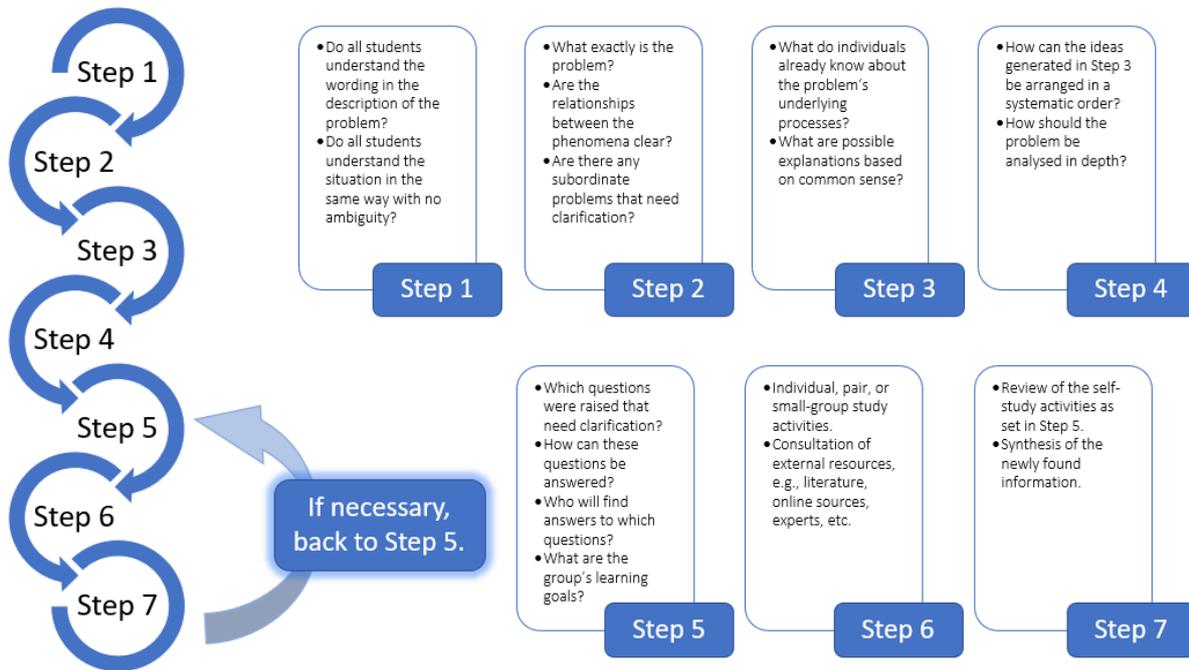


Figure 2: The 7-step approach of PBL

- *encourager*, who reinforces members' contributions;
- *timekeeper*, who monitors time, moves the team along so that they complete the task in the available time and assumes role of any missing team member if there is no wildcard member;
- *recorder*, who takes notes of the team's discussion and prepares a written conclusion;
- *checker*, who makes sure that all team members understand the concepts and the team's conclusions.
- *wildcard*, assumes role of any missing member.

” (Savin-Baden and Howell Major 2004, 86)

The roles can be rotated, which has some significant advantages for individual students and consequently the group.

Rotating roles can give each student the opportunity to take the lead in a team situation, a role that shy or introverted students sometimes avoid; and it can provide a chance for a dominating student to take a role that involves less talking, thereby creating an opportunity for other students to participate more easily. (Savin-Baden and Howell Major 2004, 87)

The goal is that all students contribute actively and constructively to the team's efforts according to the roles they are embodying. In the teacher education course reported in this article, the students' roles are reduced to chairperson, scribe, and regular participant. The preservice teachers choose autonomously from these three options.

#### **4.1 The Chairperson**

The chairperson is a student who adopts the responsibilities that are usually the teacher's tasks in more traditional classrooms. The chairperson is a facilitator and as such orchestrates group discussions and invites peers to share their thoughts, opinions, and knowledge. The chairperson encourages action and interaction and motivates their fellow students to volunteer for the self-study tasks the group sets itself in Step 5. Finally, should any conflict arise among the students, the chairperson evaluates the situation and decides which measures should be taken towards resolving the conflict. In some instances, conflict "can result in creative confrontation in which new solutions or approaches emerge as a result of the interaction of the conflicting parties" (Savin-Baden and Howell Major 2004, 87). But in most instances, the chairperson will strive to avoid conflict and try to resolve problematic issues in their infancy.

#### **4.2 The Scribe**

The scribe's main responsibility is taking minutes during the lesson. The scribe notes down all relevant input, concerns, and questions that emerge and records the self-study activities the class assigns to individuals, pairs, or small groups in Step 5. The minutes are then shared on an online learning platform (e.g., Moodle) by a mutually agreed-upon due date. All students and the teacher have access to the minutes and can stay informed even if they miss a class meeting. Another responsibility of the scribe is to support the chairperson in leading group discussions, for instance, by keeping an eye on the time and making sure that the discussions stay on topic. The scribe in one lesson becomes the chairperson in the subsequent lesson because they have an accurate record of what previously happened and an overview of what needs to be done in the following lesson.

#### **4.3 Regular Participant**

All other students are regular participants. They make constructive contributions to group discussions, share their knowledge in class, gather new information outside of class, and help formulate learning goals and questions that support the 7-step process. The students may challenge and motivate each other, all aware of the communal goal of problem-solving. The chairperson and the scribe can temporarily switch to the role of regular participant at any time during a lesson if they have something important to add.

A typical study group in PBL consists of 8 to 12 students (de Graaf and Kolmos 2003). In classes with more students, the roles of scribe and chairperson can also be assumed by pairs of students. Such collaborations have been successful in the teacher education course and have not led to any disadvantages. In fact, pairs who plan and conduct class meetings together seem to be generally better prepared and organised than individual students.

## 5 What are the Teacher's Roles in PBL?

In the PBL literature, the teacher is usually referred to as tutor (e.g. Filipenko and Naslund 2016; Moust, Bouhuijs, and Schmidt 2007; Savin-Baden and Howell Major 2004; Savin-Baden and Wilkie 2004; Yew and Go 2016), which may lead to confusion at educational institutions that do not generally use a problem-based teaching approach. Also, the teacher's roles may differ in a university programme with a full PBL curriculum and one without.

In the course described in this article, the main workload on the teacher's part is the development and regular evaluation and adaptation of the course materials. The teacher prepares assignments based on problems that are appropriate for the preservice teachers in terms of subject knowledge and language proficiency as the students' first language is not English, the language of instruction. The assignments must further be applicable to the content-related focus of the teaching internship and conform with the course objectives as stated in the (non-PBL) curriculum. At universities with PBL curricula, the course materials are often developed by a person or team specialised in materials development and made available to all tutors teaching parallel courses in the programme.

During class time, the teacher becomes the "moderator of student learning" (Prodan 2016, 123). The role of the teacher is transformed from knowledge-provider to facilitator of collaborative learning. In this role, the teacher "(a) guides the development of higher order thinking skills by encouraging students to justify their thinking and (b) externalizes self-reflection by directing appropriate questions to individuals" (Hmelo-Silver 2005, 245). The teacher observes, takes notes, and evaluates the students' participation. He or she only becomes actively involved in a lesson

- if the students directly request help (e.g. ad hoc expert advice or a literature recommendation);
- if there is something fundamentally important to add (e.g. a crucial perspective the group has not considered; this is usually done by asking a provocative question rather than an explicit commentary);

- if the group diverges from the topic without noticing; or
- if the chairperson needs assistance in organisational or disciplinary matters.

Otherwise, the teacher is silent during class time, which experienced teachers who are PBL first-timers usually find challenging because it is very different to what they are used to. As Hmelo-Silver (2005, 245) puts it, facilitation “is a subtle skill. It involves knowing when an appropriate question is called for, when the students are going off-track, and when the PBL process is stalled.” In the teacher education course reported here, a few minutes of each lesson are dedicated to feedback regarding the students’ use of English during PBL lessons. This is a value-added service specifically offered by the teacher rather than a typical teacher role in PBL. So far, all student groups have expressed appreciation for the language feedback.

## 6 Why use PBL in teacher education?

A PBL approach is suitable for teacher education for several reasons, seven of which are listed here. First, it flexibly fuses theory and practice, which are bedrock for the teaching profession. The students analyse and evaluate practical issues and simultaneously develop a foundation of theoretical knowledge required in this demanding profession, in which they are expected to make informed decisions and take reasonable and responsible action. PBL helps preservice teachers amalgamate theoretical and practical knowledge that will increase in breadth and depth throughout their professional lives.

Second, PBL provides a framework in which students can develop and practice skills that are paramount for teachers in addition to teaching skills. They develop adequate problem-solving skills and skills for self-directed, lifelong learning (Hmelo-Silver 2005). They practice critical thinking and learn how to select and apply reliable digital and printed sources. They pay attention to individual differences and cultural aspects (e.g., of the pupils in the practice schools; in teaching materials and literature) and implement these considerations when solving the problems embedded in the prompts. They practice effective communication by engaging in constructive discussions and enhance their collaboration skills, which include

- interpersonal skills (be congenial and friendly, make clear statements, listen, communicate positively without name-calling or put-downs, maintain eye contact);
- team building/management skills (organise work, keep team on task, run a meeting, participate in team self-analysis, show empathy);

- inquiry skills (clarify, critique, probe assumptions and evidence, probe implications and consequences, elicit viewpoints and perspectives);
- conflict skills (prevent, resolve, mediate); and
- presentation skills (summarise, synthesise, speak in front of a team, create presentation materials, write reports) (Savin-Baden and Howell Major 2004).

Other important skills students acquire in PBL are organisation skills (e.g. time management, maintaining an overview) and metacognitive skills (i.e. self-reflection and adjustment regarding one's learning). Specifically in language teacher education, a PBL course can furthermore be used to emphasise teacher well-being skills (e.g. stress reduction, mental hygiene [Mercer and Gregersen 2020]) and other skills related to the psychology of language teachers (e.g. socio-emotional competences [Gkonou and Mercer 2018] and teacher resilience [Hiver 2018].)

Third, students enjoy an increased amount of autonomy in PBL compared to traditional settings in higher education. There is no teacher in PBL who tells them what to do in class or for homework. As a team, the students take communal metacognitive action; that is, they establish a plan for problem-solving and regulate the learning process while executing the plan. As individuals, the students have autonomous deciding power regarding the roles they play and how they contribute to the problem-solving process. As a group, they decide how much time is spent on individual tasks or problems and how the workload is distributed among the group members. The students are the agents in the classroom and take responsibility for the learning processes and outcomes. Taking charge of their own and the group's achievements lifts the team spirit and improves students' self-esteem and motivation.

The fourth reason to promote PBL in teacher education is the emphasis on teamwork. The students set themselves communal goals, which they achieve by compiling individual contributions. They evaluate the team's progress during problem-solving and make joint decisions all along. All team members are valued providers of knowledge and support the team in the different roles they embody. The students are aware of the group's expectations and acquire a feeling of co-dependency and togetherness. In this sense, PBL spurs group dynamics as well as the morale of individuals, who are less likely to give up and drop out (Schmidt, Rotgans, and Yew 2011). Students seem to overcome difficulties during their studies more easily when they experience themselves as vital parts of a group. Solving problems together as a team thus has positive effects on the attitude and self-perception of individuals and creates an upward spiral for future problem-solving situations. The students are proud of their joint accomplishments and eager to make further efforts for the team. The fifth reason for PBL in teacher education is connected to learner autonomy and bears advantages for both the students and

the teacher. In comparison with more traditional teaching approaches with rather rigid syllabi, PBL allows some flexibility and freedom to integrate the students in deciding which content to cover. In other words, instead of rigorously planning all class meetings from the beginning of the semester until the end, the teacher plans only part of the course contents, for instance, the first twelve out of fifteen lessons. The remaining three lessons can then be used to discuss real-life problems that the students encountered during the teaching internships and that have not been previously addressed. Involving the students in the syllabus design increases the relevance of the course and fosters the students' sense of agency (i.e. "owning" the course) and motivation to learn. It ensures that the course content meets the students' needs and supports the teacher in planning meaningful lessons within the given curriculum. Towards the end of a PBL course, students have understood the concept and are usually able to develop problem scenarios in small groups or individually. The teacher can supervise this process and support the students in the development of the final problems for the course.

Sixth, students experience the strong personal involvement in PBL and the evident importance of the course content as motivating to satisfy their hunger for new information (Hmelo-Silver 2005; Schmidt, Rotgans, and Yew 2011). Their motivation is also fostered by the roles they play within the team, where individuals rely on each other and encourage each other to perform well (Dörnyei 2005). Furthermore, being in control of the outcomes of their learning, engaging in interesting and challenging group-tasks, and experiencing the satisfaction of successful problem-solving within a community of peers contribute to an increase of intrinsic motivation (Hmelo-Silver 2005) and consequently to valuable long-term learning effects.

The knowledge and skills gained through PBL seem to be more sustainable in comparison to lecture-based instruction (Strobel and van Barneveld 2009; Yew and Go 2016), which is characterised by binge studying shortly before exams. The positive learning effects of PBL hence mark its seventh benefit. The students are actively involved in decision making processes and the acquisition of new knowledge. They study literature and other sources due to an actual need rather than because the teacher says so. They study the new information gradually during the whole semester rather than quickly filling the storage space in their short-term memories a few days before an exam. Last but not least, they learn from each other rather than from the teacher, which appears to be particularly effective (Boud, Cohen, and Sampson 2001).

## 7 The Perspective of the Teacher

PBL has many advantages for the students if it is carefully planned and conducted. But what is PBL like for the teacher? If there is no team dedicated exclusively to material development, this task may be rather challenging for teachers, particularly those with no PBL experience. It may require much more preparation time compared to planning lessons based on their usual teaching approach. Developing problem scenarios that fulfil a demanding list of criteria (i.e., they must fit in the curriculum, be appropriate for the course participants' subject knowledge and foreign language proficiency, and be appealing in terms of topic and design) can be difficult and exhausting. It may pose a huge burden on the teacher, for instance, due to time constraints or a lack of creativity. In that case, an exchange with like-minded colleagues who teach the same or similar courses or colleagues with prior PBL experience may help. Also, founding a material development team may be advisable and thus lead to a productive group undertaking.

PBL teachers are rewarded during the semester when the extra effort for material development pays off. Then the teacher plays just a supporting act in the classroom and is absolved of most of the usual responsibilities known from conventional teaching at tertiary level. Another positive aspect is that the course materials can be reused. However, careful revision considering the students' feedback is recommended at the end of each semester. The course reported above has been adapted and improved over several years, a process that has been continuously supported by the students' valuable constructive and critical comments. Their experience has been crucial for learning how to improve and adapt PBL course materials.

Even though there is not so much to do during class time, PBL never becomes boring for the teacher. It is interesting to observe how different groups function and how they approach various problems. The dynamics within a group can be fascinating with individuals acting in more or less prominent roles and disclosing striking details regarding their personalities. PBL allows the teacher occasional glimpses behind the façades of individual students and enables deeper student-teacher relationships that are marked by trust and respect due to the shifted responsibilities.

## 8 Conclusions

Adopting PBL for suitable courses is a meaningful investment of a teacher's time and resources. Although the preparation of PBL materials can be demanding, it is worth the effort when considering the benefits of PBL. The teacher profits because of a re-

duced workload during the semester, diversity in the daily routine, and better relationships with the students. The students profit because they acquire skills that exceed the norm in terms of number and quality. They are intensively engaged in team processes, which cause lower drop-out rates due to intrinsic and group motivation. They enjoy increased autonomy and benefit from studying the course contents through problem-solving, which has sustainable long-term effects on their learning.

Although PBL is meant for small groups of students, teachers can manage to apply it in larger classes too. This may demand more discipline from the students (e.g., during group discussions) but has not resulted in any drawbacks in the past. PBL and teacher education are a well-fitting match, particularly if the PBL course is tied to a practical internship. By applying a focused approach like the 7-step method in teacher education, PBL can be used at universities that do not have PBL curricula or specific PBL strands. The personal investment an individual teacher is willing to make in terms of time, material development, and professional development are essential and worth the effort as there is usually a significant learning curve for the teacher as well in PBL.

PBL will certainly be continued in the course reported in this article and perhaps even expanded to other courses in the teacher education programme in the future. Nevertheless, the approach has been slightly adapted to suit contextual circumstances and the students' needs. For example, expanding the teacher's roles to a provider of language feedback is not typical of PBL nor necessary in situations where the language of instruction equals the students' first language. In the current situation, however, the students highly appreciate this personalised extra support, which does not interfere with the actual PBL process. Furthermore, inviting pairs of students to embody the chairperson and scribe is another adaptation from the original PBL approach. However, large student numbers should not prevent forward-thinking teachers from using PBL in their classrooms. Situational circumstances sometimes demand variation, and PBL allows for some flexibility in that regard.

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