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Abstract

Project-based learning (PBL) provides authentic content and language learning in the second language classroom. Technology-infused PBL also creates opportunities for real-life application of the language and technology skills acquired. However, since PBL is often envisioned as group work, classes with small enrolments (fewer than 6 students) pose a challenge. In addition, the unfamiliarity of students and instructors with the characteristics of PBL can lead to struggles around autonomy, motivation, and flexibility. In this chapter, we examine one PBL course for advanced students of German at the post-secondary level through the lens of Stoller's 10 characteristics of a PBL course. Since Stoller's characteristics are drawn from PBL studies of large classes where students worked in groups, our study examines whether those characteristics still apply in smaller classes where students worked on individual projects. Through this action research into our own practice, we demonstrate whether the 10 characteristics can be applied to small classes and identify the challenges of PBL that arose in this context: student autonomy, role redefinitions, and instructor reflective practice. We envision how future research might address some of these challenges, examining ways to foster student autonomy through an understanding of role redefinitions in PBL courses and ways to strengthen reflective practice among post-secondary instructors.

Key words: project-based learning, second language learning, second language pedagogy, German

Background

Project-based learning (PBL) is "a systematic teaching method that engages students in learning knowledge and skills through an extended inquiry process structured around complex, authentic questions and carefully designed projects and tasks" (Markham, Larmer, & Ravitz, 2003, p. 4). The benefits of PBL for content-based language teaching include authenticity and real-life application (Foss, Carney, McDonald, & Rooks, 2007); improved written skills (Calogerakou & Vlachos, 2011; Ünver, 2008), motivation (Hsieh, 2012); intercultural awareness (Eppelsheimer, 2017); and enhanced teamwork skills (Miller, Hafner, & Ng Kwai Fun, 2012). Instructors also notice increased student autonomy and flexibility among instructor and student roles (Gülbahar & Tinmaz, 2006; Lam & Lawrence, 2002). PBL "involves individual or group activities such as research reports, website development, and digital stories" as such it allows student to focus "on the development of language, content, and skills in an integrated and meaningful way" (Beckett & Slater, 2018, p. 1). All of these elements speak to the usefulness of PBL in second language course design.

However, at the post-secondary level, advanced language learning classes often have small enrolments (fewer than 6 students), which do not lend themselves well to the group project work often associated with PBL where students typically work in groups of 2-5 students (Apedoe, Ellefson, & Schunn, 2012; Kooloos, Klaassen, Vereijken, Van Kuppeveld, Bolhuis, & Vorstenbosch, 2011). While small enrolments hold the potential for a strong focus on individual learning, Gülbahar and Tinmaz (2006), who themselves designed a PBL course for a class of 8 students, maintained that "forming groups of two or three people for carrying out such a project would be *more* suitable" (p. 319, emphasis ours). This statement appears to consider class size rather than the characteristics of the PBL project design as problematic.

Additionally, instructors and students in some language departments have little familiarity with this course design, making the introduction of student-chosen projects challenging for instructors whose emphasis is often on language-learning opportunities for the purpose of studying literature (Krsteva & Kukubajska, 2014). Yet, acknowledging students' personal goals for language learning and providing technologically infused PBL can complement other courses and provide instructors with opportunity for growth in their teaching practices. In light of the lack of knowledge of how to design PBL courses when enrolments are small, we argue that there is a need for research that investigates PBL in courses with small enrolment to inform instructors of how PBL and student-chosen projects can be introduced and implemented.

The purpose of this chapter is to examine whether the design of one senior-level German course for a small number of students met the characteristics of a project-based learning course to expand the conceptualization of PBL to specifically include courses with small enrolments. This action research project involved two instructors and three students in the examination of the teaching and learning through the course. Stoller's (2006) ten characteristics of a PBL course served as a framework for the research. The results shed light on the extent to which the design of the course met those characteristics. In expanding the conceptualization of PBL to include individual projects, the learning from this use of PBL informs the field of second language pedagogy in senior-level language courses.

Project-based Learning

Project-based learning, or *handlungsorientierter Unterricht* as it is known in German pedagogy, involves designing courses around authentic projects. This pedagogy arose out of experience- and perception-based education work by Jan Comenius, Johann Pestalozzi, Maria Montessori, and Jean Piaget. William Heard Kilpatrick, John Dewey's student, introduced the

project method as a purposeful activity on the part of the learner to Dewey's problem method of teaching. PBL was introduced to second-language education in the 1960s and 70s (Legutke & Thomas, 1991). Still, it was not a common pedagogy of the language department in which this course took place.

Proponents of PBL reported a number of advantages to its use in the design of language learning courses of various sizes. Moje, Tehanicollazo, and Marx (2001) noted its benefits in content-based language teaching, including an element of authenticity, real-life application to the work produced by individuals and groups of students in a class of 32. Calogerakou and Vlachos (2011) found evidence of improved written skills, motivation, and intercultural awareness where students from one class with an enrolment of 20 worked with an overseas partner from another class of 20 students. Students in another PBL class noticed enhanced teamwork skills while working in groups of three on video documentaries (Miller et al., 2012). As well, instructors noticed increased student autonomy and a flexibility among instructor and student roles sharing the responsibility for learning as they worked in partners on a webpage concerning a Spanish Business topic (Lam & Lawrence, 2002). All of these elements speak to the usefulness of PBL in second language course design with embedded group work.

PBL is a natural application of the skills learners need in real life. When the field is a profession, instructors can envision projects that the professionals might do in their daily work life (for science examples, see Esrootchi & Oskrochi, 2010; Martínez, Herrero, & de Pablo, 2011). When the field is not a profession, the instructor must envision what equivalent projects might be. When these projects are a realization of the skills required of a second language learner, they can be considered authentic learning (Beckett & Slater, 2018). Second language learners desire the ability to function in the second language in the domains that most interest

them. Activities the students might do in "real life" would be activities they would want to be able to do in their second language. Thus, when Brown (2006) had students explore French gastronomy through projects, one could argue that the students not only gained deeper cultural understanding, they participated in authentic activities involving film, music, food critiques, and interactive Web tasks that a first language speaker of French might also use to explore an interest in gastronomy. However, since not all students can be assumed to hold an interest in gastronomy, projects ideally need to be built around student interests to be most authentic. Building a course around student interest is a key feature of PBL courses.

Infusing technology use in the course design of PBL courses is one way in which instructors strive for authenticity, motivation, and engagement, especially in language courses at the post-secondary level, notably often with students working in groups. Taiwanese university students of English found using Voicethread, video, and storytelling led to higher motivation and collaboration as well as positive language development related to the project, provided the technology was not so difficult as to lead to frustration (Hsieh, 2012). Students self-selected groups and "ideally, a project was a group experience, involving two or more students" (Hsieh, 2012, p. 21) as groups were considered to promote social interaction and thus collaboration. Collaborative writing projects focused on building a wiki together can lead to satisfaction, motivation, and learning across disciplines for students, including second language learners. Here collaboration "is defined as two or more people working individually or together on a specific project" which suggests that such collaboration can occur across individual projects as well as within groups (Stoddart, Chan, & Liu, 2016, p. 144). Video projects produced by Japanese university students of English in short-term intensive courses connected them to reallife uses of English and resulted in a final product that was tangible and of a quality they could

be proud of (Foss et al., 2007). Here projects were conducted in pairs and larger groups, depending on the nature of the project. Technology-infused language learning lends itself well to PBL, but notably, most courses are designed around group projects.

Among studies of the use of PBL in university courses, few speak to the small enrolments common in advanced language courses. Some instructors even recommend large class sizes are necessary to make the use of PBL more feasible (Gülbahar & Tinmaz, 2006). Considering the reality of classes with small enrolments, we argue that group work is an assumed part of the accepted conceptualization of PBL, but needs to be expanded to include classes with small enrolments. Therefore, the research question that guided this study was: Can Stoller's 10 characteristics of a PBL course be applied to advanced language courses with small enrolments?

Methodology

This qualitative research was undertaken as an action research project. Action research is "any systematic inquiry conducted by teacher researchers ... to gather information about how their particular [educational setting] operates, how they teach, and how well their students learn" (Mills, 2014, p. 8). This methodology serves as a means for PBL instructors to investigate perceptions of PBL teaching among teachers and students (see Beckett & Zhao, 2014). Action research follows iterative cycles of *looking*, *thinking*, and *acting* (Stringer, 2014). *Looking* involves building a picture of the current situation and gathering information about the problem. *Thinking* necessitates interpreting and analyzing that data, while *acting* involves resolving the problem and moving forward with practical solutions. Together, these three elements make one cycle of action research.

In this study, *looking* involved gathering information about the way the course being studied had been taught previously, putting together a plan for the first iteration of a project-

based course, and gathering evidence along the way that could later be used to analyze the course. These data sources included the drafts and final products of the students, the co-constructed assessment tools, lesson and versions of semester plans as well as reflections from the students and their final topic exhibitions. *Thinking* describes the work of analyzing how well the course was designed. To strengthen this section, we drew upon Stoller's (2006) framework of ten characteristics of PBL courses, which we will outline in detail. *Acting* represents the conclusions we drew about this iteration and the plans we made for future iterations of the spirit of iterative research, we include our recommendations for future research.

Stoller (2006), in examining research into PBL to establish a theoretical framework, suggested that the following characteristics of PBL courses should be present to provide positive outcomes such as motivation, engagement, and the development of expertise. Our objective in using this conceptualization as a theoretical framework is to determine if it applies to courses with small enrolments, thereby expanding the conceptualization of PBL to include such courses.

Theoretically strong PBL courses:

- 1. have a process and product orientation
- 2. are defined, at least in part, by the student
- 3. extend over a period of time (not just one class)
- 4. encourage natural integration of skills: technology and communication skills
- 5. hold a dual commitment to language and content learning
- 6. have students work in groups and on their own

- 7. require students to take some responsibility for their own learning through the gathering, processing, and reporting of information from target language resources
- 8. result in teachers and students assuming new roles and responsibilities
- 9. produce a tangible final product for a larger audience
- 10. conclude with student reflections on process and product

While not all PBL courses have all these characteristics, the ten represent important elements that strengthen the learning and engagement students experience in these courses, which were our goals for this course as well. However, to our knowledge, Stoller's (2006) framework has not been field tested in a course with a small enrolment. Therefore, in addition to providing a valuable structure for our data analysis, our use of this framework expands the conceptualization of PBL to include courses with small enrolments.

Research Context

The course studied was situated in the language class sequence of a university German department in North America. The students take first-year and second-year German to receive a solid foundation in listening, speaking, reading and writing. The third-year German classes take on specific foci: reading and writing in one and speaking and listening in the other. In the fourth-year sequence, students take a course in advanced German grammar followed by an "applied" class in which they can put their advanced language skills to work. This applied class is called "Senior Projects in Language" and is the course that provided the context for this research.

The course consisted of three 50-minute classes per week for 13 weeks taught in German. The introductory classes focused on student self-assessment and goal setting using the Common

European Framework of References for Languages (CEFR) (Council of Europe, 2001). More and more advanced language course curricula are being aligned with the CEFR, and curriculum designers recognize project-based learning as one course design that can target specific language levels (Arslan & Ozenici, 2017). Since this course was aimed at a B2 proficiency level (i.e., high intermediate), the students needed to understand what that language assessment meant, where they might be on that scale, and what they might want to target to improve their language skills. This level was taken into consideration when the students proposed their general project theme.

The introducing technology lessons examined Web 2.0 tools that might provide skills and spark creativity for later assignments (see Casal & Bikowski, this volume). Understanding the synergy between computer software designs meant that students could apply their learning from one platform to another, so that even though they had to do some learning on their own for the movie-making software, they had a common vocabulary in German to discuss the use of technology.

Early on students proposed a general project theme: street art, baking, and music. Within their theme, the students had to consider what they would do for each of the three learning tasks (i.e., sub-projects). Each sub-project had to present a different part of the larger project. In other words, the content for each sub-project needed to be new, even though elements could potentially overlap. The final products had to be predetermined, as per department expectations, so the three learning tasks were set as a video, a website, and an exhibition. These projects encourage multimodality – communication through a variety of means (e.g., visual, oral, aural, etc.) (Kress, 2010). They also expose student learning to a larger audience and are often perceived by students as engaging and authentic (Foss et al., 2007). These aspects are strengths

of technology-infused PBL, since it is through technology that multimodality and wider exposure are made possible.

The remainder of the course was organized around three elements: mini-lessons in response to student needs, work periods, and feedback loops, presentations, and celebrations of learning (e.g., a video-showing complete with popcorn). Mini-lessons included the aforementioned Web 2.0, CEFR sessions, an introduction to translation studies, the theory behind comics, and classes on how to determine assignment criteria and co-create rubrics. Work periods involved trips to the library's media production facility, individual work, and work periods facilitated by the instructor or teaching assistant. Feedback loops involved scheduled draft deadlines at which students presented their draft projects to each other, and both students and instructors provided written or oral feedback according to the shared rubrics. The process of creating rubrics taught students about second language assessment and allowed the students to expand their German vocabulary around elements within each project. The instructor provided guidance around the structure and the teaching assistant provided specific feedback on the vocabulary of the rubrics.

The culmination of the learning was shared live with an intermediate German class, online as an article on the department website, and as a poster exhibition in the university language research facility. These venues provided an authentic audience for the products.

The authors of this chapter are the two instructors of the course, Roswita and Bernadette, and the three students, Kristina, Anja, and Garrett. Roswita, the instructor-of-record, had some experience with project-based learning through her previous learning on signature pedagogies, but no direct experience with teaching it at this level. Bernadette, the teaching assistant, had no experience with this form of pedagogy, and the students, Kristina, Anja, and Garrett, expressed not having previously encountered this form of course design in university. Thus, this iteration of the course was a relatively new experience for almost all involved.

Senior Projects in Language – the First Iteration

To understand the analysis of the course, it is first necessary to present the three project themes chosen by the students and how these were operationalized as a video, website, and exhibition. Each student had a personal motivation for choosing their topic, which in some cases overlapped with their career ambitions. Kristina wanted to learn about German baking. Her video was a how-to video for baking a Frankfurter Kranz cake. Her exhibition was on German pretzels, which she baked and shared in addition to presenting on, and her website documented her learning behind these baking projects and one additional project. Anja chose the theme Street Art because she wanted to investigate the art of Barbara, a street artist in Heidelberg. For the video, she produced a mini-documentary. For the exhibition, she created and photographed her own street art that followed Barbara's style, and for the website she documented the process: the thinking and learning behind each poster. Garrett created a how-to piano lesson video, translated a pop song from German into English, and created a website repository of official translations of songs into English organized by genre. Although eclectic, the three projects represented the direction the students wanted to take their learning, but also collective learning, as each participant researcher was involved in the shaping of each project through collaborative work as a class.

Looking

"Senior Projects in Language" had run as a course previously, but archived descriptions of the course indicated that it had been envisioned as a traditional literature and culture course around a topic of the instructor's choosing. Little information was available as to how the course

was designed. From the course outlines and the previous experience in the faculty, the instructor and teaching assistant (Roswita and Bernadette) were aware that students were accustomed to research papers and class presentations as assessment. In designing the course, Roswita focused on including elements she felt would make the course unique: student-chosen projects, technology-based products, and formative feedback loops. Although preparation prior to the course start was limited due to the emergent nature of the topic themes, the thought that went into the course provided a basis upon which to build once input from the students was available. Initially, the data that would be used to analyze the course was limited to the final products (assignments), but as the instructors reflected upon their teaching, the importance of the cocreated rubrics, course overview schedule versions, and student feedback emerged as important data sources. To ensure ethical treatment of all of these data, the instructors invited the students into the research as co-authors.

Thinking

As our *thinking*, we analyzed the alignment between the course design and Stoller's (2006) ten characteristics of theoretically strong PBL courses. We examined what the planning (e.g., syllabus, original semester plan), process (e.g., revised versions of the semester plan, our draft feedback), and products (e.g., final assignments, online article, exhibition) revealed about our efforts to design and conduct a PBL class for a small enrolment of advanced German second language students. Using the characteristics as points of departure, we provide examples below.

PBL courses have a **process and product orientation**. For this course, the orientation toward process was evident in the time spent learning the skills needed to create the three subprojects (e.g., classes on building a website). Planning began with each student handing in a written proposal explaining their choice of topic and how this topic would be taken up in the

three products (i.e., video, website, presentation). This proposal involved preliminary language learning about the topics. Students had to research the vocabulary and key concepts behind their topic and use the appropriate genre of writing for a proposal. Some of this genre would have been familiar to them but combining it with the vocabulary was the first step toward learning about their topic.

Additional planning and language learning came through participation in subsequent feedback checkpoints. These checkpoints served to focus class work on learning and keep the students on track (process). After checkpoints, students returned to their drafts to improve them. During feedback sessions, the discussions could focus on aspects of technology or language, but student had to give their constructive criticism in German. Garrett spoke slowly and carefully in this first video draft, trying to make sure his pronunciation was accurate. The group felt his speaking came across unnatural and had to give him feedback then needed to be phrased in the conditional (e.g., Wenn du schneller sprechen könntest, dann würde die Sprache natürlicher *vorkommen*). Based on this language feedback, Garrett practiced his video monologue so that he could record it at a more natural speaking speed that matched the genre of a YouTube video. Similar feedback was articulated that focused on the technology learning. Kristina refilmed her YouTube video to remove black bars that appeared as a result of failing to lock the iPad rotation function and Anja reedited her video to slow down the scrolling segment that others found dizzying. Through technology-infused PBL, the end products in these examples were highquality final videos, achieved by working as a class group to provide feedback to individual projects.

Projects in PBL classes **are defined**, at least in part, by the students. Meyer and Forester (2015) noted that PBL can increase student motivation toward learning German and

help them to apply this learning toward personal professional goals. The students reported that the freedom to choose one's project fueled their motivation and allowed them to gear their project toward such a goal. Students were motivated to express themselves accurately in German to get their point across, because their projects were personally meaningful. Unlike in larger classes where individuals might have to compromise to agree on a group project, in this small class, students could focus on a very specific topic of their own interest. Garrett explained that he was "working towards degrees in both German and music at the university, so [he tried to] think of ways [he could] combine these interests ... whenever possible" (post-course reflection). In this course, all of the students chose their topics based on personal or professional interests, as advocated by Stoller (2006) so their language learning centered primarily around their topic of interest.

Projects within PBL courses **extend over a period of time.** When PBL was attempted in short-term courses, researchers reported that a lack of time was a factor that results in narrowing the scope of the project and limiting peer and instructor feedback (Foss et al., 2007). In this course, the students had the whole semester to investigate their topic, so they were able to undertake a meaningful project because they had the time to explore several aspects of their topic and to do so with depth and reflection. However, unlike in group work in larger classes, they were individually entirely responsible for their project. The timescale also allowed for instructors to respond to student interest with tailored mini-lessons and changes to the original semester plan, for peer and instructor feedback, and for the targeting of audiences outside of the classroom. This flexibility was facilitated by the small number of total projects, as instructors in larger classes with more group projects might not have the time to accommodate such changes.

PBL encourages the **natural integration of skills**. The skills in this course included technology and communication skills, the latter of which included both language and pragmatics. The students learned about Web 2.0 tools and website building. Starks-Yobke and Moeller (2015) noted that technology has been shown to enhance language learning in the German language classroom because it allows students to express themselves creatively in the target language. In this course, students learned how to shoot a video, how to use the movie-making software of their choice, and how to talk about that process in German. In addition, they sought to improve their language through research in authentic German language contexts, revisions of scripts, and class discussions about domain-specific language (e.g., music, baking, technology, literature, popular culture, current events). They also practiced their skills of narration and live presentation. The integration was natural to the point of needing to be made explicit when asked for their feedback in the course reflection. This characteristic is not specific to group work or individual projects, but rather speaks to the nature of PBL in general.

This **dual commitment to language and content learning** is a specific focus of PBL courses in second languages. Garrett chose song translation as one of his subprojects and discovered the challenge of finding translational equivalents that also uphold the integrity of the song in terms of register and genre. For example, he struggled with how to translate "Don't stop think about tomorrow" (Fleetwood Mac). Anja tried to match the witty nature of Barbara's commentaries by posting creative equivalents on posters around campus and her neighborhood. For example, on a recycling sorting station she posted a heart with the word "Mülltrennung" (garbage separation) to show support for her university's new recycling system, because it reminded her of Germany's complicated waste management system involving household garbage and recycling sorting. Kristina reported that the language and content learning was meaningful

for her: "The experience definitely helped me see a bigger picture of my cultural studies and expanded my vocabulary in regard to food and cooking words" (post-course reflection). For the dual commitment to remain throughout, the two aspects of language and content need to be meaningfully connected. With smaller enrolments, instructors are better able to focus on integrating content and language learning as the number of projects is fewer and more specifically defined.

PBL involves both **working in groups and individually**. Initially this characteristic reads as specific to large classes with students working in groups. However, the work students did on individual projects in this course was balanced by group feedback sessions in which they read, viewed, and listened to each other's work. Not only did this group work allow them to give each other feedback, but it developed an ethos of class learning on each of the topics, such that instructors and students came away with increased understanding of the content of all three projects, not just the one they were personally working on. Language learning was also expanded since all students needed to familiarize themselves with the vocabulary from the other projects as well.

Stoller (2006) noted that PBL in second language classes **requires students to take some responsibility for their own learning** through the gathering, processing, and reporting of information from target language resources. This responsibility is heightened when working on individual projects where the amount and type of language is learned is based primarily on the commitment of the individual student. This increased autonomy for language learning is a benefit of PBL observed by other researchers as well (Lam & Lawrence, 2002). Roswita and Bernadette became additional resources. For example, Kristina was looking for a glaze recipe for the pretzels and Roswita was able to find one through a contact in the German community. The

hand-written recipe in an older German woman's writing was an authentic target language resource from which Kristina had to make meaning. Anja found internet research in German a resource for her more contemporary topic: "I found that through Tumblr I was able to find a lot of original German content, I was really helping my cultural and linguistic skills by reading posts by native Germans and looking up the background to things that I didn't understand right away" (post-course reflection). For students accustomed to topic-based classes, finding their own resources can be a challenge, but embracing this challenge resulted in increased languagelearning opportunities for the students in this class as they read or discussed the content in the target language, expanding their competence in the specific topic domain they are investigating.

In PBL, teachers and students assume new roles and responsibilities (Stoller, 2006). As in other PBL research (e.g., Lam & Lawrence, 2002), in this class, Roswita and Bernadette were mediators and facilitators between the technological and language requirements and resources. They served as coaches, encouraging students to challenge themselves and strive for excellence in content and language. As well, they were reflective practitioners, always looking at their own practice to improve from class to class and looking forward. Students took on the role of planner, usually the domain of the instructor. Through PBL, students learned to learn, developing their skills as autonomous learners, mapping out their work schedules within the larger class schedule (Starks-Yoble & Moeller, 2015). These new roles and responsibilities did not always sit well. The class originally had four students, but one student dropped the course mid-way, possibly due to difficulties managing her time on projects, as she missed draft deadlines and as a result could not capitalize upon the feedback that others received. This aspect of PBL courses requires commitment on the part of both students and instructors and in courses

with small enrolment that necessitate individual projects, that new, more responsible role can be a weight that some students cannot or choose not to bear.

Students were also called upon to be effective communicators with each other and with the wider audiences of their sub-projects, which included students with lower German competence who attended a presentation of the topics in their class. As well, students' roles in peer feedback sessions meant they were evaluators of themselves and others, which, for most, was the first time they had been asked to take on these roles in their university careers. The PBL design sets up these different roles, but did not require them; PBL design is most effective when these role transformations happen.

Stoller reported that PBL course design results in a **tangible final product for a larger audience.** These final products can be either group or individual ones. By focusing on their audience, students were motivated to focus on meaning and audience enjoyment (Starks-Yoble & Moeller, 2015). In the case of the video, which was uploaded to YouTube and embedded in the students' websites, this larger audience was the World Wide Web. The same could be said for the websites themselves. This wider audience stems from the use of technology as a nature part of this PBL. The URLs were promoted in the publicity that went with the exhibition. The two components of the exhibition had different audiences. The class presentation to the intermediate German class had those students and their instructor as an audience. The displays of the posters in the university's language center resulted in longer-term exposure to the passing public. These large and varied audiences provided an authentic motivation for high quality final products.

Theoretically strong PBL courses **conclude with student reflections on process and product**. This can be done most easily with smaller numbers, but such reflections can work with any size of class. Roswita had not built this into the original design, but when she asked the department to provide publicity for the exhibition, the administrative assistant solicited written responses from the students. She asked the students two questions:

- 1) How did you come up with your project idea?
- 2) How will you incorporate what you have learned so far in this project/class into your other studies and how does this fit or help further your overall educational goals and objectives?

The second question served as a reflection question. Anja answered: "The projects through the class help me to find out more about contemporary German culture, while also immersing myself to an extent into it" (post-course reflection). Her answer revealed that the course engaged her in aspects of contemporary culture, aspects she felt "remain often [in] the background" of most of her other courses. Garrett noted: "The larger projects we have undertaken in this class (video and website production, and public presentations) have all included learning some new skills that will be widely applicable to other classes in school and also for jobs after school" (post-course reflection). The relevance for his own life, which Garrett spoke of, emerged from the authentic nature of the tasks (Moje et al., 2001). For Anja, the pedagogy had direct relevance to her career goal: "I am on my way to becoming a teacher and I would love to be able to incorporate [PBL] into my classroom when I am fortunate enough to have one." (post-course reflection). Not only did these post-course reflections provide us as instructors with feedback showing that we had been on the right track with our choice and implementation of PBL, they also provided the students with the opportunity to reflect on and make explicit their personal growth over the course of the semester.

Conclusion

In designing a PBL course for this advanced German language course, we were able to explore if Stoller's (2006) 10 characteristics of PBL courses could be applied to courses with

small enrolments. *Looking* at the inclusion of these characteristics, we understand how the PBL design resulted in a course that students found engaging and personally meaningful. Specifically, the three products of the course integrated technology, content and language and were of high quality, appropriate to their genre. The course design wove in individual projects and group activities that strengthened individual learner autonomy regarding the project theme and group accountability for peer and instructor feedback. These aspects we found in *looking* at PBL led to further *thinking* about how PBL works in courses with small enrolments.

Thinking about the experience, what we found most surprising were the role redefinitions that resulted from teaching a PBL course. Notably, for the students, it appeared to be a challenge to be "allowed" to choose one's topic and propose how to divide it along the lines of the three sub-projects. For one student, being in a group might have scaffolded that challenge, but being responsible for an individual project highlighted an area for personal growth she chose not to work on. For instructors, facilitating rather than lecturing meant refraining from fully designing the course beforehand. It also required they remained open and willing to change aspects of the course schedule due to the nature and topics selected for projects. Additionally, they sometimes needed to address challenges that students experienced. We found it necessary to communicate explicitly that autonomy, time management, and collaboration were shared responsibilities. Some instructors might consider the nature of this facilitation role to be more challenging for the PBL course compared to a traditional course. These roles felt awkward to all involved at first, but as the semester progressed, the collaboration served to reinforce these roles and a sense of comfort emerged. This *thinking* points to the challenges of PBL that are not necessarily unique to courses with small enrolment, but the high level of individual autonomy and group accountability points to a heightened challenge of the small enrolment that might otherwise be

mitigated by group work. Some students are more challenged than others with autonomy, time management, and collaboration, such as the student who withdrew from the course. Therefore, PBL practitioners need to take these higher demands into account when designing PBL courses for small classes.

Additionally, some language instructors feel the need to quantify the improvement in language knowledge. Gains in PBL are domain-specific and deep learning does not necessarily translate into a breadth of learning. However, we are all accountable to our colleagues and must be able to articulate the progress the students achieve. There is language gain through PBL (e.g., Beckett, 1999; Beckett & Slater, 2005). We assessed those through holistic rubrics that set standards for pronunciation fluency, as well as written and spoken accuracy in final products. However, we recognize the lack of assessment of concrete language goals as a limitation of this study and call for future research in this area.

Acting on the results from this research and our reflection on the limitations of our study, we acknowledge the need for more research into the role of the instructor in PBL and the development of reflective practice among post-secondary instructors. Personally, we have moved forward in our action research to the next iteration, in which we will survey students as to their perception and learning about PBL while also gathering data to explore concrete language progress. This iteration will act on the instructor and student challenges that emerged from this first cycle.

This investigation of the PBL design of an advanced German course informs our understanding of how PBL can be defined for courses with small enrolments. Small PBL courses, especially those infusing technology into the projects, can foster student engagement, autonomy, and language gains, but instructors need to be aware that the higher demands on

individual student autonomy, the role redefinitions among students and instructors, and the challenge with assessing concrete language gains provide unique challenges to using PBL. In a climate of efforts to improve pedagogy in the higher education second language classroom, this study sheds light upon the aspects that influenced the success of one course and provides direction for future research in PBL in courses with small enrolments.

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