

Balancing old and new: Integrating competency-based learning into CALL teacher education

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The idea of competency-based, or mastery, learning has been around for decades, but it has recently been receiving more global attention as a foundation for English language teaching and learning. Because technology use can be integral to the attainment of competency, language teachers who use computer-assisted language learning (CALL) in their classrooms should be aware of the principles and practices that can lead to competency. This paper argues that, for this to happen, CALL teacher educators and other professional development providers need to use a competency approach to make sure that the teachers in their classrooms are as prepared as they can be to engage their English language learners (ELLs) actively in mastering language, content, and technology. After presenting this position, the paper provides a detailed definition and description of competency-based learning and suggests ways that it can be integrated into CALL teacher education. An outline of some of the benefits and challenges of this approach in teacher education completes the discussion in this paper.

Keywords: Computer-assisted language learning (CALL), teacher education, professional development, mastery learning, competency-based learning

Introduction

Competency learning (CL) is an approach that is quickly regaining traction in language teacher education and language classrooms around the world. For example, while Blank (1982) set out the basics of CL over 35 years ago, Taiwan's recent 12-Year Curriculum emphasizes a new focus on

competency (Chen & Fan, 2014). In CL, “learning is emphasized over seat time” (Ross-Fisher, 2017, p. 1), and this approach includes a wide range of terms, concepts, principles, design and implementation steps, and assessments. Because of its complexity (Lurie & Garrett, 2017), implementation of CL may be seen by some educators as too labor-intensive; in fact, CL lost favor in the past because of the perceived difficulty of implementation and measurement. CL is currently resurging in popularity because there are technologies that can make its use easier.

Some educators may fear that replacing a traditional teacher-centered system with a less rigid, student-centered system is more problematic than helpful; however, CL can be integrated into traditional classrooms in a myriad of ways that support both traditional lecture/recitation and also 21st century skill learning. The first step is to engage teacher educators in the idea, and the second is to help them scaffold teacher learning around effective CL pedagogies.

In urging computer-assisted language learning (CALL) teacher educators to consider CL, this paper first provides a brief overview of CALL teacher education. It then presents a clear definition and description of CL and suggests guidelines for CL in CALL teacher education that include principles of active learning and task engagement. It also provides suggestions for uses of technology, which can help teachers and learners to have opportunities for CL that they might not otherwise. Finally, this paper describes ways that a competency approach might be integrated into a CALL teacher education course to produce teachers who have a diverse repertoire of instructional strategies and technologies to call upon.

Literature review

This review of literature grounds the suggestions and examples for implementation of CL in CALL teacher education later in the paper. After a brief description of current CALL teacher education, CL and its theoretical underpinnings are discussed.

Current state of CALL teacher education

Various approaches of CALL teacher education have emerged over the years (Godwin-Jones, 2015; Kessler, 2016; Kessler, & Hubbard, 2017), from a traditional lecture-based approach to project-based (Debski, 2006), situated (Egbert, 2006), reflective (Richards & Farrell, 2005), portfolio-based (Van Olphen, 2007), apprenticeship (Meskill, Anthony, Hilliker-VanStrander, Tseng, & You, 2006), and communities of practice (Hanson-Smith, 2006). The intent of all of these approaches is to prepare pre- and in-service teachers with sufficient knowledge and skills to integrate technology effectively into the language teaching and learning process. However, current CALL teacher education is still problematic, with issues that prohibit teachers from learning as much about CALL as they might (Başal, 2015; Hanson-Smith, 2016; Kessler, 2016, 2018); one of the most salient issues is the lack of sufficient and appropriate courses in the curriculum (Dudeny, Hockly, & Pegrum, 2013; Hubbard, 2008; Peters, 2006). Hubbard (2008) noted over ten years ago that the most common approach to CALL teacher education was a single course with a selection of technological tools; Hanson-Smith (2016) notes that this trend has not changed much. This common approach typically features lecture with a focus on existing technologies (Kessler, 2018; Kessler & Hubbard, 2017), and many studies have found it to be less than effective in helping language teachers integrate technology effectively (e.g., Hegelheimer, 2006; Peters, 2006).

A model which has recently surfaced in the field of teacher education with claims to address the lack of appropriate, context-specific strategies and representation is technological pedagogical content knowledge (TPACK; Mishra & Koehler, 2006; Herring, Koehler, & Mishra, 2016). Some research (e.g., Chai, Koh, & Tsai, 2010) suggests that TPACK can help teachers in developing more effective technology integration competencies. However, others question its validity and call for its cautious use in CALL (e.g., Archambault, & Barnett, 2010; Graham, 2011; Pamuk, 2012; Voogt, Fisser, Pareja Roblin, Tondeur, & van Braak, 2013), as the model was not made with language teaching principles in mind, and it views language as content, not a medium (Kukulkska Hulme, Lee, & Norris, 2017). However, the emphasis on technology, content, and pedagogy, rather than on centralizing specific technologies, is one that might help improve CALL teacher education.

Along the same lines, the development CALL teacher education standards (e.g., Healey et al., 2011) has created a roadmap to meet long-term professional development goals and objectives in CALL teacher education. These standards can serve as a foundation to guide teachers towards thoughtful uses of technology in the language teaching and learning process (Kessler, 2018); Kessler and Hubbard (2017) note that teachers also need to be equipped with the expertise to take advantage of the wide variety of technologies that they may have at their disposal.

In spite of these attempts to make CALL teacher education more effective, a single technology course appears to still be the dominant approach (Aydın, 2013; Başal, 2015; Hanson-Smith, 2016; Hargrave, & Hsu, 2000). While the effectiveness of the single CALL course has been critiqued on many grounds, including a considerable focus on the software and technical aspects rather than pedagogy (e.g., Buabeng-Andoh, 2012; DelliCarpini, 2012), pragmatically speaking, this approach, as a frequently used alternative, needs to be optimized until a more comprehensive approach to CALL teacher education is shaped. One of the approaches that has great potential for this purpose is competency-based learning. Ross-Fisher (2017) notes that “teacher education programs are particularly well-suited” for CL because pre-service teachers are required to demonstrate their “content knowledge, pedagogy, classroom management, and other skills required for effective teaching” (p. 1). Based on this idea and the current issues with CALL teacher education, CALL teacher educators might consider integrating principles of CL into their programs and classrooms.

Definition of CL

Competency-based (or just competency) learning has been known over the years by various names, including mastery learning (Block, 1971), individualized instruction (Wang & Yeager, 1971), programmed instruction (Skinner, 1968), outcome-based learning (Spady, 1994), and master-novice/ apprenticeship learning (Hargreaves & Fullan, 2000; Healy & Welchert, 1990). Each of these approaches has small differences from the others, but whatever name it goes by the focus is on learning, and instruction is seen as being in service to student achievement. Further, the characteristics of any competency-based approach include learning that is explicit, measurable, transferable, and empowering for learners. The overall goals of CL are for every student to receive high quality education, to have enough time to individually master knowledge and skills, and to create links between knowledge and real-life application. In CL, every student is required to “demonstrate what they know, what they are able to do, and their level of proficiency within specific skill sets” (Ross-Fisher, 2017, p. 1) based on the standards that focus the curriculum.

CL differs from traditional teacher-centered learning in a number of ways. For example, while traditional learning can be generally seen as addressing the “understanding” and “remembering” stages of Bloom’s Taxonomy (Krathwohl, 2002); on Bloom’s revised taxonomy, CL employs applying, analyzing, evaluating, and creating (Anderson, 2013). CL focuses on individual students through self-paced learning, which is also different from differentiation of instruction that is based on groups (for more information, see Roe & Egbert, 2011). While in the past CL may have been misunderstood as “anything goes,” CL must be quite structured in order to be effective for all learners in a class, school, district, or other learning context. Most important, like any other approach to education, CL is not proposed as a panacea, and there is no one “right” way to do it; Lurie and Garrett (2017) note that CL consists of “a menu of tools and practices” (p. 1). When context and learners are taken into consideration, CL has the potential to support all students in achieving academic and personal goals; in fact, as Kahn (2016) notes, CL can be “two standard deviations more effective than conventional instruction” (p. 2). Requiring CALL teachers to demonstrably master both technology and pedagogy during their teacher education course might help meet the goal of developing effective teachers.

Overview of CL for CALL teacher education

Understanding basic ideas and principles of CL can help CALL teacher educators use a CL approach. In general, CL sides with the latest research on what helps students learn effectively, for example, using valid and reliable assessments (e.g., Williams & Woods, 2017), focusing on critical thinking skills (e.g., Kong, 2014), and providing students with multiple opportunities to understand, apply, and be assessed. However, CL frames these principles in specific ways.

Why CL is used. CL is used to increase the achievement of all learners. The premise of CL is that every student can learn, given enough time and the right support; the learning process, not student ability, maximizes the outcomes for students. In teacher education, this means that every pre-service teacher is given the opportunity to learn in spite of, for example, being bad at spelling, having less (or more) experience in classrooms than others, or taking longer to read and understand. As noted previously, the focus of CL is on student learning, not on teaching. However, in the case of CALL education and CL, teacher educators and instruction play central roles; without them, it would be difficult to provide creative, meaningful instruction for each student (Ashby, Caskurlu, & Exter, 2018).

What students learn. The focus of CL is on demonstrable skills, but it also emphasizes devices, processes, languages, technical knowledge, and higher order thinking skills. State and nationwide standards that focus on these areas can be used as learning targets. For CALL teachers, this may mean the use of the Teaching English to Speakers of Other Languages (TESOL) technology standards (Healey, et. al., 2011) and other language and technology teacher standards from TESOL, World-Class Instructional Design and Assessment (WIDA), specific states or countries, or other organizations.

How students learn through using competency as the goal. Using a CL approach, CALL teacher education students study topics in logical parts, with one thing learned before it is built upon. Rather than the one-size-fits-all instruction that appears to be prevalent

in many CALL teacher education programs, learning built on competency takes place in environments that encourage learning equitably through student-centered, facilitated instruction.

When they move on. Some students may start off having already accomplished some of the objectives, but each student has to demonstrate competency in an objective before they move on to another objective. Some students might take longer than others; this could be a sticking point for teacher educators and programs that want to implement a CL approach, but it does not have to be. Overall, valid and reliable assessment is a crucial part of CL (see, for example, Gyll & Ragland, 2018).

Theoretical foundations

To date, best practices in CALL and teacher education point to two overlapping theoretical stances that support the use of a competency-based model. Most often mentioned is active learning, but task engagement has an equally important role to play. Perhaps more important, principles of active learning and task engagement can also ground effective teaching in CALL classrooms and therefore, when used in teacher education, can serve as a pedagogical model of what we want CALL teachers to know and do. Both of these stances are outlined below.

Active learning in teacher education. Engagement and activeness have a lot of overlap, but they are not the same concepts. According to Adams and Ray (2016) and others (e.g., Bonwell, & Eison, 1991; Brame, 2016; Svickni, & McKeachie, 2014), active learning principles, which require students to “construct knowledge and understanding” (Brame, 2016, p. 1), include:

- ✧ Teacher education students are not passive listeners or repeaters. In active learning, while memorization and other forms of rote learning can be included, learners must take a role in and engage with course content. This means that, rather than only listen and respond to lectures, students collaborate, debate, present, question, and are otherwise involved in creating knowledge.
- ✧ Students read, write, discuss, and listen to each other, applying language and reflecting on both the content and their own learning.
- ✧ Higher-order thinking skills are supported. Addressing complex, messy education problems, what Jordan, Kleinsasser and Roe (2014) call “wicked problems,” can be one effective way to involve pre-service teachers in problem-solving, synthesis, and the creation of lessons and other classroom artifacts and are in keeping with Bloom’s highest cognitive and knowledge categories.
- ✧ Community is privileged over competition. The more support future teachers can get during their CALL learning, the better. This includes working with students, peers, teachers, administrators, experts, and even parents. This does not indicate that competition can never be used in active learning classrooms, but that it is used to a specific, well-thought-out end.
- ✧ Assessment is ongoing. Formative assessments and immediate (just in time) feedback, along with explicit rubrics, help teacher education students understand and reflect on their learning and provide data to teacher educators for future activities.

- ✧ Tasks are based on essential questions – What? How? Why? In CALL teacher education, these might be extended to ask questions such as: What technologies can support the objectives of this lesson? How can this technology be used effectively and efficiently? Why did you choose this technology use? What other options are there? and so on.

Task engagement. Using principles of active learning can help CALL teacher education students become involved in classroom tasks; this is important because, in order for students to learn not only a peak amount but at their peak pace, they should be deeply engaged in the tasks that they take on. A synthesis of the literature, including Barkley (2010), Christenson, Reschly, and Wylie (2013), Dörnyei and Ushioda (2013), Egbert (2003), and Meltzer and Hamann (2004), produces the following task engagement principles:

Authenticity. Materials and processes that are engaging to students are often those that they consider to be authentic. Authentic, in this case, means that students perceive that they can learn something important or meaningful. The more that task components connect to students' lives outside of school, the more likely they are to be seen as authentic. CALL teacher educators can help their pre-service teachers see activities as authentic by answering the question "why" they are doing them (Egbert & Roe, 2014). This also then provides a model for these future teachers to follow when they are in their own classrooms working to engage their language learners.

Interest. Engagement can be supported by tasks that interest students. Although pre-service CALL teachers may all be interested in teaching language with technology, within that area they may differ widely in their interests in topics, tools, and materials. By providing choices for teacher education students that reach toward the same mastery goal, teacher educators may interest all students in the course content.

Social interaction. The importance of social interaction to learning has been supported by years of research (see, for example, Eskildsen & Majlesi, 2018; Ohta, 2000). Even when a task is of less interest or seen by teacher education students as less authentic, the opportunity to discuss, collaborate, and problem-solve with peers, experts, the teacher, and other interactants can help students become deeply involved. This principle clearly overlaps with active learning, where discussion and interaction are a central focus.

Scaffolding. Students engage when they have help and support that they can use in meaningful ways. Like CL, task engagement depends on receiving feedback when it is needed and can make a difference in the task process or outcomes. Further, accessible and comprehensible task support (e.g., handouts, web links, peers) that students can use as they see fit can help them to not get lost or stuck and thereby become involved in the task. In CALL teacher education, scaffolding can be provided in ways that demonstrate what will be expected of CALL teachers when they take on their own classrooms.

Challenge/skills balance. Like the SLA notion of $i+1$ (Krashen, 1985), Vygotsky's (1980) notion of the Zone of Proximal Development and Csikszentmihalyi's (1975) Flow Theory suggest that students need to work just far enough above their current level that they do not become bored or frustrated; this is directly in keeping with the CL tenet that students

work in a space that keeps them moving forward. Because future CALL teachers must be appropriately challenged for the skills that they already possess, it is important for teacher educators to know what those skills are in a wide range of areas. Needs assessments, interviews, book choices and other evaluations can be useful in understanding teacher education students' current levels.

Structure/autonomy. Another important component of task engagement, CL, and language learning is the extent to which students want to and can work independently and make their own choices. As in every class with English language learners (ELLs), in every teacher education class there will be a range of student needs on every task; encouraging future teachers to move at their own pace within the curriculum and use feedback and other supports as they need to can help them stay on track and understand how to address this principle in their own classrooms.

These sets of principles form the foundation for implementation of CL in CALL teacher education; technology use, both as a model for CALL teachers and a support for CL, can make the approach workable.

The role of technology in CL

Technology use can help personalize instruction for pre-service teachers by providing screencasts, OER resources, text sets, podcasts, videos, journal articles, and interactive websites at various levels. For example, a pre-service teacher in a CALL course who has not had much experience in teaching English might tap the British Council (<https://www.britishcouncil.org/>), US State Department (<https://americanenglish.state.gov/>), or any of hundreds of other websites and resources to acquire some of the background required to master the goals of the CALL course. According to Ross-Fisher (2017), CL is also well suited to both synchronous and asynchronous online learning, making learning management systems (LMS) a common tool for CL. Electronic portfolios are another common use of technology in CL (Schael, 2015).

For both CL and CALL, teacher educators can ask their students to reflect on:

- ✧ What do language teachers need to do better or more efficiently?
- ✧ What do language learners need to achieve?
- ✧ How can technology help?
- ✧ What resources are available/expected?
- ✧ What experiences with technology do teachers and students have?

As in CALL, in a CL approach technology can be used to:

- ✧ Support learning and instructional goals.
- ✧ Meet a variety of learner needs.
- ✧ Accomplish things that could not be accomplished without it. For example,
 - provide interaction with classroom teachers and other experts.
 - support multimedia input and production.
 - allow learners to participate in authentic tasks.
 - give learners more time and more feedback.
- ✧ Give students reasons to listen, extra resources, and more choices in their learning.
- ✧ Encourage learners to be active participants in their learning.
- ✧ Support meaningful language use.

- ✧ Repeat over and over.
- ✧ Be used as one of many learning tools (along with traditional materials).
- ✧ Make teaching and learning more effective, that is, the technology should enable the students to learn better and faster. Also, make teaching and learning more efficient, that is, the technology should help accomplish learning and teaching goals with less time and work (Egbert & Shahrokhni, 2018).
- ✧ Help learners to learn with, through, and about technology.

The effective use of technology clearly supports both CL and CALL, making it a useful pairing.

Implementing CL

The internet abounds with examples from programs and institutions that have created tasks and lessons based on CL (see, for example, reDesign, n.d.). Although CL has been adopted in broader contexts, this paper focuses on how CALL teacher educators might integrate CL at the classroom level.

Steps in a CL approach at the classroom level

In CL CALL teacher education, background knowledge can be formed explicitly (through in-class reading or lecture, for example) or implicitly (e.g., through video watching done outside of class and interaction and practice addressed in class). Each task is adapted to fit what the teacher educator knows about her students and meets the goals of the curriculum; there are unlimited options as to how this might be done within a CL framework.

Synthesized from the literature (see, for example, Rudenstine, n.d.), the steps for employing a CL approach include development, implementation, and assessment. There are many ways to develop each step in the CL process, and teacher educators can choose to address one set of objectives, several semester-long goals, or the whole course using CL. CALL teacher educators might test the process by starting small, perhaps with one competency goal per course, as described below.

Step 1: Development of CL tasks.

1. Develop goals based on standards, missions, themes, student needs assessments, and whatever other aspects of the context might or should impact outcomes. The *TESOL Technology Standards* (Healey et al., 2011) already contain rubrics that can be used as-is or adapted for specific contexts; one mastery goal of a CALL course, for example, may be Goal 1, Standard 2 of these standards, which requires that “Language teachers demonstrate an understanding of a wide range of technology supports for language learning and options for using them in a given setting” (p. 190).
2. Based on the goal(s), create specific competencies that answer the question, “What must every student know and be able to do before leaving this class?” Based on the standard noted above, one competency may be that “Every CALL teacher education student will be able to create an engaging language task in a virtual learning environment (VLE).”
3. Create “I can...” statements that form the objectives for each competency. For example, statements for the competency above might include:
 - I can create a learner profile based on competency assessments.

- I can log into and function within the VLE.
- I can build can-do language objectives for the VLE.
- I can incorporate the essential elements of language learning into a VLE task. I can integrate active learning and engagement principles into the task.
- I can assess objectives in the VLE.
- I can write my task plan in a way that it can be used by other teachers

Any of these may be review, or they may all be new concepts for the course members.

4. Create tasks, projects, modules, or lessons based on active and engaged learning that address the competency objectives and that model effective technology uses. For the example competency here, teacher education students might be asked to produce a lesson or task plan as an outcome.

Step 2: Implementation of CL tasks. How each goal, competency, and objective is addressed in class is up to the teacher educator, but the literature provides several useful guidelines:

- ✂ Working as a facilitator, share objectives and assessments with learners at the outset and work with them to help them access appropriately challenging/multi-level materials such as readings and examples. Model how competency assessments, can-do statements, and formative assessments are created and used for this task and how they can transfer to students' own task plans.
- ✂ Provide support and/or ways to find support, including resources and peer feedback. For the competency under discussion, students can be given access to and a task to complete in *Minecraft* (Mojang, 2009), YouTube videos and websites that describe how educators are using this VLE for English language learning, and technological tips that students might need to provide support for their ELLs.
- ✂ Create checkpoints and intervene when students fall behind. For example, one checkpoint might be when students have completed their can-do statements for their ELLs but before they have started to create assessments. Teacher educators can facilitate mini-lessons, small or whole group discussion, and individual tutoring as needed.
- ✂ Include student voices and choices in their learning. Challenge them to reflect on how they learn best and also to improve their areas of weakness in both teaching and learning, in the same ways that they might do so for their own ELLs.
- ✂ Allow students to revise and resubmit their work a preset number of times or until they are assessed as competent in the task objective(s). Evaluating repeatedly is time-consuming and may be frustrating, but using feedback tools like Jing (<https://www.techsmith.com/jing-tool.html>) that allow for different modes of feedback can help both teacher educators and students lessen the burden. In addition, having students point out exactly where in the task they have included each of the principles and labelling other can-dos can help the evaluation go more quickly.
- ✂ Explicitly point out how the CL guidelines might also be used in pre-service teachers' own classrooms; in other words, answer the "why."

Step 3: Task assessment. Ross-Fisher (2017) notes that "the quality of a competency-based program is heavily reliant upon the quality of its assessments" (p. 2). Evaluation of the established competencies should be able to address what teacher education students know, are able to do, and can perform. In the assessment process, teacher educators can:

- ✧ Develop mastery targets (indicators) using the competencies and can-do statements. For example, for the can-do statements in Step 2 above, one indicator may be that the teacher candidate has pointed out in the task where the engagement principles are addressed. Another might be that the student has shown the ability to log in to *Minecraft*, run, jump, and change directions, and use three items from the inventory.
- ✧ Measure students' existing competency with a performance assessment. In this case, the teacher educator might ask the students to explain language and engagement principles and brainstorm uses of VLEs for language learning, and possibly show what they can do in *Minecraft*. Create a profile for each student that notes where they are and where they need to go to be evaluated as competent. Share the profile with the student.
- ✧ Assess competency demonstrated in student tasks as emerging, approaching, proficient or with similar categories (e.g., Walsh, 2016a, suggests exemplary, proficient, basic proficiency [the minimum required to pass], limited proficiency, not met, not yet competent, and insufficient work shown). Assessments can take different forms and occur at different times as long as they evaluate the indicators specifically. For example, a screencast of a teacher education student logging in, moving around, and finding/using tools in *Minecraft* might be used as evidence that that student meets the indicator for functioning in *Minecraft*.
- ✧ Decide exactly what the teacher education student has to show or do to be deemed "proficient." For example, is logging in with help appropriate, or do they have to do it alone? If they know most but not all of the engagement principles, is this mastery of this concept?
- ✧ Decide:
 - Who provides feedback? Other members of the program team? Just the teacher? Peers or experts? How are students involved in feedback? How does this support the validity and reliability of the assessments?
 - What are the policies for passing the course? For example, how does demonstrated proficiency in a specific number of competencies link to criteria for passing? Will the amount of class time be different for students at different levels of competency?
 - How will assessment results be reported to students and other stakeholders?

As with any "new" pedagogical approach, teacher educators have many choices of how to develop and implement CL; considerations include time, context, and program goals.

Benefits and Challenges of CL in teacher education

The purpose of this paper is not to delineate arguments for and against CL; other authors do that well (see, for example, Lurie & Garrett, 2017). General benefits and challenges are mentioned so that CALL teacher educators might adapt CL as it works for their students.

There are many benefits provided both in the research literature (e.g., Guskey, 2010; Hutcheson, 2015; Voorhees, 2001) and anecdotally by teachers (e.g., Schapiro, 2014; Spencer, 2017) that are attributed to CL. These include that

- ✧ More students succeed in reaching course and personal goals. This is central if pre-service teachers are to work effectively in their own classrooms.
- ✧ Learning also occurs outside of class.

- ✧ Class is much more interesting for teacher educators/instructors.
- ✧ The goals and objectives are clear.
- ✧ Students can learn at their own pace; learning is a personalized, equitable experience.
- ✧ Students are more engaged with content tailored to their needs.
- ✧ The emphasis is on ability and knowledge, rather than one or the other.
- ✧ Students receive just-in-time feedback and scaffolds.

On the other hand, a competency approach may raise issues including time and equity. Challenges to be addressed include:

- ✧ The self-paced learning that takes place with a CL approach can take more time for some learners, and extra planning and assessment for teachers, but the outcomes can be much better. In the same way, it can free some students from the boredom of being on the same page as everyone else when they already have the skills and knowledge to move ahead; in a semester-long course with static end dates, learners who master objectives more quickly can learn additional content and skills above what the course requires. At the same time, those who need more help can get it.
- ✧ Teacher education students may not understand the approach at first, because it may be far different from what they are used to. However, teachers can explain and support students through the phase of learning the new approach (Driscoll, 2015).
- ✧ Some stakeholders may question the equitability of a CL approach. Cleary & Breathnach (2017), in their case study, argue that CL done well (i.e., based on an understanding of students and their needs) can support equity well.
- ✧ Research does not show that CL works in all areas (Gyll & Ragland, 2018; see also arguments in Spencer, 2017); however, teacher education is seen as one area where it can be an excellent fit.
- ✧ Decisions have to be made about whether competencies will be mapped onto letter grades, and, if so, how that would happen (for arguments and ideas, see Walsh, 2016b, and Spencer, 2017).
- ✧ Stakeholders still want comparable results, and pre-service teachers can still be on the hook for standardized tests (see Zimmerman & Dibenedetto, 2008). However, taking the test when ready instead of at a pre-specified point in the education program can alleviate this problem. In addition, the clear and explicit assessments that students and teachers use in CL can help stakeholders compare standards learning.

Conclusion

Teacher educators and other professional development providers need to make sure that the teachers in their classrooms are as prepared as they can be to engage their ELLs actively in mastering language, content, and technology. One way to do that, given the current ubiquity of the one-CALL-course model, is to use CL to both model and measure what pre-service teachers know and can do. Rather than just being able to pass tests or talk about technology use, CL might be an effective approach to helping make sure that teacher education students can teach. Implementing CL may not be as simple as it sounds here, but there are many resources that can help with details (see, for example, Priest, Rudenstine,

& Weisstein, 2012). The approach is certainly worth a try as CALL teacher educators seek to improve course outcomes.

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