

ASSESSMENT FOR LEARNING IN TEACHER EDUCATION PROGRAMS: NAVIGATING THE JUXTAPOSITION OF THEORY AND PRAXIS

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Abstract: This paper examines the challenges associated with promoting and modeling assessment for learning within initial teacher education programs. Based on their experiences teaching in a variety of higher education institutions within Canada and the United States and on a critical synthesis of literature, the authors identify three broad constraints that contribute to the current theory—praxis divide. Specifically, the article outlines temporal, programmatic, and institutional constraints that typically undermine the spirit of assessment for learning within initial teacher preparation programs. After documenting these constraints, the paper concludes with a research agenda for aimed at promoting more effective integration of assessment for learning in teacher education programs.

Keywords: assessment, assessment for learning, teacher education, constraints, challenges

Introduction

The dichotomy between assessment *of* learning and assessment *for* learning (AFL) is widely recognized around the Western world (Assessment Reform Group, 2002; Popham, 2013). The former emphasizes assessment practices that serve an evaluative function, often at the end of a unit or term – examples include quizzes, tests, exams, essays, and projects. The latter emphasizes assessment practices that are ongoing and take place during a lesson or unit of study – examples include a journal reflection, a self-assessment of an oral performance, or a submission of a draft of a final assignment. Not surprisingly, both teacher candidates and practising teachers have traditionally attached more importance to summative assessments because they are utilized for grading purposes (Stobart, 2008). Nevertheless, research suggests that using a diverse array of AFL methods (also referred to as formative assessment) is most critical to promoting student success (Black & Wiliam, 1998; Hattie, 2009).

Although both types of assessment (formative and summative) provide important data for instructional planning, only AFL informs teachers about student learning at a point when timely adjustments to instruction can be made. AFL also invites students to be active participants in their own learning so that student engagement and motivation are increased (Willis, 2010). These advantages make AFL an essential characteristic of initial teacher preparation. The importance of AFL has been supported by empirical research over the last few decades. Four large reviews on the impact of AFL (Black & Wiliam, 1998; Crooks, 1988; Kluger & DeNisi, 1996; Natriello, 1987) have indicated that the consistent utilization of formative strategies such as questioning techniques, feedback without grades, peer assessment, self-assessment, and formative use of summative assessments can double the speed of student learning (see Wiliam, 2007). The previously noted meta-analyses also suggested that AFL reduces the achievement gap by helping low achievers the most (Black & Wiliam, 1998).

However, in order to encourage teachers to adopt AFL into their teaching practice, they must be given opportunities to learn about assessment within their teacher education program (Stiggins, 1999, 2002). However, few teachers are provided with sufficient, direct instruction in assessment to yield assessment competent teachers (MacLellan, 2004; Stiggins, 1999; Volante & Fazio, 2007) with general curriculum or educational studies courses minimally addressing AFL concepts (DeLuca & Klinger, 2010). Despite a lack of formal provisions for assessment education, teacher candidates could learn about assessment through teacher educators' modelling of AFL practices. However, as recognized by Taras (2007), the structure of preservice and other higher education programs deter the effective integration of AFL, leading to a dominantly summative assessment context for teaching and learning.

In this paper, we study the challenges associated with promoting and modeling AFL within initial teacher education programs. Based on our personal experiences teaching in five higher education institutions within Canada and the United States, we identify three broad constraints that contribute to the current theory-praxis divide: (a) temporal constraints, (b) programmatic constraints, and (c) institutional constraints. We describe each of these constraints as a basis for promoting more effective integration of AFL within initial teacher education programming.

Promoting Assessment for Learning through Teacher Education

A variety of teacher education program options exist accredited by various state/provincial, local, and national agencies across the US and Canada leading to teacher certification (Crocker & Dibbon, 2008; Gambhir, Broad, Evans, & Gaskell, 2008; Zeichner & Conklin, 2005). This

variety of programming contributes to multiple approaches for assessment education with varied commitment to promoting AFL mandates. In recently revised US national level accreditation standards, supporting teacher candidates' assessment literacy development has become a primary focus. In the most recent accreditation standards issued by National Council for Accreditation of Teacher Education [NCATE] (2008), the largest accreditor of teacher preparation programs, the following benchmark for graduates of teacher education programs was identified:

Teacher candidates are expected to focus on student learning and study the effects of their work. They assess and analyze student learning, make appropriate adjustments to instruction, monitor student learning, and have a positive effect on learning for all students. (p. 19)

In 2010, NCATE issued a paper entitled, *Assessment as a Critical Element in Clinical Experiences for Teacher Preparation*, in which they not only prioritized assessment as a focus of preservice learning but also recommended that, "candidates be presented with multiple and rich course material in their preparation that will enable them to become assessment-literate and data-wise" (p. 21). In order to meet assessment literacy standards, teacher education programs utilize a variety of approaches including explicit, integrated, and blended assessment education models (DeLuca & Klinger, 2010). Explicit and discrete coursework in assessment has proven the most valuable in promoting teacher candidate assessment literacy when contrasted to integrated approaches in which teacher candidates learn about assessment in general curriculum or educational studies courses. A blended model provides both direct instruction in assessment and additional learning opportunities in general education courses. The majority of explicit assessment courses offered across preservice programs are one

semester in duration and serve to provide an introduction to assessment policies and practices (Gambhir et al., 2008; Greenberg & Walsh, 2012).

Research on the value of preservice assessment education and specifically explicit assessment courses has resulted in mixed-results. Quantitative measures of teacher candidate perceived assessment literacy (or proxy constructs such as confidence, attitude, or competence in assessment) point to strengths and weaknesses in candidates' readiness for assessing student learning. Campbell, Murphy, and Holt (2002) administered a scenario-based version of the Teacher Competencies Assessment Questionnaire (TCAQ; see Plake, Impara, & Fager, 1993, for description of original TCAQ) to 220 undergraduate students who had enrolled in a teacher education measurement course. Questions on the TCAQ were based on the Standards for Teacher Competency in Student Assessment (American Federation of Teachers, National Council on Measurement in Education, & National Education Association, [AFT, NCME, & NEA], 1990), which articulated seven principles related to assessment selection, design, administration, scoring, and interpretation. Based on their analysis, Campbell et al. (2002) found that teacher candidates' confidence differed across the seven principles, with teacher candidates most confident on standard one (i.e., choosing appropriate assessments to measure student learning) and least confident on standard six (i.e., communicating results to educational stakeholders). Similar results have been paralleled in other quantitative studies (e.g., Chen, 2005; DeLuca & Klinger, 2010).

In contrast, qualitative studies on teacher candidates' conceptualizations generally characterize graduates as less prepared for assessing student learning. Through her analysis of 30 personal statements on assessment, MacLellan (2004) found that

while teacher candidates were able to express various assessment purposes and formats, their articulation of assessment theory and related issues (i.e., reliability, comparability, validity, and fairness) were highly limited. MacLellan concluded that teacher candidates in her study maintained low levels of assessment literacy, which she cautioned could result in negative and detrimental classroom assessment practices. Significantly, MacLellan found that teacher candidates' knowledge on assessment was largely compartmentalized so that connections between formative (i.e., AFL) and summative (i.e., assessment of learning) purposes of assessment were not well developed.

Volante and Fazio (2007) drew a similar conclusion based on the responses of 69 teacher candidates to their assessment literacy questionnaire, which maintained both open- and closed-ended items. Specifically, they noted that teacher candidates primarily referred to summative assessment activities (i.e., grading, tests, and report cards) in their responses, and to a much lesser extent, on formative assessment activities (e.g., informal questioning, conversations, and conferences). As a result, Volante and Fazio cautioned "teacher education programs that provide specific courses on assessment and evaluation...should not necessarily assume their teacher candidates are graduating with an acceptable level of assessment literacy to assess and evaluate students effectively" (p. 761). They further asserted the need for a concerted effort on the part of teacher education programs to "reduce the number of teacher candidates graduating with sizable knowledge gaps in this important field" (p. 762).

In addition to qualitative and quantitative studies on the effectiveness of preservice assessment education, assessment course syllabi have been systematically analyzed by the National Council on Teacher Quality (Greenberg & Walsh, 2012) and by DeLuca

and Bellara (2013). Greenberg and Walsh (2012) examined 455 assessment course syllabi from over 180 teacher education programs (mainly public) across 30 states. Each syllabus was analyzed for its address of three domains of assessment knowledge: (a) assessment literacy (i.e., teachers' ability to measure student performance using assessments); (b) analytical skills (i.e., teachers' ability to analyze assessment data); and (c) instructional decision-making (i.e., teachers' ability to plan instruction based on assessment information). Results indicated that assessment courses addressed the assessment literacy domain better than the latter two domains, with coursework only providing the "most basic tools for analysis of assessment data and then primarily from classroom assessment" (p. 15) and rely more heavily on curriculum or general education courses to educate teachers on how assessment can be used to inform instruction. Overall, Greenberg and Walsh concluded that while assessment was addressed in 175 out of 180 programs examined, only six programs (3 percent) provided preparation deemed *adequate*.

In a similar analysis of assessment course syllabi, DeLuca and Bellara (2013) analyzed the alignment of syllabi content from NCATE certified programs in Florida with NCATE and state accreditation standards and professional standards in educational assessment (i.e., JCSEE, 2015; AFT, NCME, & NEA, 1990). DeLuca and Bellara's method involved analyzing alignment across three dimensions: (a) content focus, (b) depth of knowledge, and (c) range of knowledge. Results suggested that while there are points of alignment across syllabi, accreditation policies, and professional standards (e.g., a consistent emphasis on assessment processes and fairness issues) there were also points of misalignment (e.g., emphasis and focus on various assessment purposes including AFL, and on communication of assessment information). They concluded by asserting that the variability in accreditation policies,

standards of practice, and other influences on preservice assessment education contribute to different foci and content for the preparation of teachers.

Accordingly, across previous literature on assessment education there is consistent evidence that preservice programs may not be preparing teachers as effectively as possible for assessing student learning. Several barriers and practices exist in preservice program that limit the teaching and learning of assessment theory and the modeling of effective assessment practices for teacher candidates.

Understanding the Theory—Praxis Divide

It has been generally acknowledged that classroom teachers' assessment practices lag behind the current research base – particularly in relation to AFL. The reasons for this disconnect are multifaceted and typically relate to the conservative culture of schools and lack of appropriate professional development (see Popham, 2013; Volante, 2010; Wiliam, 2011). This disconnect naturally extends to preservice teachers who are often socialized by cooperating teachers and placement schools. As Graham (2005) described, "preservice students are more likely to succumb to their apprenticeships of observation," and in doing so, "seemed doomed to replicate more traditional, unexamined assessment practices" (p. 619). Breaking out of this cyclical process requires a teacher education experience that challenges established, and in some cases, entrenched teaching practices. Teacher educators need to model a range of assessment methods within their own coursework so that preservice students can begin to construct a deeper understanding of the utility of different assessment approaches (Allen & Flipppo, 2002; James & Pedder, 2006). It is through this experiential approach that teacher candidates can begin to unlearn their negative conceptions of assessment and

reformulate assessment as a positive process in teaching and learning (Earl, 2012; Harlen & Gardner, 2010).

Taras (2002) asserted, “academic processes, by their very nature, need coherence between theory and practice. This is part of the ethos that we inculcate in our students. The least we can do is to attempt to adhere to these principles ourselves” (p. 508). However, reforming teacher education programs so that they model and infuse AFL practices is particularly difficult given various constraints that typically confront teacher educators. In particular, we articulate three persistent constraints that impact the theory-practice divide: (a) temporal constraints, (b) programmatic constraints, and (c) institutional constraints.

Temporal Constraints

Consistently, researchers and educators have recognized that developing a learning culture that values AFL takes time. While procedural implementation of AFL practices is relatively simple, shifting teacher candidates’ orientation toward assessment and meaningfully integrating AFL as pedagogical orientation is more challenging. These two modes of AFL integration reflect an enactment of the letter of AFL versus the spirit of AFL (Marshall & Drummond, 2006). In their in-depth, video analysis of teachers’ enactment of AFL, Marshall and Drummond found that teachers who embraced the spirit of AFL involved students more fully and more authentically in learning through assessment. In this way, students’ adopted AFL and valued assessment as a structure that promoted autonomy, collaboration, and feedback-driven learning. Similarly, in Willis’s (2010) examination of three Australian classrooms, he found that when AFL was adopted with a spirit of promoting participation, it served to enhance the learning culture and promote student achievement. In particular, Willis identified that changes in teachers’ perceptions of

AFL as a pedagogical orientation rather than a series of prescribed assessment steps enabled students and teachers to develop a shared understanding of teaching and learning processes and goal, which lead to a participatory community of practice within the classroom. However, developing this assessment-based culture of learning in which both students and teachers adopt the spirit of AFL required a fundamental pedagogical orientation toward the spirit of AFL and continuous use of AFL practices over long periods of time.

Applied to teacher education programming, this finding poses a significant challenge for teacher educators’ who aim to adopt the spirit of AFL. Given relatively short on-campus periods attributed to generally short program durations (i.e., 8-months to 2-years) with interjected practicum blocks, teacher candidates may be inconsistently exposed to AFL pedagogy. As a result, there may be insufficient time to develop an assessment-based culture of learning within teacher education programs. This issue is further problematized due to the fact that teacher candidates often enter preservice programs with firmly held, often negative, beliefs about assessment. In advocating for AFL-based teaching and learning, Torrance (2007) noted that “attention must be paid to the development of tutors’ and assessors’... and the nature of their relationships with learners, so that learners are inducted into communities of practice” (p. 292). Thus in relatively short periods of learning, teacher educators are challenged to not only adopt an AFL pedagogical orientation but also change teacher candidates’ perspectives on assessment in order to cultivate communities of learners that value assessment.

In addition to the challenge of developing an assessment-based culture of learning, short on-campus periods limit the learning benefits of AFL for teacher candidate. In particular, several studies have indicated that using assessment as learning to

promote metacognitive development requires extended use of learner-driven assessment practices (Earl, 2006, 2012; Willis, 2010). Specifically, assessment as learning involves students in developing habits of self-reflection, goal setting, and learning plans so that students learn how to learn (Marshall & Drummond, 2006). Developing professional learning skills in teacher candidates is critically important given current accreditation and competency standards that require teachers to engage in continuous professional learning anchored on principles of self-reflection, action inquiry, and planning for learning (Cochran-Smith & Lytle, 2009; Craig, 2010). However, research indicates that teacher candidates struggle to develop a professional learning orientation (DeLuca, Chavez, Bellara, & Cao, 2013; Klinger, Shulha, Luu, Ma, & Lam, 2013). One of the central reasons for this finding is that teacher candidates do not have sufficient exposure to high-quality assessment as learning during their preservice program. More concerning is that if teachers do not learn to develop these professional learning skills during their preservice year(s), they will be limited in their ability to use assessment as learning strategies to enhance and support their students' learning (Earl, 2006).

In our experiences, short on-campus periods of consecutive teacher education programs limit teacher educators' abilities to model and adopt a spirit of AFL in their courses. As a result, teacher candidates may not be experiencing effective cultures of learning that value assessment-driven teaching and learning. Without this experiential knowledge, we contend that teacher candidates who hold negative views of assessment will continue to use assessment practices predicated on their previous experiences rather than on more contemporary and formative conceptions of assessment.

Programmatic Constraints

Program coherence has long been recognized as an essential feature of effective teacher education programs (Darling-Hammond, 2006a, 2006b). When faculty members promote a shared vision—based on teacher education research—the likelihood of providing a successful teacher candidate experience is greatly enhanced. Unfortunately, program coherence with respect to AFL theory and practice is often an elusive feature in teacher education programs. Our experiences working in North America suggest university faculties' knowledge and understanding of AFL and their ability to integrate AFL into their courses is limited. Indeed, given the uneven range of expertise in this area, teacher candidates are likely to encounter conflicting views on AFL practices within university and practicum settings. Those faculty members who are charged with teaching assessment courses may find themselves in the unenviable position of re-teaching material or confronting faulty notions of AFL held by their colleagues and by practicum teachers.

Ideally, we advocate for a blended approach to assessment education in which teacher candidates receive discrete, focused instruction in assessment whilst engaging in integrated learning of assessment within other education courses (i.e., curriculum or professional studies courses). However, this approach can be counterproductive if faculty members in general education and assessment-specific courses promote divergent and contradictory messages about assessment. This contradiction is doubled when messages about assessment during practicum are further misaligned with faculty-based teachings. In such instances, teacher candidates are left without an educational space to negotiate and reconcile conflicting understandings about assessment. In their study, DeLuca and Klinger (2010) asked teacher candidates across secondary and elementary panels to

identify the primary site for learning about assessment. Nearly all teacher candidates who had taken an assessment specific course identified the assessment course as their principal site of learning while those who had not taken an assessment course identified their practicum and curriculum courses as focal sites for their learning. This finding is problematic because research has clearly identified that students enrolled in an assessment course have qualitatively different conceptions and understandings about AFL, and assessment generally, compared to those who solely take curriculum courses or engage in practicum experiences (Campbell et al., 2002; Chen, 2005). Thus although assessment courses are beneficial, the current siloed nature of preservice coursework and practicum experiences and variable faculty knowledge about AFL pose significant threats to cultivating congruent learning about AFL amongst teacher candidates.

It seems imperative that faculty members be provided with appropriate professional development on AFL in order to effectively support teacher candidate learning. Ideally, these professional development experiences would provide timely adjustments in both the content and pedagogy of university courses so that AFL becomes a pervasive feature across initial teacher education coursework with consistent messages about AFL in discrete and integrated courses. The availability of appropriate professional development must naturally extend to cooperating teachers since the practicum is essential for making connections between theory and practice. Although AFL is rapidly emerging as a critical component of successful schools, practicing teachers tend to have a rudimentary and often superficial understanding of how to properly infuse these practices in their classroom (Klinger, Volante, & DeLuca, 2012). Earl, Volante, and Katz (2011) argued for policy support, organizational structures, and professional learning that provides deep engagement

with the new ideas associated with AFL so that practising teachers can move from the 'letter' to the 'spirit' of AFL.

In addition to supporting faculty members' and practicum teachers' learning about AFL, there is a need to establish a structure for teacher candidate learning that enables them to bridge experiences across their preservice program and consolidate their assessment learning. Drawn from contemporary professional learning theory, the structures of collaborative inquiry (CI) and professional learning communities (PLCs) may have value for this purpose. CI and PLCs are structures that engage educators in jointly learning about an aspect of their practice with the aim of improving student learning (Cordingley, Bell, Thomason, & Firth, 2005; Donohoo, 2013). Often, CI and PLCs integrate student performance data, reflections on teaching practice, and expert knowledge to promote teacher effectiveness through goal-directed, collaborative learning. Used in preservice programs, CI and PLCs would engage teacher candidates in self-directed, professional dialogues that integrated their practicum experiences with expert assessment knowledge (i.e., faculty members, practicum teachers, resources) to better understand the pedagogical benefits of AFL on both student learning and teaching practice.

In her review of powerful teacher education programs, Darling-Hammond (2006b) identified one pre-service program that integrated CI as a core program feature to promoted teacher candidates' abilities to collaborate, engage in ongoing assessment of their work and learning, and establish a network of support and approach for continued professional development. The CI initiative bridged various stakeholders to support and connected teacher candidate learning from otherwise isolated experiences resulting in "new organizational roles, arrangements, and distributions of responsibility and resources

among schools, districts, and the university” (Darling-Hammond, 2006b, p. 53). When focused on AFL, CI and PLCs not only enable teacher candidates to negotiate their learning across program experiences but also practice and develop professional learning skills, which are at the very heart of assessment *for* and *as* learning practices.

Institutional Constraints

There is increased recognition that institutional policies and mandates shape systemic adoption of AFL (Earl et al., 2011; Taras, 2007). In particular, we have identified two dominant institutional constraints that limit AFL in teacher education programs. First, there is a need for institutions to reconcile systemic accountability mandates with a formative focus in teaching and learning. Second, institutions need to implement grading policies and practices that do not undermine the spirit of AFL. These two constraints operate within both teacher education programs and the K-12 public education system. As such, teacher candidate learning about AFL can be limited given their pre-service experiences within both these systems of education.

Accountability mandates are often operationalized through an increase in summative assessments and the tracking of student performance over time (Koretz & Hamilton, 2006; Stobart, 2008). Emphasizing growth in student achievement (often measured through external, standardized assessments) has the potential to encourage a culture of assessment driven by and focused on summative assessment (Taras, 2005; Torrance, 1993; Wiliam, 2000). AFL researchers have endeavored to argue for a balancing of formative and summative assessments within the dominant standards-based, accountability paradigm of education, recognizing that “that overall standards and individual performance may

be improved by actually emphasizing formative assessment” (Gardner, 2006, p. 198). Further, Taras (2005, 2007) asserted that the processes of formative and summative assessments need not be different; rather, it is the degree of feedback students receive and the grade-component of summative assessments that distinguishes these forms of assessment. Despite the overall benefits of AFL on increasing student achievement, institutions rarely implement policies on AFL use.

Linked to developing policies aimed at AFL is the revisioning of summative assessments to encourage opportunities for students to integrate feedback and improve their learning. Sadler (2010) described three fundamental assumptions about grading pervasive across higher education contexts that limit the fidelity, implementation, and adoption of AFL. We would argue that these assumptions apply equally to K-12 public education. First, Sadler recognized that students do not take seriously learning activities or assessments tasks that do not contribute to their final grade. Second, students regard grades as fungible, where all grades are of equal weight and worth. Third, formative and summative assessments are often conflated, with formative tasks assigned grades despite their intention to formatively support learning. Sadler notes that these assumptions pose significant threats to “creating alternative approaches to the design of course assessment programmes that serve both formative and summative purposes” (p. 739). Accordingly, we assert that in order for AFL to effectively integrate into teacher education programming, faculty members and cooperating teachers not only need to know the difference between formative and summative assessment, but they must also work to dismantle the assumptions that hinder the adoption of AFL processes. As mentioned earlier, this task is particularly difficult given the variability of instructors,

contexts, and beliefs that teacher candidates encounter in their relatively short professional programs.

Conclusion

In this paper, we have argued for greater integration of AFL throughout teacher education programs. By analyzing temporal, programmatic, and institutional constraints, we have identified recurring trends that may impact local teacher education programs. Underpinning this argument is our primary assumption that when teacher candidates experience AFL, consistently and effectively, they are more likely to create a spirit of AFL in their own classrooms. Hence not only will the integration of AFL support teacher candidate learning throughout initial teacher education programs, but it will potentially also extend to the learning of K-12 students across educational systems.

Confronting temporal, programmatic, and institutional constraints that limit the preparation of assessment literate teacher candidates is a daunting task—particularly when one considers the range of accreditation standards across North America and the numerous educational contexts in which teacher education programs operate. These persistent constraints require more attention through focused research. Hence we suggest that future research explore diverse methods for working within and around the identified constraints to provoke greater AFL integration. In particular, we assert the following questions as a basis for future studies:

- How can programs stimulate greater coherence in the teaching of AFL between on-campus and practicum components?
- What structures can be used to enhance the professional knowledge of teacher educators in the area of AFL?
- How can universities establish better linkages between formative and

summative assessments within courses, and increase value of AFL-practices?

- What are the influences of university policies aimed at AFL-based teaching on the modeling of AFL practices for teacher candidates?

We also suggest that pre-service programs and teacher educators might use the identified constraints to systematically evaluate their own teacher education programs, as not all constraints will manifest across programs. Program evaluation strategies, such as a SWOT analysis, might prove useful in identifying local program strengths, weaknesses, opportunities, and threats to AFL integration.

Overall, this paper is intended to provide a critical review of literature on the promotion of AFL within preservice teacher education programs. The identified constraints provide a heuristic for systematically evaluating areas in which AFL integration could be enhanced with the ultimate aim of provoking greater AFL practices in our teacher education program.

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