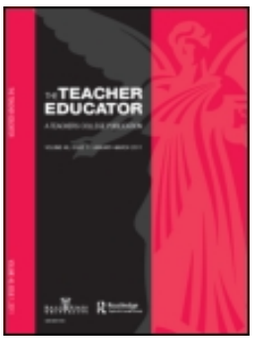

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RESEARCH ARTICLE

ASSESSING ASSESSMENT TEXTS: WHERE IS PLANNING?

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We conducted a content analysis of 27 assessment textbooks to determine how assessment planning was framed in texts for preservice teachers. We identified eight assessment planning themes: alignment, assessment purpose and types, reliability and validity, writing goals and objectives, planning specific assessments, unpacking, overall assessment plan, and other. Themes were used to code the all texts and evaluated the depth of coverage each theme received: mentioning, elaboration, *and* how to. *Findings indicate that classroom assessment textbooks (a) lack a clear focus on assessment planning, (b) demonstrate wide variation in the depth of coverage with little focus on "how to" related to assessment planning, and (c) lack theoretical connections between assessment and instructional practices.*

Teachers are expected to engage in high-quality assessment practices in order to derive valid inferences about students' knowledge and skills and guide future instruction (Brookhart, 1999). This is evidenced by state and national teaching standards (Council of Chief State School Officers, 2012; National Council for Accreditation of Teacher Education [NCATE], 2008) and national reform initiatives (e.g., No Child Left Behind; U.S. Department of Education, 2002) calling for quality classroom assessment practices. Implicit in these standards is the premise that assessment is planned and integrated with instruction. Yet, little is known about explicit guidelines, strategies, or approaches to assessment planning recommended to guide teachers' assessment practices. We conceive of *assessment planning* as the practice of designing an assessment system that includes varied assessment activities for varied purposes (i.e., formative and summative) in alignment with instructional standards, goals, and objectives. This includes decisions related to assigning grades, using formative assessments, and explicit coordination of assorted assessment types to improve the overall validity of teachers' evaluations.

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Review of the Relevant Literature

Assessment Planning

In 2011, Brookhart identified the assessment-related knowledge and skills teachers need; this included being able to (1) construct and communicate learning objectives; (2) design, use, draw inferences from and provide feedback to students on a range of assessment options; (3) administer, interpret, and communicate results of external assessments; and (4) help students to use assessment results to inform their decisions. Assessment planning as we described seems to be implicit in this knowledge/skill base. Few authors refer to assessment planning as an explicit or distinct activity (cf., Chappius & Stiggins, 2008; Gearheart & Osmundson, 2009). Yet, the systematic alignment of instructional goals, activities, and assessment practices are the hallmarks of valid evaluations of student learning and progress. Planning for assessment is important because it helps ensure that assessments and learning targets align and result in assessment results that provide evidence that students have the essential knowledge and skills espoused in the curriculum (Nitko & Brookhart, 2011). In fact, developmental models of teachers' assessment practices have identified planning for assessment as the first of five stages of planning for and implementing effective classroom-based assessments (Hall, Webber, Varley, Young, & Dorman, 1997). Based on a series of semi-structured interviews with 59 teachers across 45 schools in England, these researchers found that all participants followed this sequence of stages, with variability in the approaches they adopted and their commitment to each stage. In the first stage, planning for assessment, teachers engaged in activities to ensure that the content addressed in a particular assessment aligned with the learning targets specified in the curriculum. Moreover, Chappuis and Stiggins (2008) indicated that teachers need to have an assessment plan as either part of an instructional plan or as a stand-alone document. They argued for a balanced assessment system (i.e., collective assessment practices) that included both formative and summative assessments aligned with learning goals/objectives (Chappuis & Stiggins, 2008).

Despite calls to engage in assessment planning, few researchers have empirically explored the viability of assessment planning or the supports needed for teachers to develop the knowledge and skill needed to do this. Specifically, teachers may need assistance learning how to create a plan for assessment that is informative and fits with their current instructional practices. A sound example of this need is highlighted by an 18-month study from Gearhart and Osmundson (2009), in which 23 experienced science teachers developed, implemented, and evaluated student work and constructed an assessment portfolio to reflect on their (the teachers') learning. The portfolio included three sections: planning, interpretation of student work, and tool revision. Although not explained in detail, teachers used two forms during planning: a ''Model of Conceptual Flow'' and a ''Record of Assessments in Instructional Materials'' (RAIM; Gearhart & Osmundson, 2009, p. 5). The first document helped teachers use learning goals or targets to connect previous learning to new information, and the second was used to align assessments with instructional goals and anticipated student outputs. In their analysis of the teachers' portfolios, Gearhart and Osmundson wrote, ''as evidence of their growing attention to alignment, in later portfolios most teachers depicted relationships between learning goals and assessments in a single, usable document rather than in two separate documents (conceptual flows and RAIMs)'' (p. 11). This finding provides tentative evidence that teachers benefited from scaffolded assistance to explicitly consider these two aspects of assessment before they could combine them into a single assessment plan.

Preservice Teachers' Knowledge

Preservice teachers tend to have knowledge that is ''compartmentalized and fragmented and consequently not easily transferable from one domain to another'' (Mewborn, 2001, p. 29). Expert teachers are noted for their ability to recognize patterns across seemingly unrelated tasks and engage in flexible, opportunistic planning, and varied representations of content (Berliner, 2001). In contrast, novices are more rigid in their conceptions (Berliner, 2001), have ''limited and fragmented knowledge,'' and lack ''*principled knowledge*, a cohesive and well-integrated body of domain knowledge'' (Alexander, 2003, p. 11). This rigid, fragile, and fragmented knowledge inhibits their abilities to systematically integrate knowledge and skills across topics (Berliner, 2001) or to evaluate new information and experiences as correct or relevant (Alexander, 2003; Jetton & Alexander, 1997). This fragmentation may be exacerbated by traditional teacher preparation programs that frequently offer a set of siloed courses (Feiman-Nemser, 2001).

Preservice Teachers' Assessment Knowledge

Future teachers demonstrate a lack of understanding of assessment and feel ill-prepared in this area of their professional knowledge base (e.g., Campbell & Evans, 2000; Maclellan, 2004; Volante & Fazio, 2007). Maclellan (2004) performed a content analysis on 30 preservice Scottish teachers' written responses to a prompt on assessment. At 30 weeks into a postgraduate certification program in elementary education on the precipice of applying for licensure, these novices were able to articulate what the purpose of assessment was, but they could not recognize its relationship to normative versus criterion-referenced scoring nor could they demonstrate understanding of reliability and validity.

Volante and Fazio (2007) conducted a cross-sectional self-report investigation of elementary preservice teachers' assessment literacy. All participants were engaged in the same teacher education program and were required to take a course in observation and evaluation (e.g., running records, checklists). When responding to prompts about what assessments they would use, participants overwhelmingly described the kinds of practices learned in their course and omitted other kinds of assessment practices. These participants also reported a lack of balance across different kinds of assessment techniques despite the coursework that was intended to teach for such variation (Volante & Fazio, 2007). These findings underscore the need for explicit instruction in classroom assessment planning that could be used to support a variety of practices.

Campbell and Evans (2000) reviewed 309 lesson plans of 65 student teachers that included explicit indications of assessment and coded these plans to ascertain the nature of assessments used, determine their alignment to instructional goals, and to evaluate the application of measurement principles (e.g., validity). In their coding scheme they indicated that *direct alignment* between curriculum and assessment would be demonstrated if the student teacher included a table of specifications for the lesson. Results indicated that none of the student teachers included this kind of information. Moreover, from the 213 lesson plans that had both goals and assessment information, ''only 25 plans possessed partial evidence for reliability and validity as defined by indirect alignment between instructional goals and assessment'' (Campbell & Evans, 2000, p. 354). The results of this study provide initial evidence that the lack of alignment of lesson plans and assessment by these student teachers as they are about to embark on their teaching

career indicates a gap in either (or both) their knowledge of assessment as part of pedagogy or their ability to manifest this alignment in practice.

Together the evidence from these investigations suggests that preservice teachers, like all novices, may have a compartmentalized and fragmented knowledge base. Classroom assessment literacy, in particular, seems to be poorly integrated into these novices' conceptions of teaching and learning. They demonstrated gaps in understanding the relations between the purposes and types of assessment (Maclellan, 2004), little balance in intended use of varied assessment types or purposes (Volante & Fazio, 2007), and a lack of alignment between instructional goals and assessment (Campbell & Evans, 2000).

Curriculum for Preservice Teachers' Preparation in Assessment

To address the demand for increased assessment literacy in national standards, many preservice teacher educator programs require candidates to receive some preparation in educational assessment (NCATE's Blue Ribbon Panel Report, 2008). This can range from an ''explicit'' (stand-alone course in assessment) to ''blended'' (assessment issues are addressed in more than one professional sequence course) approach. Explicit assessment courses, which generally include a cursory introduction to assessment policies and practices (Greenberg & Walsh, 2012), are becoming more common in educator preparation programs (DeLuca & Klinger, 2010). In their review of 455 assessment course syllabi and 180 teacher preparation programs in the United States, Greenberg and Walsh (2012) found that most assessment courses focused on traditional assessment strategies, such as item construction and analyzing standardized assessment data. However, the short duration of these courses (i.e., one semester) often leaves minimal instructional time to address the increasing number of assessment-related issues and explore the complexities of how assessment can inform the teaching–learning process (DeLuca & Klinger, 2010; Graham, 2005). Decisions as to what content to include in an assessment course remains largely up to individual instructors, who continue to rely on assessment textbooks to help them make decisions about instructional planning (DeLuca & Klinger, 2010; DeLuca, Klinger, Searle, & Shulha, 2010).

When a ''blended'' approach to assessment literacy is adopted, preservice teachers acquire assessment knowledge and skills in various courses integrated throughout their professional coursework. In these instances, assessment issues may be discussed along with instructional planning in an introductory educational psychology course and then again within a methods course (e.g., Wiggins & McTighe, 2005). Although conceptually appealing, there is often little communication among individual faculty teaching separate courses; thus it is not surprising that ''students have difficulty developing a vision of good teaching or making connections among different domains of knowledge and skill'' (Feiman-Nemser, 2001, p. 1019).

Purpose

In our examination of the literature on teachers' assessment practices, we found little research on overall assessment planning (cf., Gareis & Grant, 2008; Notar, Zuelke, Wilson, & Yunker, 2004). Given the trend in teacher education to include explicit courses in classroom assessment and the finding that instructors rely on assessment textbooks to help them make decisions about what content to include in these courses, we turned

to educational assessment textbooks as a resource to identify the nature of assessment planning as presented to preservice teachers who are expected to engage in this activity. Our investigation was guided by two research questions: (1) What is assessment planning? and (2) How is assessment planning addressed in classroom assessment texts?

Method of Inquiry

Sample

Textbooks addressing K–12 general classroom assessment and directed to preservice teachers were targeted for this investigation. To be included in this analysis, the text needed to be about K–12 general classroom assessment and directed to preservice teachers. Texts that focused solely on formative assessment or were subject or grade-level specific were excluded from our sample. To identify a pool of textbooks, we (1) reviewed the books from the authors' personal collections, (2) used textbook reference lists from two content analyses on test item writing (i.e., Frey, Petersen, Edwards, Pedrotti, & Peyton, 2005; Haladyna, Downing, & Rodriguez, 2002), and (3) examined websites of the major educational publishers and requested examination copies of relevant texts. Through this process we identified 27 texts that met our criteria (see Appendix A).

Analysis

Our thematic analysis (Braun & Clarke, 2006) unfolded in five steps.

Step 1: Initial conceptualization and text preview. We engaged in several discussions of our conceptions of assessment planning and identified potential topics or concepts we anticipated that texts would address. With these ideas in mind, the first two authors simultaneously engaged in a preliminary full text analysis of the books (in random order) using the constant-comparative method to identify assessment planning content (Glaser & Strauss, 1967). We used a shared spreadsheet to record our independent and joint coding of each text as we iteratively engaged in individual code development, discussion, and shared code development. In each row on the spreadsheet, we recorded the page number of the recommendation, a potential brief code, and an elaborate description of the recommendation identified. We did this until we reached saturation of code development. Saturation was reached after review of the ninth textbook; that is, no new codes were generated after this text and the nine general codes identified at this point continued to adequately describe the data. We did allow for the possibility of adding codes, but this was not needed.

Step 2: In-depth analysis of assessment chapters. Variation in how different texts described (or did not describe) assessment planning made it difficult for us to determine the parameters of our content analysis since the key concepts seemed to be spread throughout the texts. At this stage we decided that an inductive detailed analysis of chapters dedicated to assessment planning would serve to give us a cohesive framework for conceptualizing this process. The first two authors collaboratively reviewed three of the nine texts that had chapters dedicated to assessment planning in order to develop a coding scheme and analysis process. Coding was conducted in idea units that could take the form of sentences, paragraphs, or pages of text (Glaser & Strauss, 1967). Idea

units included segments of text that reflected a unique concept or recommendation for assessment planning. Specific topic-codes were developed to describe the topics addressed in each text. In this process the nine general codes identified in Step 1 were expanded to unique recommendations (e.g., in Step 1 we had one code for ''align with goals, objectives, standards,'' and this was expanded to three separate topic-codes for each alignment option). In addition, new, more specific codes were developed to reflect the range of recommendations offered across the assessment planning chapters in these texts. This process resulted in 29 topic-codes. We left the option to add additional topic-codes as needed to each researcher as she evaluated texts individually, but ultimately, no new codes were warranted.

Each idea unit was also coded on the depth with which the topic was treated in the text. If a topic was mentioned but not defined or explained, we assigned it a depth-code of ''M'' for ''mentioned.'' Topics that were described, explained, or that had a use justified by the author(s) were considered to be ''elaborate'' and coded ''E.'' Our final code, ''H,'' indicated that the author explained ''how to'' accomplish the recommended strategy or task. In these instances the author(s) took on an instructional or procedural tone and provided step-by-step instructions of a technique, often through an example. Depth-codes do not reflect the *amount* of information provided but the nature of that information. For example, in some instances, the ''elaborate'' code could indicate a sentence or paragraph and in other cases several pages of text. The distinction across these three codes is qualitative in terms of how the topics were discussed.

Step 3: Code reduction, theme generation and description. The first two authors performed an in-depth review of the analysis of the nine assessment chapters to inductively identify themes. We reviewed specific pages in the texts to ensure appropriate groupings and developed common understandings around collapsed codes. Through this process of review, suggestion, clarification, and definition, we determined our final eight themes (Braun & Clarke, 2006).

Step 4: Analysis and review of texts without planning chapters. We used the themes identified in Step 3 to review assessment texts that did not have a chapter dedicated to assessment planning. In this process we sought to uncover whether and how the themes that emerged from the assessment planning chapters were addressed across textbooks intended to prepare teachers for classroom assessment. The third and fourth authors were trained to use the coding scheme revised in Step 3. Then they independently coded the same textbook to check for interrater agreement, which was found to be 64%. Interrater agreement was calculated as the percentage of similar codes assigned to the same textbook by the two reviewers. To be considered in agreement, the reviewers needed to apply the same topic and depth of coverage code to the same pages/passages of text. The first two authors reviewed the coded chapters and areas of discrepancy for any underlying issues. All authors discussed the differences and came to agreement on code application and depth issues. This discussion entailed reviewing the code book and elaborating on the intended meaning of each code to ensure similar conceptual understanding. After discussion, agreement was reached on all codes. The remaining 18 texts were divided and coded. For any questions that emerged during the independent coding, the researchers discussed their concerns and came to agreement.

Step 5: Analysis and review of non-planning chapters in textbooks with planning chapters. It became apparent as we worked with the pool of textbooks that planning activities identified in planning chapters frequently appeared outside of those dedicated chapters across the books. By focusing only on the planning chapters, we were missing instances of

assessment planning across texts and risked under-representing its treatment. Therefore, the third and fourth authors applied the coding scheme employed in Step 4 to the non-planning chapters of texts with dedicated assessment planning chapters.

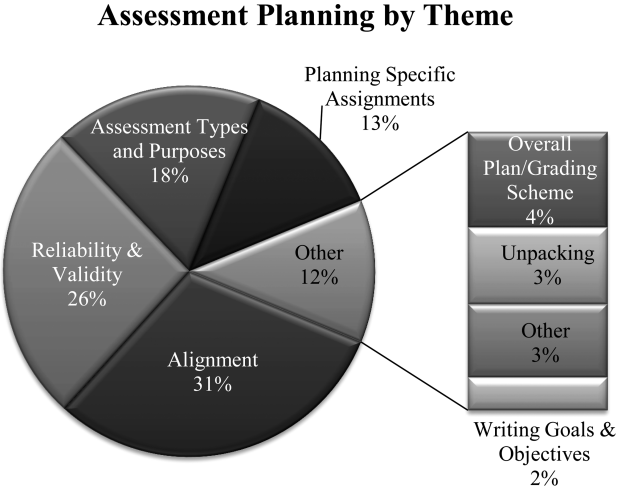
Findings

Research Question 1: What is Assessment Planning?

We identified eight themes related to assessment planning across the nine texts with assessment planning chapters, this is illustrated in Figure 1 and discussed in what follows.

Alignment

Alignment referred to the need to relate assessment to instruction, learning objectives, learning goals, standards, types of assessments, and cognitive levels (typically using a



Theme	Books	Number of instances the theme was ...			
		Mentioned	Elaborated	How to	Total
Alignment	26	257	312	9	578
Reliability and validity	26	203	265	28	496
Assessment types and purpose	27	54	285	8	347
Planning specific assignments	24	13	132	94	239
Overall plan/grading scheme	24	14	53	14	81
Unpacking	18	21	42	2	65
Other	14	15	46	1	62
Writing goals and objectives	12	12	1	16	11
Total	27	578	1,151	167	1,896

FIGURE 1 Assessment planning themes.

cognitive taxonomy) to guide the alignment process. The distinction between learning goals and objectives was made clear in some texts, while in others, these terms were used synonymously. Recommendations in this theme included the need to align the specific *type* of assessment (e.g., multiple choice, essay) with the skill, ability, disposition, or level targeted for instruction.

Reliability and Validity

The second most common theme identified in the assessment planning chapters was reliability and validity. Reliability referred to the consistency of a measure or test scores, whereas validity was defined as ''the degree to which evidence and theory support the interpretations of test scores entailed by proposed uses of tests'' (American Educational Research Association [AERA], American Psychological Association [APA], & National Council on Measurement in Education [NCME], 1999, p. 9). This theme included recommendations using either measurement terminology or lay language to indicate to readers the meaning and relevance of reliability and validity for classroom assessment. When measurement terminology was used to identify and describe issues related to reliability and validity in assessment planning, the authors referenced frequency, variety, and quality of classroom assessments. Instances in which measurement terminology was not used explicitly included a discussion of sampling with respect to garnering an adequate number of learner responses across a variety of assessment types. We took this discussion to be reflective of the underlying concepts of reliability and validity. Similarly, a discussion of equivalence across measurement types, developmental appropriateness of assessments, pilot testing classroom assessments, and test quality were also included in this theme.

Assessment Types and Purpose

Knowledge of the various assessment purposes (e.g., formative, summative) and types (e.g., selected, constructed response) was the third most cited assessment planning theme.

Planning Specific Assignments

Planning specific assignments referred to planning or developing individual assessments by determining the appropriate length, time, scoring of the assessment, and plans to provide feedback. Recommendations often referred to the use of a table of specification. These discussions focused predominantly on traditional paper-and-pencil tests or constructing rubrics rather than on the development and implementation of project or performance-based assessments that may require more sophisticated levels of planning to be successful.

Overall Assessment Plan

This theme referred to establishing an overall assessment plan before constructing specific assignments. Developing a plan included the purposes of assessments (formative or summative), the frequency of assessment, the types of assessment, and the development of a schedule for assessment (i.e., frequency and the need to use a variety of assessment types). Such plans seemed to endorse looking largely at the assessments that a teacher would use for a length of time that would facilitate consideration of multiple factors that influence assessment activities. In our review we consolidated recommendations that described an overall assessment plan for varied lengths of time/content (e.g., unit, marking period, semester) with recommendations for developing a grading scheme.

Unpacking

Unpacking referred to determining the content to include in instruction and assessments by analyzing objectives, standards, and curriculum and included (1) identifying what to assess based on standards from state or professional organizations, (2) understanding written objectives, and (3) an awareness of the overarching goals and aims of the curriculum.

Other

In the planning chapters, two ideas emerged that we felt did not align easily with the above-described identified themes. Thus, we characterized these recommendations for assessment as ''other.'' Both of these recommendations reflect discussions of assessment construction, namely (1) the importance and benefits of teachers constructing their own assessments for use in the classroom and (2) the potential of creating assessments with students.

Writing Goals and Objectives

Writing goals and objectives was the next theme identified as part of an overall assessment planning process. Certainly, writing goals and objectives overlaps greatly with planning for instruction, and it seems as though these tools may serve as one essential connector between instruction and assessment. Overwhelmingly in these assessment planning chapters, goals and objectives are presented as atheoretical techniques and seem to emphasize a behavioral perspective on learning. Even when cognitive objectives are described, the very act of cognition seems to be converted into a kind of mental behavior.

Research Question 2: How is Assessment Planning Addressed Across the 27 Texts?

We found trends across the texts with regard to the frequencies of these themes. In these analyses we look at both the presence of themes in each text, the number of instances themes were addressed, and the depth of coverage for each instance. Recall that depth of coverage included (1) ''mentioned'' (theme stated but not defined or explained), (2) ''elaborated'' (theme described, explained, or provided rationale for use), and (3) ''how to'' (step-by-step instructions of the procedure, often through an example).

Depth of Coverage: Most Used Assessment Planning Themes

Alignment, reliability and validity, assessment types and purposes, and planning specific assignments were found most frequently across the assessment texts and comprised 88% of all references to assessment planning (see Figure 2). The first three of these were frequently treated with a moderate depth of coverage that we classified as elaborate. Alignment, a cornerstone in assessment planning activities, was referenced 578 times in 26 books, with the majority of those references coded as elaborated ($n = 312$) or as mentioned ($n = 257$). The frequency of this theme suggests an importance to the practice of assessment; however, there were only nine instances across five texts where the authors offered some kind of instruction in how to align assessments with instruction, goals, standards, or to match assessment type with the target to be assessed.

The second most frequently described theme was reliability and validity. As with alignment, there were relatively few instances in which the authors provided explanation of how to improve the reliability or validity of their assessments. There were some instances where recommendations were made without an explicit articulation that these recommendations related to improving reliability or validity. For instance, one text suggested that teachers

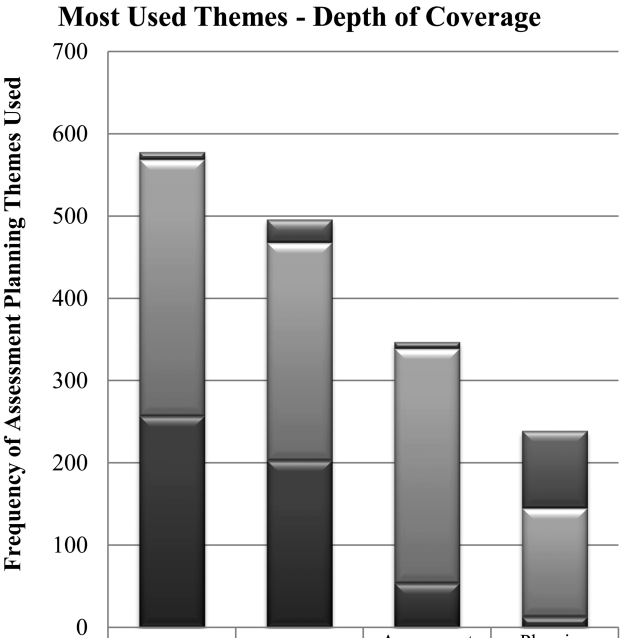


FIGURE 2 Frequency of most and least used themes by depth of coverage. *(Continued)*

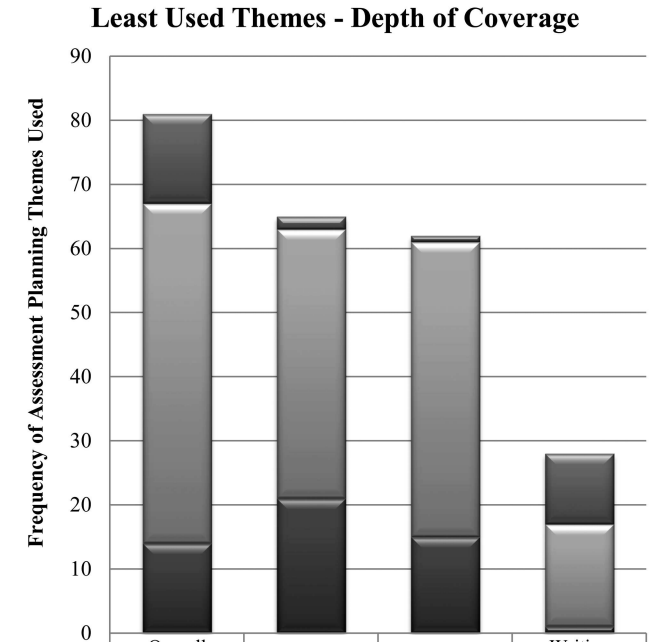
obtain a variety of student outcome data across different kinds of assessments but did not indicate that doing this would improve the reliability of the assessment data or the validity of the evaluations made.

The theme assessment types and purposes was addressed in *all* of the assessment texts and yielded 18% of the overall instances of assessment planning. Moreover, 13% of all assessment planning references reflected ideas associated with planning specific assessments. In terms of the quality of coverage, this theme engendered the most descriptions coded at the *how to* level, with 94 instances in which authors explained how to develop, design, and facilitate a specific classroom assessment.

Depth of Coverage: Least Used Assessment Planning Themes

The remaining four assessment planning themes together comprised 12% of all references to assessment planning. The majority of references to these themes were elaborate and included discussion of what each involved and why it might be relevant. Similar to the themes described above, there were few instances in which the recommendations were explained at the how to level.

Overall planning/grading scheme was mentioned in 24 of the 27 texts (90%); however, it was among the least frequently described with only 81 references reflecting 4% of the instances of assessment planning identified across these texts. A closer look at the data



	Overall Plan/Grading Scheme	Unpacking	Other	Writing Goals and Objectives
How to	14	2	1	11
Elaborated	53	42	46	16
Mentioned	14	21	15	1

FIGURE 2 *(Continued)*

revealed that the majority of these instances referred to grading schemes only and not to the development of an overall assessment plan. Certainly establishing a grading scheme is part of an overall assessment plan for most classroom teachers in that making decisions about how to assign grades based on the assignments completed by students is part of determining an assessment plan. Among the 23 texts that addressed grading schemes, there were 14 instances in which the authors offered some instruction on how to do this and 53 instances where this topic was elaborated.

Unpacking was mentioned 21 times and elaborated on 42 times. There were few instances ($n = 2$) in which authors provided an explanation, a description, or an example of how to engage in unpacking. The opposite of unpacking is constructing one's own goals and objectives, which is reflected in the theme of writing goals and objectives. This theme was mentioned once and elaborated on 16 times, and the authors described how to write goals and objectives 11 times. It is interesting to note that this theme was only *mentioned* once; thus, for the majority of times the theme was referenced, the authors provided an elaborate or how to explanation of these ideas. This suggests that while writing goals and objectives was only addressed in 12 texts, when it was addressed, it received some depth of coverage beyond a mere mentioning that such things need to be written. Please note that when reviewing texts for this theme, we were looking for instances where objective or goal *writing* was addressed and not just the mentioning that goals or objectives exist. Thus, our

results should not be interpreted as only 12 texts that included objectives or goals; rather, these are the only texts that addressed writing goals or objectives.

Last, two recommendations (i.e., benefits of creating one's own assessments and creating assessments with students) were coded as ''other'' and reflected 3% of the overall instances of assessment planning. References to either of these recommendations were fairly even. Of the 62 times these themes were identified, 33 instances were mentions ($n = 5$) or elaborations ($n = 28$) on the benefits of creating one's own assessments in the classroom and 29 instances were mentions ($n = 10$), elaborations ($n = 18$), or how to ($n = 1$) descriptions of creating assessments with students.

Discussion

This descriptive investigation of the treatment of assessment planning in classroom assessment textbooks yielded several findings of salience for teacher educators, authors of assessment textbooks, and school personnel who work with induction and novice teachers. The discussion and implications below focus on the findings from our evaluation of these textbooks, but it should be noted that the content of the texts does not equal the curriculum offered in teacher education programs or professional development programs wherein instructors add essential content, explanations, and examples for students through case studies and authentic experiences. However, as noted by DeLuca and colleagues (2010), many courses are designed and developed around textbooks, and consequentially, the way content is presented in these texts does influence the curriculum experienced.

Lack of Clear Focus on Assessment Planning

First, only nine of the texts on assessment had specific chapters focused on assessment planning. By and large, issues related to assessment planning were scattered throughout many chapters in the different texts reviewed. In the absence of an explicit discussion of assessment planning as part of the whole, how can novices be expected to understand differences in ideas (e.g., goals, standards, objectives) when each of these is laden with philosophical distinctions rooted within various learning theories? Although those with expertise in assessment planning may be more apt to draw on their vast, deeply integrated knowledge to discern those recommendations that are related specifically to assessment planning, it is unlikely that preservice and novice teachers will be equally skilled at forming those connections (e.g., Wideen, Mayer-Smith, & Moon, 1998).

Second, there was range and variability in how the authors who included a chapter on assessment planning conceptualized this construct in terms of topics included and the depth of coverage. For example, although all nine chapters discussed alignment, only three chapters recommended unpacking and two chapters suggested constructing an overall assessment plan. Furthermore, the extent to which each theme was addressed in each textbook varied considerably. Given this disparity, how does a preservice or novice teacher then come to understand ''assessment planning?''

Third, the terminology used to describe the guidelines, strategies, and concepts related to assessment planning (e.g., goal versus objective) varied across the 27 texts. Differences in vocabulary across the assessment texts may confuse novice teachers who must ''align'' what they are learning from methods texts, assessment texts, coursework, and field experiences into one practice or praxis that they inhabit as teachers.

Thus, although it is reasonable to expect some disparity across different texts, doing so to this extent makes it difficult to establish and communicate a shared and consistent understanding of what assessment planning is to teacher educators in preservice teacher education programs or those providing professional development for practicing teachers. Wideen and colleagues (1998) suggested a greater need for cohesion and sequencing within and across teacher preparation programs. Citing Gore and Zeichner (1991), the authors argued that in many teacher education programs, the curriculum is fragmented and (at times) contradictory, and this limits preservice teachers' ability to form a coherent, contextualized understanding of learning, teaching, and assessment and implement course content in practice.

The implication is that novices need help in developing a principled knowledge base that provides opportunities for them to make clear connections of the varied goals, techniques, and approaches to classroom assessment. Explicit instruction in assessment planning may provide a tool for helping preservice teachers to see how varied types of assessment used for varied purposes are integrated with instruction into a meaningful learning system in K–12 classrooms. The fragile and fragmented assessment knowledge of preservice teachers limits their ability to evaluate and organize new information such that they may disregard or not recognize the relevance of key concepts when exposed to them out of context and disconnected from practice.

For example, Gearhart and Osmundson (2009) found that over time teachers were able to combine two separate documents (explicit learning goals and a listing of their assessments), reflecting separate cognitive processes and decisions into a single document. This speaks to a potential learning trajectory for the development of assessment literacy and competence. Here we conceive of a learning trajectory as a description of thinking and learning in a specific topic/domain and the related set of instructional tasks designed to engage the mental processes/actions needed to move learners through a developmental progression of thinking and action, devised to support the attainment of specific learning goals (Clements & Sarama, 2004). If the goal is for teachers to engage in integrated and aligned instruction with balanced assessment, the implication seems to be that explicit instruction and supported tasks in assessment planning may be one component of this learning trajectory.

Variation in Depth of Coverage

In each of the 27 texts reviewed as part of this investigation, the authors were less likely to describe how to enact the recommended strategy and instead focused predominantly on describing and elaborating on recommendations. Rich descriptions of the recommended strategies are certainly needed; however, preservice and novice teachers could also benefit from step-by-step instructions of techniques for enacting these strategies with examples. Further, with the expectations for research-based practices in K–12 classrooms, it seems that the strategies recommended to teachers should be supported by empirical evidence as well as theoretical reasoning. There are several potential implications for this with regard to theory, research, and practice. First, it seems that there are few empirically supported or theoretically agreed upon models for how to implement these strategies that can then be recommended to stakeholders. If empirically supported models do exist, then why are they relatively absent in assessment texts? Second, preservice and novice teachers can potentially benefit from step-by-step descriptions and examples even if they

have not been empirically validated; such examples may lead to empirical investigations for researchers. Third, when explanations of how to enact recommended assessment planning strategies are not included in assessment texts, individual course instructors (in the best case) must develop their own methods and teach them to future teachers relying, it seems, on anecdotal evidence and personal experience to support the use of these practices. This may lead to greater disparity and fragmentation in how preservice teachers learn to teach.

Lack of Theoretical Connections

While not the thrust of our investigation, an additional finding that emerged in our analysis was that across textbooks written to explain the assessment for/of learning, there seems to be an absence of any discussion of the theoretical frameworks that support the processes described. For instance, differences between behavioral and cognitive approaches to learning have led to different kinds of learning objectives, and this should lead to different assessment practices. However, the assessment texts do not seem to address these distinctions in their discussion of assessment practices. One exception to this was Banks (2012), who clearly expressed a constructivist orientation in terms of co-constructing assessments with students.

Furthermore, many authors suggested techniques and strategies for planning for specific assessments, however, the explanations and instructions for how to enact these strategies tended to focus on how a particular recommendation is used to plan for a traditional assessment (i.e., selected-response). This leaves it up to the reader (i.e., preservice teacher) to then extrapolate how this technique can be applied to plan for other assessments (e.g., performance-based). For example, the table of specifications (Fives & DiDonato-Barnes, 2013) is a technique teachers can use to ensure alignment among objectives, instruction, and assessment. Although commonly used to develop traditional assessments, this technique can also be helpful when constructing a performance assessment. It is unlikely, however, given their naive understanding of assessment and instruction, that preservice teachers will make this connection on their own. Given the benefits of using more performance-based assessments in terms of academic performance (Schneider, Krajcik, Marx, & Soloway, 2001), cognitive development (Keating, 2004), and self- and co-regulated learning (DiDonato, 2011, 2012), how to plan for developing, using, and evaluating such assessments needs to address more than how to construct a rubric. The implication then is situating the various planning techniques within particular theoretical frameworks may help students make these connections.

Unpacking and goal/objective writing seem to be key capabilities that lie soundly in the center of the interchange among assessment, instructional planning, and instruction and are (or should be) reflective of teachers' underlying theory of learning. Unpacking and goal/objective writing may be foundational constructs for teacher education programs to consider in curriculum planning and could support the development of sound professional praxis.

Summary

The themes discussed above underscore areas that teacher educators and textbook authors need to consider as expectations for classroom assessment practices expand. First, consid-

eration for the developing knowledge base of preservice and novice teachers suggests that explicit, organized, foundational content that includes detailed examples of how to enact recommended practices needs to be shared in meaningful ways. Regardless of whether assessment texts include a specific chapter dedicated to assessment planning, assessment educators need to present an organizing framework that details the recommended strategies that can help preservice and novice teachers form a more coherent understanding of how to plan for assessment. The eight themes identified in this investigation may provide a meaningful starting point for the development of such a framework. Further, research into learning trajectories for knowledge and practice in classroom assessment is needed to align content with the developing needs of novice and experienced teachers alike.

Second, variation in depth of coverage and lack of empirical evidence to support the recommended practices illustrate a research and practice gap that should be addressed through development and testing of relevant tools to facilitate assessment planning. A larger body of empirical research and pedagogical materials that address the how to of assessment are needed.

Limitations and Future Research

The first limitation of this work is related to the sample and the second concerns how we came to conceptualize assessment planning. First, to be included in this analysis, the text needed to be about K–12 general classroom assessment and directed to preservice teachers. Texts that focused solely on formative assessment or were subject or grade-level specific were excluded from our sample. Although this provided us with the information offered to preservice teachers about assessment planning in assessment textbooks, it excluded instructional methods or educational psychology texts that might also include recommendations on assessment planning. With this in mind, future research could benefit from reviews of these texts to determine if (and where) these themes are discussed or if new themes are suggested. Such research could also endeavor to identify key points of intersection across fields that can serve as transfer points for learners. Second, we analyzed the nine texts that had specific planning chapters to conceptualize assessment planning and develop our coding scheme. This was one of several strategies we considered for how to best approach this task. Of course, in any research there is the possibility that had we employed a different approach, this would have led to different outcomes.

Conclusion

Despite the wealth of research on classroom assessment, less is known about the guidelines, strategies, or approaches to systematic assessment planning recommended to guide preservice and novice teachers' assessment practices. The present investigation is an initial step to address this gap. Herein we identified a framework of eight themes salient to a discussion of assessment planning that may prove useful for textbook authors, researchers, and teacher educators. Further, we found a lack of explicit instructional materials on how to facilitate assessment planning. Ultimately, a shared and consistent understanding of assessment planning serves the purpose of informing preservice teacher education programs as well as professional development for practicing teachers.

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APPENDIX A Textbooks Reviewed and Themes Addressed

Textbook	Alignment	Planning assignments	Types/ purpose	Goals/ objectives	Unpacking	Reliability and validity	Plan	Other
Airasian, P. W. (2005). *Classroom assessment: Concepts and application.* New York, NY: McGraw Hill.	✓	✓	✓	✓	✓	✓	✓	✓
*Banks, S. R. (2012). *Classroom assessment. Issues and practices.* Long Grove, IL: Waveland Press.	✓	✓	✓	✓		✓	✓	✓
Butler, S. M., & McMunn, N. D. (2006). *A teachers' guide to classroom assessment: Understanding and using assessment to improve Student learning.* San Francisco, CA: Jossey-Bass.	✓	✓	✓		✓	✓	✓	✓
Chappuis, J., Stiggins, R., Chappius, S., & Arter, J. (2012). *Classroom assessment for student learning: Doing it right—using it well.* Upper Saddle River, NJ: Pearson Assessment Training Institute.	✓	✓	✓		✓	✓	✓	✓
Chase, C. I. (1999). *Contemporary assessment for educators.* New York, NY: Addison-Wesley Educational Publishers.	✓	✓	✓	✓	✓	✓	✓	
Gallagher, C. W. (2007). *Reclaiming assessment: A better alternative to the accountability agenda.* Portsmouth, NH: Heinemann.	✓		✓			✓	✓	
Gallavan, N. (2009). *Developing performance-based assessments grades 6–12.* Thousand Oaks, CA: Corwin Press.	✓	✓	✓	✓	✓	✓	✓	✓
Green, S. K., & Johnson, R. L. (2010). *Assessment is essential.* New York, NY: McGraw-Hill.	✓	✓	✓	✓	✓	✓	✓	✓

APPENDIX A *(Continued)*

Textbook	Alignment	Planning assignments	Types/ purpose	Goals/ objectives	Unpacking	Reliability and validity	Plan	Other
Guskey, T. R., & Bailey, J. M. (2001). *Developing grading and reporting systems for student learning.* Thousand Oaks, CA: Corwin Press.			✓		✓	✓	✓	
*Hogan, T. P. (2007). *Educational assessment. A practical introduction.* Hoboken, NJ: Wiley.	✓	✓	✓	✓		✓	✓	
Idol, L., Nevin, A., & Paolucci-Whitcomb, P. (1999). *Models of curriculum-based assessment: A blueprint for learning*, 3rd ed. Austin, TX: Pro-Ed.	✓	✓	✓		✓	✓	✓	
Kuhs, T. M., Johnson, R. L., Agruso, S. A., & Monrad, D. M. (2001). *Put to the test: Tools and techniques for classroom assessment.* Portsmouth, NH: Heinemann.	✓	✓	✓		✓	✓	✓	
Marzano, R. J. (2000). *Transforming classroom grading.* Alexandria, VA: ASCD.	✓	✓	✓				✓	
Musial, D., Nieminen, G., Thomas, J., & Burke, K. (2009). *Foundations of meaningful educational assessment.* New York, NY: McGraw Hill.	✓	✓	✓		✓	✓	✓	✓
*Nitko, A. J., & Brookhart, S. M. (2011). *Educational assessment of students.* Boston, MA: Pearson.	✓	✓	✓	✓		✓	✓	✓
Oosterhof, A. (1999). *Developing and using classroom assessments* (4th ed.). Old Tappan, NJ: Prentice-Hall.	✓	✓	✓		✓	✓	✓	
Popham, W. J. (2003). *Test better, teach better: The instructional role of assessment.* Alexandria, VA: ASCD.	✓	✓	✓		✓	✓	✓	
*Popham, W. J. (2014). *Classroom assessment. What teachers need to know* (7th ed.). Boston, MA: Pearson.	✓	✓	✓		✓	✓	✓	

(Continued)

APPENDIX A *(Continued)*

Textbook	Alignment	Planning assignments	Types/ purpose	Goals/ objectives	Unpacking	Reliability and validity	Plan	Other
Reynolds, C. R., Livingston, R. B., & Wilson, V. (2006). *Measurement and assessment in education*. Boston, MA: Pearson.	✓	✓	✓	✓	✓	✓	✓	✓
Salend, S. J. (2009). *Classroom testing and assessment for all students: Beyond standardization*. Thousand Oaks, CA: Corwin.	✓	✓	✓			✓	✓	✓
*Sindelar, N. W. (2011). *Assessment powered teaching*. Thousand Oaks, CA: Corwin.	✓		✓			✓		
*Stiggins, R. J., & Chapuis, J. (2012). *An introduction to student involved assessment for learning* (6th ed.). Boston, MA: Pearson.	✓	✓	✓		✓	✓		✓
Tanner, D. E. (2001). *Assesssing academic achievement*. Needham Heights, MA: Allyn & Bacon Pearson.	✓	✓	✓	✓	✓	✓	✓	✓
*Taylor, B., & Nolan, S. B. (2008). *Classroom assessment: Supporting teaching and learning in real classrooms* (2nd ed.). Upper Saddle River, NJ: Pearson.	✓	✓	✓	✓		✓	✓	✓
Tuckman, B. W. (1988). *Testing for teachers* (2nd ed.). Orlando, FL: Harcourt Brace Jovanovich.	✓	✓	✓	✓	✓	✓		✓
*Waugh, K. C., & Gronlund, N. E. (2013). *Assessment of student achievement* (10th ed.). Boston, MA: Pearson.	✓	✓	✓	✓	✓	✓	✓	
*Witte, R. H. (2012). *Classroom assessment for teachers*. New York, NY: McGraw Hill.	✓	✓	✓			✓	✓	
Total	26	24	27	12	18	26	24	14

*Textbook with planning chapter(s).