EXPLORING TEACHER CANDIDATES' ASSESSMENT LITERACY: IMPLICATIONS FOR TEACHER EDUCATION REFORM AND PROFESSIONAL DEVELOPMENT

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This study examined the assessment literacy of primary/junior teacher candidates in all four years of their concurrent program. Candidates from each year of the program completed a survey pertaining to self-described level of assessment literacy, main purposes of assessment, utilization of different assessment methods, need for further training, and suggested methods for promoting assessment literacy in university and practice teaching settings. Levels of self-efficacy remained relatively low for teacher candidates across each of the four years of this program. Most candidates suggested summative purposes for assessment and only a minority expressed formative purposes. They favoured observational techniques and personal communication.

Key words: classroom assessment; preservice education

Cette étude porte sur la capacité d'évaluation chez les étudiants en pédagogie durant les quatre années de leur programme de formation à l'enseignement au primaire et au premier cycle du secondaire. Des étudiants de chaque année du programme ont rempli un questionnaire portant sur les sujets suivants : auto-estimation de leur aptitude à l'évaluation, buts principaux des évaluations, utilisation de diverses méthodes d'évaluation, besoin d'une formation plus poussée et suggestion de méthodes pouvant aider à perfectionner l'aptitude à l'évaluation à l'université et lors de stages pédagogiques. Les répondants dans chacune des années du programme estimaient que leur capacité d'évaluation était relativement faible. La plupart ont parlé d'évaluations sommatives et seulement une minorité, d'évaluations formatives. Les répondants favorisaient les techniques d'observation et les communications personnelles.

Mots clés : évaluation des élèves, formation à l'enseignement

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Assessment literacy has been defined as an understanding of the principles of sound assessment (Popham, 2004; Stiggins, 2002). Teachers with a solid background in this area are well positioned to integrate assessment with instruction so that they utilize appropriate forms of teaching (McMillan, 2000). Research continues to characterize teachers' assessment and evaluation practices as largely incongruent with recommended best practice (Galluzzo, 2005; Mertler, 2003; Zhang & Burry-Stock, 1997). This finding extends to preservice teacher candidates who also tend to utilize unsound assessment and evaluation practices (Bachor & Baer, 2001; Campbell & Evans, 2000; Graham, 2005). These findings are somewhat surprising given the growing trend towards assessment-based accountability models within North America (Cheng & Couture, 2000; Linn, 2001; Mertler & Campbell, 2005; Ryan, 2002). For example, every province and state within Canada and America, with the exception of Prince Edward Island, administers some form of large-scale assessment to evaluate student learning and achievement. Thus, proficiency with appropriate assessment and evaluation practices would appear to be a requisite skill for improving the quality of the teaching and learning, particularly within these highly accountable educational contexts.

In most North American jurisdictions, there continues to be relatively little emphasis on assessment in the professional development of teachers (Stiggins, 2002). For example, out of 10 Canadian provinces and 50 U.S. states, only Hawaii and Nebraska currently invest a significant sum of money that is specifically targeted to improve assessment and evaluation practices within schools. A recent external evaluation of Hawaii's state-wide professional development initiative, known as the School Assessment Liaison Program (SAL), suggested that teachers working within the neediest school districts benefited the most from classroom assessment training (Volante & Melahn, 2005). Similarly, professional development tied to Nebraska's School-based Teacher-led Assessment Reporting System (STARS) has also had a positive impact on teacher confidence, knowledge, and skill in classroom assessment (Bandalos, 2004; Lukin, 2004). Despite these small pockets of success, there is still relatively little research devoted to understanding the assessment literacy of classroom teachers. This type of research should

logically begin in faculties of education because they provide future teachers with their first introduction to assessment and evaluation. Ultimately, a comprehensive understanding of preservice candidates' assessment knowledge serves the dual purpose of informing the nature and scope of teacher education reforms and the specific direction of professional development initiatives for in-service teachers.

EMERGING MODELS OF ASSESSMENT AND EVALUATION

New models of assessment and evaluation are emerging in many Western countries such as Canada, United States, and England. These new conceptions offer a unique lens to understand the multifaceted nature of assessment literacy. For example, Black and Wiliam's (1998) seminal work in England entitled *Inside the Black Box* was the first to explicitly highlight the central importance of formative assessment for improving student achievement. Collectively, their studies revealed how teachers can teach well and also get good test scores when they emphasize such things as questioning techniques, feedback without grades, peer assessment, self-assessment, and the formative use of summative tests as instructional strategies (Black, Harrison, Lee, Marshall, & Wiliam, 2004; Black & Wiliam, 1998). In essence, teachers need to create learning environments where students and teachers are active assessors during classroom instructional strategies. The latter is in stark contrast to the traditional view where assessments are primarily utilized at the end of an instructional unit or course of study.

In the United States, Stiggins (2002) has argued for new ways to think about assessment because over reliance on summative assessment approaches makes it virtually impossible for teachers to adapt teaching and learning to meet individual student needs. For him, assessment *for* learning must be balanced with the traditional assessment *of* learning so that teachers can feed information back to students in ways that enable them to learn better. In Canada, Earl (2003) extended the work of Black et al. and Stiggins to advocate for synergy among assessment *of* learning (summative), assessment *for* learning (formative), and assessment *as* learning (the assessment is not graded but acts as a meta-cognitive learning tool). The latter is a sub-set of assessment *for* learning and occurs when students personally monitor what they are learning and use

the feedback from this monitoring to make adjustments, adaptations, and even major changes in what they understand.

What is common in all these visions is teachers must recognize different purposes of assessment and use them accordingly. Clearly, assessment literate teachers must be able to design and administer more than summative end-of-unit tests and exams if they are to realize improvements in schools (Green & Mantz, 2002; Sheppard, 2000). The previously noted models suggest that teachers view assessment as pedagogy so that it is integrated into their best instructional strategies. Essentially, teachers need to shift their paradigm to understand how assessment can drive instruction and positively impact student learning and performance.

THEORETICAL FRAMEWORK

In this study we used the conceptual framework described by Earl (2003) and Earl and Katz (2004). This framework currently forms the basis for the Western and Northern Canadian Protocol and guided the development of research instrumentation and data analysis within the study. An important aspect of this work is that it permits an examination of different assessment purposes: diagnostic, formative, and summative. We have considered all three conceptions of assessment (i.e., assessment *of*, *for*, and *as* learning) as we explored teachers candidates' assessment literacy. It offers a common language and philosophy for discussion, particularly because it is increasingly becoming the assessment framework of choice for many Canadian educators. As well, the framework provides a useful starting point for developing recommendations for universities and school boards.

Program Description

The four-year concurrent program under study was located within a large Canadian urban setting. Students completed a series of required and elective courses in three broad areas: theory courses, method courses, and internships. One of these courses, focusing on classroom observation, taught preservice candidates how to conduct evaluations at the elementary-school level. Teacher candidates learned observation techniques, documentation procedures, authentic assessment, and

formative and summative evaluation. This second year course was connected to a practicum that must be completed within an approved educational setting. In general, teacher candidates completed internships in preschool, kindergarten, primary, and junior level classrooms.

METHODOLOGY

Participants

The sample consisted of 69 teacher candidates. Respondents ranged from 19-51 years of age, with a mean of 26.5 (*SD* = 7.2). Experience in the classroom acquired during practice teaching placements and previous work as an early childhood educator, teaching assistant, and/or private school teacher ranged from 0 to 10 years, with a mean of 2.2 (*SD* = 2.1). Twelve of the teacher candidates were males (17%) and 57 were females (83%), reflecting the increasing gender disparity of preservice teachers in recent years, particularly at the primary/junior level. These preservice teachers typically taught in classrooms between 30 and 50 students during their practicum experience.

Data Collection

Using a convenience sample, we asked participants to complete a survey during the final stages of their academic year. By this time, preservice candidates had completed their practice teaching assignments and were preparing for final exams. The survey consisted of a series of open- and closed-ended questions in four broad areas: self-described level of assessment literacy, main purposes of assessment, utilization of different assessment methods and need for further training, and suggested methods for promoting assessment literacy in university and practice teaching settings. Collectively, these four areas provided a broad understanding of the perspectives of teacher candidates in each of the four years of this concurrent program. The overrepresentation of teacher candidates in the fourth year also provided a more robust analysis of the types of knowledge and skills students felt they possessed as they exited the program.

Data Analysis

The survey included four closed-ended and five open-ended questions (see Appendix A). Means and standard deviations were calculated for each closed-ended item. These means were then ranked from highest to lowest so that we could distinguish which elements were assessed most positively versus those that were assessed more negatively. We also conducted an Analysis of Variance (ANOVA) on closed-ended items to determine if there were statistically significant differences across specific subgroups (i.e., year in the program and previous teaching experience). This analysis allowed us to compare the relative weightings of self-described assessment literacy across these teacher candidate characteristics.

Analysis of the open-ended items followed a constant comparison method (Bogdan & Biklen, 2003). The process of constant comparison is similar to the more widely recognized grounded theory approach where researchers develop an emergent fit; that is, they modify the category to fit the data and do not select data to match a predetermined category (Taber, 2000). We assigned codes to each line directly in the margins of the questionnaire, merging entries with codes with similar meanings into a new category. We repeated this process for each of the remaining questionnaires in a reiterative manner; that is, codes from the first questionnaire were carried over to the second questionnaire. This procedure allowed us to note thematic trends across the preservice candidates' open-ended items.

RESULTS AND DISCUSSION

The results and the discussion section are organized around the four broad areas within the questionnaire: teacher candidates' self-efficacy as measured by their assessment literacy ratings; teacher candidates' understanding of the primary purposes of assessment; teacher candidates' utilization of different assessment approaches and their need for further training; and teacher candidates' suggestions for improving assessment literacy in university and practice teaching settings.

Assessment Literacy Ratings

Results indicated that self-efficacy ratings remained relatively low for teacher candidates across each of the four years of this program. For example, preservice candidates rated their level of assessment literacy at similar levels, regardless of their year in the program: Year 1 = 4.8, Year 2 = 5.9, Year 3 = 5.1, Year 4 = 5.9., (*SDs* = 1.7, 1.3, 2.6, 1.8 respectively). Interestingly, ANOVA results were significant for previous years of teaching experience (F[9,56] = 2.32, p < .05), but not for progression through the program (see Table 2). This finding supports many of the concerns expressed in the literature on the assessment confidence of preservice teachers (Brown, 2004; Campbell & Evans, 2000; Mueller & Skamp, 2003) and complements a large body of literature that advocates greater support for beginning teachers to improve the quality of teaching and learning within North American schools, as well as to retain teachers (Andrews & Martin, 2003; Bartell, 2005; Darling-Hammond, 2000; Evertson & Smithey, 2000; Ganser, Marchione, & Fleisehmann, 1999; Glassford, & Salinitri, 2006; Leithwood, Fullan, & Watson, 2003; Olebe, 2005; Smith & Ingersoll, 2004).

Purpose(s) of Assessment

Data suggested that the majority of teacher candidates (approximately three-quarters) utilized assessment primarily for traditional summative purposes (i.e., assessment *of* learning). Consider the following responses to the first question: *List three main purposes for classroom assessment*.

"Report card writing."
"To be able to grade students."
"To gather information on students' achievements."
"Identify and quantify learning progress."
"Records for administration and government."   (Preservice teachers' survey responses)

Unfortunately, responses that aligned with more recent formative (i.e., assessment *for* learning) and student metacognitive purposes (i.e., assessment *as* learning) were noted (approximately one-fifth) to a lesser extent.

Table 1
ANOVA for Year in Program and Teaching Experience

Assessment Literacy by Year in Program					
	SS	*df*	*MS*	*F*	*p*
Between Groups	20.720	3	6.907	1.947	.131
Within Groups	230.526	65	3.547		
Total	251.246	68			

Assessment Literacy by Previous Teaching Experience					
	SS	*df*	*MS*	*F*	*p*
Between Groups	65.543	9	7.283	2.414	.022*
Within Groups	168.957	56	3.017		
Total	234.500	65			

*Note. * p < .05.*

[1] Effect size calculations revealed similar results: year in program was not significant (p = 0.232), and previous teaching experience was significant (p = 0.057).

"To evaluate if students have understood what has been taught, so teachers can provide extra instruction if needed."
"To learn about possible difficulties that students may be having so that they can be addressed."
"…self-learning." (Preservice teachers' survey responses)

These findings are troubling given that assessment *for* learning has shown the greatest promise for improving student learning and achievement within schools.

Assessment Methods: Further Training and Utilization

Table 2 illustrates teacher candidates rating of further training required in various assessment methods. The candidates tended to rate their need for further training higher in authentic assessment approaches that typically support newer conceptions of assessment, i.e., portfolio

assessment (6.2/10) and performance assessment (6.3/10). These more recent forms of authentic assessment are increasingly seen as pivotal for promoting improved student learning and achievement (Fetter, 2003; Hauge, 2006). More established traditional methods, i.e., observation (3.6/10), communication (4.8/10), and selected response (5.4/10), were ranked relatively lower for further training. Interestingly, these findings contrast sharply with utilization ratings (see Table 3). For example, although observation techniques were utilized at the highest level (8.6/10), students rated their need for further training in this area at the lowest level (i.e., 3.6/10). Similarly, although personal communication was utilized at the second highest level (8.4/10), students rated their need for further training in this area at the second lowest level (4.8/10). These trends indicate an inverse relationship between the utilization of particular assessment approaches and student's self-reported need for further training.

Table 2
Teacher Candidates' Rating of Further Training in Assessment Methods

Further Training in Assessment Methods	Sample Size	Mean Score	Standard Deviation
Selected Response	68	5.4	3.3
Constructed Response	68	5.96	2.6
Performance Assessment	68	6.3	2.5
Portfolio Assessment	68	6.1	2.98
Personal Communication	68	4.8	2.9
Observation Technique	68	3.6	2.9

Note. The mean scores are based on a 10 point scale where 1 equals very low and 10 equals very high.

Student responses to the question *Which assessment approach(es), if any, do you favour in primary/junior settings? Why?* also supported the dominance of observational techniques and personal communication approaches. Consider the following responses:

Table 3
Teacher Candidates' Rating of Utilization of Different Assessment Methods

Utilization of Assessment Methods	Sample Size	Mean Score	Standard Deviation
Selected Response	69	4.01	2.4
Constructed Response	69	6.1	3.1
Performance Assessment	69	7.1	2.2
Portfolio Assessment	69	7.4	2.9
Personal Communication	69	8.4	1.9
Observation Technique	69	8.6	1.6

Note. The mean values are based on a 10 point scale where 1 equals not at all and 10 equals very often.

"Personal communication…because this combination would enable me to see progress and allows those who are better at talking, can be tested through presentations."
"…observational and personal communication for concrete and measurable assessment which ensure needs are being met."
"I prefer anecdotal records since they create a picture of the whole child…"
"Observational techniques and personal communication because it provides a more holistic and individual assessment of each child."
"Communication is important; however, not all children of this age are able to express themselves. Therefore, observational techniques might be better." (Preservice teachers' survey responses)

Undoubtedly, the dominance of these methods is partly attributable to the younger age (i.e., primary/junior) of the students being taught. Nevertheless the utilization/training dichotomy, previously noted, suggests teacher candidates may utilize assessment approaches to a greater/lesser extent depending on their perceived self-efficacy with those approaches. In the absence of targeted in-service professional

development, this cycle would presumably continue when teacher candidates begin working as full-time classroom teachers.

It is also important to note some teacher candidates made comments that suggested they would utilize a broad range of classroom assessment techniques. Consider the following responses:

"I would favour all assessments. It makes class more interesting and allows student who do not do well with a testing format to excel in other areas."
"I would employ a suitable balance of all of them … depending on the students' abilities (such as reading, writing, and language skills)." (Preservice teachers' survey responses)

Unfortunately, it was the noticeable absence of a balance of classroom assessment techniques that best characterized the majority of teacher candidates' responses. This lack of balance occurred despite the fact that all teacher candidates in their second, third, or fourth year had completed a course that presumably addressed a range of observation techniques, documentation procedures, authentic assessment, and formative and summative evaluation procedures.

Assessment Literacy Development

To improve their assessment knowledge, teacher candidates overwhelmingly endorsed the development of a specific course(s) focused on classroom assessment and evaluation. Interestingly, this suggestion came from all students – even second, third, and fourth year students who had completed the previously noted observation and evaluation course. This finding may suggest that the program did not provide a deep enough understanding of various approaches to classroom assessment and evaluation. Indeed, the nature of students comments throughout the questionnaire strongly suggest that, although they had well-developed observational skills, they were lacking other forms of knowledge that are explicitly noted in the course outline (i.e., formative assessment).

As previously noted, a majority of teacher candidates emphasized observational skills addressed in the second year of the program. Consider the following responses:

"…using observation assessment is my favourite approach as children will be acting and learning like they normally do, thus it's concrete and more accurate."
"I learned in the program observational techniques, running records, checklists, anecdotal reports."
"…using careful observational practices…observation-based assessment and evaluation."
"…variety of observations to record child development."   (Preservice teachers' survey responses)

Quantitative data also supported these general trends. As previously noted, utilization ratings for observation techniques were the highest of any assessment category
(i.e., 8.6/10). Collectively, these findings suggest that the preservice program needs to devote more careful attention to a broader array of classroom assessment techniques that are noted within the course outline.

Within practice teaching settings, the main suggestion for improving teacher candidates' assessment literacy revolved around more careful selection of associate teachers who were able to model appropriate classroom assessment and evaluation skills. A number of teacher candidates noted this lack of appropriate mentorship within field settings:

"Being in a classroom where the teacher includes you when s/he assesses the students is important. It should be imperative that the student teacher is part of the assessment process of the children in the classroom."
"For them [co-operating teachers] to actually use new assessment methods in the classroom."
"We should have been made privy to all details relating to assessment methods employed but the co-operating teachers."

"Co-operating teachers expectations…some often believe that we should already know how to properly assess before we have been trained in the area."

"Just seeing different assessment methods put into use [by co-operating teachers] so I can learn from them."   (Preservice teachers' survey responses)

Not surprisingly, these findings support previous research on the central importance of practicum supervision (Awaya, McEwan, Heyler, Linsky, Lum, & Wakukawa, 2003; Beck & Kosnik, 2002; Clarke, 2001; Humphrey, Adelman, Esch, Riehl, Shields, & Tiffany, 2000; Mueller & Skamp, 2003; Volante, 2006).

IMPLICATIONS FOR TEACHER EDUCATION REFORM

Despite the limited scope of this study, the findings provide broader implications for teacher education reform. The most significant implication is that teacher education programs that provide specific courses on assessment and evaluation (and many preservice programs currently do not [see Campbell, Murphy, & Holt, 2002]) should not necessarily assume their teacher candidates are graduating with an acceptable level of assessment literacy to assess and evaluate students effectively. As with other facets of teaching and learning such as classroom management or instructional design, teacher candidates seem predisposed to rely on traditional approaches they had likely been exposed to as students themselves. As Graham (2005) describes, "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 concerted effort by all teacher educators so that students possess a broad array of assessment and evaluation approaches. Teacher educators also need to model a range of assessment methods within their own coursework so that preservice students construct a deeper understanding of the utility of different assessment approaches (Allen & Flippo, 2002).

Clearly, the growing recognition that students have diverse learning styles as described through popular models such as Multiple Intelligence

Theory (Gardner, 1999) must be accompanied by the concomitant use of a broad array of diagnostic, formative, and summative assessment procedures. Ironically, diagnostic, formative, and summative assessments of teacher candidates' own assessment beliefs and practices could have helped the teacher educators at this institution address some of the noted gaps in their candidates' assessment repertoire. Essentially, teacher educators' assessment strategies should be used to facilitate the scaffolding of student knowledge and skills. In doing so, faculty members can accurately determine the stock of knowledge students bring with them into a course (Eckert, Bower, Hinkle, Stiff, & Davis, 1997) and make adjustments to their own instruction.

Detailed analysis of formal feedback measures should also be utilized on a continuous basis. Although most universities and teacher education institutions routinely collect course evaluations and exit surveys from their teacher candidates, the present study suggests more specialized and targeted analysis may be required in the area of classroom assessment and evaluation. For example, Mertler and Campbell (2005) recently developed the *Assessment Literacy Inventory* (ALI) as a practical mechanism for faculties of education and teacher educators to measure the assessment literacy of their teacher candidates. Using this type of emerging index, or other comparable survey, would presumably help faculties of education reduce the number of teacher candidates graduating with sizable knowledge gaps in this important field. Interestingly, the architects of the ALI suggest that pending some additional research, the survey could also be used as a diagnostic instrument geared toward the identification and remediation of classroom assessment misconceptions or weaknesses of in-service teachers.

IMPLICATIONS FOR IN-SERVICE PROFESSIONAL DEVELOPMENT

Not surprisingly, the findings suggest that associate teachers are an integral part of the assessment literacy development of preservice candidates. Because associate teachers are also likely to possess notable weaknesses in the application of effective assessment and evaluation practices, any recommendation to carefully select assessment literate associates should ideally be accompanied with potential professional

development opportunities for these mentor teachers. Thus, faculties of education might create effective partnerships with placement schools so that the relationship is truly reciprocal in nature. Although some faculties have already experimented with similar types of arrangements (i.e., offering a complimentary course to associate teachers in return for supervising candidates), the current study suggests more formal and structured support for associate teachers is required. Essentially, ongoing support and professional development opportunities are essential for maintaining currency of knowledge in the field. The latter would presumably facilitate improvements in teacher candidate supervision and ultimately student learning and achievement.

The present study also suggests that these in-service opportunities should be targeted to more recent conceptions of assessment *for* and *as* learning. The ability to tailor professional development to what in-service teachers specifically need is a critical feature for ensuring a successful classroom assessment in-service (Wiliam, 2006). Senior government, administrators, and school district leaders will undoubtedly need to ensure adequate funding because building assessment literacy costs money – money for expertise and material resources and to a greater extent, funding to support teacher time (McMunn, McColskey, O'Connor, 2002). In truth, such funding may be difficult to secure, particularly because most government leaders are consumed with raising test scores on traditional provincial or national large-scale assessment measures. Nevertheless, the previously noted work of Black et al. (1998) and Volante & Melahn (2005) suggests that such investments are indeed paying dividends in terms of improved teaching practice and student learning. Thus, implementing policies that act against the grain to support more authentic approaches to teaching, learning, and assessment can raise the level of student performance on traditional assessment measures. The proposed assessment training may also have the added benefit of retaining some of the brightest educators. In this respect, an ounce of assessment literacy promotion may act as a pound of retention cure.

CONCLUSION

The results gleaned from the present study are largely congruent with current teacher education research literature. For example, relatively low levels of teacher candidate self-efficacy and lack of appropriate mentor teachers are interrelated and persistent problems with which faculties of education must grapple on a yearly basis. Nevertheless, findings from this study provide some additional ideas to think about, ideas to address if both preservice and in-service teachers are to utilize a broad array of assessment and evaluation approaches. For example, in the absence of targeted in-service professional development, the utilization/training dichotomy is likely to have a ripple effect within the entire education system. Presumably, teacher candidates would continue to utilize particular assessment approaches to a lesser extent when they begin teaching and would model their restricted repertoire of assessment skills if they assume associate teacher roles. Thus, investments from government and broader interventions from school leaders are required to ensure teacher candidates develop a diverse and balanced set of classroom assessment practices. For their part, faculties of education that conduct a systematic gap analysis of their teacher candidates may be able to remedy the potential disconnect between what is described within course outlines and what preservice teachers' actually consolidate. In this vein, comprehensive feedback measures help ensure faculties of education are responsive to teacher candidates' needs in a timely fashion. It is ultimately a happy marriage between all vested parties that is required: government, faculties of education, school district leaders, administrators, and associate teachers. All are essential stakeholders for the appropriate training of assessment literate teacher candidates.

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Appendix A

Assessment Literacy Survey

1. Background Information:

    a) Age: _____
    b) Gender: _____
    c) Year in the Program: 1   2   3   4
    d) Years of classroom teaching experience: _____

2. List three main purposes for classroom assessment.

3. Assessment literacy is defined as an understanding of the principles of sound assessment. List three main ways the program has helped you develop assessment literacy.

4. Describe your utilization of the following assessment approaches on a 10-point scale, with 1 equal to not at all and 10 equal to very often.

a)	Selected response	1	2	3	4	5	6	7	8	9	10
b)	Constructed response	1	2	3	4	5	6	7	8	9	10
c)	Performance assessment	1	2	3	4	5	6	7	8	9	10
d)	Portfolio assessment	1	2	3	4	5	6	7	8	9	10
e)	Personal communication	1	2	3	4	5	6	7	8	9	10
f)	Observation techniques	1	2	3	4	5	6	7	8	9	10

5. Which assessment approach(es), if any, do you favour in primary/junior settings? Why?

6. Rate your need for further training in the following assessment approaches on a 10-point scale, with 1 equal to very low and 10 equal to very high.

a)	Selected response	1	2	3	4	5	6	7	8	9	10
b)	Constructed response	1	2	3	4	5	6	7	8	9	10
c)	Performance assessment	1	2	3	4	5	6	7	8	9	10
d)	Portfolio assessment	1	2	3	4	5	6	7	8	9	10
e)	Personal communication	1	2	3	4	5	6	7	8	9	10
f)	Observation techniques	1	2	3	4	5	6	7	8	9	10

7. Provide one suggestion at the pre-service level related to university instruction that would help you improve your assessment literacy?

8. Provide one suggestion at the pre-service level related to practicum supervision that would help you improve your assessment literacy?

9.   Describe your overall level of assessment literacy on a 10-point scale, with 1
     equal to very low and 10 equal to very high.

     1   2   3   4   5   6   7   8
     9   10