Alberta School Principals' Use of Professional Portfolios in Teacher Hiring

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Abstract

Creating a professional portfolio is a requirement for most pre-service teachers in Alberta. Little is known, however, about principals' use of applicant portfolios in hiring. In response, researchers conducted an online survey of principals throughout the province. Findings indicate a preference for traditional job application items (e.g., a resumé, reference letters, and letter of introduction) and teacher competence indicators (e.g., teacher mentor and school administrator assessments, student assessment methods, and a classroom management plan). Examining attitudes and hiring practices provides direction for creating portfolios that attend to the actual needs and interests of principals in the province, thereby enhancing the employment prospects of new teachers.

Keywords: teacher education, professional portfolio, school administrators, teacher hiring

Résumé

La création d'un portefeuille professionnel est une exigence pour la plupart des enseignants étudiants en Alberta. On sait peu, toutefois, à propos de l'utilisation des portefeuilles de candidats par les directeurs dans le processus d'embauche. En réponse, les chercheurs ont mené une enquête en ligne auprès des directeurs d'écoles de l'ensemble de la province. Les résultats indiquent une préférence pour les éléments traditionnels d'une demande d'emploi (p. ex., un curriculum vitae, des lettres de références, et une lettre d'introduction) et les indicateurs de compétence des enseignants (p. ex., les évaluations du mentor d'enseignant et de l'administrateur scolaire, les méthodes d'évaluation des élèves, et un plan de gestion de classe). L'examen des attitudes et pratiques d'embauche fournit une orientation pour créer des portefeuilles qui répondent aux besoins et aux intérêts réels des directeurs d'école dans la province, améliorant ainsi les perspectives d'emploi des nouveaux enseignants.

Mots-clés : la formation à l'enseignement, portefeuille professionnel, administrateurs scolaires, embauche d'enseignants

Acknowledgements

Context of the Study

The production of professional portfolios in teacher education is commonplace (Campbell, Cignetti, Melenyzer, Nettles, & Wyman, 2007) with portfolio creation now integrated into most teacher education programs in Alberta and across Canada. Portfolios serve three main purposes in teacher education: to encourage pre-service teacher learning and professional development through self-reflection (Kitchenham & Chasteauneuf, 2009; Lin, 2008; Smith & Tillema, 2003; Strudler & Wetzel, 2008); to aid faculty in assessing student performance in teacher education programs (Strudler & Wetzel, 2008); and to document and showcase the knowledge, skills, and attributes of new teachers in support of post-graduation employment (Ndoye, Ritzhaupt, & Parker, 2012; Rolheiser & Schwartz, 2001). In the context of this third purpose, many faculties of education in Alberta currently accept that school principals, in their capacity to hire new teachers, review the portfolios of worthy teacher applicants. On this basis, pre-service teachers are encouraged and often required to spend considerable time and resources creating and perfecting a portfolio for use in finding employment.

Despite incorporation into teacher preparation programs, present assumptions about the use of portfolios in the hiring practices of school principals remain largely unsubstantiated in the available literature. While there is evidence that principals may find portfolios helpful in the hiring process (Ndoye et al., 2012; Theel & Tallerico, 2004), very little is known of the specific ways in which principals use portfolios in recruiting and hiring new teachers or if certain items in a portfolio hold greater relevance in hiring decisions. In examining the attitudes and hiring practices of school principals in relation to portfolios, this research provides direction for assisting pre-service teachers to produce a portfolio that attends to the needs and interests of principals in Alberta. Such knowledge is beneficial to new teachers as they navigate the hiring process after graduation and to pre-service teachers as they work to craft a portfolio that can assist in securing a teaching position.

Select Background Literature

A professional portfolio is a visual representation of a person's occupational identity and offers teacher candidates a number of means for tracking and expressing their overall

development and suitability for teaching. More than a catalogue of artifacts, portfolios can provide tangible evidence of teaching quality, illustrate a commitment to student learning and support, portray the beliefs and values that guide teaching practice, and offer a multidimensional representation of the person-as-teacher. Properly managed, such representations can play a convincing role in strengthening applicant performance at job interviews (Hurst, Wilson, & Cramer, 1998). In teacher education programs, portfolios are increasingly expected to fulfill multiple and varying functions. They serve as archives of accomplishment, as learning and reflection tools, as a means of academic assessment, and as preparation for post-graduation job searches and employment interviews (Butler, 2006; Smith & Tillema, 2003). These multiple and varying functions challenge pre-service teachers to create portfolios that demonstrate critical inquiry, reflective growth, and personal mastery (Hallman, 2007), and can be readily adapted and focused for a range of audiences (Strudler & Wetzel, 2011). The literature recommends that pre-service teacher portfolios express an acute sense of self while accounting for the needs of all educational constituents, including prospective employers (Ndoye et al., 2012; Shepherd & Skrabut, 2011). Added to this recommendation is a growing conviction that e-portfolios, developed electronically and made available online, are the best means of demonstrating digital awareness and teaching competence, and packaging the persona of new teachers (An & Wilder, 2010; Shepherd & Skrabut, 2011).

Not surprisingly from the student perspective, when faced with this array of expectations and the accompanying need for technological know-how, there is a tendency to rationalize the portfolio process in simple cost-benefit terms. For example, a study by Elliott, Daily, Fredricks, and Graham (2008) focusing on portfolio creation showed that students conceptualize portfolios from a consumer perspective—viewing portfolios as an obligatory requirement for graduation. Students believed university faculty erroneously represented portfolios as beneficial to securing post-graduate employment. Rather than supporting their need for actual employment strategies, students viewed portfolios as operating in the interest of institutional objectives and professional standards of accountability. For these students, the portfolio was seen as a basic "assessment commodity" (p. 55). Consistent with such findings, even when students recognize that portfolios are potentially useful to prospective employers (Rolheiser & Schwartz, 2001), they see no actual evidence that portfolios are currently valued in the hiring process (Shepherd & Hannafin, 2008). In a study conducted by Lin (2008), only one-third of students intended

to use their portfolio for employment-seeking purposes. This reflects the attitude of many students who either believe that school principals would not take the time to view their portfolio or who feel uncomfortable sharing their portfolio with prospective employers (Parker, Ndoye, & Ritzhaupt, 2012).

To better understand principal perspectives on e-portfolios, Ndoye, Ritzhaupt, and Parker (2012) surveyed school leaders from 11 counties in North Carolina. They found that principals considered a digital portfolio to be most helpful in the applicant screening process and during interviews. Principals recognized e-portfolios as easily accessible and able to provide up-to-date information evidencing a job candidate's teaching abilities. In using e-portfolios, principals were most interested in accessing employment-related information, but often found that navigating the e-portfolio was time consuming and that the information provided lacked direct connection to a candidate's actual classroom practice. The latter conclusions reflect a wider concern regarding the use of portfolios as sources of evidence for evaluating teacher competency (Attinello, Lare, & Waters, 2006; Yao et al., 2008).

The potential worth of portfolios—including e-portfolios—in evaluative and hiring processes can be readily obscured or entirely lost through an awkward presentation or a complete lack of relevant information. Similarly, Theel and Tallerico (2004) found that principals view portfolios as beneficial to the extent that they meaningfully enhance an applicant's interview, suggesting that the value of portfolios in hiring is often incidental. Moreover, when asked about the weighting used in making hiring decisions, principals ranked portfolios among the items of least importance, placing greater emphasis on applicants' personal characteristics and references (Cranston, 2012; Mason & Schroeder, 2010). Taken together, the literature describing principals' views indicates the potential of portfolios to support teacher hiring, especially when made available in digital format and well-presented during an interview. The literature also suggests, however, that portfolios generally lack influence on principals' actual hiring decisions (Mason & Schroeder, 2010; Theel & Tallerico, 2004).

Purpose and Participants

Due to the emphasis placed on the production of portfolios in teacher education and the lack of specific knowledge concerning their relevance in the employment process, this research seeks a clearer understanding of the attitudes and practices of Alberta school

principals in their use of portfolios when hiring newly graduated teachers. Given the wide geographical area covered by the province, its numerous jurisdictional authorities, and the remoteness of many of its schools, much consideration was paid to choosing the most democratic, non-coercive, low-barrier, efficient, and cost-effective means of data gathering—a means that would provide equal opportunity for a wide range of participation. We chose to conduct an online survey, reasoning that every principal would have access to a digital communication device and the Internet, and data could be gathered simultaneously from respondents across the entire province over a shortened period. Additionally, an online survey is less intrusive and disruptive to principals' schedules as they may choose to respond at a time and place most convenient for them. An online survey also provides many of the benefits of a structured interview without the potential key reactive features, such as gender and perceived authority, that interviewers inherently embody and that can affect respondents in face-to-face situations (Bryman, Teevan, & Bell, 2009).

We also considered the unwanted potential effect of social desirability bias in responding—that principals may not feel comfortable rating certain portfolio items, deemed relevant by faculties of education, as irrelevant to their hiring decisions. To reduce this possibility of biased responding, the survey was completed anonymously, with assurance to principals that their personal identity, Internet Protocol address, and geographic location would not be captured for the study. We included several open-ended questions to allow principals to elaborate on their responses and share their thoughts in more detail. Respondents were also provided with researcher contact information and invited to email or call if they wished to make additional contributions or further discuss the research.

In the spring of 2016, at the time the survey was conducted, Alberta Education listed 2,388 schools operating within 375 distinct jurisdictional authorities (districts or divisions) in the province (Alberta Education, 2016). For the purpose of this study, our population of interest included principals at the province's 1,498 public schools and 391 separate (i.e., Catholic) schools. These schools were selected as they offer the greatest opportunity for the employment of new teachers and because the role of the principal in hiring is similar. Principals at other provincial schools, including private and charter schools, were not contacted due to the unique programming and hiring procedures of these schools.

Separate contact lists were compiled, one for public school principals and one for separate school principals, using the email addresses published on division and school websites. Some of these principals were identified as being responsible for more than

one school (in the case of colony schools, for example) and were included only once on the contact list. Invitations to participate in the study were sent by blinded email to all eligible participants for whom a professional email address was publicly available. This included 1,077 public school principals and 347 separate school principals, for a total of 1,424 invitations. To facilitate timely data gathering, cleaning, and analysis, the survey was duplicated and separate SurveyMonkey links were provided to each group. The groups were contacted sequentially, given approximately eight weeks to respond, and sent a single reminder notice one week prior to closing the survey.

In total, the survey received 269 initial respondents, with 210 principals reporting from public schools and 59 principals reporting from separate schools. This translates to an overall response rate of just under 19% of the population of eligible principals in Alberta—a rate comparable to other studies employing email surveys of school principals (e.g., Madariaga et al., 2017). Some participants failed to respond to all Likert-scale items contained in the inventory; the total number of fully completed surveys was 251 (194 public school principals and 57 separate school principals). Only these respondents were included in the statistical analyses outlined below. With a two-tailed design, this sample represents the population of nearly 1,500 public and separate school principals with a 92% confidence level and a 5% margin of error (Rodríguez del Águila & González-Ramírez, 2014).

As incentive for their participation, and as a means of compensating school principals for their time and contribution to this study, participants were provided a separate, unlinked SurveyMonkey page where they could enter their names in a draw to win one of four $100.00 gift cards. On this page, respondents were also asked if they consented to being contacted for participation in future research concerning their use of portfolios, should further study be warranted.

The Survey Instrument

The survey designed and used for this study was divided into three sections: (a) questions regarding school demographics, (b) a listing of portfolio items to be rated in terms of relevance to the hiring process, and (c) a series of open-ended questions concerning attitudes toward portfolios and portfolio items. For school demographics, principals were asked three questions:

- Is your school located in an urban or rural setting?

- What is the approximate student population at your school?
- What are the grade levels at your school?

School demographic information was gathered with pre-service teachers in mind, as a possible means of providing direction for tailoring portfolios to specific job postings.

In the second section of the survey, participants were asked to rate each of 20 portfolio items in terms of its relevance to their needs and interests in hiring teachers. A complete list of the portfolio items is given in Figure 1. The portfolio items selected represent those commonly found in "portfolio checklists" and "collections of artifacts" available through links on faculty of education websites in Alberta, and in the literature identifying portfolio evidence of teacher ability (e.g., Barrett, 2011; Butler, 2006; University of Lethbridge, 2016). As such, this is not an exhaustive list of potential portfolio items but a selection that represents a general inventory of items that pre-service teachers are typically expected to include in their portfolio. A 7-point Likert scale, ranging from "extremely irrelevant" to "extremely relevant," along with an eighth response option of "not applicable," was used to determine the relative value of each portfolio item. An alternative means of assessing the relative importance of each portfolio item to hiring would be to ask principals to rank the items from most to least relevant. However, this method requires that the respondent simultaneously hold all items in mind and perform a relative comparison, as opposed to considering the value of each item individually; precludes the possibility of applying an equal ranking to more than one item; and does not permit feedback on the absolute level of relevance each item holds. For instance, a respondent may deem his or her top-ranked portfolio item to be only "somewhat important" to hiring decisions, yet its importance is greater than that of all the others. Structuring response options as a Likert scale allowed respondents to provide a more accurate picture of each portfolio item's relevance to hiring decisions.

The final section of the survey asked participants to provide written responses to seven open-ended questions, such as: "At what point in the hiring process do you use applicant portfolios and why?" The six additional open-ended questions are detailed in the Analysis and Interpretation section below. Open-ended survey questions are a well-regarded and valuable means of exploring people's attitudes, opinions, and experiences (Schensul, Schensul, & LeCompte, 1999). The specific open-ended questions developed for this survey reflected our overarching interest in reliably informing the production and

use of portfolios in teacher education and hiring. The questions were designed to solicit practical information for pre-service teachers as they create their portfolios and antici-pate the hiring process, and for faculties of education in their role of supporting the early career aspirations of pre-service teachers. We also sought to craft questions that could corroborate findings from the Likert-scale portion of the survey, and to ascertain wheth-er other portfolio items, not included for assessment, were relevant to principals' hiring decisions. The purpose, in analyzing principals' open-ended responses, was to highlight general attitudes and practices of Alberta principals in their use of applicant portfolios. All components of the study received ethics approval at the University of Lethbridge and study funding was provided by an internal university grant.

Analysis and Interpretation

School Demographic Descriptives

All statistical analyses were conducted using SPSS version 24. Of the 251 principals (194 public school and 57 separate school) who fully completed the survey, 126 indi-cated working at an urban school and 125 at a rural school. A descriptive comparison of these respondent groups found that urban schools ranged in population from 84 to 2,500 students, while rural schools ranged from 5 to 1,650 students. An independent-sam-ples Mann-Whitney U test confirmed that the reported student population of urban schools (*Mdn* = 450) was significantly larger than that of rural schools (*Mdn* = 270), *U* = 3932.00, *z* = -6.858, *p* < .001 (two-tailed). There was wide variation in the ranges of grade levels taught at respondents' schools. For instance, some schools included students from pre-kindergarten through Grade 12; some included only elementary-school, mid-dle-school, or high-school students, or various combinations thereof; while others taught students with severe special needs or focused only on adult education. With this degree of heterogeneity, there was no valid approach to creating justifiable categories based on the grade levels reported in the schools; consequently, no analysis of principals' portfolio item ratings was conducted based on this demographic variable.

Likert-scale Responses

As previously stated, the 20 portfolio items chosen for inclusion in the survey are ones commonly identified in portfolio checklists posted on Alberta faculty of education websites and in the academic literature. Principals were asked to assess the value of each portfolio item individually, and while these ratings were not intended to coalesce to form an overall quantifiable measure of an underlying theoretical construct, it is nonetheless possible to determine the degree to which the portfolio items are collectively relevant to principals' hiring decisions. In this regard, Cronbach's alpha is a commonly used measure of the internal consistency, or average correlation, of items contained in a survey instrument to gauge its reliability. Analysis of the internal consistency of portfolio items contained in the survey produced a Cronbach's alpha value of .917. With a generally accepted lower cut-off of .70, a value of > .90 is considered excellent (Nunnally, 1978), providing assurance of the validity of the items chosen for inclusion in the current survey.

To assess the relative importance of each portfolio item to the principals' consideration of candidates' suitability for hire, we conducted a related-samples Friedman two-way analysis of variance by ranks test. The Friedman test is the non-parametric equivalent to a repeated measures (within-subjects) analysis of variance (ANOVA). Its use is appropriate when the dependent variable is measured at the ordinal level (as is the case for Likert-scale response items), when each respondent rates all items being assessed, and when the aim of the analysis is to rank order the items based on their Likert-scale scores. The Friedman test yields a chi-square (χ^2) value that, when statistically significant, indicates real differences in Likert-scale ratings across items.

Analysis of principals' Likert-scale ratings of portfolio items produced a statistically significant Friedman test result, $\chi^2(19) = 934.76$, $p < .0001$. Figure 1 illustrates the percentage of principals responding within each ordinal category of the portfolio item rating scale. Portfolio items were ordered according to the mean rank score of each, with those ranking highest in relevance at the top, and those lowest in relevance at the bottom. Of all portfolio items, the applicant's resumé ranked highest in importance, with nearly 85% of respondents deeming it extremely or very relevant to hiring decisions. The second-most relevant portfolio item was the applicant's teacher mentor assessment from his or her final teaching practicum, with nearly 74% of respondents rating it extremely or very relevant in hiring new teachers. Applicants' reference letters, samples of student

assessment methods, and school administrator's assessments from their final teaching practicum rounded out the top quartile of portfolio items, with the majority of respondents deeming these items to be extremely or very important to hiring decisions. Of lowest relevance to hiring decisions, comprising the bottom quartile of portfolio items, were a sample of student work completed for the applicant, the applicant's university transcripts, artifacts that highlight the applicant's personal achievements (e.g., certifications, certificates, medals), artifacts that highlight the applicant's academic achievements (e.g., scholarships, fellowships, awards), and a summary of the applicant's professional inquiry project. Each of these five lowest-ranked portfolio items was judged to be extremely or very relevant by a substantial minority of principals.
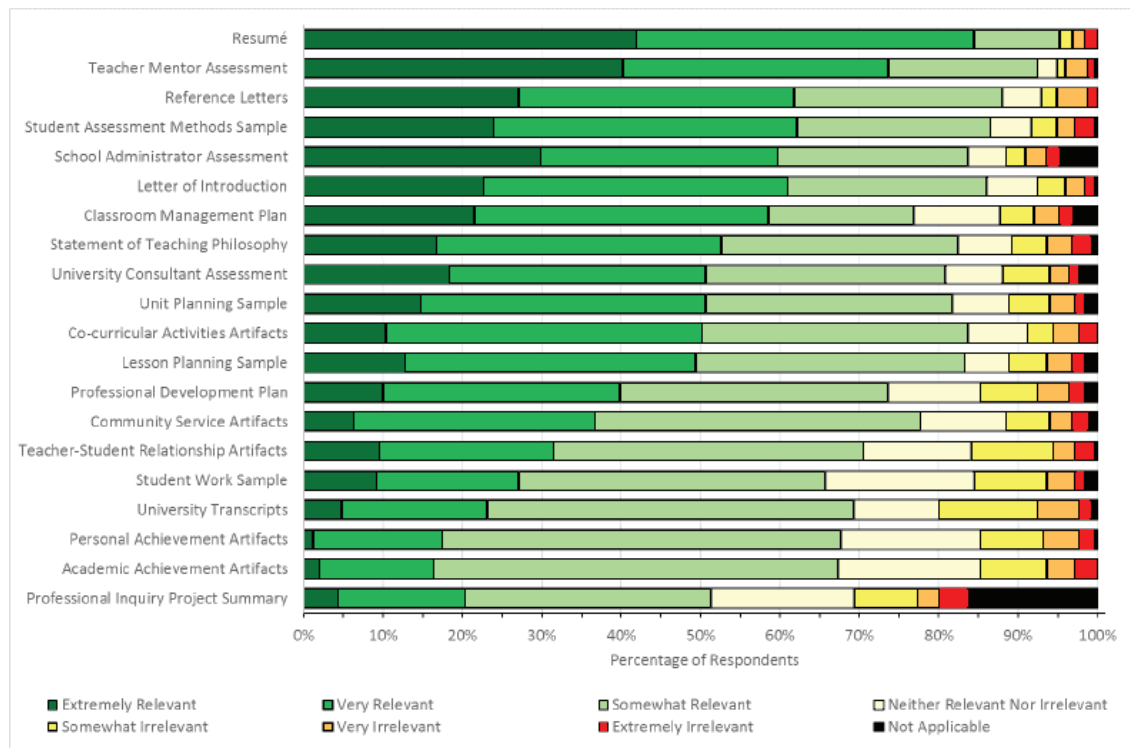

Figure 1. Relative ranking of 20 portfolio items by relevance to Alberta principals. Items highest in relevance are at the top and those lowest in relevance at the bottom, according to a Friedman analysis of Likert-scale ratings given by survey respondents. The coloured bars spanning the x-axis represent the percentage of respondents who chose each Likert-scale rating option, from Extremely Relevant to Not Applicable, for each portfolio item.

***Influence of school demographic factors on principals' portfolio item ratings.*** Whereas the Friedman test provided an overall picture of the relative, ranked importance of portfolio items in principals' hiring decisions, we also sought to determine whether evaluation of a portfolio item's relevance varied between public and separate school principals, or according to school demographics. To investigate, we conducted ordinal logistic regression, which is a modelling technique appropriate for use when the goal of statistical analysis is to predict an ordinal (i.e., Likert-scale) dependent variable given one or more independent variables. One assumption underlying the valid use of ordinal logistic regression analysis is that there be no multicollinearity between predictor (independent) variables. That is, the predictor variables must not be highly related as this prevents determination of which variable contributes to changes in the outcome (dependent) variable. In assessing school demographic variables, we confirmed that respondents' urban/rural school categorizations were highly related to the reported size of the schools' student population, with urban schools being significantly larger than rural schools. As such, inclusion of both predictor variables in the ordinal logistic regression analyses would not be appropriate. We chose to assess principals' valuations of portfolio items based on urban/rural classifications, rather than categorizations of student population, reasoning that urban/rural designations are mutually exclusive categories reported by the survey respondents. Categorizations of schools based on student population would, alternatively, be researcher-derived and could overlap across schools in urban and rural regions, and in this way are less informative for pre-service teachers looking to craft a portfolio pertaining to specific job postings.

Ordinal logistic regression analyses were conducted using public/separate and urban/rural school designations as the two binary nominal predictors, with principals' Likert-scale ratings of each portfolio item entered in the analyses as ordinal outcome variables. Collinearity statistics confirmed no multicollinearity between urban/rural and public/separate predictor categories (tolerance values > .95; variance inflation factor [VIF] values < 1.05). Ordinal logistic regression analysis yields an odds ratio, which is a measure of association between the predictor and outcome variables, and an associated confidence interval, which estimates the precision of the odds ratio. The value of the odds ratio indicates the degree to which membership in a particular category influences the likelihood of responding at the next-highest ordered level of the outcome variable. For instance, an odds ratio of 2.0 indicates that members of a certain predictor category are

twice as likely as those of the comparison category to respond at the next-highest level of the Likert rating scale. An odds ratio of 0.5 indicates the inverse but equivalent likelihood—that members of the comparison category are half as likely as those of the other predictor category to respond at the next-highest level of the outcome variable.

When comparing outcomes (portfolio item Likert-scale ratings) across predictor categories (public and separate or urban and rural school principals), the 95% confidence interval indicates a statistically significant difference between categories of the predictor variable when it does not overlap the null value (i.e., an odds ratio of 1.0). Whereas *p* values provide information about the statistical significance of an effect, odds ratios provide an indication of the practical significance or magnitude of the relationship between predictor and outcome variables (Khalilzadeh & Tasci, 2017). It is generally accepted that odds ratios close to 1.0 indicate a weak effect whereas those greater than 3.0 (or, inversely, less than 0.33) represent a strong effect (Haddock, Rindskopf, & Shadish, 1998).
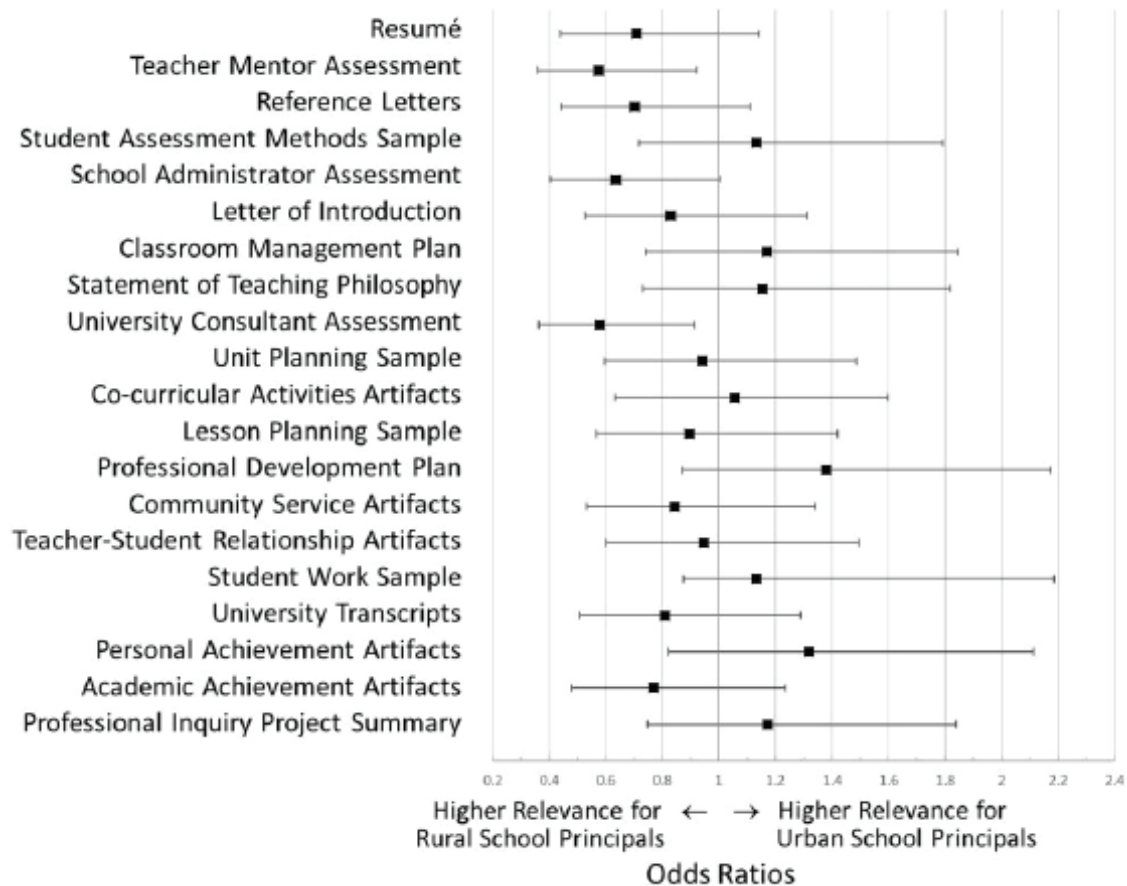
Figure 2 presents the odds ratios and 95% confidence intervals resulting from the ordinal logistic regression analyses comparing public and separate school principals' Likert-scale ratings of each portfolio item. Public and separate school principals' evaluations were statistically similar for all but one of the portfolio items: student assessment methods sample. Public school principals were significantly (1.82 times, or 82%) more likely than separate school principals to rate an applicant's sample of student assessment methods as having higher relevance to hiring decisions, Wald $\chi^2(1) = 4.57$, $p = .033$. Though the analyses revealed slight differences in public and separate school principals' valuations of other portfolio items, as illustrated in Figure 2, none of these reached statistical significance (all other *p* values > .077).
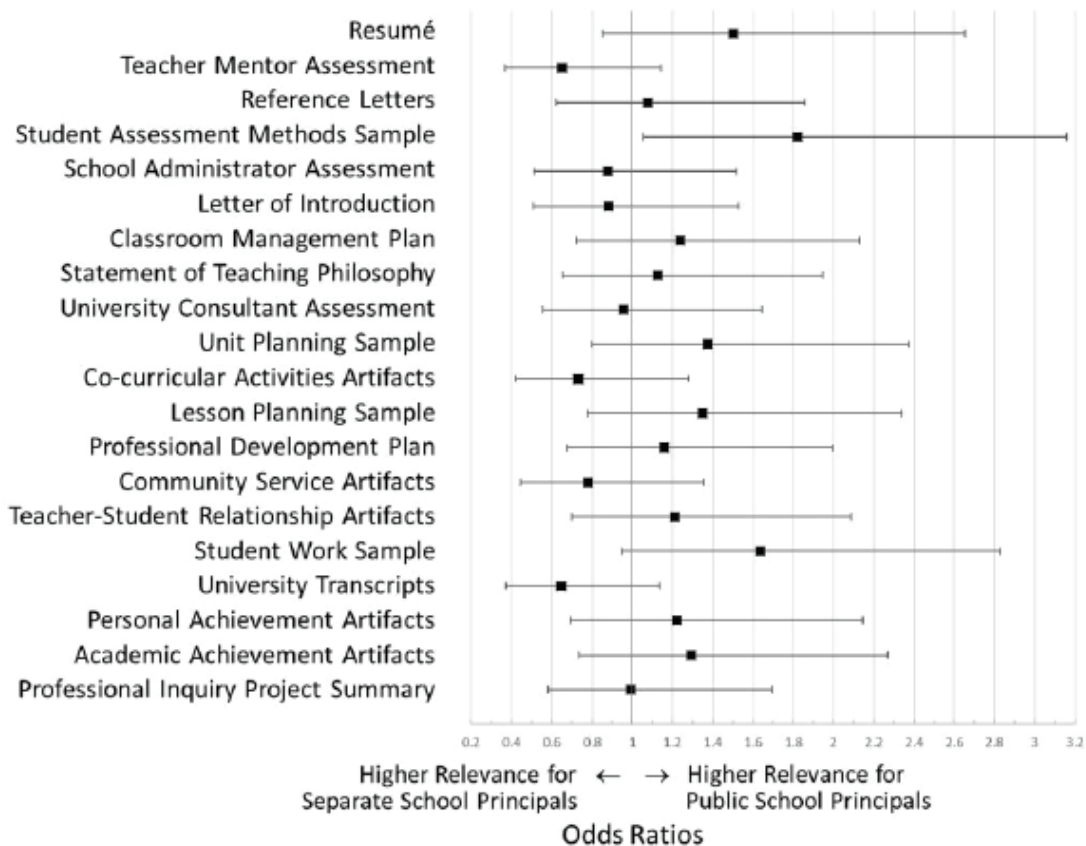
Figure 2. Odds ratios comparisons of public and separate school principals' ratings of portfolio items. The odds ratios (indicated by black squares) and 95% confidence intervals (indicated by horizontal lines with vertical endpoints) contained in the figure were calculated using ordinal logistic regression analyses comparing public and separate school principals' ratings of portfolio items. An odds ratio of 1 denotes equal relevance of a particular portfolio item for public and separate school principals. Odds ratios of less than 1 indicate portfolio items that are more relevant to separate school principals and those greater than 1 hold higher relevance for public school principals. While nearly all odds ratios indicate only slight differences, public school principals were significantly more likely than separate school principals to place higher relevance in an applicant's sample of student assessment methods.

Figure 3 presents the odds ratios and 95% confidence intervals resulting from the ordinal logistic regression analyses comparing urban and rural school principals' Likert-scale ratings of each portfolio item. An overall pattern was identified whereby principals who reported that their school was located in a rural setting tended to place more emphasis on professional assessments of the applicant's final teaching practicum than did those principals who reported being in an urban school. Rural school principals were

significantly (1.74 times, or 74%) more likely than urban school principals to evaluate the applicant's teacher mentor assessment as being of greater relevance in hiring decisions, Wald $\chi^2(1) = 5.30$, $p = .021$. The university consultant assessment of the applicant's final teaching practicum was also judged to be of significantly greater importance to hiring decisions for rural school principals (odds ratio = 1.73, Wald $\chi^2(1) = 5.51$, $p = .019$). Finally, analysis of the relevance of the applicant's school administrator assessment approached statistical significance, with rural school principals being 1.57 times (or 57%) more likely to assign greater value to this item in teacher hiring, Wald $\chi^2(1) = 3.79$, $p = .052$. Analyses of the remaining portfolio items revealed slight differences between rural and urban principals' evaluations, as illustrated in Figure 3, but none of these reached statistical significance (all other *p* values > .128).

Figure 3. Odds ratios comparisons of urban and rural school principals' ratings of portfolio items. The odds ratios (indicated by black squares) and 95% confidence intervals (indicated by horizontal lines with vertical endpoints) contained in the figure were calculated using ordinal logistic regression analyses comparing rural and urban school principals' ratings of portfolio items. An odds ratio of 1 denotes equal relevance of a particular portfolio item for rural and urban school principals. Odds ratios of less than 1 indicate portfolio items that are more relevant to rural school principals and those greater than 1 hold higher relevance for urban school principals. While most odds ratios indicate only slight differences, rural school principals were significantly more likely than urban school principals to place higher relevance in an applicant's professional practicum assessments, especially those written by the teacher mentor and university consultant.

Open-ended Responses

All open-ended responses were open coded and categorized using procedures common to inductive content analysis (Elo & Kyngäs, 2008). Categories of responses were generated according to the consistency of terms used and the overall meaning conveyed by

the text (Babbie & Benaquisto, 2010; Creswell & Miller, 2000; Klenke, 2008; Seidman, 2006). The large majority of written responses were short in length—offering one or two phrases—and answered the question directly. This resulted in a relatively low degree of interpretation required for organizing the units of analysis (i.e., individual words and meaningful phrases) and facilitated the grouping of responses. The categorization of these responses was thereby a comparatively straightforward process (Dey, 1993; Robson, 1993). Nevertheless, response categorizations were independently formulated by the co-researchers, cross-referenced, and divergent opinions discussed at length to increase the comprehensivity and sound interpretation of the text (Schreier, 2012). This procedure helps ensure a high degree of confidence and trustworthiness in data abstraction and the conclusions drawn from the responses (Elo & Kyngäs, 2008; Lincoln & Guba, 1985; Schensul et al., 1999).

The following is a summation of findings that were abstracted from each open-ended question along with example responses to support the credibility of these analyses. The questions are ordered sequentially as they appeared in the survey, and prevalent responses, exemplar statements, and corresponding conclusions are described for each. As the feedback of public and separate school principals is personal and experiential, the transferability of findings is left to the discretion of the reader (Polit & Beck, 2004).

Which portfolio item is most relevant to you when hiring and why? In nearly equal proportions, principals rely as much on traditional job application items (such as a resumé, letter of introduction, and reference letters) as they do on evidence of teaching competence (such as teacher mentor and school administrator assessments, student assessment methods, and a classroom management plan). Among the reasons given for preferring traditional job application items were: "The cover letter is the first introduction to me as principal and needs to be clear, concise and have a reason for me to read the resumé" and "The applicant's detailed resumé as it outlines what they have experienced in relation to the position posted." Comments indicating the relevance of items that demonstrate teaching competence included: "Evidence of classroom practice: assessment documents, planning documents" and "Reports/evaluations from student teaching as they give an overview of abilities and show areas of strength and growth."

Is there an additional item you would like to see included in applicant portfolios and, if so, why? The majority of principals (78%) indicated there were no additional items they would like to see in portfolios. In fact, many said there were already too many portfolio items to review: "Already I have difficulty finding the time to look through what is currently there, most applicants have a wealth of items" and "Minimal is better. Principals do not have time to review 'project' type portfolios."

At what point in the hiring process do you use applicant portfolios and why? Principal responses indicated that portfolios are used at multiple phases of the hiring process, though a majority (54%) of respondents rely on them mainly in the applicant interview. Principals often expressed that it was the candidate's responsibility to use the portfolio to provide specific examples or evidence to support their answers to interview questions: "During the interview process. I like the candidate to refer to items in the portfolio as they answer questions" and "After I have asked all of the interview questions. Here I am looking for an alignment between their answers and their portfolio." Approximately one-quarter of respondents reported assessing portfolios in the initial phase of the hiring process, to help them develop a first impression of candidates, to generate a short list of interviewees, or to prepare questions for interviews. Some principals reported using portfolios toward the end of the hiring process: "At the end to confirm the impressions left by the interview." For these principals, portfolios helped in reviewing responses given during the interview, comparing candidates, and finalizing hiring decisions.

Is your preference for a traditional or e-portfolio format and why? Just over one-third of principals expressed no preference for portfolio format, indicating they are open to receiving either a traditional (i.e., paper-based) or e-portfolio from job applicants, provided the portfolio is organized, concise, easily accessible, and meaningful: "My experience is almost entirely through the use of traditional format, but I am very open to an e-portfolio format as it provides a wider variety of options for presenting oneself." Of those who expressed a preference, more than twice as many principals chose e-portfolios over traditional portfolios, often citing reasons that included accessibility beyond the interview and applicants' showcasing of technological skills. For example, "If the portfolio is not digital (webpage) then it is completely irrelevant. I do not need to see your scrapbook, I need to see you can use technology"; "E-portfolio is more flexible and can

be looked at whenever I need it"; and "I prefer an e-portfolio that would be sent with the application. A lot of times, this information would provide an applicant the edge to get an interview." Principals also noted that e-portfolios are better able to provide evidence of learning, are more environmentally and space friendly, and are more likely to be updated. The remaining principals, those who cited a preference for traditional portfolios, liked the familiarity of this format and its ease of use during the interview.

Is it important for applicants to relate their portfolio items to Alberta Education's interim teacher knowledge, skills, and attributes? Why or why not? Alberta Education follows Ministerial Order 016/97 that defines a Teaching Quality Standard (TQS) for certification, development, supervision, and evaluation of teachers in the province (Alberta Government, 2013). The TQS includes criteria for the knowledge, skills, and attributes (KSAs) required by both interim teacher candidates and certified teachers. A majority of Alberta's principals (68%) consider it important for applicants to relate their portfolio items to interim teacher KSAs. Principals wrote that the KSAs are a relevant standard for the profession, support teacher evaluation and development, ensure new teachers are aware of their professional responsibilities, and are an effective means of organizing a portfolio. Characteristic examples of responses highlighting the importance of referencing KSAs include: "Yes, that is helpful as it is an indicator that the applicants are aware of the knowledge, skills and attributes that administrators look for when hiring and evaluating staff members" and "It is. This is how I know that they are doing relevant planning and are genuinely aware of the outcomes that need to be met."

How important are professional portfolios in your overall hiring process and why? Principals expressed a general ambivalence regarding the importance of portfolios in teacher hiring. Just over one-third (36%) of principals see portfolios as "important" to the hiring process in that they provide information relevant to determining candidate suitability and can, therefore, influence hiring decisions: "Portfolios help to provide a strong picture of the applicant. The more information that is provided, the more useful it is for the selection process." Principals who consider portfolios important in the hiring process further affirmed that portfolios can be most useful in the interview, and several principals expressed an interest in seeing portfolios used more frequently and strategically by candidates during the interview.

Just over one-quarter (28%) of principals identified portfolios as "not important," citing a lack of purpose for portfolios in the hiring process and skepticism that portfolios provide an accurate picture of teaching ability: "Not important. Collection of artifacts does not mean you can teach." Principals who characterized portfolios as "somewhat important" (24%) tended to acknowledge both benefits and drawbacks, with many indicating preference for other more consistent and reliable components of the hiring process: "Somewhat important, but not necessarily a make or break item."

In addition to these responses, a number of principals noted that the importance of the portfolio in hiring depended on an applicant's ability to use the portfolio effectively or on the overall quality of the portfolio and the impression it gives of the candidate: "I have made judgments based on poorly put together ones, it showed the person was not interested in doing a good job. I would rather they not had one than a poorly made one."

Is there anything else you would like us to know about your use of professional portfolios in teacher hiring? At the end of the survey, principals were given an opportunity to share more information regarding their use of portfolios in teacher hiring. Approximately half of all respondents provided additional information. A central category constructed from these responses was advice to improve teacher candidates' training in the effective use of portfolios for employment. Principals indicated that applicants required specific preparation and focus in crafting and presenting portfolios for hiring, especially in interviews: "Stress the importance of using the portfolios. Creating one is only the beginning—using them and referring to them authentically makes a huge difference to understand who the applicant is and better gauge how they will fit into our school"; "I think they need more practice talking about their portfolios, and using them in context while under pressure"; and "I'd hate to know an ABUNDANCE of time is spent on the creation and honing of a portfolio versus its effective use and presentation during an interview" (emphasis original).

Discussion and Recommendations

Creating a professional portfolio is a requirement for most pre-service teachers in Alberta, who are encouraged to spend considerable time and resources compiling evidence to

showcase the knowledge, skills, and attributes they have acquired in preparation for a career in teaching. The ambivalence of principals toward the relevance of portfolios in teacher hiring should, however, give pre-service teachers and faculties of education pause for reflection. While documenting professional development (Beck, Livne, & Bear, 2005) and assisting in student assessment (Cambridge, 2001) may continue as important reasons for having pre-service teachers create a portfolio, a current gap in providing students a realistic understanding of principal expectations, combined with a lack of opportunity to practise using their portfolio, risks further reducing the relevance of portfolios in teacher hiring. This risk can be addressed by better informing pre-service teachers of the specific interests and expectations of principals, and by giving pre-service teachers opportunities to practise with their portfolios in an interview setting (Heath, 2002). Knowledge and practise will help assure pre-service teachers that the time committed to carefully crafting a strong portfolio is well spent, and assuage skepticism regarding the value of a portfolio in securing a teaching position (Elliott et al., 2008; Parker et al., 2012; Shepherd & Hannafin, 2008).

The findings of this study collectively demonstrate principals' preference for traditional job application items (such as a resumé, reference letters, and a letter of introduction) and indicators of teacher competence (such as teacher mentor and school administrator assessments, student assessment methods sample, and a classroom management plan). Principals deem these portfolio items to be of significantly greater relevance when considering a candidate's suitability for hire than are professional, personal, or academic artifacts and indicators (such as evidence of professional inquiry, personal and academic achievement artifacts, and university transcripts). In preparing their portfolios, pre-service teachers should be cognizant of the importance of these competence indicators to principals' hiring decisions, as a well-made and properly managed portfolio can provide solid evidence of teaching capabilities and play a convincing role in strengthening an applicant's performance at job interviews (Hurst et al., 1998).

Principals in this study reported using applicants' portfolios at all phases of the hiring process, to develop a first impression of candidates and generate a short-list of interviewees, to evaluate the applicant during the interview, and to assess and compare candidates in finalizing hiring decisions. While, overall, principals expressed a general ambivalence toward the importance of portfolios in teacher hiring, pre-service teachers should heed the advice that a poorly constructed portfolio or its ineffective use during an interview can reflect negatively on the candidate.

The low relative importance of applicants' university transcripts and evidence of academic achievement to principals' hiring decisions was an unanticipated finding, one that may warrant particular concern for faculties of education. One possible explanation for this finding is that principals may assume transcripts and items indicative of academic performance are assessed at the district level during the hiring process. If so, principals may believe the academic ability of candidates has already been vetted. It may also be the case, however, that principals place little value or credibility in the coursework and academic evaluation of pre-service teachers as indicators of teaching ability. This latter possibility presents a troubling prospect for faculties of education in terms of the overall credibility of teacher education programs. While the relatively low valuation of academic achievement indicators may be symptomatic of a larger disconnect between the academic preparation of teachers and the current needs of the profession, such a conclusion cannot be drawn without further large-scale study of the pressing conditions faced by principals in Alberta.

Inclusion of open-ended survey questions solicited informative descriptions of principals' attitudes toward and consideration of portfolios in hiring, and largely corroborated the responses obtained in the quantitative portion of the survey. Respondents attested to the value of a carefully crafted portfolio that provides strong evidence of an applicant's knowledge, skills, and attributes as a teacher, when the portfolio is used strategically and incorporated effectively to support the applicant's responses during an interview. Consideration of principals' qualitative feedback in the context of respondent categories offered no clear explanation, however, as to why valuations of particular portfolio items (i.e., student assessment methods sample or applicants' professional practicum assessments) differed significantly between public and separate or urban and rural school principals. In this regard, interpretation and categorization of the qualitative survey responses should be read as an analysis of the aggregate of feedback from all principals. It is plausible that respondents' differing valuations of certain portfolio items are inherent to regional experience or school-division culture and not personally apparent to the extent that respondents felt the need to explain or justify the heightened relevance of certain portfolio items, based specifically on school demographics or board affiliation.

For example, large, urban school divisions, like the Calgary Board of Education and Edmonton Public Schools, may tend to stress the need for specific knowledge or skill, such as the effective use of technology in the classroom, when hiring new teachers. Directives calling attention to district-level concerns, such as employing tech-savvy

teachers, may in turn be reflected in an individual principal's appraisal of an applicant's portfolio. A concern identified by the board translates into a concern for its principals. If a large, urban school division has expressed a particular interest to its principals, those principals may respond by increasing the comparative relevance of a certain portfolio item or a preference for one format (e.g., e-portfolio) over another.

The capacity for large school divisions to influence the comparative relevance of portfolio items may explain the significant differences found between rural and urban school principals' ratings of applicants' practicum assessments. While large school divisions may give principals specific mandates for hiring teachers, principals in smaller, rural divisions may tend to rely more on the opinions of other experts—such as an experienced teacher mentor, school administrator, or university consultant—in determining the suitability of an applicant. This type of explanation is also plausible for the significant differences found between public and separate school principals. In this case, public school principals rated evidence of student assessment methods as significantly more relevant to hiring. This finding may be indicative of a greater emphasis for public divisions on teacher accountability in the methods used to assess student performance. Whether this line of explanation is supported by future research, findings from this study suggest that applicants consider fine-tuning their production and use of portfolios based on school demographics, board affiliation, and school-division priorities.

As an element of the hiring process, pre-service teachers should ensure their portfolio is well-organized, concise, relevant, and easily accessible, but remain aware that not all principals will take an interest in applicant portfolios. Pre-service teachers also need to know that impressions made by their portfolio, and reference to pertinent items during an interview, may carry considerable weight in the hiring process. Principals who expressed a preference for format tended to favour a technologically savvy, web-based e-portfolio that includes direct connections to Alberta Education's interim teacher KSAs. These principals confirmed that e-portfolios provide evidence of technological skill, convenient access to up-to-date information, and the ability to quickly search for relevant items (Butler, 2006; Ndoye et al., 2012). Given this preference for e-portfolios, faculties of education may wish to review their level of support for students who struggle to work with this format (Hauge, 2006; Heath, 2005; Pecheone, Pigg, Chung, & Souviney, 2005). Regardless of the format, pre-service teachers should practise supporting their interview

answers with portfolio items and examples. The portfolio should be a source of credible evidence that substantiates positive teaching experience and practices.

This study increases understanding of the specific ways in which Alberta principals view and use portfolios in hiring new teachers. Results provide direction for effective portfolio format, content, organization, and use. This practical information can assist teacher candidates and faculties of education in creating portfolios that attend to the needs and interests of school administrators, increasing the relevance of portfolios for post-graduation employment. A number of specific recommendations are suggested by principals' survey responses:

- Applicants with a paper-based portfolio should prepare a short summary of portfolio highlights to leave with members of the interview panel.
- Applicants with e-portfolios should include a weblink in their letter of introduction to provide principals and district staff with a means of accessing additional information early in the hiring process.
- Applicants should be familiar with school-division priorities and be able to demonstrate knowledge and skills related to these priorities using items from their portfolio—especially when applying to public and urban schools.
- Applicants should note positive practicum evaluations—especially when applying to separate and rural schools.
- Pre-service teachers should be offered workshops that focus on the thoughtful integration of portfolio referencing during interviews, including specific attention to Alberta Education's interim teacher KSAs.
- Pre-service teachers should receive feedback on their portfolio from a hiring perspective to learn what the portfolio communicates about their professional experience and competence.
- Pre-service teachers should concentrate on creating an informative letter of introduction and resumé, include letters of reference and practicum evaluations, and provide evidence of sound classroom management planning and relevant assessment methods.

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