Assessing Doctoral Candidacy: The Development of an Assessment Tool for Comprehensive Portfolios

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Abstract

This article presents an assessment tool for doctoral students preparing their comprehensive portfolio. This tool was created from my firsthand experience in the Joint PhD program in Educational Studies—a collaboration between three universities in Ontario, Canada: Lakehead University, Brock University, and the University of Windsor. Following the three criteria for evaluation of the comprehensive portfolio in the program handbook, I developed nine sub-criteria (three for each criterion). This assessment tool can be used for educational purposes, as doctoral students begin to organize and narrate their doctoral journey. Students can map their experiences to the sub-criteria developed, allowing them to be explicit about how their presented scholarly tasks have helped in preparing them for candidacy. While this tool has an obvious application for students within the Joint PhD program, students in other programs with similar requirements may also find it useful due to its theoretical grounding in literature on the process of scholarship.

Keywords: doctoral studies, comprehensive examinations/portfolios, assessment, candidacy

Résumé

Cet article présente un outil d'évaluation destiné aux étudiants de doctorat qui préparent leur portfolio. Cet outil a été créé à partir de mon expérience personnelle dans le programme conjoint de doctorat en pédagogie — une collaboration entre trois universités en Ontario, au Canada : l'Université Lakehead, l'Université de Brock et l'Université de Windsor. En suivant les trois critères d'évaluation d'un portfolio que contient le manuel du programme, j'ai développé neuf sous-critères (trois pour chaque critère). Cet outil d'évaluation peut être utilisé à des fins pédagogiques alors que les doctorants commencent à organiser leur parcours doctoral. Les étudiants peuvent suivre les neuf sous-critères développés, ce qui leur permettra d'expliciter la façon dont les tâches universitaires présentées les ont aidés à se préparer à leur candidature au doctorat. Bien que cet outil ait une application évidente pour les étudiants du programme de doctorat conjoint, les étudiants d'autres programmes ayant des exigences semblables peuvent également le trouver utile en raison de son ancrage théorique dans la littérature au sujet du processus de recherche.

Mots-clés: études doctorales, évaluations globales, portfolio du doctorant, analyse, candidature

Acknowledgements

Introduction

An important milestone for many doctoral students is the successful completion of a comprehensive examination (sometimes referred to as a candidacy examination, or colloquially referred to simply as "comps"). Comprehensive exams are often inclusive of a broad range of content in one's field of study (FoS) and can be daunting for students (Bayley et al., 2012; Loughead, 1997). In many doctoral programs, the successful completion of a comprehensive exam or portfolio acts as a bridge between the coursework component and the dissertation research project. Comprehensive portfolios have become an increasingly popular alternative to traditional examinations (Wasley, 2008). This practice has been especially popular "in disciplines where self-reflection is important" (Weir et al., 2017, p. 4). Some programs have moved from a comprehensive exam to a portfolio because this method of assessment better aligns with the philosophical underpinnings of their discipline (Cobia et al., 2005; Fiedler & Baumbach, 2005). For example, many faculties of education value constructivism, therefore it stands to reason that a portfolio provides a greater opportunity for students to reflect and make meaning of their learning experiences within doctoral programs.
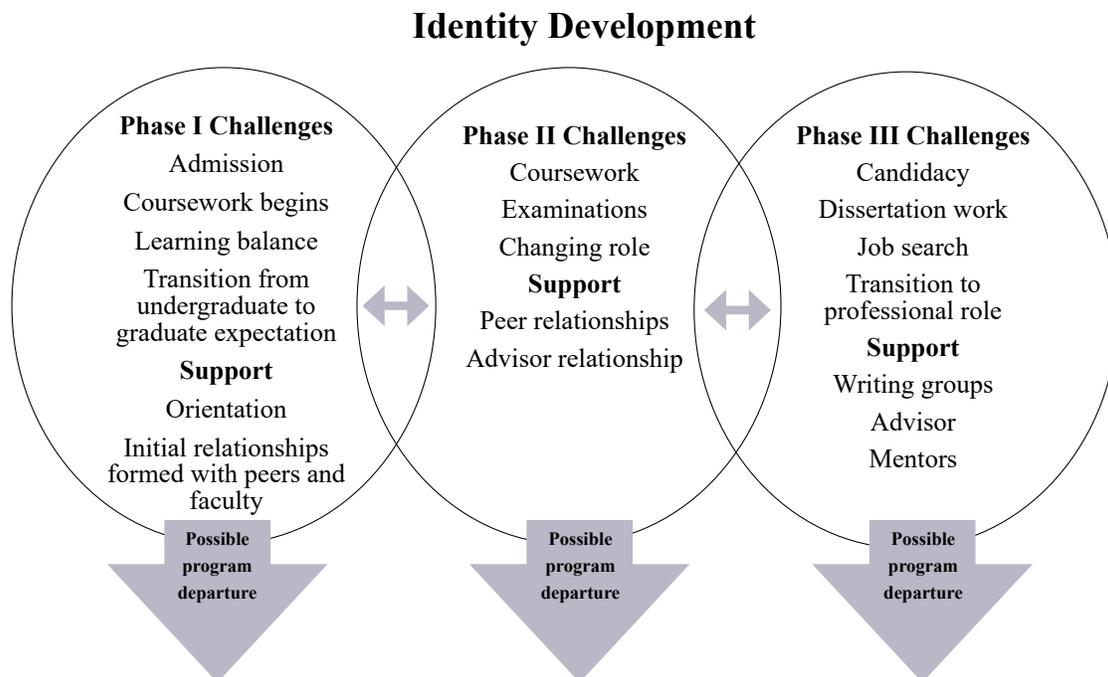
Theoretical Framework: Gardner's Theory of Doctoral Student Development

To better understand the significance of the comprehensive examination or portfolio, it is useful to consider how this milestone fits into the doctoral journey more broadly. Gardner (2009) developed a conceptual framework that describes the development of doctoral students (see Figure 1). Gardner (2009) explained that, as students progress through their program of study, they develop personally, professionally, and interpersonally. She described three distinct phases of the doctoral journey: (1) Entry, (2) Integration, and (3) Candidacy. The Entry phase begins before admission into the doctoral program and ends once coursework commences. It is during this phase when students are oriented to their new program. The Integration phase includes the bulk of a student's coursework and typically culminates with a comprehensive examination or portfolio. It is during the Integration phase when a student becomes immersed in their field of study. Finally, the Candidacy phase is when students complete their doctoral dissertation. This final phase is

when students transform into scholars, with the doctoral defense signalling entrance into the academy. These phases are meant to be free flowing because students may experience different elements throughout their journey. For example, I experienced two distinct Entry phases. In the Joint PhD program in Educational Studies there are two doctoral seminar courses in first and second year at alternating universities. These doctoral seminar courses (i.e., DSI and DSII) both had elements of the Entry phase (e.g., orientation, moving to a new campus/region, developing new relationships with faculty and students, etc.). At the same time, the doctoral seminars are also part of the Integration phase, as they represent an important aspect of the coursework in this program. Ultimately, successful students move through all three phases. Each phase, Gardner (2009) argues, is characterized by challenge and support. Challenges can result in students prematurely exiting their program, whereas supports can assist students' growth and development.

Figure 1

Doctoral Development Framework

Identity Development

Phase I Challenges
Admission
Coursework begins
Learning balance
Transition from undergraduate to graduate expectation
Support
Orientation
Initial relationships formed with peers and faculty
Possible program departure

Phase II Challenges
Coursework
Examinations
Changing role
Support
Peer relationships
Advisor relationship
Possible program departure

Phase III Challenges
Candidacy
Dissertation work
Job search
Transition to professional role
Support
Writing groups
Advisor
Mentors
Possible program departure

Source: Reproduced with permission; Gardner, 2009, p. 8

Within the doctoral journey there are important milestones. For example, the beginning of coursework marks the end of the Entry phase and the start of the Integration phase. Similarly, the comprehensive examination or portfolio is often the threshold between the Integration and Candidacy phase. While Gardner (2009) does not explicitly reference comprehensive portfolios, she points out important features of comprehensive exams which are also true of comprehensive portfolios (e.g., high levels of doctoral student anxiety, threshold to Candidacy phase, etc.). Gardner (2009) explains,

> After passing the candidacy examination, the student becomes a doctoral candidate and progresses into the final phase of his or her program and development in the doctoral program. Phase III, also known as Candidacy, is the time during which the doctoral candidate begins to produce original research in the form of the dissertation. (p. 77)

Some students may view "comps" as a crude rite of passage. The comprehensive examination, however, does serve an important purpose. At least in part, the purpose of candidacy exams is to assess whether or not doctoral students are ready (i.e., possess the knowledge and skills) to formulate and execute a dissertation research project. To that end, portfolios can be an excellent alternative to a traditional exam because they place the onus on the student to show how their experiences have prepared them for the next phase of the doctoral journey. Additionally, a comprehensive portfolio provides a more authentic assessment because students are asked to showcase scholarly tasks, which better mimic the experience of the doctoral dissertation and academia more generally.

Portfolio Assessment Tool

While doctoral programs provide guidelines to students on the comprehensive portfolio, there is often quite a bit of flexibility in how students meet the program learning outcomes. Flexibility can be beneficial but can also result in inconsistent expectations from one committee to the next (Weir et al., 2017). For example, there is often no set number of artifacts one must include in their portfolio. Key questions that PhD students and their committee members ought to address are: What essential knowledge and skills are necessary for a PhD candidate to possess? How might a PhD student organize their experiences to showcase that they have learned this essential knowledge and these skills? What arti-

facts or scholarly tasks can a student utilize to demonstrate their readiness to undertake a dissertation research project? As part of my doctoral journey, I created an assessment tool based upon the expectations outlined in the student handbook for the Joint PhD program in Educational Studies (Joint Ph.D. Educational Studies Program, 2020). This program includes three of Ontario's universities (Brock University, Lakehead University, and University of Windsor). This article describes this tool in detail and offers some potential uses for students and faculty in the Joint PhD program and beyond.

One common element within comprehensive portfolios is the presentation of scholarly tasks. These artifacts are indented to showcase that the student possesses the necessary knowledge and skills to undertake the dissertation research project. Scholarly tasks can take a variety of forms. Weir and colleagues (2017) explain that "The student includes exhibits such as published work, term papers, grant proposals, literature reviews, agency reports, etc. that show how the student is achieving the program objective" (p. 4). Students are also usually required to provide a narrative of their learning experience and a rationale of how these experiences have prepared them for candidacy. Careful consideration should be given to the knowledge and skills that are needed, but sometimes little guidance is provided in this regard beyond the program outcomes. When developing my comprehensive portfolio for the Joint PhD program in Educational Studies, I examined the three evaluation criteria/outcomes that are outlined in the program handbook (Joint Ph.D. Educational Studies Program, 2020, p. 25):

1. Deep understanding of FoS as it relates to dissertation topic,
2. Knowledge of current literature and methods in FoS as it relates to dissertation topic, and
3. Ability to analyze, synthesize, and critique research in FoS as it relates to dissertation topic.

After reviewing these three outcomes, I considered how I might showcase my proficiency with each criterion. Together with my advisor, I developed nine sub-criteria (three for each outcome) that I believe capture the knowledge and skills necessary for entrance into the Candidacy phase of the doctoral journey. I developed a check brick (see Table 1) to map out each scholarly task to the sub-criteria. Some scholarly tasks provide students with experience in only one or two of the sub-criteria, whereas others encompass all nine (i.e., capstone tasks). An example of a capstone task might be a peer-reviewed journal article, since it would likely encompass all of the stages of research captured in

the sub-criteria listed. As a minimum standard, students should address each of the sub-criteria prior to defending or submitting their comprehensive portfolio. Additionally, some criteria may be satisfied with multiple artifacts/scholarly tasks. The sub-criteria build off one another and represent different stages of the research process. It is important that doctoral students can develop alignment in the research process. For instance, how the research question is formulated will directly impact the entirety of the project (e.g., theoretical framework, methodology, etc.). For example, if a student asks the research question, "What is the relationship between X and Y?" this would lend itself to more of a post-positivist lens, where a quantitative (correlational or experimental) design might be appropriate. Alternatively, if a student asks, "What are the lived experiences of people who have experienced X and Y?" then the alignment would shift. Such a question would align with more of an interpretivist or social constructivist lens. As such, a qualitative design may be in order (e.g., a narrative inquiry or phenomenology). Next, I will describe each of the nine sub-criteria in more detail. At the end of each description I will provide examples of scholarly tasks that could potentially satisfy that particular sub-criterion.

The nine sub-criteria include:

   i.   Critically identifies a research phenomenon,

  ii.   Considers positionality,

 iii.   Considers theoretical frameworks,

  iv.   Synthesizes relevant literature and identifies gaps,

   v.   Employs a sound research design,

  vi.   Considers ethics throughout the research process,

 vii.   Utilizes the appropriate tools and/or techniques for data analyses,

viii.   Makes recommendations based on data, and

  ix.   Draws conclusions and attempts to mobilize/disseminate findings.

Table 1

Comprehensive Portfolio Assessment Tool/Check Brick

Evaluation Criteria	Scholarly Tasks				
	1	2	3	4	5
1. Deep understanding of FoS as it relates to dissertation topic					
i) Critically identifies a research phenomenon					
ii) Considers positionality					
iii) Considers theoretical frameworks					
2. Knowledge of current literature and methods in FoS as it relates to dissertation topic					
iv) Synthesizes relevant literature and identifies gaps					
v) Employs a sound research design					
vi) Considers ethics throughout the research process					
3. Ability to analyze, synthesize, and critique research in FoS as it relates to dissertation topic					
vii) Utilizes the appropriate tools and/or techniques for data analyses					
viii) Makes recommendations based on the data					
ix) Draws conclusions and attempts to mobilize/disseminate findings					
List of Scholarly Tasks: 1. 2. 3. 4. 5.					

Note. The template above includes five columns but can be adapted for more or fewer scholarly tasks.

Critically identifies a research phenomenon. Articulating a clear and concise understanding of a research phenomenon is fundamental to the doctoral dissertation research project (Jacobs, 2013). PhD candidates should be able to discern the difference between a question and a researchable question. Making this distinction marks a change in the thinking of a student, as they learn to view the world as a researcher. Researchers need to avoid common logical fallacies (e.g., confirmation bias). It is for this reason that scholars have pointed out the importance of attempting to disprove one's ideas rather than

seeking to verify them (Gefen, 2019; Popper, 1959). Ideas for research can come from a variety of sources (e.g., literature reviews, lived experiences, discussions, etc.; Jacobs, 2013; Meadows, 2003). Eventually, research ideas need to be carefully crafted into research questions and/or hypotheses (Meadows, 2003). The ability to develop a strong research question can impact the entire research process and shape the purpose of one's study. Once a PhD student can identify potential research phenomena, he or she will have the skills necessary to begin conceptualizing his or her dissertation research project. An example of a scholarly task that would showcase this sub-criterion would be a research proposal (e.g., for a course paper).

Considers positionality. This sub-criterion addresses the importance of acknowledging that one's lived experiences and philosophical assumptions will impact all aspects of the research process, from design to dissemination. The PhD journey, in many ways, is one of self-discovery. Gardner (2009) explains that "the process of transformation that occurs in doctoral education influences much more than one's professional preparation; it also entails the development of the whole self." (p. 7). As a result, by the time doctoral students reach the comprehensive portfolio stage, they should have a better understanding of themselves across time and how their experiences (particularly their doctoral studies thus far) has influenced them as a budding scholar. Additionally, by this point in their journey, students should have a better grasp of the philosophical assumptions that underpin their research inquiries. Acknowledging one's positionality can enhance the overall quality of a research project. Takacs (2003) suggests that positionality is central to understanding ways of knowing. Creswell (2013) provides an introduction to philosophical assumptions (i.e., ontology, epistemology, axiology, and methodology) and interpretive frameworks (e.g., post-positivism, social constructivism, post-modernism, etc.). Developing an understanding of one's worldview as it relates to one's research is a challenging, but necessary, aspect of doctoral studies. An example of a scholarly task that may showcase this sub-criterion would be a self-reflection on one's worldview, as it relates to ontology, epistemology, axiology, methodology, and theoretical frameworks. Doctoral students may want to take this one step further and attempt to develop a positionality statement, as it relates to their dissertation interests.

Considers theoretical frameworks. In order for doctoral students to develop a deep understanding of their FoS, it is essential for them to critically appraise different theories that are central to their research interests. Seminal works and key texts need to be consulted. Critical appraisal is necessary because often students will encounter competing

theories within the same FoS. Utilizing theoretical frameworks brings credibility to research projects and allows researchers to operationalize their key terms clearly. Bouma and colleagues (2012) point out that the "review of theoretical approaches will help you identify important factors to consider in your study. Similarly, it may give you clues about an appropriate research design" (p. 31). An example of a scholarly task might be a course paper on a concept that is central to one's proposed dissertation. For example, when I completed my coursework, I developed a paper on the theories of attitude. Ultimately this was useful when considering how to operationalize attitude for my dissertation study, for which I examined students' attitudes toward disability (Freer, 2020).

      Synthesize relevant literature and identify gaps. Doctoral students need to become immersed in the contemporary scholarship of their FoS by conducting literature reviews. Understanding what has been done by others is necessary for gap spotting and problematizing one's own research question(s) (Sandberg & Alvesson, 2011). Gaps can be conceptual or methodological, and addressing them can help to contribute to one's FoS in a meaningful way. Unfortunately, many students are not explicitly taught how to review the literature as a part of their graduate studies training, and as a result many do so haphazardly (Boote & Beile, 2005). Just like the dissertation research project, one's literature review ought to have a well thought out method (Evans & Kowanko, 2000; Randolph, 2009). Systematic reviews, meta-analyses, and scoping reviews offer rigorous methods for reviewing the literature in one's field of research. For example, Liberati and colleagues (2009) have developed the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses), which includes a useful checklist with step-by-step instructions for conducting a literature review and a flow diagram for reporting. Reviewing the literature in a rigorous way can enhance a doctoral student's understanding of the strengths and weaknesses in the field of research that he or she will seek to contribute to with his or her dissertation. An obvious example of a scholarly task that would meet this sub-criterion is an extended literature review. It can be worthwhile to write a literature review for the comprehensive portfolio and then update it for the dissertation proposal defense. It has been pointed out that developing a literature review (in a rigorous manner) is an important task for doctoral students to undertake prior to engaging with their dissertation (Boote & Beile, 2005).

      Employs a sound research design. As discussed, developing a worldview plays an important role in one's approach to research. For example, qualitative research aligns

nicely with social constructivism because interpretivists hold an ontological belief that each individual's perspective constitutes a distinct reality (Thanh & Thanh, 2015). Post-positivists, on the other hand, align more with quantitative research designs, although not exclusively (Clark, 1998). The same is true of pragmatists and mixed methods (Johnson & Onwuegbuzie, 2004). Once doctoral students have conceptualized their research question(s), they need to showcase their readiness to employ a sound research design that addresses their question(s). First, one might consider if he or she wishes to collect quantitative and/or qualitative data. Beyond these broad categories there are several methods in qualitative, quantitative, and mixed method research. For example, Creswell (2013) describes five major qualitative methods (i.e., narrative inquiry, phenomenology, grounded theory, case study, and ethnography). Developing a sound research design requires a rigorous methodology. Doctoral students ought to familiarize themselves with multiple methods and dive deeply into those they intend to utilize for their dissertation research project. A scholarly task that might showcase experience with this sub-criterion might be a grant application, as it is often a requirement to discuss your research methods concisely.

Considers ethics throughout the research process. The Tri-Council Policy Statement (Canadian Institutes of Health Research, Natural Sciences and Engineering Research Council of Canada, and Social Sciences and Humanities Research Council, 2018) lists three core principles to help guide ethical research in Canada: (1) justice, (2) concern for welfare, and (3) respect for persons. Doctoral students need to develop a strong moral compass to help safeguard their participants from any potential harm that may arise as a result of their proposed dissertation research project. Navigating a Research Ethics Board (REB) or an Institutional Review Board (IRB) application can be challenging. Graduate students have reported a desire for further supervision with regards to responsible conduct of research and students often avoid proposing studies beyond minimal risk, which results in fewer methodologically complex studies (e.g., intervention studies; Fisher et al., 2009).

Education is an eclectic discipline. Education scholars use a variety of methodologies and recruit participants with varying degrees of vulnerability (e.g., teachers, students, etc.). Therefore, the scope of research ethics within education is broad. While there are some similarities, quantitative and qualitative researchers often have different ethical considerations (Brooks et al., 2014; McAreavey & Muir, 2011). Regardless of one's chosen method, a doctoral student needs to be able to anticipate potential benefits and risks

of their proposed research, consider strategies for mitigating risks, and be able to respond effectively and efficiently to ethical dilemmas that may arise throughout the research process. Doctoral students should get practice with research ethics prior to their dissertation research project. Students can do this by completing a REB application with their advisor, participating in training on research ethics (e.g., the free Course on Research Ethics [CORE] provided by the Tri-Council), serving on an REB as a student representative, or through involvement with research that includes human (or animal) participants. Any of these examples could constitute scholarly tasks and/or artifacts for this sub-criterion.

Utilizes the appropriate tools and/or techniques for data analyses. Nested within one's chosen methodology for a given research project are tools and techniques for data analyses. A doctoral candidate needs to be able to select tools and techniques that are appropriate, while taking into consideration other elements of their research project as discussed (e.g., worldview, research question, ethics, etc.). Exposure and practice with different tools and techniques are essential. When a doctoral student becomes a candidate, they will be expected to rationalize their methodological choices, which requires a broad understanding of the different tools and techniques available. There are a plethora of tools and techniques that researchers have at their disposal for data analyses. For example, a qualitative researcher may choose to conduct interviews or focus groups. After transcribing their data, he/she will need to decide how to analyze their data. Inductive analysis is a common technique used to develop themes from the participants' perspectives (Braun & Clarke, 2006). A researcher may choose to code the transcripts by hand or with the help of software (e.g., NVivo). A quantitative researcher, on the other hand, might use Statistical Package for the Social Sciences (SPSS) to analyze their data. Within SPSS, researchers can analyze correlations, compare groups with t-tests or ANOVAs, etc. For more advanced statistics (e.g., structural equation modelling), students may need to be trained on AMOS (Analysis of Structure Moments) or a similar software. Selecting the proper tools and techniques for data analyses is an important element of the dissertation research project. It is highly recommended that students get involved in research during the Integration phase of their program to gain this exposure. For example, gaining experience as a research assistant or volunteering in a research lab may be valuable. A scholarly task or artifact for this sub-criterion could be from contrived (e.g., using SPSS in a statistics class) or authentic experiences (e.g., analyzing data as part of lab or research team).

Makes recommendations based on the data. Research ought to have utility beyond the project itself. Making recommendations based on findings can be useful and is sometimes required by journals when seeking publication. Doctoral candidates need to be able to make meaningful recommendations that address future research, policy, and practice, although not all research projects will be applicable to all three of these areas. Research recommendations offer suggestions to scholars in the FoS. For example, there may be a need for more diverse samples and methods in their field of research. A doctoral student will only be able to do this properly if they have reviewed the literature and understand where the gaps exist in their field of research. Doctoral candidates need to consider how their research can continue to push forward the understanding of their chosen phenomenon. When a study is complete, researchers need to re-examine the body of literature, consider what new contribution their study has made in reference to the existing literature, and what contributions are needed going forward. Policy recommendations suggest jurisdictional or organizational policy changes. These changes may not come to fruition right away, but ideally these suggestions ought to help the policy makers to make evidence-based policy decisions. Finally, the practical recommendations are intended for educators (or other professionals) working in the field. The implementation of evidence-based strategies stands to benefit all stakeholders in education. These recommendations can serve to narrow the theory-practice gap in education and provide calls to action. A scholarly task that might showcase this sub-criterion would be a discussion section of a manuscript or course paper.

Draws conclusions and attempts to mobilize/disseminate finding. Finally, prospective doctoral candidates need to be able to showcase that they can draw conclusions from their work and effectively disseminate this information to others. By necessity, researchers are immersed in their FoS. Those who may not be as well-versed in this topic need to be able to understand the conclusions that can be drawn from the research study quickly and easily. A researcher may need to take a step back and consider their study as a whole. It can be helpful to reflect and summarize the key findings. Once the conclusions are drawn, consideration for how one might get this information to others is in order. Doctoral students should be actively engaged in knowledge mobilization. Without dissemination, one's research has very little utility to anyone. Two high level scholarly tasks that would showcase this sub-criterion would be presenting at conferences (e.g., posters, round tables, research sessions, panels, etc.) and publishing. There are several ways that doctoral students can practise this skill (e.g., guest lectures, social media, blogging, etc.).

Discussion

As more doctoral programs move away from traditional comprehensive examinations and toward comprehensive portfolios, further consideration needs to be given to evaluation criteria. Different programs may have distinctive outcomes/requirements, but ultimately through the comprehensive portfolio, students need to showcase their readiness for the Candidacy phase. A PhD candidate is expected to produce an original doctoral dissertation, which "must make a substantive contribution to scholarship" (Kilbourn, 2006, p. 530). Readiness for such an undertaking should not be taken lightly or determined arbitrarily.

There are different kinds of assessment that students, advisors, and committee members ought to take into consideration. Assessment can be categorized in terms of assessment *as* learning, assessment *for* learning, and assessment *of* learning (Bloxham & Boyd, 2007). Assessment *as* learning encourages students to become actively involved in the assessment of their own learning. This tool provides a great opportunity for doctoral students to self-assess their portfolio. Reviewing the nine sub-criteria could help students to reflect on their experiences and how these have prepared them for the next stage of the doctoral journey. Assessment *for* learning involves providing students with feedback prior to the high-stakes evaluation (e.g., the comprehensive portfolio defence). This includes diagnostic assessment and formative assessment. Diagnostic assessment is completed with the student before the learning process begins, and formative assessment is completed throughout the learning process to build up to final evaluation. As a diagnostic assessment, this check brick tool could be used to see which research experiences doctoral students have already had (e.g., masters or undergraduate thesis). As a formative assessment, advisors can periodically check in with their doctoral students to see how they are progressing. While completing their coursework, students sometimes put off the development of their artifacts/scholarly tasks. Completing this check brick may help students to identify gaps in their readiness for the Candidacy phase. If gaps are identified early in the process, students can begin working on new scholarly tasks that provide them with focused learning experiences (e.g., in a directed study course). Ideally, the students would complete the assessment check brick with their annual report each year until the successful defence of their comprehensive portfolio. Finally, assessment *of* learning, or summative assessment, is a large-scale assignment that determines whether learning outcomes have been met (e.g., the review or defence of the comprehensive portfolio). It is

not recommended that this check brick tool be used explicitly for summative assessment, unless a program decides to adopt it for such purposes. Advisor or committee members might reference it when providing feedback, but ultimately need to assess the outcomes for their given program.

Additionally, when students have completed their comprehensive portfolio, they can also use this assessment tool to map their chosen scholarly tasks to each of the nine sub-criteria. Students may find this helpful as they narrate their experience and showcase their readiness to enter into the Candidacy phase. In addition, a completed check brick can provide a quick summary to those reviewing and assessing their portfolio. Similarly, this assessment tool can be used to organize one's comprehensive portfolio defence presentation.

These nine sub-criteria represent components of the doctoral dissertation. Ideally, doctoral students will be introduced to these different elements of the research process through their coursework. Students need to have opportunities to reflect upon their experiences in reference to the knowledge and skills necessary for the dissertation component of their doctoral studies. With the assessment tool presented here, students can focus on how their learning experiences have provided them with opportunities to engage with each of the nine sub-criteria that have been developed. Within the narrative writeup of their portfolio, students can provide further details about each of their selected scholarly tasks and how these experiences map to the different sub-criteria.

As mentioned earlier, education is an eclectic discipline and therefore doctoral dissertations can take many forms. Different terminologies are sometimes used among scholars depending on their chosen methodology (Shenton, 2004; Tracy, 2010). In addition, students engaging in unconventional or creative dissertation projects (e.g., arts-based research) may want to consider additional evaluation criteria (see for example, Chapter 8 of Barone & Eisner, 2012). Sinner and colleagues (2006) explained that "the integration of the arts blurs the traditional format of dissertations, performatively, textually, and visually, and can productively disrupt the protocols and procedures of the academy" (p. 1254). The intention of this assessment tool is to be inclusive of all types of educational research.

I created this assessment tool based on my interpretation of the evaluation criteria in the Joint PhD program handbook (Joint Ph.D. Educational Studies Program, 2020). I would also like to acknowledge that I am myself a novice researcher and have not advised doctoral students; as such, other important criteria may have been overlooked. Nevertheless,

in my experience I found this tool to be practical. In addition, it has been used by others (e.g., Popovic, 2019) and there is some anecdotal evidence for its utility.

Conclusion

In this article, I presented a new assessment check brick for comprehensive portfolios. This tool can be used to help students reflect upon and organize their learning experiences within their doctoral studies. The assessment tool presents nine sub-criteria that are essential for any student who wishes to pursue a doctoral dissertation. While this tool was created from the three evaluation criteria presented in the Joint PhD in Educational Studies program handbook, doctoral students in other programs with similar requirements may also find this tool useful.

References

Barone, T., & Eisner, E. W. (2012). *Arts based research*. SAGE.

Bayley, J. G., Ellis, J. B., Abreu-Ellis, C. R., & O'Reilly, E. K. (2012). Rocky road or clear sailing? Recent graduates' recollection and reflections of the doctoral journey. *Brock Education Journal, 21*(2), 88–102. https://doi.org/10.26522/brocked.v21I2.279

Bloxham, S., & Boyd, P. (2007). *Developing effective assessment in higher education: A practical guide.* McGraw-Hill.

Boote, D. N., & Beile, P. (2005). Scholars before researchers: On the centrality of the dissertation literature review in research preparation. *Educational Research, 34*(6), 3–15. https://doi.org/10.3102/0013189X034006003

Bouma, G. D., Ling, R., & Wilkinson, L. (2012). *The research process* (2nd ed.). Oxford University Press.

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, *3*(2), 77–101. https://doi.org/10.1191/1478088706qp063oa

Brooks, R., te Riele, K., & Maguire, M. (2014). *Ethics and education research.* SAGE.

Canadian Institutes of Health Research, Natural Sciences and Engineering Research Council of Canada, & Social Sciences and Humanities Research Council. (2018). *Tri-council policy statement: Ethical conduct for research involving humans*.

Clark, A. M. (1998). The qualitative-quantitative debate: Moving from positivism and conformation to post-positivism and reconciliation. *Journal of Advanced Nursing, 27*(6), 1242–1249. https://doi.org/10.1046/j.1365-2648.1998.00651.x

Cobia, D. C., Carney, J. S., Buckhalt, J. A., Middleton, R. A., Shannon, D. M., Trippany, R., & Kunkel, E. (2005). The doctoral portfolio: Centerpiece of a comprehensive system of evaluation. *Counselor Education and Supervision, 44*(4), 242–254.

Creswell, J. W. (2013). *Qualitative inquiry and research design: Choosing among five approaches* (3rd ed.). SAGE.

Evans, D., & Kowanko, I. (2000). Literature reviews: Evolution of a research methodology. *The Australian Journal of Advanced Nursing: A Quarterly Publication of the Royal Australian Nursing Federation, 18*(2), 33–38.

Freer, J. (2020). Students' attitudes toward disability: A tripartite intervention [Doctoral dissertation, University of Windsor]. Scholarship at UWindsor Open Access. https://scholar.uwindsor.ca/etd/8360

Fiedler, R., & Baumbach, D. (2005). Portfolio as a comprehensive exam: Instigating change. In C. Crawford, R. Carlsen, I. Gibson, K. McFerrin, J. Price, R. Weber, & D. Willis (Eds.), *Proceedings of SITE 2005--Society for Information Technology & Teacher Education international conference* (pp. 26–33). Association for the Advancement of Computing in Education. https://www.learntechlib.org/primary/p/18942/

Fisher, C. B., Fried, A. L., & Feldman, L. G. (2009). Graduate socialization in the responsible conduct of research: A national survey on the research ethics training experiences of psychology doctoral students. *Ethics & Behaviour, 19*(6), 496–518. https://doi.org/10.1080/10508420903275283

Gardner, S. K. (2009). The development of doctoral students: Phases of challenge and support. *ASHE Higher Education Report, 34*(6), 1–127.

Gefen, D. (2019). The philosopher's corner: A post-positivist answering back. Part 1: Good for you, Karl Popper! *The Database for Advances in Information Systems, 5*(2), 9–17. https://doi.org/10.1145/3330472.3330475

Jacobs, R. L. (2013). Developing a dissertation research problem: A guide for doctoral students in human resource development and adult education. *New Horizons in Adult Education & Human Resource Development, 25*(3), 103–117. https://doi.org/10.1002/nha3.20034

Johnson, R. B., & Onwuegbuzie, A. J. (2004). Mixed methods research: A research paradigm whose time has come. *Educational Researcher, 33*(7), 14–26. https://doi.org/10.3102/0013189X033007014

Joint Ph.D. Educational Studies Program. (2020). *Joint Ph.D. program handbook.* https://jointphd-ed.lakeheadu.ca/wp-content/uploads/2020/05/JointPhD-2020-Handbook_final-1.pdf

Kilbourn, B. (2006). The qualitative doctoral dissertation proposal. *Teachers College Record, 108*(4), 529–576.

Liberati, A., Altman, D. G., Tetzlaff, J., Mulrows, C., Gøtzsche, P. C., Ioannidis, J. P. A., Clarke, M., Devereaux, P. J., Kleijnen, J., & Moher, D. (2009). The PRISMA statement for reporting systematic reviews and meta-analyses of studies that evaluate health care interventions: Explanation and elaboration. *PLoS Medicine, 6*(7), 1–28. https://doi.org/10.1016/j.jclinepi.2009.06.006

Loughead, T. O. (1997). The doctoral comprehensive examination: Fine-tuning the process. *Counselor Education and Supervision, 37*(2), 140–148. https://doi.org/10.1002/j.1556-6978.1997.tb00539.x

McAreavey, R., & Muir, J. (2011). Research ethics committees: Values and power in higher education. *International Journal of Social Research Methodology, 14*(5), 391–405. https://doi.org/10.1080/13645579.2011.565635

Meadows, K. A. (2003). So you want to do research? 2: Developing the research question. *British Journal of Community Nursing, 8*(9), 397–403. https://doi.org/10.12968/bjcn.2003.8.9.11572

Popovic, S. (2019). *Teaching, service and research: The role of social networks in scholarly identity development* [Unpublished doctoral comprehensive portfolio]. University of Windsor, Ontario, Canada.

Popper, K. (1959). *The logic of scientific discovery*. Hutchinson

Randolph, J. J. (2009). A guide to writing the dissertation literature review. *Practical Assessment, Research & Evaluation, 14*(13), 1–13. https://pareonline.net/getvn.asp?v=14&n=13

Sandberg, J., & Alvesson, M. (2011). Ways of constructing research questions: Gap-spotting or problematization? *Organization, 18*(1), 23–44.

Shenton, A. K. (2004). *S*trategies for ensuring trustworthiness in qualitative research projects. *Education for Information, 22*(2), 63–75.

Sinner, A., Leggo, C. Irwin, R. L., Gouzouasis, P., & Grauer, K. (2006). Arts-based educational research dissertations: Reviewing the practices of new scholars. *Canadian Journal of Education, 29*(4), 1223–1270. https://doi.org/10.2307/20054216

Takacs, D. (2003). How does your positionality bias your epistemology? *Thought & Action, 19*(1), 27–38.

Thanh, N. C., & Thanh, T. T. (2015). The interconnection between interpretivist paradigm and qualitative methods in education. *American Journal of Educational Science, 1*(2), 24–27. https://pdfs.semanticscholar.org/79e6/888e672cf2acf8afe2ec21fd42a29b2cbd90.pdf

Tracy, S. J. (2010). Qualitative quality: Eight "big tent" criteria for excellence in qualitative research. *Qualitative Inquiry, 16*(10), 837–851. https://doi.org/10.1177/1077800410383121

Wasley, P. (2008, July 11). Portfolios are replacing qualifying exams as a step on the road to dissertations. *The Chronicle of Higher Education.* https://www.chronicle.com/article/portfolios-are-replacing-qualifying-exams-as-a-step-on-the-road-to-dissertations/

Weir, P., Thompson, M., Markey, S., Wagner, D., Nalbantoglu, J., Crump, A., & Ryoo, A. (2017). *Re-imagining PhD: Doctoral comprehensive exam* [Consultation document]. Canadian Association for Graduate Studies.