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Performance, Preference, and Perception in Experiential Learning Assessment

Jay R. Wilson

University of Saskatchewan, jay.wilson@usask.ca

Thomas T. Yates

University of Saskatchewan, tom.yates@usask.ca

Kendra Purton

University of Saskatchewan, kendra.purton@cannorth.com

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Performance, Preference, and Perception in Experiential Learning Assessment

Abstract

A pilot study was conducted to explore student preferences, performance, and perceptions of experiential learning assessment following experiential learning instruction. A learning experience, using semi-directed instruction and experiential learning methods, was given to 13 student volunteers who were then assessed using a case study, presentation, journal, and essay, representing both group and individual assessment. Student performance in terms of their understanding and their engagement was compared to student perceptions and preferences. Student performance indicated that although the journal (individual assessment) appeared to be the best venue for students to express their understanding, they were the least engaged in it. The case study and the presentation (group assessments) were most preferred overall and students also perceived these to be the best forms of assessment in a number of aspects (helpful, beneficial, engaging, challenging, etc.). It is possible that the collaborative nature of the group assessments matched the teaching style suggesting that the mode of assessment should follow a similar format to the learning experience in courses that use experiential learning methods. The essay, as a traditional form of assessment, was valued for its structure, possibly reflecting student familiarity with that type of assessment, but less so overall because it was also an individual exercise. Each assessment method used in the pilot demonstrated value, albeit in different forms and this finding speaks to assessing both authentically and using a mixture of methods.

Une étude pilote a été réalisée afin d'explorer les préférences, la performance et les perceptions des étudiants concernant l'évaluation de l'apprentissage par l'expérience à la suite d'un enseignement par l'expérience. Une expérience d'apprentissage, faisant appel à un enseignement semi-dirigé et à des méthodes d'apprentissage par l'expérience, a été offerte à 13 étudiants bénévoles qui ont ensuite été évalués par le biais d'une étude de cas, d'une présentation, d'un journal et d'un essai, représentant à la fois l'évaluation de groupe et l'évaluation individuelle. La performance des étudiants en ce qui concerne leur compréhension et leur participation a été comparée à leurs perceptions et à leurs préférences. La performance des étudiants indique que bien que le journal (évaluation individuelle) semble être le meilleur moyen pour les étudiants d'exprimer leur compréhension, c'est ce qui les faisait participer le moins. L'étude de cas et les présentations (évaluation de groupe) étaient ce que les étudiants avaient en général préféré et que les étudiants considéraient comme les meilleurs formes d'évaluation, et ce pour plusieurs raisons (utile, bénéfique, engageant, stimulant, etc.). Il est possible que la nature collaborative des évaluations de groupe corresponde au style d'enseignement, ce qui suggère que le moyen employé pour l'évaluation devrait suivre un format semblable à l'expérience d'apprentissage dans les cours où l'on emploie des méthodes d'enseignement par l'expérience. L'essai en tant que forme traditionnelle d'évaluation a été apprécié pour sa structure et parce qu'il pouvait refléter la familiarité des étudiants avec ce type d'évaluation, mais il a été moins apprécié en général du fait qu'il s'agissait d'un exercice individuel. Chaque méthode d'évaluation employée dans cette étude pilote a présenté une certaine valeur, bien que sous différentes formes, et ces résultats indiquent qu'il est utile d'évaluer à la fois de façon authentique et par un mélange de méthodes.

Keywords

experiential learning, experiential assessment, experiential teaching, traditional assessment

Cover Page Footnote

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Experiential learning (EL) is finding a place in more and more post-secondary institutions. EL connects students to contexts that engage them in learning in nontraditional and more authentic ways. According to Dewey (1938), EL is based on the role of experience and reflection in the learning process. Creating an authentic learning environment raises the possibility that the learner will be more engaged and as a result take away a stronger connection to the content than a teacher-centered, non-engaging teaching and learning session. EL teaching provides instructors with an opportunity to be equally engaging in their assessment options. EL as a teaching strategy should include a methodological connection between instruction and assessment types.

Based on a recent survey of faculty at a Canadian university, a range of current EL methods of instruction and assessment were identified (Yates, Wilson, & Purton, 2015). Having identified commonly used methods of assessment in EL courses, it was then important to grasp the connection between EL assessment and how the methods demonstrate student understanding and engagement. It was also important to understand student preferences for, and perceptions of, these assessment methods. Did learners prefer one form of assessment over another? Which methods provided the strongest learning outcomes? How did learners perceive the assessment experience?

To further investigate the connection between method and assessment, a group of volunteer students was engaged in a pilot learning activity to generate learning outcomes and collect their perceptions using four distinct methods of assessment; one of which would be considered traditional and three considered experiential. The outcomes of the assessments were examined by the research team to illuminate the students' grasp of the takeaway message and their engagement in the learning experience. After the learning activity, students completed an online survey to examine their perceptions related to the experience. This paper shares the results of that investigation.

Review of the Relevant Literature

Experiential Learning

Current understanding of EL is based on Dewey (1938) and is later refined by Kolb and Fry (1975) into a cyclic model that includes experience, reflection upon that experience, development of a concept and new strategy, and testing that strategy prior to applying to another experience. Through this process, new knowledge is created out of the transformation of the experience (Kolb & Kolb, 2005). Yates et al. (2015) provide a useful overview of the richness of experiential learning as expressed in the literature. EL is characterized by methods that encourage students to take an active role in their education (Dennehy, Sims, & Collins, 1998) and relies upon communication between instructor and student, and between students (Van Eynde & Spencer, 1988). It is believed that student performance is enhanced because EL promotes deep learning (Breunig, 2005; King, 1993; Nnodim, 1997). In contrast, in a traditional teaching model, learning is seen to be shallow and unidirectional – from instructor to student. Out of the Kolb's EL model numerous EL teaching methods have been developed, for example, experiential education (Bruenig, 2005), service learning (Grossman, Patel, & Drinkwater, 2010), problem-based learning (Bethell & Morgan, 2011), and action learning, inquiry-based learning, and case studies (Quinn & Shurville, 2009).

Experiential Assessment

Most instructors will teach and assess based on traditions in their discipline or their own experience (Quinn & Shurville, 2009) and, as a result, tend to use traditional testing methods in all courses including EL courses. For example, although several studies identify a range of assessment methods in EL courses such as journals, reports, group projects, presentations, self-evaluation, etc., many courses still rely on traditional assessment formats such as tests and quizzes (Breunig, 2005; Garvin & Ramsier, 2003; Rhodes & Roessner, 2009). The persistent use of traditional assessment methods in EL courses may be due to instructor perception of traditional methods, such as written assessment, as being the most effective method for evaluating student learning (Davis 1988). However, an understanding of the impact such a mismatch between teaching method and assessment method may have on student performance, preferences and perception has emerged. Struyven, Dochy, and Janssens (2005) noted that students developed perceptions of the appropriateness of an assessment method based on the match between the learning experience and the assessment linked to that experience, and this result appeared to have an impact on the student approach to learning. Assessment methods that were considered by students to be appropriate to how they were instructed appeared to encourage a shallow approach to learning.

To explore this idea further, Struyven, Dochy, Janssens, Schelfhou, and Gielen (2006) and Struyven, Dochy, and Janssens (2008a) gauged student performance, perceptions, and preferences within the contexts of the traditional lecture, and EL (referred to by the authors as activated learning). Though comparing multiple choice, case-based, peer/co-assessment, and portfolio assessment, they found that students performed best under a lecture/multiple choice format. However, the authors also considered teaching quality to be a factor leading the authors to conclude that with any method, success is dependent upon how well or poorly it is applied.

Struyven, Dochy, Janssens, and Gielen (2008b) looked more directly at the teaching mode and found that students preferred the lecture format for its higher structure and individual work component. Students considered the activated format to require more work and time for what they perceived to be less learning. However, they did prefer the actual nature of the student activated assignments and the collaboration related to the learning experience. The authors concluded that for students to perceive the learning environment positively, a mix of both lecture and activated teaching styles is needed. Overall, the results of their work suggest that students are in support of experiential learning, but prefer traditional assessment even though they also view the mismatch between learning and assessment as inappropriate.

Clearly, more work is needed to understand the link between teaching mode and assessment in EL courses. Instructors need to have trust in the learning value considering the higher resource investment compared to traditional classroom lectures.

Research Context

The host university in this study offers programs that have an EL focus making it well-positioned to develop an institutional level program for delivery of EL. However, less developed is the state of assessment in EL courses. Yates et al. (2015) reported on the results of a campus-wide survey of instructors identified as employing experiential learning methodology in their courses. The results indicated that four assessment methods were most commonly used: case study, presentations, journal, and essay. The first three methods are classified in the literature as experiential assessment methods; journal assessment (Breunig, 2005; O'Toole, 2007), case study

(Struyven et al., 2005, 2008a; Struyven et al., 2008), and presentation (Breunig, 2005; Struyven et al., 2005). The essay is classified as a traditional assessment method (Struyven et al., 2005, 2008a; van de Watering, 2008). Based on these findings, further investigation was pursued by means of a pilot study to gauge student preference, perception, and performance of these four assessment methods in an experiential teaching and learning experience. To address this issue, we sought answers to the following questions:

1. How do the selected forms of assessment differ in terms of demonstrating student understanding and how does student understanding align with student engagement?
2. Of the selected forms of assessment, which method is most preferred by students?
3. How does the student perceive the selected forms of assessment in terms of learning?

Method

Pilot Study

The specific objectives of this research were to conduct a pilot study to examine student preferences of assessment methods used in University EL courses and to inform the broader educational community of perceived effectiveness of the assessment methods studied. The results of this pilot study will inform further research intended to support institutional efforts to scale up experiential EL assessment.

The sample size of a pilot study is typically small (Akinde, 2015; Bohlscheid & Davis, 2012; Morris & Scott, 2014) and the effect size is small. However, a pilot study can supply reliable estimates to inform the design of a more extensive study, but it is essential to recognize that conclusions from pilot studies must remain limited to the context of the study itself (Fraenkel & Wallen, 1993). Although recommended, hypothesis testing and a control group are not necessary for a pilot study (Figueirido & Mayo, 2015).

In educational research, pilot studies have been used to explore research questions at a single institutional level to develop recommendations for implementation of programs or further research across multiple institutions (Soffer & Cohen, 2015; Tarc & Beatty, 2012). Pilot studies also have been used to explore curricular design (Drake & Walcerz, 2004; Taylor, 2011) and the design or impact of assessment (Reddy, 2011). Based on the frequent use of the pilot study as a means to explore ideas and inform more advanced educational research, it is an appropriate method on which to base this investigation.

Experiential Assessment Pilot Methodology

To address the research questions, it was decided to deliver a classroom experience to a group of 13 volunteer students. This group represented a range of university experience including pre-university, mid-program undergraduates, recent graduates, and Master's program students. The students were recruited through general email and a posted notice at the host institution. Interested students were asked to inform the co-investigators via email. The potential participants were then sent a more detailed invitation to participate and to confirm their participation. Both the classroom session and subsequent survey of the student experience were part of a more extensive study that was approved on ethical grounds by the research ethics board at the researcher's university on March 25th, 2013.

The classroom experience lasted 50 minutes, consistent with a typical undergraduate instructional period and it consisted of two parts. First, 20 minutes of semi-directed instruction (Roblyer, Edwards, & Havriluk, 1997) consisting of a lecture based on a slide presentation with a purposeful discussion at selected points in the presentation. Second, a 30-minute experiential learning component relevant to the content and concepts in the presentation. The presentation focused on cultural sensitivity and awareness of post-colonialism in the area of curricular design; entitled “Decolonizing Curriculum – Where to Begin?” The presentation was delivered by a faculty member from the Department of Curriculum Studies, College of Education who was not one of the co-investigators of this study. For the experiential learning component, each volunteer student was provided with, and asked to read, a children's book, typical of what might be available in the resource room of a grade school in a First Nations community. The students were asked to identify colonial perspectives in their assigned reading and consider what impact this might have on the education and subsequent acculturation of First Nations students. This topic was chosen because it was unlikely that any of these students would have been exposed to such concepts previously and the base level of their knowledge related to decolonizing was deemed to be equal regardless of their education level. The format of the classroom experience was chosen because it was, for the most part, outside traditional teaching methods. Overall, the learning experience was intended to have four learning outcomes: (a) students could define colonization and decolonization in the context of First Nations, (b) students could explain the concept of curriculum as cultural practice, (c) students could recognize the control curriculum has on cultural legitimacy, and (d) students could recognize the link between colonization/decolonization and curriculum in the First Nations context.

Following the instructional session, the student volunteers were randomly assigned to one of four groups: A, B, C, or D. Based on Yates et al. (2015), four assessment methods: case study, journal, presentation, and essay were administered as structured questions (Appendix A). Of these methods, the journal and the essay were individually completed assessments, whereas the case study and the presentation were group assessments. The essay was a form of traditional assessment, compared to the case study, journal, and presentation which were considered to be experiential (Yates et al., 2015). The specific questions asked by the assessment were designed by the researchers for the context of the learning experience. Groups were rotated through the assessment styles over a one-hour period, including planning and composing the group presentation (15 minutes per assessment type). Following the assessment period, the student groups made their presentations in turn. Upon completion of the presentations, the student volunteers were asked to complete a brief online survey to share their thoughts on the experience and the assessment types utilized. For their efforts, each student received a gift card. All participants completed the assignments and the online survey.

Online Student Survey

Following the simulated classroom experience, an online survey (FluidSurveys, 2013) was conducted on the participants' learning experience regarding the assessment methods. The survey consisted of 19 questions (Samples in Appendix B). Question types included ranking to express preferences, choosing keywords, providing free-form written descriptions, and several in a Likert-scale format. The Likert-scale used was one to five (e.g., strongly agree to strongly disagree) and for this type of question, students were asked to rate each assessment method regarding a specific

criterion. Two additional questions were asked to provide information on participant demographics.

The design of the Likert-scale survey questions was based on Williams and Wong (2009). Other Likert-scale questions which asked participants to choose based on a range of specific criteria were based on Stefani (1992). Zimbicki (2007) provided ideas for the keyword questions that were asked to gauge emotional response to the assessments.

Analysis of Student Assessments

Participant responses to each of the four assessment methods were qualitatively analyzed by the researchers. Qualitative analysis, as described by Fraenkel and Wallen (1993) allowed for the development of hypothesis and formulation of definitions as the study progressed. The qualitative analysis of the student responses was an evaluation of the student's or group's ability to articulate an understanding of the content and concepts of the learning experience, and an evaluation of engagement of that student or group in the learning experience. The qualitative data was assessed by the researchers using a rating (exceptional, excellent, good, satisfactory, and poor) as described in Table 1. Each written response was rated in terms of the student or group understanding of the content or "take-home message" on decolonization and its connection with curriculum to the specific scenario described in the questions. The responses were also rated for student or group engagement in the same manner using the corresponding descriptions (Table 1). These ratings, in particular those for the "take-home message," were developed from the levels of reflection as described by Kember, McKay, Sinclair, and Wong (2008): habitual action/non-reflection, understanding, reflection, and critical reflection. The levels from Kember et al., (2008) were equated with poor, good, excellent, and exceptional. The criteria for understanding was divided between good and satisfactory to create a fifth category. These modifications were to facilitate matching our system to the qualitative ratings in the host institution's grading scheme. Analytical and critical thinking were equated to the terms, reflection and critical reflection, respectively, as used by Kember et al. (2008).

Table 1
Definition of Ratings Used to Assess Student or Group Written Responses¹

Rating	Take Home Description	Engagement
Poor	Descriptive response that is not contextualized in the learning experience.	No evidence that learning experience connected personally in either past experience or future modifications to outlook or behavior.
Satisfactory	Descriptive response partially contextualized in key concepts of colonization/decolonization or postcolonialism and curricular design demonstrating minimal understanding.	Minimal evidence that learning experience connected personally in either past experience or future modifications to outlook or behavior.

Rating	Take Home Description	Engagement
Excellent	Demonstrates analytical thinking by relating key concepts to singular perspective and at a broader cultural level.	Strong evidence of personal connection with material and some evidence of application in terms of modification to future behavior or thought.
Exceptional	Demonstrates critical thinking by discussing multiple perspectives of key concepts and relate these perspectives to a broader cultural context.	Evidence of comprehensive change in thought and of intention to modify future behavior. Indication of developing empathy.

¹Based on levels of reflection by Kember et al. (2008)

Analysis of Online Student Survey

The student Likert scale ratings for each assessment method, per question, were summarized as mean and standard deviation followed by a test for significance using Friedman’s Analysis of Variance (ANOVA: $p < 0.05, 0.01$ or 0.001). If significance was identified, a post-hoc test was performed to identify which types of assessment were significantly different from each other. Finally, as part of the Friedman’s ANOVA, a chi-square statistic was calculated to indicate the degree to which the four assessment methods were similar in students’ minds in regard to each criterion. In this case, the lower the number, the least difference the students viewed the assessment methods from each other in regard to a specific quality.

All statistical analysis was performed in “R” (ver. 3.1.3; R Core Team, 2015). Likert-scale and rank response questions were analyzed with Friedman’s ANOVA using the “R” stats package and package “pgirmess” (Giraudoux, 2015). Questions requiring a categorical response were analyzed by repeated measures logistic regression using package “lme4” (Bates, Maechler, Bolker, & Walker, 2014).

The optional, free-form responses were aggregated under the heading of their respective question. They were then evaluated qualitatively in terms of the additional insight they provided in terms of both the results of the researcher evaluation of the student written responses and the results of the student survey.

Results

Figures 1 and 2 show the results of the qualitative analysis (using the criteria of Table 1) of the student or group written responses on each of the four selected assessment methods. The grasp of the take-home message or the understanding of the content and concepts coming out of the learning experience (student performance) are shown in Figure 1. Student group responses to the presentation assignment were considered to be satisfactory or excellent (75% and 25%, respectively) with no responses rated good or poor. By contrast, student group responses to the case assessment were considered to be mostly poor (50%) with some good (25%) and some excellent (25%). Student responses to the journal and essay assignments were found to be more variable with the journal responses considered to be primarily good to excellent (42% and 25%, respectively), and the responses to the essay assignment were primarily satisfactory (15%) to poor

(39%). Based on these results, the assessment method best suited for expressing student understanding could be placed in order of journal > presentation > essay > case.

Take – home Message

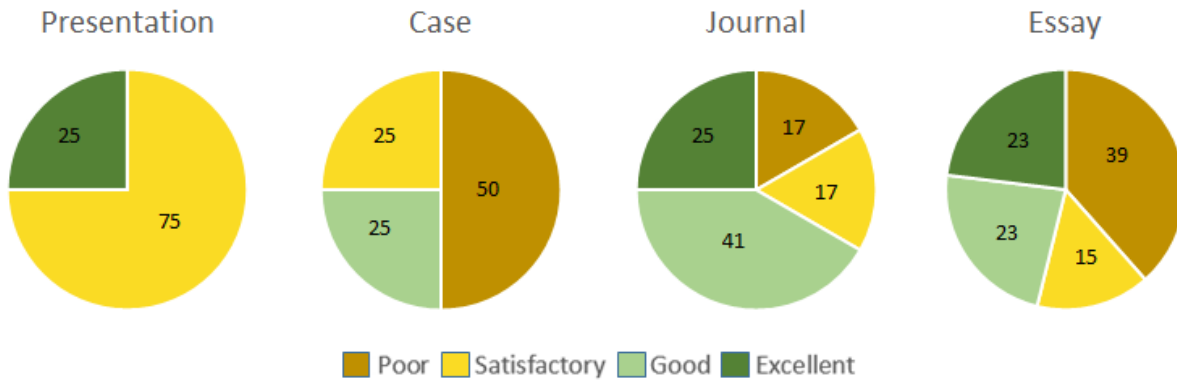


Figure 1. Pie charts according to the aggregated results of the evaluation of student or group written responses demonstrating the student or groups understanding of the take-home-message, for each of the four selected assessment methods: presentation, case, journal, and essay. Evaluation was based on the rating system as described in Table 1. For each assessment method, the pie shows the proportion of times each rating was assigned a student or group response out of 100% of the total number of ratings. Numbers shown are % value of that portion.

Figure 2 shows the evaluation of student or group responses in terms of how they demonstrated engagement in the learning experience. Student engagement as demonstrated by the presentations developed by each group appears to be good (50%) and excellent (25%) along with evidence of poor engagement (25%). Engagement in regard to the journal assignment appears to be primarily poor (69%). Similar to the take-home message, the responses to the case study demonstrated primarily poor engagement (50%) with some good to excellent (25% each). Finally, the engagement demonstrated by the essay ranged more widely with 46% rated as excellent, 8% as good, 15% as satisfactory, and 31% as poor. In terms of expressing student engagement, the assessment methods would rank, best to worst: presentation > essay > case > journal.

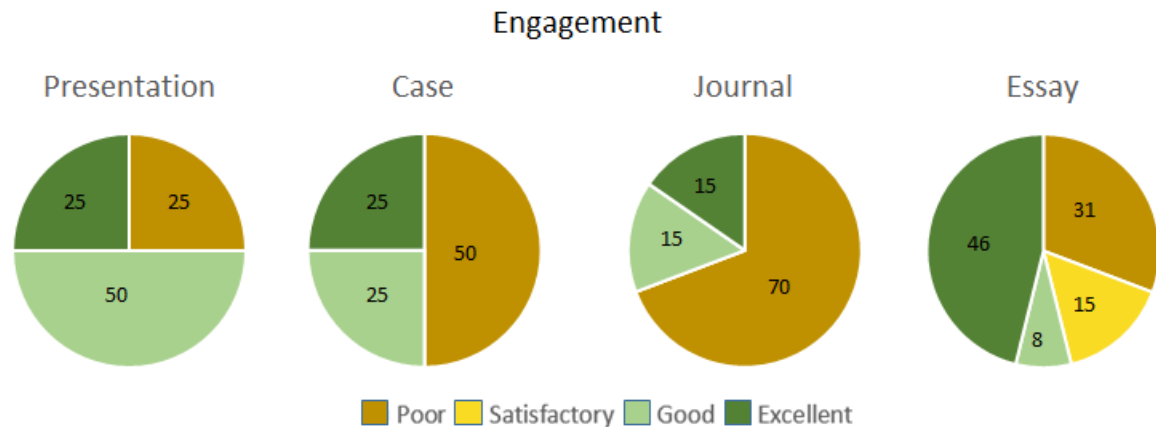


Figure 2. Pie charts according to the aggregated results of the evaluation of student or group written responses demonstrating the student or groups engagement in the learning experience, for each of the four selected assessment methods: presentation, case, journal, and essay. Evaluation was based on the rating system as described in Table 1. For each assessment method, the pie shows the proportion of times each rating was assigned a student or group response out of 100% of the total number of ratings. Number shown is % value of that portion.

Overall, the single assessment method that appears to demonstrate both student understanding and engagement most successfully was the presentation assignment. The journal assignment demonstrates the best in terms of student understanding, but the least in terms of student engagement, whereas the presentation was second in understanding and first in engagement. The case assessment reflects equally in terms of student understanding and engagement, but in both cases, 50% of the respective responses were poorly rated. The essay was rated widely in both cases with it demonstrating more in terms of engagement than in understanding.

Student Preference Survey

Figure 3 shows how each of the students ranked the four assessment methods. The case study was ranked by the students (Figure 3) as most preferred (average 2.0 ± 1.15). This was followed by the presentation (2.5 ± 1.24), the essay (2.67 ± 0.89) and the journal (2.92 ± 1.08). Overall, the essay received the least number of rankings as most preferred. The ranking of the case study as most preferred assessment method still represented slightly less than 50% of the students' responses to the survey. The presentation and the journal received the largest number of lowest ranking, with the journal assessment receiving several more third place rankings than the presentation, indicating that this was the least preferred assessment method. Students ranked the essay assessment moderately, with the majority of rankings in the third position. The results indicate that the order of preference for assessment was: case > presentation > essay > journal.

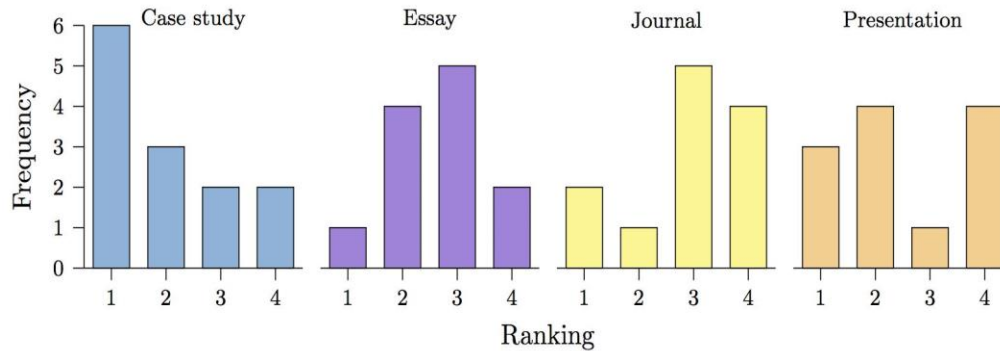


Figure 3. Student ranking in terms of preference for the four different assessment methods: a ranking of 1 indicates the most preferred method, while a ranking of 4 indicates the least preferred method.

The results of a series of Likert scale questions are depicted in Figure 4 with the statistical significances displayed in Table 2. Students were asked to compare the assessment methods in terms of how, on a scale of 1 to 5, each method was or allowed them to: be independent, think, learn, be critical, confident and structured (Figure 4A and Table 2). The students indicated that both the case study and the presentation allowed them to think and learn more. These two methods also tended to make students feel the least independent. The journal method ranked the lowest across all these qualities with the exception of independent, where it was ranked the highest.

Table 2

Statistical Results of the Likert Scale Questions¹

Likert scale question	Chi-squared	<i>p</i> -value	Practical Meaning: Student view
Independent	9.3	0.0253*	Journal: most independence
Think	9.8	0.0204*	Case and Presentation: made think the most
Learn	23.6	<0.001***	Case and Presentation: learned most
Confident	5.1	0.1656	
Critical	11.5	0.0094**	Case: most critical
Structured	8.2	0.0421*	Essay: provided most structure
Time-saving	1.7	0.6472	
Enjoyable	0.8	0.8548	
Easy	7.0	0.0710	
Challenging	6.0	0.1131	
Helpful	8.1	0.0437*	Presentation and Case: most helpful

Likert scale question	Chi-squared	<i>p</i> -value	Practical Meaning: Student view
Produced a high-quality product	7.4	0.06117	
Was intellectually challenging	5.9	0.1164	
Suited my learning style	1.6	0.6693	
Was relevant to my professional education	7.7	0.0520	
Was engaging	12.1	0.0071**	Case and Presentation: most engaging
Created an accurate reflection of my learning	8.5	0.0375*	Case and Presentation: most accurate reflection of learning

¹The Likert scale question is represented in terms of a keyword. The Chi-square value represent the degree of similarity between assessment methods with a lower value indicating more similarity. The *p*-value indicates the degree of significance (*, **, and *** indicate significance at the $p < 0.05$, $p < 0.01$, and $p < 0.001$ levels, respectively) and the practical meaning of the significance in terms of what it indicates about the assessment method is given with a blank cell indicating that no one assessment method stand out in respect to the keyword.

With respect to how time-saving, enjoyable, easy, challenging, helpful and beneficial the methods were (Figure 4B), the students found there to be no difference between the assessment methods in terms of time, enjoyment, ease, and challenge; however, they did indicate that the presentation was most helpful and beneficial ($p < 0.05$) (Table 2) followed by case, essay, and journal.

When students were asked to agree with statements that each method produced a high-quality product, was intellectually challenging, suited their learning style, was relevant to their professional education, was engaging, and created an accurate reflection of their learning (Figure 4C), they indicated that the assessment methods differed with respect to the latter two statements (Table 2). Students tended to agree that both the case study and the presentation assessment methods were engaging and created an accurate reflection of their learning, while they tended to less strongly agree with these statements when evaluating the essay and journal assessment methods.

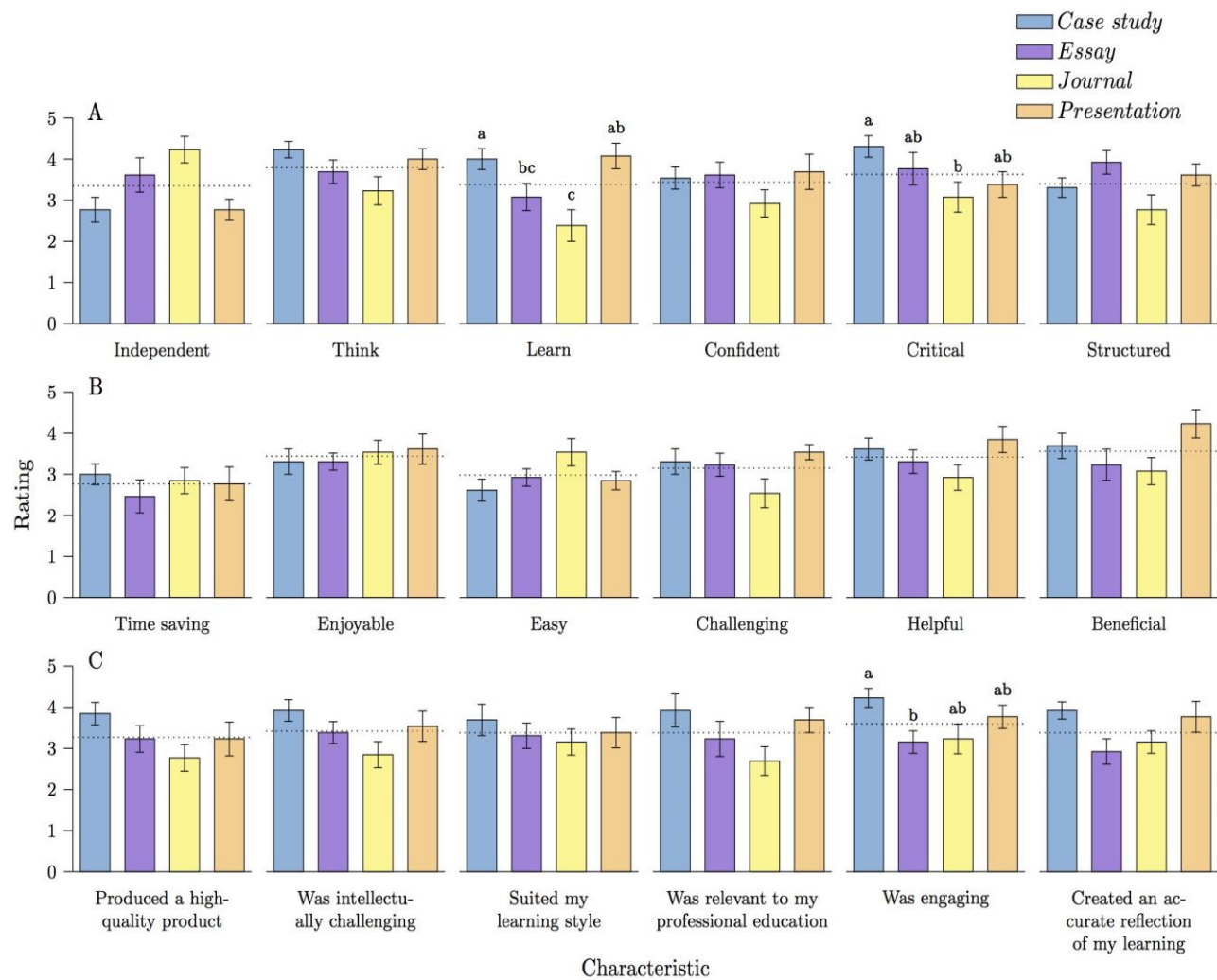


Figure 4. Student responses to Likert scale questions. Questions reflected on A) how the students felt each assessment method made them ...; B) whether the students thought the method was ...; and, C) the level of agreement the students felt with respect to the statements ‘the assessment...’, where 1 indicates strong disagreement and 5 indicates strong agreement. Values are means of each assessment methods, with error bars representing standard error. The dotted line represents the overall mean across all four assessment methods for each characteristic. Differences between assessment methods that are highly significant ($p < 0.01$) are indicated by lowercase letters.

Freeform Student Responses

Participants were asked two questions which provided an opportunity for them to express their thoughts and ideas on assessment. There were eight responses to question 1 and seven responses to question 2. Selected examples based on clarity and similarity of responses to the questions are shown in Tables 3 and 4.

Table 3
Student Responses to Free Form Question 1

Question 1	Selected responses
Describe how you prefer to be assessed in terms of your learning. The preference you describe is not limited to the methods used in this study	<p>“I like to be assessed after I have had sufficient time to think the questions over. I like to work within a group and discuss everyone's viewpoint. That way I not only have my own ideas, but I can then broaden my viewpoint and incorporate more information.”</p> <p>“I think I prefer to be assessed using a variety of methods. I like being able to take part in a group in order to understand other points of view. The case study helps me to think critically. The presentation forces me to make sure I truly understand what it is I am learning because I need to be able to handle all sorts of questions about the topic, in itself it is a very good skill to have. I also find that the short essay is a very good assessment because I need to show that I am able to write my thoughts in a concise, organized manner.”</p> <p>“I prefer to have a more 'hands on' setting for learning. I like group work because it allows you to gain more information from others and opens your eyes to different perspectives on the same subject. It is a practical way of assessing individuals, because the world is not run by individuals, it is run by groups of people working together.”</p> <p>“I enjoy being assessed through my writing essay skills and presentation skills. I was not sure how I felt about the journal assessment as it is very subjective and more of a personal opinion, I feel a mark would differ between people who read it. The case study question would also have been more enjoyable if we had more time to collectively get all of our thoughts out and connect them together.”</p>

Most of the respondents were clear on what they preferred and connected those preferences to the pilot group experience. Most preferred a form of group work either presentation or case study. There was some preference for the structure provided by an essay style assessment; however, participants felt that a variety of ways to demonstrate their knowledge was important.

Table 4
Student Responses to Free Form Question 2

Question 2	Selected responses
<p>If applicable, describe what you like best about being assessed by the non-traditional methods. Non-traditional methods include the case study, journal, and presentation assessment methods.</p>	<p>“I liked getting the different viewpoints of my group members in the case study and presentation. This can offer you points of view you may have not originally held. The case study also makes you think critically about a real life situation. It's easy to talk about theoretical aspects of an argument but to actually put them into question regarding a real life situation is very useful.”</p> <p>“The case study allowed me to personally connect the best to all of the questions.”</p> <p>“It forced you to think differently and to use your mind instead of just picking the right answer in multiple choice.”</p> <p>“I dont work well in the 'classic' desk learning environment. Working with others was a nice change because we got to work off of others ideas and learn from each other and expand off of each others opinions in the matter. I think that working with others is more true to life than individual work.”</p>

Learning with and from others was important. As there was a narrow range of responses many were specific to the individual, reinforcing the notions that learners have many different beliefs and ideas.

Comparison of Preferences and Assessment Results

Stated student preferences for the selected assessment methods were compared to the results of the evaluation of student or group responses in terms of how they reflected understanding and engagement. The student survey results (Figure 3) indicated a preference for the case assessment, followed by the presentation. The students also indicated that the case and presentation were the most engaging and they considered those two assessment methods to best demonstrate their learning. However, the researchers' interpretation of the student written responses to each assessment tells a slightly different story. The researchers viewed the journal as the best in terms of student understanding in the form of the take-home message. Although not as definitive, the presentation also appeared to reflect the most student engagement. Conversely, the student responses through the case assessment did not reflect a notable degree of student understanding nor did they indicate that the students were as engaged in that assessment as they were in the presentation or essay. This finding contradicts the students' preference for the case study in both engagement and as a demonstration of their learning. It is interesting to note that student responses to the case assessment were rated equally in terms of take-home message and engagement by the researchers.

The results in regard to the journal are interesting in that although the journal did not fare well in many respects (Figures 2, 3 and 4), it did indicate some usefulness in reflecting student understanding. Students saw the journal as giving most in terms of independence and as an easy assignment but ranked it lowest in many respects such as in terms of learning value, quality of product, relevance to their education. Thus, it is no surprise that both the researcher evaluation of the student responses and the student survey indicated a low level of engagement with the journal assessment. However, it ranked high in student satisfaction and was assessed highest as a reflection of student understanding.

The essay only stood out in one respect: structure. This traditional form of assessment was in a middle ground position throughout the majority of the results (with case and presentation vying for first and journal coming in last). Students neither liked nor disliked the essay, but they appreciated the structure that an essay question asks for versus the lack of structure a journal would represent. This finding is similar to that of Struyven et al. (2008b) who also found that students appreciated structure (in the form of the lecture). Such a result might also indicate the familiarity students have with the essay as it is a common assessment method in both traditional and in experiential learning environments (Yates et al., 2015). However, in the end, the essay was not preferred over the case study and the presentation possibly because the essay was a form of assessment that did not follow logically from the learning experience; similar to Struyven et al. (2008a) who reported students did not prefer multiple choice following an activated learning experience.

It is interesting to note that the two forms of assessment that appeared to be most preferred by the students, and that demonstrated some measure of learning value, the presentation and the case study, were completed in groups as opposed to individual students. This may speak to the learning value that is believed to be obtained when assessment is done in collaboration (Schindler, 2004). Students surveyed by Struyven et al. (2008a) also appreciated the collaborative nature of active learning experiences (case and portfolio assessments) that were part of that study. The fact that the presentation could be considered to be the overall most effective assessment tool in this pilot, based on both the student and researchers' evaluations, is interesting because it is the assessment method most closely aligned with the learning experience.

The semi-directed instruction was a presentation with interaction between instructor and students and closely matched the presentation style assessment. The case study—the experiential examination of the children's books and a link to curriculum in First Nations Schools—was more similar to the second part of the learning experience than the journal or essay. Each book represented a different case in terms of how the book was a colonizing or a decolonizing influence on a potential First Nations student. Both the essay and the journal would represent assessment methods that less logically follow from the learning experience in terms of what they ask the student to do.

The quality of the assessment itself may be another factor that impacts the reflection of understanding or engagement (Struyven et al., 2006). It is possible that the preference indicated by the students for the case study assessment was for that type of assessment, but the case question itself was lacking in relevance resulting in the case study being a poorly rated as an indication of student performance.

The results also indicate that the case study and presentation assessments may have struck the students at an emotional level, both positive and negative, more so than the journal or the essay. This result may explain why the case study and the presentation assessments were considered by the students to be more engaging, beneficial, helpful, and challenging, as well as think and learn

more. Only the presentation was described as uncomfortable which would explain why some students ranked it as least preferred; however, it might also suggest that one does not necessarily have to like what they are doing to learn from it in a meaningful way. Making students uncomfortable may also be a way to challenge students. The collaborative nature of the case and the presentation may also bring a level of engagement that the individual assessments do not have and that which is valued by students. The combining of efforts in the collaborative assessments may also allow for a more developed response over the same length of time compared to the individual assessments. With several minds working together, the students may make better sense of the material and engage with it more fully. The social aspect of the collaborative assessments makes them more enjoyable, which may also promote engagement. However, the appreciation for structure and, to some degree, individual assessment indicates that a mixture of assessment types in a single course may be a good practice, something also noted by Struyven et al. (2008b). It is possible that the appropriate assessment for this learning experience would have been a presentation or a group response to a case-study, journal, or essay question, with a strong preference for the case-study question.

Overall, the connection between the instruction and assessment methods in the pilot support the research findings of others. We speculated that the instructional aspects created direction for the students to follow in their assessment activities. Sharing the content as an interactive group learning process created a model for the students to follow when it came time to do the work. Both the group presentation and the case study had teams of learners making sense of the material. These results lead to better achievement of the learning outcomes and better student engagement. Students valued the assessment that was performed as individuals with the journal and the essay for the independence and structure they provide but lacked the peer support they found and appreciated in the case study and presentation

Conclusions

Our research shows that student understanding is not necessarily aligned with student engagement, depending on choice of assessment. The journal appeared best at demonstrating student understanding, yet the most engagement was demonstrated by, and the preferences were for, the collaborative assessments. It appears that the collaborative nature of the case study and the presentation assessments matched the interactive format of the learning experience. This finding gives support to a conclusion that the mode of assessment should follow a similar format to the learning experience in courses that use experiential learning methods. The essay, as a traditional form of assessment, was valued for its structure, possibly reflecting student familiarity with that type of assessment, but less so overall because it was an individual exercise. Alternatively, the participants demonstrated the most understanding through the journal assessment even though this group found the journal assessment to be the least engaging.

Each assessment method used in the pilot established a degree of value as a demonstration of understanding, student engagement, or student preference in terms of its, collaborative nature or structure, for example. This outcome speaks to assessing both authentically and using a mixture of methods. We recommend that instructors using EL methods strongly reflect on the alignment between teaching and assessment methods and look for opportunities to teach and assess collaboratively.

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Appendix A In-Class Assessments

Case Study

In this assessment you are required to work as a group. You may complete the assessment using the writing materials provided or on a computer and email them to [email]

You will complete the following tasks:

Read, and briefly discuss in your group, the case you have been provided.

Compose and record answers to the following questions:

- o How is this situation related to the lesson on Post-Colonial literature?
- o What does your group believe is most applicable to their lives from the case study?
- o How might you approach resolving the issue related to the mine development?

Journal

In this assessment you are required to work independently. You may complete the assessment using the writing materials provided or on a computer and email them to [email]

You will complete the following tasks:

Reflect on your learning experience related to reading and writing.

Compose and record your thoughts related to the following question:

What was your experience of learning to read and write during your time in high school?

Presentation

In this assessment you are required to work as a group.

You will complete the following tasks:

Determine the most important messages or ideas you will take away from the lesson.

Design and prepare a two-slide presentation that shares your thoughts about the message you found most valuable.

Present and discuss your presentation in a five-minute time slot.

Short Essay

In this assessment you are required to work independently. You may complete the assessment using the writing materials provided or on a computer and email them to [email]

You will complete the following tasks:

Compose and record answers to the following questions:

- o In what aspects of your professional life do you come into contact with First Nations issues?
- o Think about a current or former job. How might you work to raise awareness of First Nations culture in this organization?

Appendix B

Sample Student Survey Questions

1. Rank all of the assessment methods in terms of your preference from 1, for the method you most preferred, to 4, for the method you least preferred.

- . Short essay
- . Case study
- . Journal
- . Presentation

2. Select which word best describes how you feel about being tested using the short essay assessment method.

- . Excited
- . Motivated
- . Satisfied
- . Indifferent
- . Bored
- . Uncomfortable
- . Other, please specify _____

6. If applicable, describe what you like best about being assessed by the non-traditional methods. Non-traditional methods include the case study, journal, and presentation assessment methods.

7. Indicate how the short essay assessment method supported your learning by selecting the degree (scale of 1 to 5) to which you felt this method made you...

- . Dependent Independent
- . Not think more Think more
- . Not learn any more ... Learn more
- . Lack confidence ... Gain confidence
- . Uncritical ... Critical
- . Unstructured ... Structured

19. Describe how you prefer to be assessed in terms of your learning. The preference you describe is not limited to the methods used in this study.