

Applied Learning Status Report
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Method

Following the Applied Learning Status Report dated 6-29-05, draft versions of a proposed assessment tool for a campus-wide assessment program were developed. The draft tool contained five subscales: (1) Four questions on Placement Quality, (2) four questions on Application, (3) five questions on Reflection, (4) four questions on Diversity, and (5) five questions unique to the type of applied learning (study away, independent research/project, internship/practica, and service-learning).

Four focus groups met over the course of Summer 2005 to hone the item wording for each version of the tool, and concurrently the Independent Research version of the tool was pilot tested with Summer Research Institute participants. Nine high school students in the SRI completed an 18-item version of the tool (Application questions were omitted from their version, as these items assume a broader coursework background at Western). Six Western student leaders on the SRI teams completed 22-item versions of the tool (with the Application subscale included). Thus, the total sample size in the pilot study was 15 participants.

Results

Initial analyses focused on assessing the reliability of this draft of the tool. Because only six participants completed the “Application” subscale, sample size was insufficient to include those data in reliability analyses. Thus, only the remaining four subscales—Placement Quality (4 items), Reflection (5 items), Diversity (4 items), and Independent Research (5 items)—were included. Subscale scores were created for each participant, as well as an average total score. These 18 items and the subscale scores were first submitted to a correlation matrix, which was then inspected for items that did not correlate as expected.

The visual inspection of the correlation matrix revealed one poorly performing item—one of the Reflection subscale items (#4). This item was worded, “My reflections on this project focused on sharing feelings or experiences.” This item did not correlate significantly with *any* of the other subscale items, nor did it correlate with the subscale as a whole ($r = -.15$). Finally, it did not correlate appropriately with the total score ($r = -.49$). It was the most obviously poorly performing item, and was removed from the remaining analyses.

The relationships between the item-to-subscale total correlations for the remaining items are represented in the table below. All items on the Placement Quality subscale correlate significantly with the Placement Quality total. The same is true of the relationship between items on the Reflection subscale and the Diversity subscale items, respectively. Four of the five items on the Independent Research subscale correlated significantly with the subscale score, but the fifth did not. However, it approached a statistically significant correlation ($p < .07$), and the direction of the relationship was as expected, so it was retained for further analyses.

Item-to-total Correlations within Subscales

Placement Quality Individual Items	Correlation with Placement Quality Subscale	Reflection Individual Items	Correlation with Reflection Subscale
3	.69 (p < .005)	2	.78 (p < .001)
9	.77 (p < .001)	5	.65 (p < .01)
16	.74 (p < .005)	11	.68 (p < .005)
17	.65 (p < .01)	14	.84 (p < .001)
Diversity Individual Items	Correlation with Diversity Subscale	Indp. Research Individual Items	Correlation with Indp. Research Subscale
1	.85 (p < .001)	6	.88 (p < .001)
12	.84 (p < .001)	7	.79 (p < .001)
15	.82 (p < .001)	8	.49 (p < .07)
18	.84 (p < .001)	10	.82 (p < .001)
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Note: Items that are denoted as reverse scored in the table below, were already reversed for these analyses. Thus, all correlations are in a positive direction rather than the negative one might expect had the reverse scoring not been complete before performing these analyses.

The remaining 17 items were submitted to an overall analysis of the reliability of the scale as a whole. The resulting reliability coefficient (Cronbach's alpha) was .86. Typically, once a scale exceeds a Cronbach's alpha of .85, it has achieved sufficient internal consistency to function as a scale, and to proceed with validity analyses. The Cronbach's alpha, combined with the pattern of correlations in the subscales suggests that the proposed assessment tool for the applied learning initiative is sufficiently reliable to warrant its use and submission to validation studies.

This pilot test provides an initial basis for confidence that the assessment tool Western will employ in its applied learning initiative has strong psychometric properties. However, it is based on a small sample size, and on only independent research participants. Use of the tool this fall will involve a much larger sample in terms of number of participants and in terms of forms of applied learning. This will give us an opportunity to determine if the psychometric properties of the scale can at least be replicated and extended using more elaborate analyses that require a larger sample size, such as factor analysis to replicate the subscale structure.

Items Included in Full Analyses

Item Number	Item Content	Subscale	Reverse Key?
1	This independent research/project exposed me to viewpoints different from my own.	Diversity	No
2	No writing was required of me for this independent research/project experience.	Reflection	Yes
3	I was involved in more than one step of this independent research/project.	Placement Quality	No
5	My reflections on this project focused on action planning or problem solving.	Reflection	No
6	My independent research/project relates to a need in the community.	Independent Research	No
7	My independent research/project contributes something new to my field of study.	Independent Research	No
8	I analyzed data or sources for this project.	Independent Research	No
9	I did not have the opportunity to function independently during this independent research/project experience.	Placement Quality	Yes
10	I drew conclusions based on data or sources for this project.	Independent Research	No
11	I received no feedback from my supervising professor about my work on this independent research/project experience.	Reflection	Yes
12	I did not see a variety of viewpoints expressed throughout this independent research/project experience.	Diversity	Yes
13	I was able to communicate the results of my project in a professional setting.	Independent Research	No
14	My supervising professor and I often discussed my independent research/project.	Reflection	No
15	This independent research/project increased my exposure to different types of people.	Diversity	No
16	I spent the majority of my time on this independent research/project doing clerical work.	Placement Quality	Yes
17	I had a project I was responsible for during my independent research/project experience.	Placement Quality	No
18	I was not exposed to a diverse group of people in this independent research/project experience.	Diversity	Yes

Note: Some item wording in the version of the tool to be used this fall will have changed from that listed here based on focus group feedback.