The Classroom Learning Environment (CLE) Questionnaire: Preliminary Development

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INTRODUCTION

There is strong interest at the University of Washington in providing a positive environment for all faculty, staff, and students. Within the past few years, this Office has been asked to assist in administering two surveys of campus climate and, more recently, an extensive study of Leadership, Community, and Values has been initiated by our new Provost. It is in this context that we were asked by the Dean of the Office of Undergraduate Education to consider ways in which questions relating to issues of diversity could be integrated into ongoing course evaluations. The Office of Educational Assessment maintains a well established course evaluation system used by most courses and all departments at UW Seattle. Our task was to determine whether and in what way we could capitalize on the capabilities of this system to obtain systematic student assessment of classroom climate. In order to do this, we formed an Advisory Council made up of faculty and staff from a variety of programs and offices that work with diverse groups.

METHOD

We initially considered modifying existing course evaluation forms by substituting one or two classroom climate items for others currently on the forms, but we rejected this approach because 1) one or two items would not provide sufficient information to support instructional improvement (the primary purpose of course evaluations) and, 2) there would not be room for demographic items. For these reasons, we decided to develop a single-page questionnaire that could be administered either together with, or independently of, standard course evaluation forms. The questionnaire would be in machine-readable format to enable large-scale administration, and would include demographic items as well as questions about the instructional environment. A preliminary item set would be developed and tested, perhaps

\[1\] We would like particularly to acknowledge the contribution made by Wayne Jacobson of the Center for Instructional Development and Research (CIDR) to development of the initial item pool.


\[3\] Leadership, Community and Values Initiative, www.washington.edu/regents/meetings/meetings05/may/items/UP-1.pdf


\[5\] Advisory council members: Rick Bonus, Associate Professor, American Ethnic Studies; Ana Mari Cauce, Chair, Psychology; Dyane Haynes, Director, Disabled Student Services; Wayne Jacobson, Associate Director, Center for Instructional Development and Research; Betty Schmitz, Director, Office of Minority Affairs Center for Curriculum Transformation; Carmen Sidbury, Director, College of Engineering Diversity and Student Services.
multiple times, before the instrument was finalized. This report describes development and evaluation of a pilot version of a Classroom Learning Environment (CLE) questionnaire, and subsequent development of a shorter, ‘test’ version for further study.

**Questionnaire**

The advisory group developed an initial item set by reviewing existing UW campus climate questionnaires and identifying items that might have application to the classroom. These items were modified and additional items developed to create an initial item pool for pilot testing. Two student focus groups were held to obtain input from diverse students, and draft items were circulated to various faculty members and to offices serving under-represented minorities and students with disabilities. The final pool included 24 evaluative items: two items providing an overall evaluation of the course; eleven "general" items assessing attitudes and behaviors observed or experienced by the student; and eleven "personal" items referencing attitudes and behaviors directed specifically toward him or her. Both positively and negatively worded items were written for each of the three evaluative categories. The item pool also contained seven items asking for the student’s views on diversity issues, three additional items relating to required effort and instructor perceptions, and eight demographic items for the purpose of analyzing responses by group membership. Five open-ended questions allowed students to provide comments regarding the course and the questionnaire itself. (See the Appendices for a list of closed-items organized within categories and the complete pilot CLE questionnaire.)

<table>
<thead>
<tr>
<th>Table 1. Pilot CLE item types</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Item Type</strong></td>
</tr>
<tr>
<td>--------------------------</td>
</tr>
<tr>
<td>Evaluative items</td>
</tr>
<tr>
<td>curriculum</td>
</tr>
<tr>
<td>general</td>
</tr>
<tr>
<td>personal</td>
</tr>
<tr>
<td>Values and beliefs</td>
</tr>
<tr>
<td>Effort</td>
</tr>
<tr>
<td>Other</td>
</tr>
<tr>
<td>Demographic</td>
</tr>
<tr>
<td>TOTAL</td>
</tr>
</tbody>
</table>

**Procedures**

Preliminary item testing was carried out by administering the pilot CLE together with course evaluations in a small group of classes at the end of Spring quarter, 2005. Questionnaires were provided to participating faculty along with their standard evaluation forms and were administered to the respective classes at the same time and in the same manner (i.e., administered without the faculty present and returned to the Office of Educational Assessment by a student).

A convenience sample of classes was obtained by asking for faculty volunteers. The sample was made up of seven classes that were highly diverse with respect to discipline, level, and size. In all, 531 students returned questionnaires.
Table 2. Participating classes

<table>
<thead>
<tr>
<th>Curriculum</th>
<th>Level</th>
<th>Size</th>
<th>Completed Questionnaires</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aerospace Studies</td>
<td>200</td>
<td>Small</td>
<td>26</td>
</tr>
<tr>
<td>Aerospace Studies</td>
<td>300</td>
<td>Medium</td>
<td>51</td>
</tr>
<tr>
<td>Architecture</td>
<td>100</td>
<td>Large</td>
<td>106</td>
</tr>
<tr>
<td>Biology</td>
<td>100</td>
<td>Large</td>
<td>110</td>
</tr>
<tr>
<td>Biology</td>
<td>400</td>
<td>Small</td>
<td>32</td>
</tr>
<tr>
<td>Earth and Space Sciences</td>
<td>300</td>
<td>Large</td>
<td>107</td>
</tr>
<tr>
<td>Psychology</td>
<td>300</td>
<td>Large</td>
<td>99</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td></td>
<td>531</td>
</tr>
</tbody>
</table>

RESULTS

Demographics

Approximately half (54.6%) of the respondents were 20 years of age or younger, and most (88.1%) spoke English as their primary language. Juniors and seniors were slightly over-represented, as were women (59.9%). The majority (93.1%) of students identified themselves as heterosexual and as not having a disability (97.9%).

Respondents could indicate ethnicity by selecting from ten options. They were instructed to check all of the options that applied to them. Among those 469 students (88%) who made at least one selection, the most frequently occurring response was White American (47%), followed by Asian American (12%). Under-represented minority students (Native-, African-, Latino-, Pacific Islander-, and Filipino American) comprised 22% of the sample, and there were very few International students (3%).

Political orientation was included in order to assess whether or not it affected perceptions of classroom climate. Because of a clerical error, this item was included on only a subset of the questionnaires; nevertheless, 176 responses (of 186 possible) were obtained for analysis. Student responses were remarkably normally-distributed across the political spectrum: 37% described themselves as conservative and 36% described themselves as liberal. However, 27% of respondents described their orientation as neutral.

Item Structure

The average number of completed closed-format items was 31; however, only 96 students gave usable ratings on all 35 items (excluding N/A and Don’t Know responses). Four items (16, 21, 22, 35) were skipped or marked N/A by more than 27% of the cases and were therefore excluded from all analyses. In addition, ratings of two items (33, 34) had very little variability (55-60% marked About the same) and, thus, were also excluded from further analysis.

Using the data from those 482 cases who answered at least 75% (22) of the remaining 29 items (and substituting the sample mean for instances of missing data), a principal components analysis with Varimax rotation resolved to a five-component structure (see Table 3) that accounted for 59% of the variance in the ratings.
The first component (Classroom Positive) included 12 items that concerned the favorableness of the classroom experience -- including perceptions of how the instructor treated students and an evaluation of the physical environment in terms of accessibility. The second component (Diversity Values) consisted of six items that assessed the respondent’s values regarding social diversity. The third component (Personal Negative) included four items that assessed the degree to which the student felt alienated in the classroom. The fourth component (Persistence in Major) was made up of three items that assessed the respondent’s feelings of competence with the subject matter of the course, especially as a result of experience in the course. The fifth and final component included only two items and was largely uninterpretable.

Table 3. Principal components analysis: Rotated component matrix

<table>
<thead>
<tr>
<th>Item</th>
<th>Component I</th>
<th>Component II</th>
<th>Component III</th>
<th>Component IV</th>
<th>Component V</th>
</tr>
</thead>
<tbody>
<tr>
<td>01 This class provides an environment for free and open expression of ideas</td>
<td>.77</td>
<td>.06</td>
<td>.03</td>
<td>.01</td>
<td>.01</td>
</tr>
<tr>
<td>05 The instructor takes into consideration differences among students in teaching this course</td>
<td>.75</td>
<td>.08</td>
<td>.04</td>
<td>.01</td>
<td>.01</td>
</tr>
<tr>
<td>12 The instructor recognizes that I have important ideas to contribute</td>
<td>.75</td>
<td>.07</td>
<td>.04</td>
<td>.01</td>
<td>.01</td>
</tr>
<tr>
<td>13 The instructor respects me as a person</td>
<td>.73</td>
<td>.07</td>
<td>.04</td>
<td>.01</td>
<td>.01</td>
</tr>
<tr>
<td>16 The instructor is sensitive to the difficulty of course work for students</td>
<td>.67</td>
<td>.09</td>
<td>.03</td>
<td>.01</td>
<td>.01</td>
</tr>
<tr>
<td>03 Grades are assigned fairly and impartially in this class</td>
<td>.68</td>
<td>.08</td>
<td>.03</td>
<td>.01</td>
<td>.01</td>
</tr>
<tr>
<td>11 The instructor values the diverse life experiences of the students in this class</td>
<td>.68</td>
<td>.08</td>
<td>.03</td>
<td>.01</td>
<td>.01</td>
</tr>
<tr>
<td>01 The instructor encourages equal participation of all students</td>
<td>.68</td>
<td>.07</td>
<td>.04</td>
<td>.01</td>
<td>.01</td>
</tr>
<tr>
<td>02 The physical environment was comfortable and accessible for all students</td>
<td>.63</td>
<td>.07</td>
<td>.04</td>
<td>.01</td>
<td>.01</td>
</tr>
<tr>
<td>06 The instructor is fair and unbiased in treatment of all students</td>
<td>.69</td>
<td>.07</td>
<td>.04</td>
<td>.01</td>
<td>.01</td>
</tr>
<tr>
<td>20 When I make a comment am taken seriously by instructor</td>
<td>.57</td>
<td>.07</td>
<td>.04</td>
<td>.01</td>
<td>.01</td>
</tr>
<tr>
<td>17 The instructor expects that I will do well in this class</td>
<td>.42</td>
<td>.07</td>
<td>.04</td>
<td>.01</td>
<td>.01</td>
</tr>
<tr>
<td>28 Real value of college education lies in being introduced to diff values and perspectives</td>
<td>.84</td>
<td>.07</td>
<td>.04</td>
<td>.01</td>
<td>.01</td>
</tr>
<tr>
<td>27 Learning about diff cultures or perspectives is very important part of college education</td>
<td>.81</td>
<td>.07</td>
<td>.04</td>
<td>.01</td>
<td>.01</td>
</tr>
<tr>
<td>25 I enjoy taking courses that challenge my beliefs and values</td>
<td>.75</td>
<td>.07</td>
<td>.04</td>
<td>.01</td>
<td>.01</td>
</tr>
<tr>
<td>29 Contact w/ individuals diff from me is an essential part of my college education</td>
<td>.75</td>
<td>.07</td>
<td>.04</td>
<td>.01</td>
<td>.01</td>
</tr>
<tr>
<td>23 Courses I enjoy most make me think about things from diff perspective</td>
<td>.72</td>
<td>.07</td>
<td>.04</td>
<td>.01</td>
<td>.01</td>
</tr>
<tr>
<td>26 I enjoy talking with people who have values diff from mine</td>
<td>.71</td>
<td>.07</td>
<td>.04</td>
<td>.01</td>
<td>.01</td>
</tr>
<tr>
<td>14 Sometimes I am singled out because I am diff from most of other students</td>
<td>.80</td>
<td>.07</td>
<td>.04</td>
<td>.01</td>
<td>.01</td>
</tr>
<tr>
<td>32 Based on my experience, have a good chance of being successful in this subject</td>
<td>.86</td>
<td>.07</td>
<td>.04</td>
<td>.01</td>
<td>.01</td>
</tr>
<tr>
<td>31 Based on my experience, am looking forward to taking more courses in this dept</td>
<td>.78</td>
<td>.07</td>
<td>.04</td>
<td>.01</td>
<td>.01</td>
</tr>
<tr>
<td>30 If I work hard am almost always assured of getting the grade I want</td>
<td>.58</td>
<td>.07</td>
<td>.04</td>
<td>.01</td>
<td>.01</td>
</tr>
<tr>
<td>10 Inappropriate comments are not tolerated in this class</td>
<td>.30</td>
<td>.07</td>
<td>.04</td>
<td>.01</td>
<td>.01</td>
</tr>
<tr>
<td>24 The courses I enjoy most emphasize traditional values and perspectives</td>
<td>30</td>
<td>.07</td>
<td>.04</td>
<td>.01</td>
<td>.01</td>
</tr>
</tbody>
</table>

Descriptive statistics for the 31 items are shown in Table 4. Also included in Table 4 are inter-rater reliability coefficients. These coefficients show the degree to which ratings within a class were similar. As shown in the Table, inter-rater reliability values tended to be high for Classroom Positive and Persistence in Major items (range = .81 to .97). Personal Negative items were more moderate in values (range = .64 to .86) and the smallest coefficients tended to be for Diversity Values items (range = .48 to .85).
The next step was to select a reduced set of items for use in the next phase of classroom testing. The main goals for this selection were to represent all of the extracted components, produce internally consistent scales, minimize redundancy, and limit the number of items so that the new questionnaire would fit onto a single page.

The selection process produced four new scales. The statistical properties of these new scales were examined using the existing data. As shown in Table 5, each of the new, reduced scales was highly internally consistent: alpha coefficients ranged from $\alpha = .75$ to .91. Furthermore, the same pattern continues...
observed with the individual items was reflected in the inter-rater reliability coefficients for the scales, which were very high for Classroom Positive (0.92) and Persistence in Major (0.87) and lower for Personal Negative (0.74) and Diversity Values (0.72).

Table 5. Descriptive statistics for reduced scales

<table>
<thead>
<tr>
<th>Scale and Item</th>
<th>Mn</th>
<th>SD</th>
<th>n Valid</th>
<th>n Missing</th>
<th>reliability internal</th>
<th>reliability inter-rater</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classroom, Positive</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01 This class provides an environment for free and open expression of ideas</td>
<td>5.2</td>
<td>.8</td>
<td>491</td>
<td>40</td>
<td>.83</td>
<td>.92</td>
</tr>
<tr>
<td>02 The physical environment was comfortable and accessible for all students</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>03 Grades are assigned fairly and impartially in this class</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>09 The instructor encourages equal participation of all students</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15 The instructor makes me feel welcome in his/her classroom</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diversity Values</td>
<td>4.9</td>
<td>1.0</td>
<td>463</td>
<td>68</td>
<td>.78</td>
<td>.72</td>
</tr>
<tr>
<td>25 I enjoy taking courses that challenge my beliefs and values</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>26 I enjoy talking with people who have values different from mine</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>27 Learning about diff cultures is very imp. part of college education</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Personal Negative</td>
<td>1.6</td>
<td>1.0</td>
<td>430</td>
<td>101</td>
<td>.75</td>
<td>.74</td>
</tr>
<tr>
<td>14 Sometimes I am singled out because I am diff from most of other students</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18 I feel isolated in this class</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19 I am often ignored in this class even when I attempt to participate</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Persistence in Major</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>31 Based on my experience, looking forward to taking more courses in this dept</td>
<td>4.8</td>
<td>1.2</td>
<td>412</td>
<td>119</td>
<td>.91</td>
<td>.87</td>
</tr>
<tr>
<td>32 Based on my experience, have a good chance of being successful in this subj</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 6 displays the intercorrelations among the scales. The smallest correlations were between Personal Negative and a) Diversity Values and b) Persistence in Major, but all coefficients were significantly different from zero at p < .05. Students ratings of their likelihood to persist in a curriculum and their appreciation for diversity were moderately related to their evaluation of the classroom experience as a positive one. Indeed, both of those correlations were somewhat larger in magnitude than the relationship between Personal Negative and Classroom Positive.

Table 6. Intercorrelations among reduced scales

<table>
<thead>
<tr>
<th></th>
<th>Classroom Positive</th>
<th>Diversity Values</th>
<th>Personal Negative</th>
<th>Persistence in Major</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classroom Positive</td>
<td>--</td>
<td>.34</td>
<td>-.28</td>
<td>.46</td>
</tr>
<tr>
<td>Diversity Values</td>
<td></td>
<td>-.13</td>
<td></td>
<td>.26</td>
</tr>
<tr>
<td>Personal Negative</td>
<td></td>
<td></td>
<td></td>
<td>-.16</td>
</tr>
</tbody>
</table>

Note. n = 278.

Demographic Comparisons

A number of demographic items were included in the pilot CLE to determine whether various student groups experienced the learning environment differently. Repeated measures analyses of variance tested for significant differences between groups and across each of the four scales. There were no significant differences by Disability Status or age group on any scale.
As shown in Table 7, the only significant group difference on Classroom Positive involved primary language: Students whose primary language was not English gave lower ratings on those items (4.9 vs. 5.3), \( F(1,301) = 9.8, d = -.51. \)

**Table 7. Summary of significant differences across demographic categories**

<table>
<thead>
<tr>
<th>Demographic variable</th>
<th>Positive</th>
<th>Diversity Values</th>
<th>Negative</th>
<th>Persistence in Major</th>
</tr>
</thead>
<tbody>
<tr>
<td>English as second language?</td>
<td>Yes &lt; No</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Class level</td>
<td>Fr &gt; So*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>Men &gt; Women*</td>
<td>Men &gt; Women*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ethnicity</td>
<td>URM &gt; non-URM*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Political orientation</td>
<td>Liberal &gt; Conservative</td>
<td>Conservative &gt; Liberal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Add questionnaire to system?</td>
<td>Yes &gt; No</td>
<td></td>
<td></td>
<td>Yes &gt; No</td>
</tr>
</tbody>
</table>

Note: Effects marked by * were qualified by significant interactions. See text for further detail.

A regression analysis showed that students who described themselves as politically liberal gave significantly higher ratings on the Diversity Values scale than did those who were conservative (\( R^2 = .08, t(161) = -3.67, p = .0003 \)). Although there was no main effect for ethnicity on this scale, there was a significant interaction. On average, non-underrepresented minority men gave lower ratings than did underrepresented minority men and all women (see Figure 1), \( F(1,262) = 4.53, p = .03 \).

![Figure 1. Diversity Values Means by Respondent Sex and Underrepresented Minority Status](image.png)

Students were more likely to agree with the Personal Negative items if they were freshman, male, or a member of an underrepresented minority group. However, as shown in Figures 2 and 3, these main effects were qualified by two 2-way interactions. Specifically, URM men gave higher (more negative) ratings than the other three URM-by-Sex groups (\( F(1,262) = 4.54, p = .03 \)), and URM freshmen gave higher ratings than all other URM-by-Class groups (\( F(3,262) = 4.63, p = .004 \)).
Political leaning was related to Personal Negative score such that the more conservative one described oneself, the more one tended to report feeling isolated, singled out, or ignored, \((R^2 = .04, t(161) = 2.44, p = .03)\).
An odd pattern emerged in the Persistence in Major means. Although there was a significant main effect with men showing higher means than women (5.2 vs. 4.8), there was also a significant interaction. Among women, ratings on the scale increased with class level as one might expect. Among men, however, the highest ratings were found among freshmen and juniors (see Figure 4).

![Figure 4. Persistence in Major Means by Respondent Sex and Class Level](image)

Finally, the response to one additional question was compared to scale scores. Item 46 asked Should this questionnaire be added to the regular UW course evaluation system? Although the majority (59.8%) of respondents felt that the CLE should not be added, those who felt the survey should be added gave significantly higher average ratings to Diversity Values and Persistence in Major.

Note that because of the very small number of some groups (e.g., URM men), the preceding tests of significance are only suggestive.

**Relationships to Standard IAS Ratings**

The last set of analyses examined the relationships between the CLE subscale means and the median unadjusted and adjusted overall evaluation ratings from the standard IAS forms (items 1-4). Standard IAS evaluations were available for six of the seven classes. As shown in Table 9, Classroom Positive, Personal Negative, and Persistence in Major were strongly related to the unadjusted median. However, the correlations between the pilot CLE subscales and the adjusted median were much weaker.
Table 9. Relationship between CLE scores and standard course evaluation ratings

<table>
<thead>
<tr>
<th>CLE Subscale</th>
<th>Overall Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Unadjusted</td>
</tr>
<tr>
<td>Classroom Positive</td>
<td>.79</td>
</tr>
<tr>
<td>Diversity Values</td>
<td>.46</td>
</tr>
<tr>
<td>Personal Negative</td>
<td>-.86*</td>
</tr>
<tr>
<td>Persistence in Major</td>
<td>.84*</td>
</tr>
</tbody>
</table>

Note. $n=6$, *$p < .05$.

DISCUSSION

Analyses of the pilot version of the CLE hold implications for assessment of classroom climate beyond the specific items used here. In developing the initial item set, we attempted to create items that were representative of the range of content suggested by literature and/or addressed by other instruments. To the extent that we were successful in this, the factor structure identified here speaks not only to the CLE itself, but to the way classroom climate is currently conceptualized. Based on our analyzes, we were able to create four scales that showed good internal consistency as well as interpretable relationships to one another.

The high ratings on the Classroom Positive items indicate that students were generally pleased with their classroom environments. Likewise, students gave very little endorsement overall to statements that spoke of feeling isolated within the classroom. It was gratifying to observe that — although significant — the correlation between Classroom Positive and Personal Negative was only a modest one. This provides some validation for the argument that those scales are tapping into distinct constructs.

The observation of many group differences on Personal Negative but only one involving Classroom Positive also speaks to their distinctiveness. The only group effect on Classroom Positive was between native and non-native speakers of English, with the latter group reporting much less agreement with characterizations of the classroom as equally welcoming or respectful of all students. Nevertheless, this group of students did not report feeling more isolated or singled out in class than their native English-speaking peers. Rather, underrepresented minority freshmen and underrepresented minority men gave the highest ratings on the Personal Negative scale. Together, then, these two scales are not only general indicators of student opinions of the classroom environment, but they also afford students ways to describe the particular or unique nature of any negative experiences. For example, the less favorable opinions of non-native speakers would have been missed had we included only Personal Negative items.

The low inter-rater reliabilities for the Diversity Values items are interesting. Theoretically, student responses to these items should have little to do with what went on in a given course. These items measure enduring values rather than course experience. However, the fact that there was even some discrimination among classes suggests that these diversity values are related to the classes students choose to take.

Finally, although several of the CLE subscale scores were strongly related to the unadjusted overall evaluation of the course (from the standard course evaluation), those relationships diminished considerably once the overall evaluation score was adjusted for class size, average student grade expectation, and students’ reasons for taking the course. Future analyses with much larger samples may
help to illuminate the reasons for these findings, assuming they are replicated. It may be that the adjustment variables influence the CLE scales more or less directly (in a fashion similar to the way that they influence overall evaluation), or there may be a more complex, mediational relationship among the variables.

Because only seven classes participated in the pilot study and some demographic groups were not well represented, conclusions at this stage must be very cautiously drawn. A different set of classes and students could possibly yield different results. Additionally, our examination of group differences was based on the same dataset as that used to create subscales, and therefore capitalizes on chance. Our next step will be to undertake additional validation studies of the revised CLE instrument and subscales.
APPENDICES

Item Categories

Classroom Learning Environment (CLE) Questionnaire (Pilot version)

Classroom Learning Environment (CLE) Questionnaire (Test version)
ITEM CATEGORIES

**Persistence in Major**
31. Based on my experience in this course, I am looking forward to taking more courses in this department/major
32. Based on my experience in this course, I think I have a good chance of being successful if I continue to study this subject.

**General, positive**
1. This class provides an environment for the free and open expression of ideas, opinions and beliefs.
2. The physical environment was comfortable and accessible for all students.
3. Grades are assigned fairly and impartially in this class.
4. The instructor encourages mutual respect among all students.
5. The instructor takes into consideration differences among students in teaching this course.
6. The instructor is fair and unbiased in the treatment of all students.
8. The instructor is sensitive to the difficulty of the course work for students.
9. The instructor encourages equal participation of all students in this class.
10. Inappropriate comments are not tolerated in this class.
11. The instructor values the diverse life experiences of the students in this class.

**General, negative**
7. Sometimes the instructor makes inappropriate comments about people who are different.

**Personal, positive**
12. The instructor recognizes that I have important ideas to contribute.
13. The instructor respects me as a person.
15. The instructor makes me feel welcome in his/her classroom.
17. The instructor expects that I will do well in this class.
20. When I make a comment in this class I am usually taken seriously by the instructor.
21. When we work in small groups in this class, I have the opportunity to be the leader.

**Personal, negative**
14. Sometimes I am singled out in this class because I am different from most of the other students.
16. Sometimes I am called on to be representative of a particular demographic group.
18. I feel isolated in this class.
19. I am often ignored in this class even when I attempt to participate.
22. When we work in small groups in this class, I am often ignored by my classmates or given trivial jobs.

**Values and beliefs**
23. The courses I enjoy most are those that make me think about things from a different perspective.
24. The courses I enjoy most emphasize traditional values and perspectives.
25. I enjoy taking courses that challenge my beliefs and values.
26. I enjoy talking with people who have values different from mine.
27. Learning about different cultures or perspectives is a very important part of college education.
28. The real value of college education lies in being introduced to different values and perspectives.
29. Contact with individuals who are different from me is an essential part of my college education.

**Effort**
30. If I work hard I am almost always assured of getting the grade I want to achieve.
33. Compared to other students in this class, in order to succeed I had to work:
34. Compared to other students in this class, the amount of help I received from the instructor was:

**Other**
35. Does the instructor perceive you as different than other students in the class? If ‘yes,’ how?
46. Should this questionnaire be added to the regular UW course evaluation system?

**Demographic**
36. Your age
37. Is English your primary language?
38. Class level
39. Gender

40. Sexual orientation

41. Are you a person with a disability?

42. What is your racial/ethnic background? (Check all that apply.)

43. How would you describe your social/political orientation? (=Extremely Liberal, ?=Extremely Conservative)
# Instructional Assessment System

**Classroom Learning Environment**  
(Pilot Version)

Fill in bubbles darkly and completely. Erase errors cleanly.

<table>
<thead>
<tr>
<th>Instructor</th>
<th>Course</th>
<th>Section</th>
<th>Date</th>
</tr>
</thead>
</table>

*This questionnaire is intended to provide information that will be used to improve teaching and learning at this institution. You may leave any or all of the questions blank, including the personal descriptors at the end of the questionnaire. The purpose of the descriptors is to help identify specific ways in which the course may be improved. All responses are confidential and will be reported only as part of group results.*

1. This class provides an environment for the free and open expression of ideas, opinions and beliefs.  
   - DISAGREE
   - Strongly
   - Somewhat
   - Somewhat
   - Strongly
   - N/A

2. The physical environment was comfortable and accessible for all students.  
   - DISAGREE
   - Strongly
   - Somewhat
   - Somewhat
   - Strongly
   - N/A

3. Grades are assigned fairly and impartially in this class.  
   - DISAGREE
   - Strongly
   - Somewhat
   - Somewhat
   - Strongly
   - N/A

4. The instructor encourages mutual respect among all students.  
   - DISAGREE
   - Strongly
   - Somewhat
   - Somewhat
   - Strongly
   - N/A

5. The instructor takes into consideration differences among students in teaching this course.  
   - DISAGREE
   - Strongly
   - Somewhat
   - Somewhat
   - Strongly
   - N/A

6. The instructor is fair and unbiased in the treatment of all students.  
   - DISAGREE
   - Strongly
   - Somewhat
   - Somewhat
   - Strongly
   - N/A

7. Sometimes the instructor makes inappropriate comments about people who are different.  
   - DISAGREE
   - Strongly
   - Somewhat
   - Somewhat
   - Strongly
   - N/A

8. The instructor is sensitive to the difficulty of the course work for students.  
   - DISAGREE
   - Strongly
   - Somewhat
   - Somewhat
   - Strongly
   - N/A

9. The instructor encourages equal participation of all students in this class.  
   - DISAGREE
   - Strongly
   - Somewhat
   - Somewhat
   - Strongly
   - N/A

10. Inappropriate comments are not tolerated in this class.  
    - DISAGREE
    - Strongly
    - Somewhat
    - Somewhat
    - Strongly
    - N/A

11. The instructor values the diverse life experiences of the students in this class.  
    - DISAGREE
    - Strongly
    - Somewhat
    - Somewhat
    - Strongly
    - N/A

12. The instructor recognizes that I have important ideas to contribute.  
    - DISAGREE
    - Strongly
    - Somewhat
    - Somewhat
    - Strongly
    - N/A

13. The instructor respects me as a person.  
    - DISAGREE
    - Strongly
    - Somewhat
    - Somewhat
    - Strongly
    - N/A

14. Sometimes I am singled out in this class because I am different from most of the other students.  
    - DISAGREE
    - Strongly
    - Somewhat
    - Somewhat
    - Strongly
    - N/A

15. The instructor makes me feel welcome in his/her classroom.  
    - DISAGREE
    - Strongly
    - Somewhat
    - Somewhat
    - Strongly
    - N/A

16. Sometimes I am called on to be representative of a particular demographic group.  
    - DISAGREE
    - Strongly
    - Somewhat
    - Somewhat
    - Strongly
    - N/A

17. The instructor expects that I will do well in this class.  
    - DISAGREE
    - Strongly
    - Somewhat
    - Somewhat
    - Strongly
    - N/A

18. I feel isolated in this class.  
    - DISAGREE
    - Strongly
    - Somewhat
    - Somewhat
    - Strongly
    - N/A

19. I am often ignored in this class even when I attempt to participate.  
    - DISAGREE
    - Strongly
    - Somewhat
    - Somewhat
    - Strongly
    - N/A

20. When I make a comment in this class I am usually taken seriously by the instructor.  
    - DISAGREE
    - Strongly
    - Somewhat
    - Somewhat
    - Strongly
    - N/A

21. When we work in small groups in this class, I have the opportunity to be the leader.  
    - DISAGREE
    - Strongly
    - Somewhat
    - Somewhat
    - Strongly
    - N/A

22. When we work in small groups in this class, I am often ignored by my classmates or given trivial jobs.  
    - DISAGREE
    - Strongly
    - Somewhat
    - Somewhat
    - Strongly
    - N/A

23. The courses I enjoy most are those that make me think about things from a different perspective.  
    - DISAGREE
    - Strongly
    - Somewhat
    - Somewhat
    - Strongly
    - N/A

24. The courses I enjoy most emphasize traditional values and perspectives.  
    - DISAGREE
    - Strongly
    - Somewhat
    - Somewhat
    - Strongly
    - N/A

25. I enjoy taking courses that challenge my beliefs and values.  
    - DISAGREE
    - Strongly
    - Somewhat
    - Somewhat
    - Strongly
    - N/A

26. I enjoy talking with people who have values different from mine.  
    - DISAGREE
    - Strongly
    - Somewhat
    - Somewhat
    - Strongly
    - N/A

27. Learning about different cultures or perspectives is a very important part of college education.  
    - DISAGREE
    - Strongly
    - Somewhat
    - Somewhat
    - Strongly
    - N/A

28. The real value of college education lies in being introduced to different values and perspectives.  
    - DISAGREE
    - Strongly
    - Somewhat
    - Somewhat
    - Strongly
    - N/A

29. Contact with individuals who are different from me is an essential part of my college education.  
    - DISAGREE
    - Strongly
    - Somewhat
    - Somewhat
    - Strongly
    - N/A
### Questionnaire

#### 30. If I work hard I am almost always assured of getting the grade I want to achieve.

<table>
<thead>
<tr>
<th>DISAGREE</th>
<th>Strongly</th>
<th>Somewhat</th>
<th>Somewhat</th>
<th>Strongly</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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</tbody>
</table>

#### 31. Based on my experience in this course, I am looking forward to taking more courses in this department/major.

|          |          |          |          |          |     |

#### 32. Based on my experience in this course, I think I have a good chance of being successful if I continue to study this subject.

|          |          |          |          |          |     |

#### 33. Compared to other students in this class, in order to succeed I had to work:

<table>
<thead>
<tr>
<th>Much less</th>
<th>About the same</th>
<th>Much more</th>
<th>Don’t know</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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</table>

#### 34. Compared to other students in this class, the amount of help I received from the instructor was:

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
<th>Don’t know</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### 35. Does the instructor perceive you as different than other students in the class? If ‘yes,’ how?

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
<th>Don’t know</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### 36. Your age

- 17 or younger
- 18
- 19
- 20
- 21-22
- 23-24
- 25 or older

#### 37. Is English your primary language?

- Yes
- No

#### 38. Class level

- Freshman
- Sophomore
- Junior
- Senior
- Grad/Prof
- Other (specify):

#### 39. Gender

- Male
- Female
- Intersex
- Transgender

#### 40. Sexual orientation

- Bisexual
- Gay
- Heterosexual
- Lesbian
- Queer
- Questioning
- Other (specify):

#### 41. Are you a person with a disability?

- Yes
- No

#### 42. What is your racial/ethnic background? (Mark all that apply.)

- African American/Black
- Asian American
- European American/White American
- Filipino
- Hispanic/Latino
- Native American/American Indian
- Pacific Islander
- Multiethnic
- International
- Other (specify):

#### 43. How would you describe your social/political orientation? (Mark one bubble only.)

<table>
<thead>
<tr>
<th>Liberal</th>
<th>Conservative</th>
</tr>
</thead>
<tbody>
<tr>
<td>extremely</td>
<td></td>
</tr>
<tr>
<td>neutral</td>
<td></td>
</tr>
<tr>
<td></td>
<td>extreme</td>
</tr>
</tbody>
</table>

#### 44. Is there anything else about you that influences how your instructor thinks about you? If ‘yes,’ how?

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</table>

#### 45. How could this course be made more inclusive for all students?

<p>| | |</p>
<table>
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</table>

### ABOUT THIS QUESTIONNAIRE

#### 46. Should this questionnaire be added to the regular UW course evaluation system? Why or why not?

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
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</table>

#### 47. How could this questionnaire be improved?

<p>| | |</p>
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#### 48. Other comments:

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</table>
Classroom Learning Environment

Use a No. 2 pencil only. Fill in bubbles darkly and completely. Erase errors cleanly.

Instructor ___________________________ Course _____________ Section ______ Date _______

This questionnaire is intended to provide information that will be used to improve teaching and learning at this institution. You may leave any or all of the questions blank, including the personal descriptors at the bottom of the page. All answers are anonymous and will be reported only as part of group results.

### DISAGREE

<table>
<thead>
<tr>
<th></th>
<th>Strongly</th>
<th>Somewhat</th>
<th>AGREE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. This class provides an environment for the free and open expression of ideas, opinions, and beliefs.</td>
<td>{ } { } { }</td>
<td>{ } { } { }</td>
<td></td>
</tr>
<tr>
<td>2. Learning about different cultures or perspectives is an essential part of my college education.</td>
<td>{ } { } { }</td>
<td>{ } { } { }</td>
<td></td>
</tr>
<tr>
<td>3. Sometimes I am singled out in this class because I am different from most of the other students.</td>
<td>{ } { } { }</td>
<td>{ } { } { }</td>
<td></td>
</tr>
<tr>
<td>4. Grades are assigned fairly and impartially in this class.</td>
<td>{ } { } { }</td>
<td>{ } { } { }</td>
<td></td>
</tr>
<tr>
<td>5. I enjoy taking courses that challenge my beliefs and values.</td>
<td>{ } { } { }</td>
<td>{ } { } { }</td>
<td></td>
</tr>
<tr>
<td>6. I am often ignored in this class even when I attempt to participate.</td>
<td>{ } { } { }</td>
<td>{ } { } { }</td>
<td></td>
</tr>
<tr>
<td>7. The classroom environment is comfortable and accessible for students with any type of disability.</td>
<td>{ } { } { }</td>
<td>{ } { } { }</td>
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</tr>
<tr>
<td>8. The instructor encourages equal participation of all students in this class.</td>
<td>{ } { } { }</td>
<td>{ } { } { }</td>
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<tr>
<td>9. I feel isolated in this class.</td>
<td>{ } { } { }</td>
<td>{ } { } { }</td>
<td></td>
</tr>
<tr>
<td>10. I enjoy talking with people who have values different from mine.</td>
<td>{ } { } { }</td>
<td>{ } { } { }</td>
<td></td>
</tr>
<tr>
<td>11. The instructor makes me feel welcome in this class.</td>
<td>{ } { } { }</td>
<td>{ } { } { }</td>
<td></td>
</tr>
</tbody>
</table>

### 12. Your class level
- { Freshman
- { Sophomore
- { Junior
- { Senior
- { Grad/Prof
- { Other (specify): __________

### 14. Racial/ethnic background
- { African/Black American
- { Asian American
- { European/White American
- { Filipino American
- { Hispanic/Latino American
- { Native American/American Indian
- { Pacific Islander American
- { International
- { Other (specify): __________

### 15. Age
- { 17 or younger
- { 18
- { 19
- { 20-21
- { 22-24
- { 25 or older

### 16. Are you a person with a disability?
- { Yes
- { No

### 17. Gender
- { Female
- { Male
- { Other (specify): __________

### 18. Sexual orientation
- { Bisexual
- { Gay
- { Heterosexual
- { Lesbian
- { Questioning
- { Other (specify): __________

### 19. Do you have any other thoughts about the learning environment of this class?

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