Understanding the Needs of Students with Disabilities for UDL Based Best Practices Including the Utilization of Canvas

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METHOD

The Survey

The survey focused on the following four areas of interest:

1. Student demographics
2. General course website preferences and functionalities, representing:
   - Educational Quality
   - System Quality
   - Performance Impact
   - Service Quality
   - Information Quality
   - Self-Efficacy
3. Usage and satisfaction pertaining to specific course website elements
4. Other questions about organization of materials

Demographics

<table>
<thead>
<tr>
<th>SWD-like</th>
<th>SWD Female</th>
<th>Male</th>
<th>Female SWD</th>
<th>Online</th>
<th>Hybrid</th>
<th>In Person</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>37 (30%)</td>
<td>50 (39%)</td>
<td>49 (36%)</td>
<td>51 (40%)</td>
<td>70 (55%)</td>
<td>124 (98%)</td>
<td>142 (100%)</td>
<td>317</td>
</tr>
</tbody>
</table>

Data Analysis

The following analysis was performed without personal identified information:

- Cronbach alpha showed responses were consistent
- Wilcoxon tests used for various comparisons and all reported p-values
- SWD-like vs SWD comparisons for the above analyses

RESULTS

Gender Differences

We did not find any statistically significant differences between genders.

Student Satisfaction with Canvas

Responses ranged from 2 to 7. Google answers corresponded to strongly agree/every effective. Students reported a positive preference towards all UDL functionalities of Canvas.

Student responses to ‘How Canvas was used to support collaboration’

Students as a whole reported a strong preference towards only using one website, however, SWDs reported an even stronger preference (94.4% positive, p<0.003).

Students taking in-person classes demonstrated lower usage of components such as recorded lectures and Canvas collaborative tools than students in NIP classes. This is understandable as NIP classes rely more heavily on such tools for delivering content.

Future Work

- Develop mini-course and seminars for training in UDL based course design.

REFERENCES


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RESULTS

SWD-like vs SWOD

SWD-like students are the group of students that includes both SWDs and the students who have not been officially accommodated but have unmet needs.

We found SWD-like were using the accessibility and interactive elements of their LMS more (p<0.014 and p<0.036, respectively, potentially as a result of inability to attend class or participate in class.

CONCLUSION

Material designed to better serve SWD and increase educational equity will also lead to better learning outcomes for all students. SWD needs are yet to be met with conscious UDL based design of learning.

Recommendations

- For instructors:
  1. Utilize single LMS such as Canvas, since all students reported a positive preference towards Canvas regardless of disability status.
  2. Make use of UDL best practices we have identified or developed, i.e. make lecture videos on ClassTranscribe available for all students, provide alternative content delivery both synchronously and asynchronously.

- For educational researchers:
  Support UDL based practices with technology and training, i.e. provide interface with LMS through Learning Tools Interoperability (LTI).

Future Work

- Develop materials and example modules to help faculty adopt UDL design principles in their courses.
- Follow up with SWD and SWD-like students to better understand how they may be supported using UDL-based course design, particularly through asynchronous group activities.
- Develop mini-course and seminars for training in UDL based course design.

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