THE UNIVERSITY OF TOLEDO
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Measuring Online Course Design: A Comparative Analysis

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Project Team

LEARNING Ventures
Teaching, Learning, Technology

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- Online Program Development:
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- Educational Technology:
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Objectives

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- Validate the instrument design
- Investigate to what degree the selected courses meet QM standards from a student's perspective
- Identify gaps between student's perspective and QM certified reviewers' perspective

Instrument

- Online course design evaluation
- 27 Likert scale questions
- 3 open-end questions

The purpose and structure of the course were introduced to the students.

1. *To little or no extent*
2. *To some extent*
3. *To a moderate extent*
4. *To a great extent*
5. *To a very great extent*

Data Collection

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- Three (3) online courses
  - Course A (44)
  - Course B (38)
  - Course C (22)
- Student evaluation results
- QM reviewer results

Data Analysis

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- Coding
  - Student responses
    - To a great extent “4” or To a very great extent “5” are used as at or above 85% level and coded as “1”.
    - To a moderate extent “3”, To some extent “2” and To little or no extent “1” are used as below 85% level and coded as “0”.
    - Majority rule – if 2/3 of the students selects To a great extent “4” or To a very great extent “5” for an item in the survey then the course meets that specific standard from a student’s perspective.

Data Analysis

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- Coding
  - Reviewer results
    - Standard met – 1
    - Standard not met – 0
    - Majority rule – 2/3

Data Analysis

- Rasch model
- Mann-Whitney U test

Results

- Course A
  - Response rate: 79.55% (35/44)
  - Person reliability: 0.83
  - Item reliability: 0.48.
  - Item 1 (MNSQ =3.31)
  - Item 16 (MNSQ=3.13

Results

- Course A

Results

- Course A

Essential Standards	Student Results	Peer Reviewer Results	Items
1.1	YES	YES	2
1.2	YES	YES	1
2.1	YES	NO	4
2.2	YES	NO	5
2.4	YES	NO	6
3.1	YES	YES	14
3.2	YES	YES	15
3.3	YES/YES	NO	7, 16
4.1	YES	YES	8
5.1	YES	YES	13
5.2	YES	YES	12
6.1	YES	YES	20
6.3	YES	YES	21
7.1	NO	YES	22
7.2	NO	YES	24
8.1	NO	NO	25

Results

- Course A

Test Statistics[b]

	S2.1	S2.2	S2.4	S3.3A	S4.1
Mann-Whitney U	1.500	23.500	7.500	22.000	43.500
Wilcoxon W	7.500	29.500	13.500	28.000	673.500
Z	-5.192	-2.485	-3.393	-2.819	-.771
Asymp. Sig. (2-tailed)	.000	.013	.001	.005	.441
Exact Sig. [2*(1-tailed Sig.)]	.000[a]	.122[a]	.008[a]	.109[a]	.644[a]

a. Not corrected for ties.

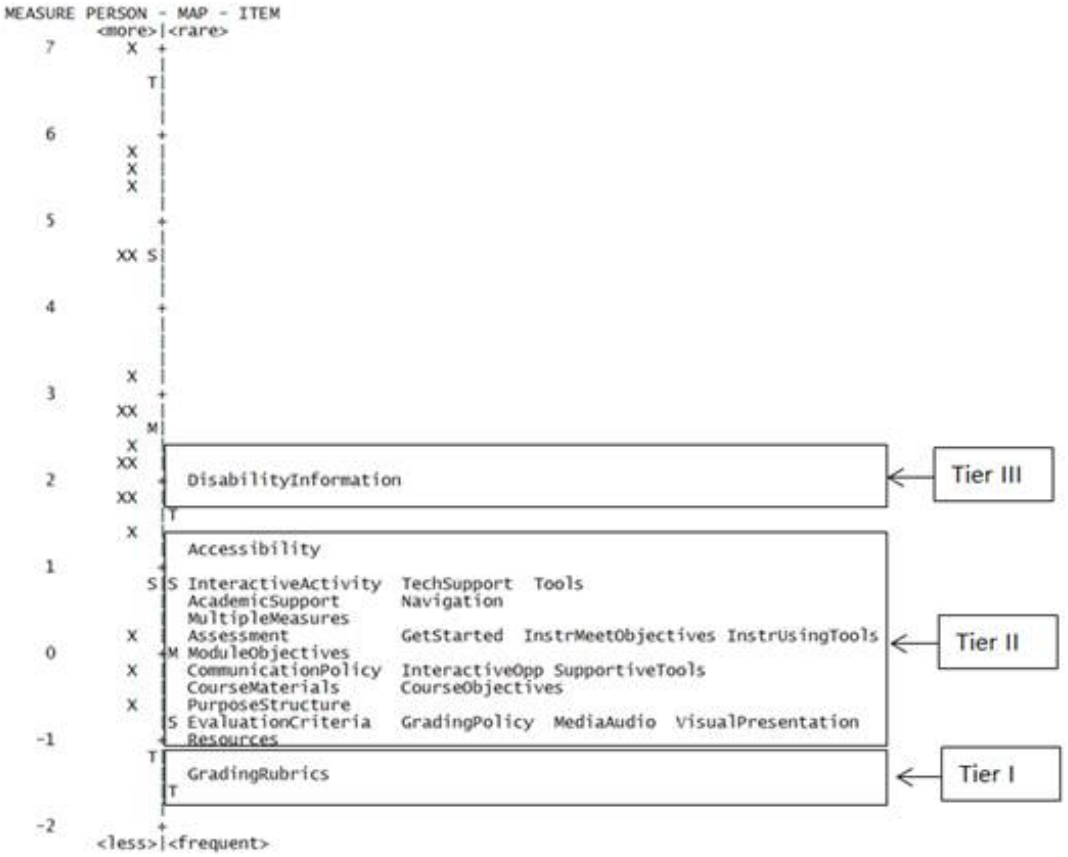
b. Grouping Variable: Role

Results

- Course B
  - Response rate: 47.37% (18/38)
  - Person reliability: 0.95
  - Item reliability: 0.63
    - Item 14 (MNSQ =2.29)

Results

- Course B



Results

- Course B

Essential Standards	Student Results	Peer Reviewer Results	Items
1.1	YES	NO	2
1.2	YES	NO	1
2.1	YES	YES	4
2.2	YES	NO	5
2.4	YES	NO	6
3.1	YES	YES	14
3.2	YES	NO	15
3.3	YES/YES	YES	7, 16
4.1	YES	YES	8
5.1	YES	YES	13
5.2	YES	YES	12
6.1	YES	YES	20
6.3	YES	YES	21
7.1	NO	YES	22
7.2	NO	YES	24
8.1	NO	YES	25

Results

- Course B

Test Statistics[b]

	S1.2	S5.2	S5.1	S3.1	S3.2	S3.3B
Mann-Whitney U	12.000	21.000	19.500	25.500	3.000	22.500
Wilcoxon W	18.000	192.000	172.500	31.500	9.000	193.500
Z	-2.214	-.886	-.916	-.192	-3.266	-.745
Asymp. Sig. (2-tailed)	.027	.376	.360	.847	.001	.456
Exact Sig. [2*(1-tailed Sig.)]	.153[a]	.600[a]	.546[a]	.887[a]	.011[a]	.669[a]

a. Not corrected for ties.

b. Grouping Variable: Role

Results

- Course B

Test Statistics[b]

	S2.1	S2.2	S2.4	S3.3A	S4.1
Mann-Whitney U	24.000	4.500	16.500	24.000	19.500
Wilcoxon W	195.000	10.500	22.500	195.000	190.500
Z	-.592	-2.887	-1.291	-.592	-1.021
Asymp. Sig. (2-tailed)	.554	.004	.197	.554	.307
Exact Sig. [2*(1-tailed Sig.)]	.814[a]	.017[a]	.307[a]	.814[a]	.471[a]

a. Not corrected for ties.

b. Grouping Variable: Role

Results

- Course C
  - Response rate: 90.91 (20/22)
  - Person reliability: 0.96
  - Item reliability: 0.78
    - Item 10 (MNSQ=2.83)
    - Item 12 (MNSQ=2.64)
    - Item 6 (MNSQ=2.60)

Results

- Course C

Results

- Course C

Essential Standards	Student Results	Peer Reviewer Results	Items
1.1	NO	YES	2
1.2	YES	YES	1
2.1	YES	YES	4
2.2	YES	NO	5
2.4	YES	YES	6
3.1	NO	YES	14
3.2	YES	YES	15
3.3	NO/YES	YES	7, 16
4.1	YES	YES	8
5.1	NO	YES	13
5.2	YES	YES	12
6.1	NO	YES	20
6.3	NO	YES	21
7.1	NO	YES	22
7.2	NO	NO	24
8.1	NO	NO	25

Results

- Course C

Test Statistics[b]

	S2.1	S2.2	S2.4	S3.3A	S4.1
Mann-Whitney U	22.500	11.500	21.000	19.500	21.000
Wilcoxon W	232.500	17.500	231.000	229.500	231.000
Z	-.957	-2.892	-1.079	-1.202	-1.079
Asymp. Sig. (2-tailed)	.338	.004	.280	.230	.280
Exact Sig. [2*(1-tailed Sig.)]	.514[a]	.094[a]	.457[a]	.355[a]	.457[a]

a. Not corrected for ties.

b. Grouping Variable: Role

Discussions

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- Gaps of differences:

Course A: Standard 2.1, 2.4 and 3.3
Course B: Standard 2.2, 3.2
Course C: Standard 2.2

Discussions

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Course A

Standard 2.1:

- Clearly-articulated objectives vs. measurable objectives

Standard 2.4

The course design does a good job in providing students with a brief introduction to each Chapter topic; however, it is somewhat difficult to understand which learning activities, resources, assignments, and assessments support the learning objectives for each unit week. It is important to help students to connect the dots between chapter level objectives and the assigned activities and assessment for the week.

-- One reviewer

Discussions

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- **Course B**
- Standard 2.2, 3.2
  - Standard 2.2 The module/unit learning objectives describe outcomes that are measurable and consistent with the course-level objectives.
    - Clearly-articulated objectives vs. measurable objectives
  - Standard 3.2 The course grading policy is stated clearly.
    - Students reported that the grading policy is available, but the reviewers do not agree.

Discussions

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Course B

Standard 3.2 :

"Standard 3.2 asks for a clear, written description on how student's grades will be calculated, for instance, the total points for each assignment, the percentages or weights for each component of the course grade. It would be helpful to provide an overall list of assignments, points, percentages or weights in the syllabus so that students are acknowledged upfront on how they will be evaluated without digging deeper in the Unit content pages."

-- One reviewer

Discussions

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Course C

- Standard 2.2 requires that the module/unit learning objectives describe outcomes that are measurable and consistent with the course level objectives. Many of the module level learning objectives are overlapping. It is suggested that you develop unique learning objectives for each module based on Bloom's taxonomy.

Discussions

Possible explanations :

- Students simply completed the survey without thinking about the standards and the course content (Knowles & Kalata, 2010):

- Many of the design aspects were clarified by the instructors during the course delivery via methods unavailable to the peer reviewers.

Discussions

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- Reviewers look for solid evidence for measurable learning outcomes
- Students look for clearly articulated objectives

- Reviewers use the QM 85% principle to judge whether the standard has been met
- Students look for the basic elements

- Students' satisfaction of the teacher and students' overall satisfaction of the course may also affect students' rating about the essential standards

Discussions

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- "The professor always leads a very informative, fun, and creative class and this one was not an exception. I learned a plethora of new things from the reading, assignments, and independent studies throughout the semester."
- "Overall, this course has given me a lot of valuable information that I can use in the classroom."
- "I appreciate all the help given to me throughout the years. This was not an easy thing to accomplish, but I have and I will always remember all those that have helped me succeed."

Questions

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Contact Us

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Thanks

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