The Online Teaching Effectiveness Scale: A New Assessment Tool for Online Education

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Agenda

- Background & Literature Review
- Conceptualization
- Survey Development
- Current Progress
Trends in Online Education

6,359,121 enrolled in 2016\(^1\)

32% of university students\(^1\)

20-year trends suggest the continued viability\(^2\)

\(^1\)Seaman, Allen, and Seaman (2018)
\(^2\)Lokken (2016)
We Explored Online Teaching Effectiveness (OTE)

- Literature Review
- Reflections on our Experiences
- Discussions among Colleagues
Limitations in the OTE Literature

We found the existing research literature on OTE limited in operational definitions and measurement tools.

- Outdated
- Lack of Context Relevance
- Limited in Scope
- Limited Support for Validity
- Little Psychometric Data
- Limited Accessibility
OTE Measures

• Berk (2013) identified 7 options:

1. Commercially developed measures, e.g., the e-SIR II (Klieger et al., 2014)
   • Outdated, expensive, not properly revised to accommodate online teaching environments
2. Scales published in professional literature
   • Free, but outdated, inadequate use of theoretical foundations of online teaching
3. Instructor and school-developed scales
   • Lack all reliability & validity
4. Traditional face-to-face rating scales
   • Lack reliability & validity for online settings
5. Adding optional online-related items to traditional measures
   • Retrofit, fails to change original scale to account for the different theoretical foundations of online teaching
6. Revising traditional measures to fit online classes
   • Same limitations as #5
7. Creating a new measure
   • Can incorporate the theoretical foundations of online teaching & demonstrate reliability and validity in online settings
OTE Literature Highlights Behaviors, Roles, Skills, & Traits
# Seven Dimensions

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>1.</td>
<td>Presence (teaching, social, and cognitive)</td>
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<tr>
<td>2.</td>
<td>Facilitation</td>
</tr>
<tr>
<td>3.</td>
<td>Feedback</td>
</tr>
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<td>4.</td>
<td>Relationship-building</td>
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<tr>
<td>5.</td>
<td>Fostering Engagement</td>
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<td>6.</td>
<td>Expertise</td>
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<td>7.</td>
<td>Technical Expertise</td>
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Four Major Factors

- Presence
- Expertise
- Facilitation
- Engagement

OTE
**OTE Defined**

*Online teaching effectiveness* involves instructors promoting student learning and construction of knowledge by:

(a) **Presence** - strong cognitive, social, and teaching presence, cultivating learning through social constructivism, effective communication, and quality instructional techniques

(b) **Engagement** - directly fostering engagement in the classroom, including timely and facilitative feedback and relationship building

(c) **Expertise** - demonstrating and applying content expertise and maintaining technical expertise

(d) **Facilitation** - regular, active, and thoughtful classroom interactions executing planned activities, managing communications, and supervising learning processes
Steps in the Process

- Define OTE
- Develop Measure
- Validate Measure
Online Teaching Effectiveness Survey (OTES)

• Thorough review of existing OTE research and measures
• Particular attention to identifying the best-established items and factors
• New items created by researchers to assess aspects of OTE that pertain solely to online teaching
• Pilot survey contains 80 questions rated on a 7-point Likert scale
OTES Subject Recruitment

• 213 participants were recruited from a cross section of undergraduate and graduate classes at PG
  – Psychology
  – Early Childhood Education
  – Human Services
  – Public Safety and Public Administration
  – Fire Science
  – Emergency Management
  – Criminal Justice
  – Corrections
OTES Item Selection

• Final items were determined based on Principal Components Analysis and Construct Validation
• Four (4) factors emerged, with content mirroring the four (4) factors found in the literature review: Presence, Expertise, Engagement, & Facilitation.
• Presence is the LARGEST factor by far, covering nearly 65% of the variance.

• When theory and data match, this is a good sign that the construct is sound!
Instructions: Place an X in the column that indicates the extent to which you believe the instructor for your current class demonstrates the following characteristics.

**Completely Disagree (1) .... Completely Agree (6)**

**My current instructor demonstrates or provides...**

**Presence**
1. Sharing their relevant professional experiences
2. Enthusiasm for teaching
3. Good presentation skills
4. Creativity to increase student interest
5. Explanations/presentations of material in novel ways
6. Meaningful examples

**Expertise**
7. Respect for students
8. Subject matter knowledge

**Facilitation**
9. Schedules and deadlines
10. Clear expectations

**Engagement**
11. Timely responses to questions
12. Online and offline availability
OTES Reliability

• Cronbach’s alphas for the four OTES factors and total scale were:
  – Presence, .95
  – Expertise, .68
  – Facilitation, .81
  – Engagement, .82
  – Total, .95

• Test/retest reliability coefficients for the four factors and total OTES scale ranged from $r = .74$ to $.89$; all were significant at $p < .001$, one-tailed.

• Coefficients were:
  – Presence, $r = .85$
  – Expertise, $r = .74$
  – Facilitation, $r = .74$
  – Engagement, $r = .87$
  – Total, $r = .89$
OTES Construct Validity

• OTES total and all four factor scores correlated significantly, $p < .001$, with the overall teaching effectiveness item, with coefficients ranging from $r = .50$ to .72

• OTES total and factor scores also correlated significantly, $p < .001$, with all four SEOTE scale scores, with coefficients ranging from $r = .38$ to .69
OTES Construct Validity

• Course grade was significantly correlated with OTES instructor Expertise score

• OTES total and factor scores were not significantly associated with:
  – Student Age
  – Student Gender
  – Student Status (year in school)
  – Student Department
  – Anticipated Grade
OTES Next Steps

• The 12-item OTES is now being tested with a much larger sample of PG students
• Aiming for 1,500 participants
• If same factor structure emerges and all reliability and validity checks remain strong, we will have a winner!
• Eventual publication of the OTES
Please share your questions, comments, or suggestions.
References


THANK YOU!