Leveraging Instructional Designers for Research on Teaching and Learning: Challenges and Opportunities

ELI BRIEF

Mary Ellen Dello Stritto, Oregon State University
Kathryn Linder, Oregon State University

FEBRUARY 2018

EDUCAUSE LEARNING INITIATIVE
Oregon State University investigated the ways in which instructional designers could be more closely involved in research on teaching and learning.

**Introduction**

Recent literature has started to explore the importance of the role of instructional designers within higher education. However, one area that has received little attention in this literature is the role of instructional designers in teaching and learning research.

For the past two years, the Oregon State University Ecampus Research Unit staff has been conducting distance education conference workshops and sessions focused on teaching and learning research design and methodology. Based on these experiences and the questions and comments from participants, staff members began to explore whether and how instructional designers are engaging in teaching and learning research. In March 2017, the Ecampus Research Unit conducted a national survey targeting instructional designers with a range of experience levels and training backgrounds who are currently working at an institution of higher education in the United States. The goal of the survey was to better understand what previous training instructional designers have received in research methods and design, how they are using and engaging in research on teaching and learning in their current roles, and whether they feel prepared to conduct research on teaching and learning in their current roles. This research was funded by OSU Ecampus, a national leader in online education.

**Methodology and Study Design**

To begin this project, a series of research questions were developed in four main areas:

1. The formal educational training of instructional designers in research methods and design
2. The research methods and design training needs of instructional designers
3. The purpose(s) of training instructional designers in research methods and design
4. Current research that is being conducted by instructional designers
These research questions were used to design an initial survey that was then tested for face and content validity with a small focus group of instructional designers from Oregon State Ecampus. Based on their feedback, the survey was revised and programmed into Qualtrics and tested again by the same focus group. After these two rounds of testing, the Ecampus Research Unit partnered with several organizations to recruit participants for the study: EDUCAUSE, the Online Learning Consortium (OLC), Quality Matters (QM), the University Professional and Continuing Education Association (UPCEA), and the WICHE Cooperative for Educational Technologies (WCET). For the purpose of this survey, “instructional designer” was defined as a higher education professional who is engaged in course design and development and who provides faculty support to aid in the adoption of academic technologies and effective teaching strategies across face-to-face, blended, and online modalities.

Recruitment occurred over a four-week period through a series of invitations to a list of self-identified instructional designers who are members of the OLC and to email lists owned by EDUCAUSE, UPCEA, and WCET. Social media and word-of-mouth recruitment strategies were also utilized.

More than 530 instructional designers responded to the 60-question online survey, and after data cleaning procedures were completed, responses from 311 participants were included in the data analysis. This data cleaning was primarily concerned with the survey completion rates. A detailed description of the survey respondents can be found in the full study report.

Descriptive analyses were conducted for quantitative survey items using SPSS. Subgroup analyses were also conducted for select variables. Content analysis and induction were used to analyze and interpret qualitative data generated from the open-ended survey items. After an initial reading of the responses, one of the principal researchers created categories and codes for each open-ended item. Each item was coded independently by two researchers, and the frequency of each of the category codes was calculated. A match score that measured how often the coders assigned the same code to a response was calculated. These match scores were used as a measure of reliability between coders. If a particular code showed that the two coders agreed less than 80% on a particular category, then the responses were reviewed by the two coders until consensus was reached.
General Findings

Many instructional designers want to conduct teaching and learning research, especially in collaboration with others.

Instructional designers were asked about the level of interest they had in engaging in a range of research tasks. More than three-quarters (75.9%) indicated “moderate” or “high” interest in collaborating on research. Large percentages of respondents indicated moderate or high interest in many research activities such as disseminating results, reading/summarizing literature, writing up results, and analyzing data (see table 1).

Table 1. Instructional designers’ interest in specific research tasks

<table>
<thead>
<tr>
<th>Task</th>
<th>Moderate/High Interest</th>
<th>N</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collaborating on research</td>
<td></td>
<td>236</td>
<td>75.9%</td>
</tr>
<tr>
<td>Disseminating results</td>
<td></td>
<td>217</td>
<td>69.8%</td>
</tr>
<tr>
<td>Reading/summarizing literature</td>
<td></td>
<td>215</td>
<td>69.1%</td>
</tr>
<tr>
<td>Writing up results</td>
<td></td>
<td>205</td>
<td>65.9%</td>
</tr>
<tr>
<td>Analyzing data</td>
<td></td>
<td>201</td>
<td>64.7%</td>
</tr>
<tr>
<td>Collecting data</td>
<td></td>
<td>199</td>
<td>64.0%</td>
</tr>
<tr>
<td>Designing and planning research</td>
<td></td>
<td>190</td>
<td>61.0%</td>
</tr>
<tr>
<td>Independently conducting research</td>
<td></td>
<td>168</td>
<td>54.0%</td>
</tr>
</tbody>
</table>

“Opportunities for faculty collaboration” in particular was one of the top 5 reasons instructional designers chose as a rationale for why they should further develop their skills in research methods and design. More than 85% of respondents indicated they want to improve their skills to enhance their opportunities to collaborate with faculty on research.

The results showed that research collaborations are already occurring. Asked about collaborations in the past year, 176 respondents indicated that they had collaborated to conduct research on teaching and learning. Of those respondents, more than three-quarters (78%) reported collaborating with faculty or subject matter experts, and more than 63% reported collaborating with other instructional designers.
Many instructional designers feel underprepared to engage in research and lack confidence in particular research skills.

Respondents were asked about their formal education in research design and methodology. More than half (162) had not taken any research design or methodology courses as undergraduates. Of the respondents who had pursued graduate-level training in any discipline, more than 20% had not taken any courses in research design and methodology.

Although some respondents had instructional design training that included some form of education in research methods and design, the individual numbers were relatively small. Only one-quarter (24%) described training in broad methods (e.g., quantitative or qualitative methods), and just over 16% reported training in specific methods (e.g., surveys, focus groups) (see figure 1). Eleven percent indicated they had training in other discipline-specific methods (e.g., polling, benchmarking). Finally, just over 7% described specific skills related to research (e.g., data collection, data analysis). A total of 89 respondents (29%) indicated that they did not have any discipline-specific training in research.

Figure 1. Research methods and design in instructional design training

Respondents were also asked about their confidence levels regarding specific research tasks (selected results are shown in figure 2). Overall, instructional designers lacked confidence in their ability to complete quantitative research tasks. Between 58% and 64% of respondents indicated that they have “low confidence” regarding such tasks as choosing an appropriate statistical test to analyze data, cleaning data, and validating a survey instrument. Slightly more than half of the respondents indicated low confidence in using data for archival research purposes. Alternatively, respondents expressed greater confidence in creating a survey instrument for research purposes, and there was a near even split in confidence levels related to completing Institutional Review Board paperwork.
The majority of instructional designers think that research enhances their work but feel that different stakeholders assign varying levels of value and credibility to their research.

Respondents were asked to what degree knowledge in research design and methods enhances their work. The majority of respondents (68.8%) indicated that this knowledge enhances their work “quite a bit” or “a great deal,” with an additional 25% of respondents indicating it “somewhat” enhances their work. The remaining 6% thought that this knowledge enhances their work “a little” or “not at all.”

As a follow-up, respondents were asked to describe how they thought knowledge of research enhances the work of instructional designers. The most commonly described category of reasons was the relationship between research and evidence-based design practices. More than one-third of the respondents (35%) suggested that knowledge of research methods enhances their work by providing them with the background and skills to understand the research evidence and apply it to their course design. Many also indicated that completing their own research projects would provide results that would inform their course design. The following are examples of comments related to this category:

“With understanding the research methods and design, I can assist faculty in gaining information about teaching strategies, concept understanding and then use that information to change courses to a better engaging course for students.”
“We are able to discern existing research and try to use that in our designs. Rather than jumping onto the latest innovation, a more conservative research-based approach can help us identify our end-user needs better.”

The second most common category of responses to how research enhances the work of an instructional designer was related to credibility and legitimacy. Twenty-five percent of the respondents suggested that knowledge of research methods enhances their work by supporting or improving their credibility and the legitimacy of their roles as instructional designers. The following are examples of comments related to this category:

“In order for me to provide valuable professional development, I need to be up to speed on the research and best practices. Faculty will also take me more seriously if I speak from the literature, not from my personal opinions.”

“Instructional design [is] about far more than use of the tools. Research provides the foundation and ‘clout’ for providing the theoretical principles to faculty as we help them build courses.”

Respondents were asked about their perceptions of how much value various stakeholder groups place on research on teaching and learning conducted by instructional designers (see table 2). More than half perceived that institutional leadership and corporate partners/vendors assigned “low” value to research by instructional designers. Peers within and outside the institution were perceived by more than half as assigning “moderate” value to such research. Approximately 40% of respondents perceived that the broader academic community assigned “high” value to instructional designers conducting research, but an equal percentage also perceived this group as assigning moderate value to such research.

Table 2. Perceived stakeholder value placed on research by instructional designers

<table>
<thead>
<tr>
<th>Stakeholder</th>
<th>Low</th>
<th>Moderate</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corporate partners/vendors</td>
<td>57.9%</td>
<td>32.2%</td>
<td>10.0%</td>
</tr>
<tr>
<td>Institutional leadership</td>
<td>54.7%</td>
<td>32.8%</td>
<td>12.5%</td>
</tr>
<tr>
<td>Faculty/SME</td>
<td>36.3%</td>
<td>47.9%</td>
<td>15.8%</td>
</tr>
<tr>
<td>Peers within institution</td>
<td>34.1%</td>
<td>50.8%</td>
<td>15.1%</td>
</tr>
<tr>
<td>Direct supervisor</td>
<td>31.8%</td>
<td>32.8%</td>
<td>12.5%</td>
</tr>
<tr>
<td>Peers outside institution</td>
<td>23.2%</td>
<td>52.4%</td>
<td>24.4%</td>
</tr>
<tr>
<td>Broader academic community</td>
<td>19.0%</td>
<td>40.8%</td>
<td>40.2%</td>
</tr>
</tbody>
</table>
Respondents were asked whether different stakeholder groups perceive instructional designers to be more credible when conducting research on teaching and learning. Eighty percent indicated that the broader academic community and faculty/subject matter experts (SME) perceive them as being more credible (see figure 3). Between 62% and 80% of respondents indicated almost all categories of stakeholders perceive them as being more credible when conducting research.

![Figure 3](image.png)

**Figure 3. Perceptions of whether stakeholders assign credibility based on engagement in research**

### Specific Barriers to Conducting Research on Teaching and Learning

The findings from this study also indicate that instructional designers face many barriers when attempting to conduct research on teaching and learning. In particular, respondents noted 10 challenges to conducting this research. The top 7 barriers are shown in figure 4, with the most frequent barriers being lack of time, collaboration barriers, and research not in their job description. Respondents also stated that lack of experience or training was a barrier. Other barriers included research logistics (e.g., access to data, recruitment challenges), institutional barriers (e.g., not eligible for research funds), and lack of support or mentoring.
Figure 4. Instructional designers’ perceived barriers to research on teaching and learning

Almost half of the respondents (153) reported currently engaging in research. Of these, slightly more than 24% reported that their job descriptions include research on teaching and learning. Further, about 21% of those currently engaging in research indicated that research is currently part of the evaluation of their work as an instructional designer.

**Opportunities for Instructional Designers in Conducting Research on Teaching and Learning**

As the field of distance education continues to grow and develop, a strong research foundation is required to help institutions make data-driven decisions about course design, program development, pedagogical innovation, and other aspects of the online classroom experience. This study provides direct evidence of the willingness and enthusiasm of instructional designers to engage in this research to better inform the field of distance education.

Importantly, despite barriers to participate in research on the scholarship of teaching and learning, results from the study show that many instructional designers want to increase their research skills for a variety of reasons, including opportunities for individual professional development, understanding student needs, understanding instructor/faculty needs, opportunities for faculty collaboration, and to further the discipline.
Concluding Comments

This research is already improving professional practices at Oregon State Ecampus. This year, we plan to have at least one instructional designer serve as a research fellow through the OSU Ecampus Research Unit. We are also including instructional designers in forthcoming data visualization trainings. We expect the roles of our instructional designers as researchers to increase over time as our instructional design team grows.

Note