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Teaching Online

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ABSTRACT

Often, online teachers report feelings of frustration or satisfaction resulting from their online teaching experience. Despite a growing body of published work, anecdotal evidence indicates that we still do not know what the true issues are, or at least not all of them and how important they are. The study presented here consists of a grounded-theory approach, relying on deep interviews with faculty members teaching online courses. The intent was to sample professionals working at different colleges and universities that offer online classes and to interview them in order to develop a theory highlighting issues they can identify in relation to their online teaching experience. This qualitative study builds a theory providing a grounded understanding of the experience of teaching online, as viewed by the teachers. In addition, the study provides insight into research paths that may be worth exploring in subsequent studies.

Keywords

Teaching, online, education, grounded theory.

INTRODUCTION

The quality of the online education experience has been the subject of ongoing debate among researchers. Instructors and students alike when asked to assess their online teaching or learning experience either love it or hate it, with few reactions in between. A great deal of research has been published about the online learning environment. Among others, researchers have reported on organizational context (Brewer, 2001), personal interests (Scott, 2003), technology availability, skills, ease of use (Chu, 2002), academic subject (Kinuthia, 2003), disbelief in the quality of learning (Chu, 2002), interaction (Guidera, 2000), faculty development (Hill Martin, 2003; Lewis, 2002), experience (McDonald Lucas, 2002), expertise (Perry, 2003), pedagogical skills (Angelo & Cross, 1993), lack of resources (Myers, 2003), and increased time demands (Iken, 2000; University of North Carolina, 2004). However, despite a growing body of research and published studies in the field, some users – teachers and students alike - do not believe the approach is working (Cyrs, 1997; Schell, 2004). There are many conflicting views related to the use of technology to teach online. Furthermore, the variety of the issues revealed in research papers indicates that a good understanding of what online teaching entails is still lacking. Faculty members often report opposite views of the online environment. Many instructors question their ability to utilize technology in order to provide an effective, user-friendly learning environment for the students (Chu, 2002; Kumari, 1999).

As online education continues to expand, teachers and educational administrators must consider a variety of factors related to technology, administration, expectations, curriculum, course design and delivery, social interaction, learning, teaching, - that may result in changes affecting education as a whole. A better understanding of the changes teachers experience in relation to online education has the potential to help teachers and educational administrators plan more effectively and be better positioned to address changes stemming from online education.

METHODOLOGY

This study follows the grounded theory precepts in its investigation of the research topic. The goal of grounded theory is to provide a framework used for theory generation. Grounded theory is concerned with generating theory following a meticulous, scientific approach. The goal is not to verify theory. Rather, it is to make sure the theory was generated following a methodological approach. As such, its purpose, procedures, sampling, and results are different.

Grounded Theory

Grounded theory as a qualitative method involves theoretical sampling, constant comparison analysis, data coding (open, axial, selective), and memos. It is a method for building theory inductively, through a process of systematic coding and

analysis. The theory is "grounded" in data, is integrated, consistent, and close to data (Charmaz, 1994; N. K. Denzin & Lincoln, 2000; B. G. Glaser & Strauss, 1967; Strauss & Corbin, 1998).

OPERATIONALIZATION

The operationalization of the study involves a theoretical sample. Interviews were used as the primary data collection instruments.

Data collection began in October 2004 and was completed in May 2005. The collection of data ended when no new themes emerged from the interview data. Sampling continued until a theoretical scheme could be identified from the themes and categories identified from the interviews (Strauss & Corbin, 1998). The researcher did not pre-determine the number of interviews. Rather, the interview process ended once the sample was deemed to be saturated. This took place after forty-four participants were interviewed.

Sites and Population

The setting for this study is Southern California. At the time the research was conducted, the researcher lived in Southern California, where there is a significant density of institutions offering post-secondary education online. The affiliation of the teachers who agreed to participate in this study determined which universities, and consequently what types of issues were explored. Respondents were encouraged to refer other qualified teachers who may participate in the study; this helped enlarge the sample. Additional participants were selected from institutions offering an array of post-secondary educational programs.

Respondents were selected from a pool of online teachers that consisted of fifty-seven post-secondary teachers who agreed to be interviewed for the study. The participants were selected in a manner to allow for as wide a representation as possible, balancing gender, teaching modality (classroom, online, or hybrid), and affiliation. While the focus was on the sample, rather than on the site, the teachers who participated in the study were affiliated with thirty-two educational institutions.

Criteria

The researcher had experience with online teaching, and was aware of the large number of educational institutions that offered online education and were located in the Southern California region. The number and variety of educational institutions indicated that a large number of potential respondents were available. Availability of potential respondents was a critical element in selecting the site. Geographic proximity was required for conducting face-to-face, personal interviews. However, as the study progressed, a number of participants had to be interviewed by telephone to accommodate schedule constraints. And most importantly, given that participation in the study was voluntary, the willingness of the teachers to participate in the study was critical.

Data Collection

Grounded theory relies on a process where data collection and analysis occur simultaneously. The researcher attempts to collect rich data through interaction with the respondents. Interviews allow respondents to offer their own views in an active manner, and follow-up questions help clarify ideas and explain concepts identified during initial interviews.

Interviews

Data were collected through in-depth, phenomenological interviews (Gubrium & Holstein, 2002; Van Manen, 1990). The interviews contain pre-determined open-ended questions that have a defined wording and sequence. The questions were presented in the same order to all respondents (Patton, 2002). Strauss and Corbin (1998) suggest that the initial interview questions or area of investigation may be supported by literature. The literature review helped the researcher prepare the initial interview questions. Data were collected from the interviews using codification techniques. The informers were asked to talk about their online and offline experience – about their "in-situ" experience.

Field Notes

The researchers created hand-written, yet copious field notes during the interviews. The field notes were used to record the researcher's account of the process. They include descriptions of settings, people, events, activities, together with personal comments, reflections, and ideas for further investigation. Mental notes made during interviews were written on paper immediately after each interview.

Memos

After each interview, the researchers took the time to review the audio recording and began to reflect on what was discussed by the participants. They wrote memos describing their reflections, and the emotions, reactions, and meaning that could be identified from the interview. Emerging concepts and themes, and possible relationships were documented in the memos.

Data Analysis

Data were coded from the interview transcripts and research field notes. The search for patterns involved building data categories, followed by a second analysis of the interviews and field notes. Records were kept of each category. The researcher sought similarities and differences across the interviews, and used pattern coding to identify common themes. Data analyses were conducted, together with brief descriptions of the participants. The common, as well as the uncommon themes identified were illustrated using quotes from the interviews. It was determined that computer software was required for the data analysis and to help manipulate what was expected to be a large amount of data collected in the study. The researcher selected the ATLAS.ti software (version 5) for analyzing the data obtained during the course of the study.

Coding

Data analysis was conducted according to the precepts of grounded theory. Codes emerged from the data through an interactive process where the researcher actively questioned and reviewed data. Codes and data were continuously revised to explore variations and achieve concept saturation. During the coding process, the researcher was concerned with developing an emerging theory, rather than testing it. In a creative, systematic manner, the researcher sought to identify, develop and relate categories that became building blocks for the theory that was emerging from the data.

Grounded theory development involves three types of coding: open, axial, and selective (Strauss & Corbin, 1998). In grounded theory, coding begins immediately after the first interview, and continues in parallel with data collection.

During open coding, categories are identified from the data. Their dimensions are carefully evaluated as they help establish and develop relationships. At this stage the researcher seeks to fully understand that data, through a process of constant comparisons. The researcher stays close to data. For each category, the researcher identifies properties and their respective dimensions (Strauss & Corbin, 1998).

Axial coding involves assembling categories identified during open coding to allow for a more complete explanation of the phenomena to emerge. It helps to relate categories and detail their properties. It makes connections between categories and subcategories, presenting the data in new ways. At this stage categories continue to develop allowing the researcher to identify factors affecting the phenomena, contextual conditions, and outcomes, gradually evolving toward a more complex model (Strauss & Corbin, 1998).

Selective coding involves selection of a number of categories that help integrate the categories and concepts. The researcher focuses on relating categories, validating relationships, and "filling in the categories that need further development and refinement" (Strauss & Corbin, 1998, p.236). A central core category is eventually selected, which provides an explanation of the phenomenon in its entirety. Its related categories and subcategories form patterns as the analysis moves from description to conceptualization.

As concepts are validated against data, the emergent theory becomes grounded in the data. The theory is generated by linking categories, their properties and dimensions. The theory is validated against the data, and presented in a narrative form that incorporates states of transition as well as intervening conditions (S. C. Brown et al., 2002).

Memo writing

Memos written by the researchers during coding helped document germane views and ideas in the interviews. Memos allow the researcher to document the thinking about data and expand on the codes by providing descriptions, comparisons, and analyses. The very nature of the theoretical sample used in grounded theory requires the researcher to be sensitive to gaps in data. Data gaps require the researcher to return to the field to seek clarification. The memos offer an ideal format for documenting these travails.

QUALITATIVE ISSUES AND TRUSTWORTHINESS OF DATA

In grounded theory, the theoretical sensitivity of the researcher – defined as the ability to recognize relevance in data and give it meaning – is important to the study. Theoretical sensitivity stems from the researcher being aware of the literature, from personal and professional experience, and through the interactions of the researcher with data throughout the study (Eason,

2000) The researcher brings theoretical sensitivity to this proposed study as follows: through an exhaustive literature review; through almost four years of teaching in post-secondary education, and having taught online for almost two years; and through his intimate involvement with the research study and data for the entire duration of the study.

The study includes detailed methods. The researcher verifies the accuracy of the account given. Rigorous data collection procedures are used. Data are adequately summarized and details are given about how data were collected (Robson, 2002). Grounded theorists advise that data collection must stop once no new information can be derived from the interviews. When things start to make sense, and meaning can be derived from collected data, at that point the theory is deemed to be acceptable.

THEORY GENERATION

Interview Analysis

An interview guide was used to ensure consistency in how the interviews were approached. The respondents provided demographic data by filling in a demographics sheet. The interviews consisted of open-ended questions and were digitally recorded and transcribed verbatim. Once available, the transcripts were coded and analyzed. The researcher wrote memos to record his impressions, feelings, interpretations, questions and concerns regarding the data. Several themes emerged in the coding of the interviews. Some categories matured and developed fully, while others did not, and could not be fully developed.

Transcript Analysis

The transcripts of the interviews were verified for accuracy. They were next loaded into ATLAS.ti and coded for themes and emerging categories. This first step generated a number of categories that were grouped under each research question to facilitate further exploration. As the line-by-line analysis of the transcripts progressed, the researcher recorded his thoughts in memos that helped him make comparisons among concepts. The ATLAS.ti software was used to present categories systematically and compare them across questions. Subsequent readings helped confirm category significance. A number of seventy-seven initial categories evolved from the analysis of the transcripts. Further analysis helped aggregate them into more general categories, and delineated relationships among categories.

A Grounded Theory of Teaching Online

The main outcome of the analysis was the emergence of ten central categories: Adjustments, Choice, Differences Among Modalities, Issues, Teacher Needs, Teaching, Teaching Demands, Teaching Dimensions, Teaching With Technology, and Technology.

Teaching Dimensions

This category reflects the intrinsic factors (teacher philosophy, talent, interests) that drive teachers. Teachers are hardworking, dedicated individuals who care deeply about their teaching. A teacher who views teaching as a vocation is more likely to be greatly concerned with the quality of teaching. When they perceive the quality of teaching is negatively affected by the online modality, they are less likely to teach online and may refuse to teach online.

The overall impression is that very few faculty members refer to teaching in terms that describe a job. For most, teaching is a vocation. Adjunct faculty members are more likely to have strong opinions about teaching online, and to avoid teaching online when they find that their needs are not being met. In contrast, academic faculty members more often describe their online teaching experiences as positive.

Teacher Needs

Those teachers who value rapport with their students, and feel there is less potential for building rapport online, are more likely to avoid teaching online. A lower level of administrative support reduces teachers' desire to teach online. Course design requires a great deal of faculty time and effort. For this reason, faculty members who do not feel they are provided with adequate resources, support, flexibility to make their own changes, training to acquire skills that allows them to improve and/or optimize course content and delivery, may avoid teaching these courses online.

Teachers' personal needs drive their expectations and lead to certain outcomes (i.e., satisfaction, personal growth and development). The technology just mediates the experience. Teachers have emotional needs. They need the interaction with

students, and like to build rapport with their students. They enjoy receiving, and need the feedback they get in class. This helps them monitor the class, and the learning experience in general.

Teaching Demands

These are extrinsic factors that are fairly controllable by school administrators. Teachers do not feel comfortable teaching every subject the same way. For teachers who would like to have access to different delivery mechanisms, it is important to offer them a variety of technologies to choose from (e.g., synchronous, real-time interaction; multimedia; simulations). When teachers do not feel they can effectively teach a course online, they may/will refuse to teach it online. Teachers who feel they are spending an excessive amount of time engaged in online teaching activities may determine that they are not fairly compensated for the extra effort, and consequently will avoid teaching online courses. An increase in time demands for the online teacher should be correlated with an increase in compensation, or other incentives and rewards. Otherwise, teachers may feel they are not adequately compensated and avoid teaching online.

The quality and quantity of interaction taking place online is important to teachers. When they feel the interaction is inadequate, they are more likely to find they are less effective in their teaching and consequently more likely to avoid the online environment. For those teachers who thrive on the energy in the classroom, the online environment is not a desirable option.

Teaching

When teaching, teachers engage in improvisation and informative entertainment, to some extent. For those teachers who consider teaching to be more like a theatrical performance ("the sage on the stage"), it is important to find this happens online. Should they not be able to replicate their showmanship online, they are less likely to teach online.

Teachers agree that teaching is not for everyone. Good teaching is about human interaction, more than it is about technology. Technology is simply another tool used to augment and support teaching.

Technology

Teachers may avoid teaching online when they find the technology is not easy to use, unreliable, or just inappropriate for supporting quality teaching. Teachers who value real-time interaction are turned off by the lack of synchronous, real-time interaction in the online environment and are more likely to refuse to teach online.

The technology used in teaching poses specific concerns. First, the availability of technology varies. Second, teachers do not always have the necessary skills to use the technology they have available, or the one they would like to use. Third, the degree of usefulness of a given technology is subjectively determined by the users.

Teaching with Technology

Teachers use technology on a daily basis, irrespective of the education modality, and appreciate having access to technology that is easy to use, reliable, and offers adequate support for the subject matter being taught online. They recognize the constraints set by technology and change accordingly. They change their teaching approach in terms of style, preparation of course materials, curriculum, and delivery method. Online, their lectures evolve into discussions.

Differences Among Modalities

Teachers note various differences among classroom, online, and hybrid modalities. Those of them who value face-to-face interaction are more likely to avoid teaching online. Teachers who put a significant value on the flexibility afforded by the online environment are more likely to teach online.

Issues

Teachers are sensitized to, and identify various issues related to teaching modalities. The interplay between Teaching Demands, Teacher Needs, Teaching, Teaching with Technology, and Differences among Modalities increases their awareness of the perceived advantages and disadvantages of each teaching modality.

Academic faculty members seem to have more consideration for, and awareness of, the online environment. Overall, teachers indicate that quality education may be achieved online. Yet, that is heavily dependent on technology, its availability and actual use, on careful selection of courses, faculty academic freedom, and student quality.

Adjustments

Teachers respond to the issues they identify by making adjustments in their teaching, beliefs, and motivation. When teaching online, they adjust to the increased demand for structure by specifying more of the course upfront, and providing detailed instructions and guidance to their students. As their time management and organizational skills improve, these improvements transfer to their classroom teaching.

Choice

Teachers who place significant value on real-time, face-to-face interaction, as offered in a traditional classroom, are more likely to avoid teaching online. Also, teachers who are insecure about their potential effectiveness in the online environment are less likely to accept online teaching assignments when offered.

Those teachers who choose not to teach online do it for a variety of reasons. Yet, this is more prevalent among adjunct faculty. Whether online teaching is optional for all faculty members needs to be explored further.

The opinions expressed by the online teachers interviewed reflect personal needs related to rapport, school administration, academic support, curriculum support, technology support, faculty development and technology training. The theory presented here was developed, and is consistent with the precepts of grounded theory research (Figure 1).

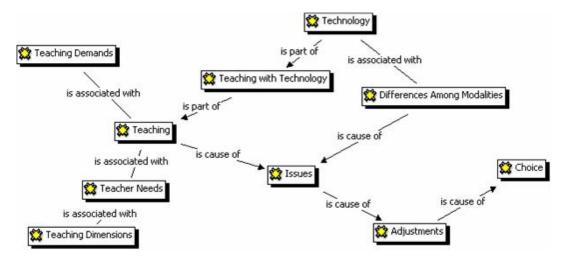


Figure 1. The Online Teaching Experience

The web of categories, interactions, and relationships described above forms the theory of the online teaching experience.

A Theory of the Online Teaching Experience

The constructs identified earlier provide the elements of a theory where *Choice* is the dependent variable, affected by the interactions and relationships among the other variables: *Adjustments*, *Differences Among Modalities*, *Issues*, *Teacher Needs*, *Teaching, Teaching Demands, Teaching Dimensions, Teaching With Technology*, and *Technology*.

The theory that emerged from the study shows that teachers reflect on their *Teaching*. The explicit factors related to *Teaching Demands* and *Teaching Needs*, and the implicit ones associated with the *Teaching Dimensions* category, are at the core of their experience. They are exposed to *Teaching with Technology* as they use *Technology* inside and outside the classroom. *Technology* takes on a new dimension in online education. Consequently, they become sensitized and notice *Differences Among Modalities*, and this leads them to identify a number of Issues related their *Teaching*. In response to the perceived *Differences Among Modalities* and the *Issues* they identify, teachers make *Adjustments*. Teachers gain an increased awareness of how online teaching affects them, of what it means for their teaching. The magnitude of the *Adjustments* required, combined with the relative importance of the *Issues*, their teaching philosophy (*Teaching Dimensions*), and whether or not their *Teaching Needs* are satisfied, leads them to make a *Choice*.

The theory presented above in narrative form reflects the findings from the study. The constructs and relationships are grounded in data collected from interviews conducted with online teachers. Although the relatively large number of

constructs may seem to lead to an overly complex theory, the diagrammatic representation in Figure 2 should help visualize the variables involved.

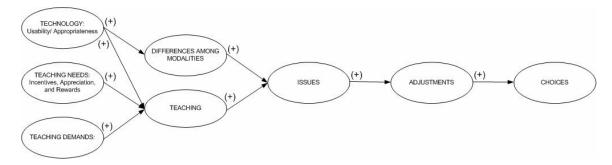


Figure 2. A Theory of the Online Teaching Experience

LIMITATIONS

This study employed an exploratory, qualitative research paradigm. Consequently, generalization is expected to be limited, given the sample size involved and the procedures for informer selection. The data collection was conducted by means of interviewing, introducing the possibility that interview questions may have been misunderstood by participants. Furthermore, participant and researcher bias are common occurrences, and can dramatically affect the results.

This being an exploratory research, the findings are somewhat tentative. Namely, generalization is limited, given the sample size involved and the procedures for informer selection. Another limitation is introduced by the duration of the study. In general, it is difficult to decide when the theory has been sufficiently developed (Robson, 2002). Given the size of the proposed sample (30 to 50 respondents), it was expected the interviews would require approximately three months to complete. However, this assumption proved to be overly optimistic, as it took much longer (eight months) for the interviews to unfold.

By research design, the grounded theory study was limited in terms of the sample size and scope of inquiry. The use of a theoretical sample and its relatively small size does decrease the generalizability (transferability) of the findings in this study. The interview participants were selected purposefully further reducing the generalizability of the study.

All of the participants are involved in post-secondary education and are teaching, or have taught, or have considered teaching, online courses. Theoretical saturation was reached with 44 participants interviewed.

Other significant limitations may stem from the data collection method employed. For example, it is possible that interview questions may be misunderstood by participants, affecting the results of the study. Furthermore, participant and researcher bias are common occurrences.

The trustworthiness of findings from qualitative, flexible design research continues to be a subject of debate (Robson, 2002). Three broad categories of validity threats specific to qualitative research are reactivity, respondent biases, and researcher biases (Lincoln & Guba, 1985). Reactivity refers to the researcher's presence causing interference. Respondent bias and researcher bias refer to, among other things, assumptions and preconceptions (Robson, 2002). In order to minimize common threats to validity, certain steps were taken. First, the researcher minimized the potential for personal bias toward subjects by seeking to interview individuals whom he had not met before. Second, the researcher considered, in detail, possible influences stemming from his life experiences. Third, by conducting multiple interviews over time and by employing multiple data collection strategies, the researcher minimized the likelihood of any findings being due to chance.

Qualitative research relies on the researcher being the research instrument. This particular approach introduces additional limitations, as the researcher may fail to correctly conceptualize data. The explanatory power of qualitative research stems from the rich descriptions that are being analyzed. Researcher bias and interpretation can dramatically affect the results.

CONCLUSION

This study has resulted in a theory of the online teaching experience. Teachers react to the teaching environment in emotional and attitudinal terms. The qualitative nature of the study poses certain limitations. Despite this, the findings may be relevant to teachers involved in online teaching and to administrators supporting online education. Variations in other institutions and

online programs may exist, and subsequent operationalization of the study at different sites or with a different sample may lead to other results.

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