

Proposal for Field Research Study

Susan Suarez

Educational Technology Leadership, New Jersey City University

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Dr. Christopher D. Carnahan

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Description of the Study

The intention of this study is to explore the perceptions of students and their instructor of pedagogical chatbot use in an online undergraduate English Composition course. In order to generate substantive theory, this reflexive study will use a flexible, emerging design. Data will be accumulated through surveys, chat transcripts, and nested saturation/redundancy sampling with open-ended interview questions that will take place through one-on-one virtual conferences. This study is necessary to explore the connections between a novel technology, the pedagogical chatbot, and its utilization in the classroom. Further research may develop the themes and find whether chatbots are effective at improving the learning experience.

Mixed-method design “combines the quantitative and qualitative research techniques, methods, approaches, concepts, or language into a single study” (Johnson & Onwuegbuzie, 2004, p. 17). This study uses a sequential mixed-method approach, which is best suited for this study because of the contribution the qualitative and quantitative approaches make to each other. The qualitative data will be used to develop themes and theories and give deeper insight into the more generalized data explored during the quantitative phase. The exploratory, sequential, mixed-method approach offers the most successful means of integrating results from both qualitative and quantitative studies (Morgan, 2014). Both methods are used and their data analyzed to provide greater certainty to the overarching research question: How does instructor intent of pedagogical chatbot use affect user perception of the chatbots and of the course? The use of both provides additional coverage while one method informs the other (Morgan, 2014; Plano Clark, Ivankova, 2016). Because of the sequential approach of this design, there are two phases. The first is the quantitative phase with data collected through a survey, followed by

instrument design based on data analysis from Phase One. Once the instrument is designed, tested, and finalized, Phase Two will begin with structured, virtual face-to-face interviews and chatbot transcript collection and end with data analysis. Finally, the study will integrate the results of the two phases.

Participants

This study will employ combined purposeful sampling strategies (Patton, 2014). The population intended for Phase One is university instructors who utilize pedagogical chatbots in their classes. The participants will be solicited via social media, specifically Twitter and Facebook, with requests for continued referrals to produce snowball sampling. The survey will be implemented using Qualtrics and open for one month. One of the questions will collect contact information if there is a desire to participate in further research. Based on the survey data, participants for Phase Two will be determined using criterion-based case selection (Patton, 2014). An instructor who utilizes pedagogical chatbots and is willing to engage further will be selected and volunteers from the class will be interviewed. The main issue during both phases is a lack of interest in participating.

The over-arching methodology is summarized in Table 1, followed by the research questions used to drive this study in Table 2.

Table 1.

Exploratory Sequential Design Procedural Flowchart

Phase	Procedure	Product
Phase One: Data Collection	<ul style="list-style-type: none"> • Web-based Survey 	<ul style="list-style-type: none"> • Numerical data • Free text responses
Phase One: Data Analysis	<ul style="list-style-type: none"> • Coding free text responses 	<ul style="list-style-type: none"> • Coded themes • Statistics

Integrating Phase One and Two	<ul style="list-style-type: none"> • Purposive sampling frame determined by survey findings • Develop instrument to answer questions raised by survey findings and RQ3 	<ul style="list-style-type: none"> • Interview sample • Interview schedule
Phase Two: Data Collection	<ul style="list-style-type: none"> • Structured virtual face-to-face interviews • Chatbot transcript collection 	<ul style="list-style-type: none"> • Interview transcripts
Phase Two: Data Analysis	<ul style="list-style-type: none"> • Coding of interview transcripts 	<ul style="list-style-type: none"> • Charted data • Mapped and interpreted data • Thematic framework
Integration of Phase One and Phase Two results	<ul style="list-style-type: none"> • Interpretation of survey data 	<ul style="list-style-type: none"> • Research discussion • Future research needs

Table 2.

Research Questions, Data Types, Data Sources, Question Types.

Research Question	Data Type	Data Sources (Instruments)	Question Types
What is the intent and extent of pedagogical chatbot use in online English composition courses?	Quantitative	Survey	<ul style="list-style-type: none"> • 5 Point Likert Scale • Opened Ended/Free text
What is the perception of the use of chatbots by in an online English composition course?	Qualitative	Interviews Chatbot transcript	<ul style="list-style-type: none"> • Structured Open Ended
How does instructor intent of pedagogical chatbot use affect user perception of the chatbots and of the course?	Mixed-methods	Integration of Qualitative & Quantitative Data	

Of course, it is necessary to address the validity of Phase 2's qualitative methodology with use of open-ended interview questions. The questions are structured, and while the interviewer is recoding the interview, she will create memos, and note ideas about the interviews and the categories. This is an important process of grounded theory as it helps to shape the analysis of extensive data (Creswell & Guetterman, 2019; Glaser & Holton, 2004). Detailing and

coding the information accessed through the interviews and the chatbot use transcripts will help develop the themes. According to Creswell, “the value of qualitative research lies in the particular description and themes developed in the context of a specific site” (2018). This amount of detail allows for the generalizability of the study.

References

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