**Literature Review (3)**

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**Blended writing enhances critical thinking and thus transferable outcomes**

Aim – analyse the above hypothesis using published journal literature, which has used interviews as part of its triangulation method to deliver its final outcomes

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Introduction

With the underlying goal of investigating the way in which researchers use interview skills as a technique to analyse data for validity and reliability, the author identified three separate journal articles which were investigated in turn, each returning varying results. The first used a readily available tool on the market, wikibooks, together with reflective journal writing, to try and draw a connection between the product and critical thought. The second, a small number of EFL teachers in Iran to determine their understanding and use of critical thinking and finally the third literature review interviewed professors at one university to see the specific infused critical thinking techniques that they apply with their students to ascertain transferable higher order thinking processes.

The first two studies offer up only limited validity to future researchers primarily because there were oversights made by the researcher in the way that the data collection was done, while the third holds a lot more value due to the details and thoroughness of the researcher. It is through further validation that data becomes increasingly valuable in the academic field, especially in areas where little research may have been conducted in the past.

Literature review 1

***Critical thinking in wikibook creation with enhanced and minimal scaffolds***

Background

In the critical thinking study in wikibook creation, with enhanced and minimal scaffolds (2015) conducted by Kim, conducted on 21 graduate students (exp n =13; control n=8), the research found that the creation of wikibooks (with and without scaffolding) and reflective journal chapter writing produced a significant increase in critical thinking and collaborative learning.

The study aimed to observe critical thinking skills in wiki collaborations both with (ESC – enhanced scaffolding case) & and without (MSC – minimal scaffolding case) structural guidance. Quantitative and qualitative data analysis methods were adopted to compare students’ perceived and observed levels of critical thinking and participation in wikibook creation.

Procedures

Quantitative data (wikibook module histories, surveys) and qualitative data was collected (i.e., wikibook modules, documents, interviews) in a mixed methods research design which was used to analyze a variety of learners’ online participation and development of critical thinking as well as to confirm the findings in two cases from different perspectives.

Though several data collection points were used, this paper will focus solely on the contribution made by interviews in the triangulation process. Interviewing a total of five students only, (3 ESC ; 2 MSC) the results indicated that a lot of the online collaboration was done by an individual student with others skirting the responsibility. This alone may well skew the overall outcomes of the project.

Validity and reliability

To ensure valid and reliable conclusions of the study, four data sources were used: (a) wikibook modules, (b) surveys, (c) documents, and (d) interviews. This triangulation technique was the researcher’s primary vehicle for the delivery of validity and reliability, though more could have been done.

In addition member checking was adopted. Interviewees provided their own critical observations and interpretations, which may have been overlooked by the researcher (Stake 1995).

Post interview, transcripts were provided to interviewees to confirm the intentions of their actions and words.

Interview questions - were based on (Stake 1995), which suggests that they had a grounding in the literature and therefore adds to the validity of the research.

Limitations

No pilot study was mentioned in the literature for the validation of the interview questions. When this happens, the strength and the understanding of the questions received by the population group cannot be initially tested for understanding and therefore must be reliant on the interviewer to make sure that the intended meaning is clear.

Interview analysis also indicated that one student made most of the contributions, a concerning finding in any study because this has the capacity to weaken the triangulation approach and the conclusions reached.

Literature review 2

***Critical thinking across the ELT curriculum: A mixed methods approach to analyzing L2 teachers’ attitudes towards critical thinking instruction***

Background

The study conducted by Ketabi, Zabihi, & Ghadiri of 106 university teachers at 6 different institutions in Iran (2012) centering around critical thinking across the ELT curriculum, ascertained that while all were in agreeance about the need to incorporate CT into classroom teaching, there was weak understanding of CT suggesting that more training is required in this area. This data was then in turn triangulated against five separate face to face interviews taken from the initial survey group.

Procedures

A triangulation of questionnaires and face-to-face interviews was used in order to enrich the validity of inferences that are to be made (Johnson, Onwuegbuzie, & Turner, 2007).

Questionnaires

(1)The language teachers’ attitudes towards the meaning of critical thinking, (2) the status of critical thinking in their teaching career and content area, and (3) the perceived need for training to improve techniques in teaching a variety of critical thinking abilities. The questionnaire also included questions about the background information of the participants.

Interviews

Five of the 106 University teachers volunteered to take part in the interview process to clarify their voices and to provide a sample consensus of the overall population.

Data was subsequently transcribed, modified, analyzed and translated into English.

Validity and reliability

A representative sample from both the study group and control group volunteered to conduct the face-to-face interviews, which were carried out in Persian (and then translated into English) in August 2012 and lasted for about 10-15 minutes. As the study was carried out in the native language of the participants, it is more likely that the participants were able to understand the questions that they were asked, and were able to respond in kind.

Limitations

As seen above, the language barrier was overcome by conducting the interview questions in the native language of the participants, though it is unclear whether the translation skills of the researcher are credible or if they outsources this task.

Add to this the fact that, no pilot study done in relation to this research, whereby questions could be checked in advance of the participants receiving them, the true understanding of the participants could again be questioned. Thus the interviewer’s skills may also need to be verified.

Finally, no reference was made in the literature citing where the interview questions were adapted from, further exemplifying the need to have the questions validated prior to the live study.

Better way

The limitations themselves provide a clear direction in relation to how the interviews could have been conducted in a better manner. Namely, doing a pilot study, outsourcing a translator or mentioning the researcher’s skill level in the journal and stating how the interview questions were created and tested, if they were not taken from a prior study.

Literature review 3

***The craft of infusing critical thinking skills: A mixed-method research on implementation and student outcome***

Background

The interview study conducted by Edwards, (2017) on **seven** university professors, overseeing combined classrooms of students n = 2146, about how they infuse critical thinking skills into their classrooms showed that it is a skill that can be taught with careful planning and thoughtful design. The actual student population of the study though was 133 for the pre and posttests, a representative number of the total population.

Procedures

A professor (male and female) was invited from each department, with seven departments responding and being represented across a university campus. (Respondents - all male, 32-56 yrs)

The qualitative - face-to-face faculty interviews utilizing semi-structured and open-ended questions. The interviews questions (based on existing research) sought teaching strategies for the infusion of CT into their class content and were based on (Abrami et al., 2015; Andrews, 2000; Bouton, 2008; Ennis, 1989; Glaser, 1984; Reece, 2002).

Professors infuse 5 CT skills into their class content, and the project director developed pretests and posttests that contain the same structure but assess the specific skills

Validity and reliability

A pilot study was done on two professors prior to the actual study. Through this process interview questions could be refined and changes made in the lead up to the actual experiment. The questions themselves were also strengthened by not only being based on the literature but were also reviewed by an expert panel in advance - one CT expert and one research writing and teaching professor, who confirmed the validity of the questions.

Interview results were triangulated against the pre and posttest outcomes achieved by the students across seven different departments at the university.

Different levels of knowledge were assessed to identify critical thinking in the various professor’s classrooms. These levels were based on Beyer’s (1985) theoretical framework (1985) thus creating validity in the pre and posttest studies of the students.

(1) defining the CT skill helps develop a mental framework appropriate for executing the skill;

(2) doing involves appropriately executing the skill by solving a given situation; and

3) discussing the steps encompasses explaining students’ train of thought to address the issues and questions presented.

(4) transfer – how can you transfer this skill? This provided content validity for the CT skills tests.

Reliability analysis

A reliability analysis was also conducted and this revealed a strong Cronbach's alpha coefficient (α=.82).

Limitations and possible suggestion

While all the steps of the data gathering were conducted in a well thought out fashion and leave little room to question the validity of the study, perhaps one suggestion could be to add another layer of research to the triangulation method employed, such as

References

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