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# **Investigating Research**

**Critical Review: Smith and Topping (2001)**

**MA in Educational Assessment**



**Word count: 1344**

## **Critical Review: Unpacking the 'value-added' impact of continuing professional education: a multi-method case study approach by Smith and Topping (2001)**

### ***Introduction***

This paper by Smith and Topping (2001) sought to establish the relationship between continuing professional education (CPE) and its benefits as observed by practitioners. The researchers explored the impact of CPE on nurses while employing a mixed method case study, with confidence that this approach would lead to thorough research and a better knowledge into the reasons 'why' certain events happen. They claim to have found strong perceptions of CPE improving patient care. Though in effect, there was very little evidence available to support this finding. This critical review aims to scrutinise their sampling strategy, data collection and analysis.

### ***Research Design***

Smith and Topping used a mixed method research design, employing different types of qualitative and quantitative methods in the collection and analysis of their data (see Hunter and Brewer, cited in Tashakkori and Teddlie 2003) and integration of their findings. Principally, the researchers adopted a 'concurrent' procedural strategy where both qualitative and quantitative data were converged to offer a complete and comprehensive analysis of their research issue (Creswell 2003). Part of their design required data to be collected simultaneously and then integrated in the results analysis.

### ***Sampling***

Smith and Topping used a convenience sampling process, which is a nonprobability (see Biggam, 2011), purposive sampling (Kemper *et al.* as cited in Tashakkori and Teddlie 2003) technique. Presumably they chose this technique because the 14 participants were easily accessible to Smith as she was the course facilitator for the CPE course they attended, as well as the line manager to a number of the nurses. They provide no information on the precise number of participants she managed, but only nine out of the 14 nurses agreed to participate in the semi-structured interview and this leads one to question whether Smith,

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being the course facilitator and line manager influenced their decision to withdraw from the interview.

However, conducting research in their own culture meant Smith had specific and in-depth knowledge of the participants and the clinical areas in which they worked. Justifiably, this enabled them to develop “a deeper understanding of the phenomena under exploration” (Smith and Topping 2001, p.344). It is commendable that Smith and Topping (2001, p.344) also acknowledged the issues associated with researching their own culture, such as “the potential of over emersion which could manifest as reduced sensitivity to features within the data”. They overcame this by introducing a second researcher. However, Kemper *et al* (as cited in Tashakkori and Teddlie 2003), proclaim that convenience sampling normally leads to ‘spurious conclusions’, and this directs one to question the validity of their findings.

### ***Data Collection***

Smith and Topping employed a case study approach and used a variety of instruments in collecting their data. These included semi-structured interviews, questionnaires, self-report evaluations and performance in assignments. It appears that their main reason for using a mixed method approach stems from Corner (1991); and Knafl and Brietmayer’s (1991) argument of tension existing in research methodology. Apparently, research has shown that nursing researchers have supported specific methodologies, irrespective of the study being researched and using a mixed method approach overcomes this tension. Though Chelsa (1992) highlights that using varying methods to collect data in itself may be a cause for differences in the research findings.

It is difficult to question the validity and reliability of Smith and Topping’s data collection methods because although they informed readers of the differing instruments used and which aspect of their research problem each instrument analysed, they did not elaborate on these methods. For instance, “specific aspects within the evaluations and questionnaire

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were designed using a Likert-type scale" (Smith and Topping, 2001, p.344). However, their use of the Likert approach was not clearly stated. Additionally, due to the limited information provided, how can one determine if the 'attitudinal elements' of their questionnaire was a reliable measure of the beliefs voices by the participants?

Secondly, as some of the research participants were well-known to Smith, it could be argued that the lack of anonymity may have influenced the participants' answers. Dowling and Brown (2010) would argue that this could have caused participants to respond in line to what was expected. Dowling and Brown (2010) explain this as the 'Hawthorne effect'. Moreover, as Smith was the line manager to a number of the participants and the course facilitator, the participants may have felt intimidated, which could have affected their responses. This clearly has implications on the validity of the data collected.

### ***Data Analysis***

Smith and Topping transcribed their interviews and analysed them using theme content analysis. Their questionnaire was analysed using descriptive statistics. They drew on the different data collection instruments in analysing their findings and conceptualising their research problem. Although they stated that the nurses' performance in assignments were used and analysed as part of the data collection method, they failed to report their findings.

Smith and Topping integrated data from the different data collection instruments. Each instruments analysed varying aspects of the research issue and different data sets were combined, depending on the research issue being explored. For example, the researchers used data from the transcribed interviews and the induction self-evaluation forms in analysing factors which motivated nurses to undertake the course. This approach is highly commendable because Bryman's (2007) study of mixed method research, found that researchers usually find it difficult to integrate their findings and therefore fail to make good use of the data they collect. However, others may argued that mixing methods of data

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collection may yield different types, quality or quantity of information and this is why, researchers find it challenging to fully integrate the data.

Smith and Topping used a Likert scale for their questionnaire. In analysing the data, it appears that they reported on each data item separately which defeats the purpose of the Likert approach. Brown and Dowling (2010) explain that this is a common error made by researchers. So it brings into question the validity of their finding that “all participants ranked, as either vitally important/important: content of course (n=11/3), relevance to work (n=6/8), and personal interest (n=6/8)” (Smith and Topping 2001, p.344).

A large proportion of their data analysis used extracts from interviews. Though on one occasion, Smith and Topping criticised their own data, suggesting that some of the comments they received remained at a 'superficial level'. This leads readers to question the validity of other inferences drawn from interviews.

It was Smith and Toppings intention to explore the impact of CPE on practice, but it seems that their research was unsuccessful in achieving this, as they evaluated the development of knowledge. They also wanted to focus on “why events occur rather than a description of what occurred” (Smith Toppings 2001, p.343). However, it is ironic that their data analysis did not explore the 'why' elements, although this was their main arguments for employing a case-study. Though they concluded and echoed Robson's (1993) argument that “the benefits of this methodological approach is the opportunity to modify and change the focus of the study and explore new phenomena as they emerge” (Smith and Topping, 2001, p. 348).

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### ***Conclusion***

Smith and Topping’s research study attempted to explore the perceived benefits of a CPE course to nurse practitioners. They discovered that there was a positive relationship in the perceived benefits of the course and it met the needs of practitioners. As one of the researchers was the course facilitator and line manager to a number of the participants, there are several questions surrounding the extent to which the participants would have been influenced in their self-reports, self-assessments and interviews. This is especially important as the researchers’ claims and findings are drawn largely through these instruments and thus leads readers to examine the validity of the data collected.

Although the researchers integrated data from the both qualitative and quantitative data collection instruments, it is evident that their argument for employing a case study approach in fact failed to present them with means of exploring ‘why’ events happen after all. However, Smith and Topping correctly highlight that their methodological preference offered them the opportunity to examine “new phenomena as they emerge” (Smith and Topping, 2001, p. 348).

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