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The critical incident technique (CIT) is a widely used qualitative research method and has been recognized as an effective exploratory and investigative tool since its development by Flanagan (1954) to understand a social or human problem. An incident refers to any observable human activity that is sufficiently complete in itself to permit inferences and predictions to be made about the person performing the act. To be critical, an incident must occur in a situation where the purpose or intent of the act seems fairly clear to the observer and where its consequences are sufficiently definite to leave little doubt concerning its effects. CIT has so far been utilized in a gamma of disciplines such as industrial and organizational psychology, nursing, communications, education and counselling (Creswell, 1998).

Flanagan (1954), developed the CIT method of research because US Air Force pilots during World War II were crashing their planes and the question was raised as to why, how, and what was causing the pilots to be involved in these life threatening scenarios. The purpose of CIT is to describe an experience by identifying helpful as well as hindering incidents related to that experience.

Description of the CIT Research Method

Although it is a qualitative research method, the CIT was initially developed as a scientific tool to help uncover existing realities so they could be measured, predicted and ultimately controlled within the realm of job and task analysis (Chell, 1998). Thus CIT was conducted from a positivist paradigm. Flanagan (1954) therefore used quantitative language such as reliability and validity to discuss his findings.

In contrast to other qualitative methods such as phenomenology, CIT research is distinct in that it focuses on critical events, incidents, or factors that help promote or detract from the effective performance of some activity or the experience of a specific situation or event. Secondly, it originates from industrial and organizational psychology. Thirdly, data collection is achieved primarily through interviews, either in person (individually or groups) or via telephone. Fourthly, data analysis is conducted by determining the frame of reference. This involves forming categories that emerge from the data and determining the specificity or generality of those categories. Finally, the data collected is in a narrative form which is that of categories with operational definitions and self-descriptive titles (Butterfield, Borgen, Amundson, & Maglio, 2005).

These important features distinguish CIT from other qualitative research methods and are necessary for researchers in counselling psychology in order to be true to the method.

Research best suited for CIT

According to Flanagan (1954) and Woolsey (1986), the application of CIT is best suited in the following areas: 1) To measure the criteria for a typical performance, 2) To measure proficiency in standard samples, 3) Training and education 4) Selection and

classification of a specific area, 5) Job design and purification 6) Operating procedures, 7) Equipment design, 8) Attitudes in regards to motivation and leadership and 9) Counselling and psychotherapy.

Some research questions that CIT seeks to answer include (a) What helps and hinders people from being in gangs? (b) What helps and hinders people after they have been sexually assaulted? (c) How can anxiety be prevented in schools, (d) Does the FRIENDS' implementation program developed in Australia help decrease anxiety related disorders in school children in Chilliwack, BC? (e) What will help teachers to effectively implement the FRIEND'S program to their intermediate students? (f) How do clients view their therapeutic relationship and (g) What do parents expect from school counsellors as they counsel their children? (h) Why do so many students not seek assistance from their counsellors for career planning issues, despite the fact that they do seek assistance from counsellors for educational issues (Domene, Shapka & Keating, 2006). For these questions, CIT has been used within an interpretative paradigm (Chell, 1998).

The Five Steps of CIT

(1) General aims of the study

CIT was primarily used to create a functional description of an activity. The aim of the study may lead to answer two questions (a) what is the objective of the activity and (b) what is the person who engages in the activity expected to accomplish? (Butterfield et al., 2005).

Flanagan (1954) considered that to determine the aim, the primary criterion should be to ask supervisors who are experts in the field of study, or by asking people who actually perform the work in question. For example a researcher interested in understanding what is hindering the implementation of a program to prevent anxiety amongst elementary students may contact the school psychologists with expertise in anxiety and expertise in relating to teachers before conducting the CIT research. The aim according to Flanagan can be put forth within a simple phrase or catchword while communicating the question.

(2) Plans and Specifications

Plan and specify how factual incidents regarding the general aim of the study will be collected. In the above example, to understand what will help the teachers implement the "FRIENDS' program", the researcher would have to determine how to identify factual incidents that occurred between the teachers and the school district team, as well as students. At this stage, specific instruction is given to observers to ensure that the same rules are adhered to and respected. This leads to consistency across observers thereby increasing credibility.

(3) Data collection

Collecting of the data may occur via structured interviews or may consist of an observer writing reports. The interviews involve individuals report from memory about extreme incidents that occurred in the past (Flanagan, 1954).

Recalled data may occur in four ways: individual interviews, group interviews, questionnaires and record forms (recording details of incidents either in narrative form or

by placing a check mark on a pre-existing list of the most likely activities). In a CIT study, the number of participants is irrelevant to data collected. Instead the number of critical incidents determines sample size. The incidents are observed and reported and the common categories are identified from the participant's description of helpful or hindering incidents and then examined in terms of their content and relative frequency. The capture and description of the content domain of the activity in question is the most crucial for data collection in CIT. Flanagan (1954), suggested that accuracy can be deduced from redundancy.

(4) Data Analysis

According to Flanagan (1954) and Woolsey (1986) this is the most important and difficult step in CIT research because a large number of critical incidents can be difficult to work with since there is no one right way to approach it (Butterfield et al., 2005). The purpose of data analysis is to summarize and describe the data in an effective manner so that it can be used efficiently for practical purposes. Flanagan (1954, p. 344), stated that "the aim is to increase the usefulness of the data while sacrificing as little as possible of their comprehensiveness, specificity and validity." In analyzing the data, three problems need to be addressed: a) identifying the general frame of reference that will be most useful for describing the incidents, b) inductive process that produces insight and c) the selection of the levels along the specificity–generality continuum to use in reporting the data (for example, considering a few general behaviours of several specific behaviours).

(5) Interpreting and Reporting

Interpret and report the requirements of the activity being studied. Flanagan (1954) explained that the most common errors are made not in the data collection and analysis of the data but in the failure to interpret them properly. Thus each of the four preceding steps need to be studied carefully to see what biases have been introduced by the procedure used. Therefore, discussions need to be carried out in order to avoid faulty inferences and generalizations of the limitations imposed by the group. In addition, the researcher is responsible to clearly emphasize the degree of credibility and trustworthiness of the findings.

Credibility has to do with the level of detail provided by the participant or observer regarding a particular critical incident (Flanagan, 1954). Flanagan suggested that general or vague descriptions of incidents might mean that an incident is not well remembered and should therefore be excluded. Consequently, researchers working with CIT at the University of British Columbia (UBC) have developed nine credibility checks that are consistent with Flanagan to enhance the robustness of CIT findings (Butterfield, et al., 2005).

Firstly, someone familiar with CIT does the independent extraction of the critical incidents. After that an investigation is carried on to find out whether, there is an agreement between what the researcher and the independent coder think is a critical incident using the recorded interviews and transcripts provided. Higher concordance rates indicate credibility of cited incidents that are critical to the aim of the activity (Anderson & Nilsson, 1964). Secondly, participant cross-checking is conducted so those participants can confirm that the categories make sense to them. This is done routinely with a second interview to treat participants with respect for their own histories and perspectives.

According to Maxwell (1992), cross-checking is a credibility measure for interpretative validity in qualitative research. Thirdly, independent judges place incidents into categories to check for concordance between researcher's placements and independent judge's of randomly chosen critical incidents into categories. Higher concordance rates indicate reliability, which is the extent to which research produces the same results when replicated.

Fourthly, redundancy is noted by tracking the point at which new categories stop emerging from the data and proves that the domain of activity has been thoroughly covered (Flanagan, 1954; Woolsey, 1986). Fifthly, tentative categories are submitted to two or more experts in the field (Butterfield et al., 2005). The rationale is that when the experts agree with the categories, it enhances credibility. Sixthly, the rate of participation is calculated by investigating the number of participants who cited the specific incident and then dividing that number by the total number of participants. The greater the number of independent observers who report the same incident, the more likely it is that the incident is important to the aim of the study. The seventh aspect is that theoretical agreement where the categories formed in CIT should be supported with literature and must be consistent with the subject matter. The accuracy of the account leads to the eight credibility checks of descriptive validity (Maxwell, 1992). Routine tape recordings or research interviews and transcriptions are ways of accurately reproducing participants' words.

Finally, the ninth credibility involves verification from the CIT research method experts by listening to a sample of interview tapes ensuring that the researcher is following the CIT method. This check is known as interview fidelity which ensures the maintenance of consistency, rigour and leading questions by the interviewer (Butterfield et al., 2005).

Limitations of the use of CIT

CIT is continually evolving in qualitative research and there is evidence that participants are asked to reflect upon and write down the meaning of critical incidents they have experienced instead of discussing them in the research interview (Francis, 1995). Thus, the CIT method is beginning to focus on eliciting beliefs, opinions and suggestions that formed part of the critical incident instead of concentrating solely on a description of the incident (Ellinger & Bostrom, 2002). Also, the method has a built-in bias towards incidents that happened recently, since these are easier to recall. Participants may not be accustomed to or willing to take the time to tell a complete story when describing a critical incident. Since the original use of CIT was as a task analysis tool used for psychological constructs and experiences, the importance of a standardized credibility and trustworthiness check used by researchers will improve the soundness of the results across all CIT research.

In conclusion, CIT is a method that counsellors could use in their individual work, collecting data while counselling. It is a more systematic and categorical way of conducting research. The nine credibility checks bring about trustworthiness, reliability, descriptive validity and accuracy. Instead of triangulation, one is crystallizing the data and opening up to a creative method in qualitative research. Above all CIT is the only unique research method that encompasses both qualitative and quantitative research while helping to seek, to explore and analyze a social or human problem.

Resource List

Andersson, B., & Nilsson, S. (1964). Studies in the reliability and validity of the critical incident technique. *Journal of Applied Psychology, 48*, 398-403.

This article focuses on the reliability and validity aspects of CIT when used to conduct research on job analysis of store managers in a Swedish grocery company. This journal article can be found doing an academic search through PsycARTICLES, or EBSCOhost Database.

Butterfield, L. D., Borgen, W. A., Amundson, N. E., & Maglio, A. T. (2005). Fifty years of critical incident technique: 1954-2004 and beyond. *Qualitative Research*, *5,* 475-497.

This article reviews the origin and evolution of the CIT during the past 50 years, discusses CIT's place within the qualitative research tradition, examines the robustness of the method, and offers some recommendations for using the CIT. The focus of this article is primarily on the use of the CIT in counselling psychology. This journal article can be found doing an academic search through PsycINFO Database, or EBSCOhost Database.

Chell, E. (1998). Critical incident technique. In G. Symon, & C. Cassell (Eds.), *Qualitative methods and analysis in organizational research: A practical guide* (pp. 51-72). London: Sage.

This is a book chapter that discusses the background of the critical incident technique in relation to 3 different approaches of its use, drawing out the assumptions underlying the interpretation and development of the method. It illustrates CIT through a case example of a business owner's account of incidents impacting his business activities, their consequences for his family and subsequent business behavior. This chapter can be found through PsycINFO Database.

Flanagan, J. C. (1954). The critical incident technique. *Psychological Bulletin, 51*, 327-358.

This article discusses the development, fundamental principles, present status, and uses of the critical incident technique along with a review of studies employing the technique and suggestions for further applications. This article can be found using the PsycARTICLES Database or EBSCOhost Database.

Woolsey, L. K. (1986). The critical incident technique: An innovative qualitative method of research. *Canadian Journal of Counselling, 20*, 242-254.

This article illustrates how to do a critical incident study and offers applications of the technique in counselling psychology. This article was found at ERIC Education Resources Centre at http://www.eric.ed.gov

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