
Using the Enhanced Critical Incident Technique in Counselling Psychology Research

Lee D. Butterfield

Adler School of Professional Psychology

William A. Borgen

University of British Columbia

Asa-Sophia T. Maglio

Adler School of Professional Psychology

Norman E. Amundson

University of British Columbia

ABSTRACT

This article describes an effective approach to using the Enhanced Critical Incident Technique (ECIT) research method based on Flanagan's (1954) Critical Incident Technique (CIT). It begins with an overview of the CIT, how to decide if it is the appropriate methodology to use, then, using a recent CIT study as an example, discusses Flanagan's five steps for conducting a CIT study: (a) determining the activity's aim; (b) setting plans, specifications, and criteria for the information to be obtained; (c) collecting data; (d) analyzing the data; and (e) reporting the findings. Nine credibility checks, developed to increase the rigour and credibility of the ECIT, are described.

RÉSUMÉ

Le présent article décrit une méthodologie efficace pour utiliser la méthode de recherche de la technique améliorée des incidents critiques, *Enhanced Critical Incident Technique* (ECIT), basée sur la technique des incidents critiques, *Critical Incident Technique* (CIT) de Flanagan (1954). L'article commence par un survol de la CIT, puis passe à une détermination de l'adaptation de cette méthodologie. Ensuite, se servant d'une étude CIT récente comme exemple, l'article discute des cinq étapes décrites par Flanagan pour mener une étude de CIT : (a) déterminer l'objectif de l'activité; (b) établir des plans, spécifications, et critères relatifs à l'information à obtenir; (c) collecter les données; (d) analyser les données; et (e) communiquer les conclusions. Neuf vérifications de crédibilité, élaborées pour augmenter la rigueur et la crédibilité de la ECIT, sont décrites.

This article chronicles the steps and processes involved in applying the *Enhanced Critical Incident Technique* (ECIT) research method (Butterfield, Borgen, Amundson, & Maglio, 2005) and provides examples from a recent research study that utilized the ECIT. Our aim is to respond to requests from students and researchers considering utilizing this qualitative research method for details on how to use the *Critical Incident Technique* (CIT) by providing a detailed, practical guide based on our own experience using the method.

Readers who are unfamiliar with the CIT will find detailed descriptions as follows:

1. Flanagan (1954) on the origin and initial uses of this research method.
2. Woolsey (1986) for its applicability to counselling psychology.
3. Andersson and Nilsson (1964) and Ronan and Latham (1974) on the method's reliability and validity.
4. Butterfield et al. (2005) for the CIT's place in the qualitative research tradition, how it has evolved since its origins, the credibility checks that have emerged, and suggestions for standardizing use of the method.

Woolsey (1986) suggested the CIT research method is appropriate for counselling psychology due to its facility to "encompass factual happenings, qualities or attributes, not just critical incidents ... its capacity to explore differences or turning points ... its utility as both a foundational/exploratory tool in the early stages of research, and its role in building theories or models" (Butterfield et al., 2005, p. 480). Many of the studies using the CIT have provided insights into psychological processes that yielded clinical tools for counsellors to use (e.g., McCormick, 1997).

Although the CIT is commonly used in industrial and organizational psychology as well as other fields, this article focuses on utilizing the method in counselling psychology research. We begin with a brief discussion of the CIT's place as a qualitative research method, a description of the method, and an overview of the enhancements made to the method (resulting in the ECIT method described here).

THE CRITICAL INCIDENT TECHNIQUE AS A QUALITATIVE RESEARCH METHOD

Although the CIT arose from the World War II Aviation Psychology Program of the US Army Air Forces for selecting and classifying aircrews (Flanagan, 1954), it has since grown beyond its original application and is now a qualitative research method whose influence has expanded into many disciplines including counselling, nursing, psychology, education, job analysis, marketing, social work, and organizational learning investigating counselling psychology questions (Butterfield et al., 2005; Woolsey, 1986). The CIT as described by Flanagan meets the qualitative research descriptions offered by Denzin and Lincoln (1994) and Creswell (1998) as "the researcher is the key instrument of data collection; data are collected as words through interviewing, participant observation, and/or qualitative open-ended questions; data analysis is done inductively; and the focus is on participants' perspectives" (Butterfield et al., 2005, p. 482).

Creswell (1998) further suggests that each qualitative research method has its own set of rules that makes it unique, and understanding those rules is essential to conducting the research appropriately. Creswell offers five dimensions along which qualitative traditions are described in order to ascertain their distinctive features. If we apply these dimensions to the CIT, its distinctive features are the following:

1. Focus is 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.

2. Discipline origin is from industrial and organizational psychology.
3. Data collection is primarily through interviews, either in person (individually or in groups) or via telephone.
4. Data analysis is conducted by determining the frame of reference, forming categories that emerge from the data, and determining the specificity or generality of the categories.
5. Narrative form is that of categories with operational definitions and self-descriptive titles. These features are what distinguish the CIT from other qualitative methods (Butterfield et al., 2005, p. 483).

More details about the data analysis in a CIT study is offered in the next section.

APPLYING THE CIT

Flanagan (1954) described the CIT as having five major steps: (a) ascertaining the general aims of the activity to be studied, (b) making plans and setting specifications, (c) data collection, (d) data analysis, and (e) data interpretation and report on the findings. Data interpretation involves three primary stages: (a) determining the frame of reference, (b) forming the categories, and (c) determining the level of generality or specificity to be used in reporting the data (Butterfield et al., 2005; Flanagan).

Descriptions in the literature of how to operationalize and apply these components of the method are light on details about how each of these steps is conducted and how the categories are formed. In this article, we will highlight a completed research project (Butterfield, 2006) that exemplifies the use of the basic CIT process, but also highlights the use of an extensive set of credibility checks developed over the past two decades that are intended to increase the trustworthiness of a CIT study's results and are consistent with Flanagan's original approach (Butterfield et al., 2005).

These nine credibility checks, as well as two other enhancements to Flanagan's (1954) original CIT (the inclusion of contextual questions at the start of the research interview in order to provide background information for the CIT data, and the inclusion of questions regarding wish list items in addition to those that were present that helped or hindered in the situation) (Butterfield & Borgen, 2005; Kempainen, O'Brien, & Corpuz, 1998), constitute the enhancements to the original CIT that we are now referring to as the ECIT.

Wish list (WL) items are those people, supports, information, programs, and so on, that were not present at the time of the participant's experience, but that those involved believed would have been helpful in the situation being studied. In this article we (a) discuss the choice of the original CIT method, (b) describe each of the five steps involved in conducting a CIT study as identified by Flanagan, and (c) outline in detail ways to implement the enhancements to the original CIT approach.

CHOOSING THE CIT

Each qualitative research method is designed to answer a different kind of research question. For example, phenomenology explores a person's experience of something, grounded theory explores the process of something, and a case study provides a description of a single case of an individual, event, organization, process, and so on (Creswell, 1998, 2008).

The CIT explores what helps or hinders in a particular experience or activity (Butterfield et al., 2005). The CIT is exploratory by nature and is appropriate to use when the researcher is interested in learning more about little-understood events, incidents, factors, or psychological constructs "that help promote or detract from effective performance of some activity or the experience of a specific situation or event" (Butterfield et al., p. 483). Our illustrative study involved people who described themselves as successfully navigating the changes they encountered that affected their work.

The research question that drove the study was "What helps or hinders workers who successfully navigate and thrive when faced with changes that affect their work?" (Butterfield, 2006, p. 9). The researcher began with the assumption that there is a discrete knowledge or experience possessed by these individuals that can be elicited through self-reflection of successful strategies used. CIT was appropriate in this research context because the knowledge sought was particular to a set of individuals (e.g., workers) who had expertise in a particular area (e.g., doing well in the face of changes affecting their work).

THE FIVE STEPS IN CONDUCTING A CIT

Step 1: Ascertaining the General Aims of the Activity Being Studied

Once the researcher has clarified the domain of inquiry, formed the research question, and determined that the CIT is the appropriate method, the first step in using the CIT, according to Flanagan (1954), is ascertaining the general aims of the activity being studied. As stated by Butterfield et al. (2005, p. 478), "understanding the general aim of the activity is intended to answer two questions: (a) what is the objective of the activity; and (b) what is the person expected to accomplish who engages in the activity"? Our study focused on the naturally occurring, self-renewing, self-sustaining strategies used by workers who self-identified as doing well despite changes affecting their work. Participants were selected based on having experienced changes affecting their work, self-reporting that they had handled the changes well, being prepared to talk about what had helped or hindered their ability to handle the changes well, and being available for two interviews. The purpose of the research interview was to elicit the discrete strategies of these workers in order to build a composite picture of the approaches used by these successful workers that they perceived as helping or hindering them in being successful, and those they thought would have been helpful.

Step 2: Making Plans and Setting Specifications

Once the researcher has determined the general aims of the activities or psychological processes to be studied, the next step in a CIT study is to make plans and set specifications (Flanagan, 1954), which has been described as “(a) defining the types of situations to be observed, (b) determining the situation’s relevance to the general aim, (c) understanding the extent of the effect the incident has on the general aim, and (d) deciding who will make the observations” (Butterfield et al., 2005, p. 478). This involves deciding what to observe or ask about; creating an interview guide or set of protocols for interviewers to follow; and training people in the purpose of the study, the intent of the questions, and how to conduct CIT interviews. In essence, this process helps ensure that everyone involved understands the aim of the study and follows similar procedures so consistency is maintained across researchers involved in conducting the CIT interviews.

Using an interview guide is a particularly valuable tool for CIT researchers. As in other qualitative research studies, it serves as a record of the interview, a back-up in case of equipment failure, a way of keeping the interviewer focused on the participant’s story, and a resource for referring back to previous comments made by the participant that require follow-up. It also serves as a tool to ensure all interview guide questions have been asked and responded to. The format of the interview guide is important in a CIT study to ensure ease of identifying *critical incidents* (CIs) and WL items, and that the supporting details for each item (an example, and the importance of the item for the participant in the experience being studied) is captured during the research interview. Earlier CIT studies we conducted did not format the interview guide in this way, making it difficult to ascertain what data constituted a CI or WL item. Appendix A provides an example of the interview guide format used for our study.

Step 3: Collecting the Data

Data collection in a CIT study involving psychological concepts is primarily done via interviews, either in person or over the telephone. The major vehicle for collecting the CIT data is the first interview. It is important to ensure interviewers are trained to conduct the interviews, obtain informed consent, and address any questions participants may have about the interviewer or the research study. Although Flanagan (1954) advocated collecting data through expert observation, that is often not possible when exploring psychological constructs or experiences from the individual’s perspective.

In our experience, using the CIT in counselling psychology research is most effective when data are collected through in-person interviews. Establishing rapport, allowing participants to tell their story during the contextual component, and being able to follow up using probes and questions as needed yield rich data that would likely not be obtained if other methods were used.

The CIT interview begins by obtaining the participant’s informed consent and answering any initial questions. The first interview with participants is the most

important because it (a) allows the participant to tell his or her story and feel heard and understood, (b) provides the background information against which the CIs and WL items can be understood, (c) elicits the CIT data, and (d) gathers the demographic data that describe the sample. In our study, the first interview took an average of 2.5 hours. It is critical (a) not to rush this interview, (b) to cover all elements in the interview guide, and (c) to ask clarifying or follow-up questions as needed.

One important objective of CIT interviewing is to explore the same content areas at the same level of detail with all participants. In this research project we explored factors that helped or hindered participants' ability to handle change well and factors they thought would have been helpful had they been available. This does not mean asking exactly the same questions in the same sequence. In some cases, eliciting the helping or hindering factors will require little more than asking the interview question and letting the participant tell his or her story. In others it will require more work in the form of probing, following up on previous remarks made by the participant, or asking for clarity, additional details, or examples.

In our experience, conducting CIT and other qualitative research interviews following different methodologies using basic empathy along with other active listening skills and being curious while also being respectful greatly facilitates the interview process. Whenever possible, it is desirable to ask follow-up questions during the first interview regarding points made by the participant that are incomplete or unclear, although follow-up questions can be asked during the second interview if necessary. It is not necessary to keep a record of every probing question or follow-up question used in each interview. The information that is elicited is of primary interest; the way it is elicited is handled by an interview fidelity check discussed below.

Flanagan (1954) stated that participant interviews should continue until exhaustiveness or redundancy in the data occurs. This refers to the point at which participants mention no new CIs or WL items and no new categories are needed to describe the incidents. *Exhaustiveness* is Flanagan's term for the concept of saturation as defined by Creswell (2008). Flanagan and Butterfield et al. (2005) discuss exhaustiveness in more detail as a credibility check and it is mentioned again below, but it is important to note here that achieving exhaustiveness determines when a sufficient number of participants have been interviewed. The researcher may choose to continue interviewing participants for other reasons, as was the case in our study, but it is not required by the CIT.

Step 4: Analyzing the Data

A CIT study typically elicits masses of data, and analyzing it is considered the most difficult step involved in conducting a CIT study (Oaklief, 1976; Woolsey, 1986). In this section we describe how to organize the raw data, extract the CIs and WL items, and create the categories that describe them. It presupposes the interview recordings have been transcribed and returned to the researcher along with transcripts from which the researcher can work. Analysis follows the steps prescribed by Flanagan (1954) and Butterfield et al. (2005), namely:

1. Determining the frame of reference. This arises from the use that is to be made of the data. In our study, we wanted to use the results to create counselling interventions for people struggling with change and to inform career development theories.
2. Formulating the categories derived from grouping similar incidents (which requires experience, judgement, and insight).
3. Determining the level of specificity or generality to be used in reporting the data. This is determined by practical considerations such as project budget, number of people available to analyze the data, the extent to which a few general behaviours will be useful compared to several dozen specific behaviours, and so on.

Organizing the raw data. Although there are myriad ways to organize the raw data, we have found two to be particularly effective: a manual method and one that utilizes a qualitative research data analysis software program. Because the procedures used for computer coding are based on established manual procedures, the manual procedures are described here. We begin by placing the interview transcripts into a three-ring binder with tab dividers separating each interview, and investing in a good supply of Post-it notes and as many different coloured highlighting markers as are available. The researcher chooses a colour scheme for highlighting the various interview guide components in the transcript, such as the contextual data and the CIT portion (with different colours for each of the helping CIs, hindering CIs, and WL items), as well as the examples and helping or hindering qualities of the incident.

Identifying the CIs and WL items. The first data to be analyzed should be the CIs and WL items because, using the ECIT approach, they are subject to an extensive array of credibility checks. Extraction of the CIs and WL items is done in batches of three randomly chosen interviews following the general guidelines described by Flanagan (1954) around sorting a small sample of incidents into piles (categories) that relate to the frame of reference, and the more specific standard established by Borgen and Amundson (1984).

Starting with the first interview, the researcher highlights with the appropriately coloured pen any text that appears to be a helping CI that is supported by examples that describe the incident along with its importance or impact on the participant as it relates to the frame of reference of the study. The researcher makes note of any items that appear to be helping or hindering CIs or WL items where the participant did not describe their importance or impact in order to follow up with the participant in the second interview. An example of this would be an item in the contextual component of the interview such as “it helped that my colleagues were supportive,” which has no supporting details in the transcript and is not mentioned again in the critical incident component of the interview. In such a case, the researcher would ask the participant during the second interview whether this was, in fact, a helping CI, and if the participant agreed, then he or she would be asked to describe its importance and provide an example of a time

it helped. Only if the participant agrees that the item is a CI and provides an example or importance details is the incident included in the final research results. This entire process is repeated for the hindering CIs and for the WL items in the first, second, then third transcript. At this point the researcher moves to the next step with these three interviews: creating the categories.

Creating the categories. Creating the categories requires the researcher to be clear at the outset about how the data will be used: is it for clinical interventions, counsellor training, or some other purpose (Butterfield et al., 2005; Flanagan, 1954)? The purpose for which the data are being collected influences the formation of the categories and their level of specificity. In our study, we wanted to learn about the naturally occurring strategies used by people who were doing well with changes affecting their work, hoping that the information could be used to assist other workers who may not be doing well with such changes. Thus the data were to be used primarily to inform therapeutic interventions and training workshops, as well as future research.

Forming categories requires the use of inductive reasoning, patience, and the ability to see similarities and differences among the hundreds of CIs and WL items provided by participants. The categorization process starts by extracting the helping CIs from the first transcript. The researcher can do this either physically (e.g., copying highlighted passages onto index cards or cutting the passage out of a photocopy of the transcript) or electronically (by creating a text document for each participant number with headings for helping CIs, hindering CIs, and WL items).

This new electronic document has a second purpose: it can later be sent to the participant for the crosschecking credibility check described in the following section. In order to easily calculate participation rates (also discussed later in this article), it is important that the participant number is placed in parentheses at the start of each CI or WL item as it is moved into this document.

At this point, the researcher's job is to examine the helping CIs to discern any patterns, themes, similarities, or differences among the incidents. In most cases there are few similarities across CIs obtained from the same interview, although it can happen. In our study, one participant included three helping CIs: "good working relationship with your boss," "working with a coach," and "keeping in contact with friends, social support."

After considering these three CIs in the context of the interview, the researcher decided they had some form of support in common. Creating a new document for the categories now being formed, the researcher copied and pasted these CIs into it under the heading "Support." This process is repeated for the remaining helping CIs in the interview. It is common to have nearly as many categories at this stage as there are CIs. Once the helping CIs have been placed into categories, the process is repeated for the hindering CIs, then again for the WL items. It is helpful to create a working table to track the number of new categories created when working on each interview; it will aid in determining the point at which exhaustiveness occurs. This table is discussed again later in the article.

Next the researcher examines the CIs and WL items from the second transcript. The researcher again starts by examining the helping CIs, placing any that fit into the existing categories, and creates new categories for those that do not fit. This process is repeated for the hindering CIs and the WL items from the second transcript. It is common at this point to still be creating additional categories. Once all the CIs and WL items from this interview have been placed into existing or new categories, the researcher updates the table that details the number of new categories created from that interview's data. This process is repeated again for the third transcript of the batch.

Once the CIs and WL items from the first three transcripts have been categorized and the table updated, the researcher begins work on the next batch of three transcripts by identifying and extracting the CIs and WL items and repeating the process of highlighting them and placing them into existing categories or creating new ones. As new CIs and WL items are placed into the categories, it is usually necessary to rename the categories and make ongoing decisions about the level of specificity to be used for reporting the results. At times, a category may become so broad or large that greater specificity is needed in order to create a richer understanding of the research area. In the above example of creating the category named "Support" to accommodate three helping CIs, the category was later divided into three discrete categories: "Support from Friends and Family," "Support from Work Colleagues," and "Support from Professionals."

The researcher needs to consider a number of issues when deciding whether to merge small categories together (those with few CIs or WL items) or break large categories into smaller ones as just described. One is the use to be made of the data: will the change make it easier or harder to use the data for its intended purpose? Another is whether there is significant overlap among categories such that they are difficult to distinguish from one another.

Still another consideration is whether 25% of participants identified incidents that fit into a particular category, which is the standard established by Borgen and Amundson (1984) as the minimum participation rate needed to form a viable category. If not, is there another existing category into which these CIs and WL items could be placed without compromising the meaning of either category, or can a new category be created that would accommodate the smaller ones?

This process of placing incidents into categories, examining the categories to see if they make sense, deciding whether there is significant overlap among categories that requires them to be merged, and determining the need to break large categories into smaller ones continues until the CIs and WL items from all but 10% of the interviews have been placed and the category scheme appears to be complete. At that point, the self-descriptive titles of the categories are finalized and an operational definition is written for each category.

In our research, the "Self-care" category was a merger of several smaller initial categories. The operational definition included the various themes found within the broader category: health initiatives and positive, growth/learning, self-affirm-

ing, and self-soothing activities that fill their physical, social, emotional, intellectual, and change processing needs to help them deal well with change.

Placing the CIs and WL items from the final 10% of interviews into the categories that have been developed is the final step in creating a list of categories to represent the incidents provided by the participants (Butterfield et al., 2005). In the majority of cases, after this point no new categories are needed and no changes to either the category titles or operational definitions are required. Occasionally there may be a need to refine either the category title or the operational definition, but in our experience this is rare. Once all the categories have been created and the operational definitions written, the researcher is ready to move on to the next step, which includes conducting the credibility checks as part of the data interpretation and reporting process.

Step 5: Interpreting the Data and Reporting the Results

Step 5 of a CIT study consists of interpreting the data and reporting the results (Flanagan, 1954). It is in this step of Flanagan's process where we have made additions to the CIT that, in addition to incorporating the contextual questions at the beginning of the interview and including the WL items, make it the ECIT. These additions to Flanagan's method of interpreting data and reporting the results involve the use of the nine credibility checks. We have found these credibility checks to be especially useful when the study involves the report of perceptions regarding an experience rather than direct observation of a behaviour. A discussion of the history and rationale of the nine credibility checks that follow can be found in Butterfield et al. (2005); we focus here on the application of these checks.

Audiotaping interviews. Maxwell (1992) discusses the concept of descriptive validity in qualitative research, which concerns the accuracy of the account. Butterfield et al. (2005) suggest that audiotaping the data collection interviews allows researchers to capture the participants' words and then work directly from either the audiotapes or the transcripts created from the tapes.

Interview fidelity. Creswell (1998) highlights the importance of following a method's established protocols in order to strengthen the robustness of the findings. To ensure that (a) the CIT research method is being followed, (b) the interviewer is not asking leading questions or prompting the participant, and (c) the interview guide is being followed, it has become customary to have an expert in the CIT research method listen to every third or fourth taped interview (Butterfield et al., 2005). This check can be performed by the researcher's thesis supervisor, another member of the research team, or a third party external to the research team who knows the CIT method. Feedback is then provided to the interviewer prior to conducting the next interview.

Independent extraction of CIs. Independent extraction of CIs requires that an individual other than the person who initially identified CIs and WL items review and independently identify (or extract) what they think are the CIs and WL items. Butterfield et al. (2005) suggest it is customary to randomly choose 25% of the transcripts to give to this independent individual. This number has evolved based

partly on time, cost, and effectiveness considerations, but also because it is consistent with Andersson and Nilsson's (1964) process when examining the reliability and validity of the CIT (Butterfield et al.). Once the person has extracted what he or she thinks are the CIs and WL items, the researcher compares what each has extracted and computes the percentage of agreement. For incidents that do not match, the researcher and independent reader can discuss the discrepancy for the purpose of resolving the difference. If no resolution can be made, the concordance rate would reflect less than a 100% match, and the incident in question would not be used in further analysis.

Exhaustiveness. As mentioned above, to determine the point at which exhaustiveness occurs, it is necessary to keep a log of each interview as its CIs and WL items are placed into the category scheme being created. As already indicated, we found it was helpful to create a table with the date the interview was coded in the far left column, the participant number in the next column, the date the CIs and WL items from the interview were placed into the category scheme in the next column, and in the far right column a notation about whether any new helping, hindering, or WL categories were created to accommodate the data. An example of the table is attached as Appendix B.

In our research, a glance at the table told us that for the first three interviews all new categories were created; for the next two interviews 12 new helping categories, 3 hindering categories, and 4 WL categories emerged; and no new categories emerged for the sixth through twentieth interviews. Exhaustiveness was therefore achieved after the fifth interview. As mentioned above, interviewing may continue beyond this point for a number of reasons, including the situation in this case where interviews had already been scheduled with the remaining participants.

Participation rates. Reporting participation rates is important when establishing the credibility of categories as they are being formed, and for assessing the relative strength of a category when reviewing the results of the study (Borgen & Amundson, 1984). In order to calculate participation rates, the researcher must include the participant number with every CI or WL item that is copied into the "Categories" document discussed above. By doing so, it is possible to simply count up the number of different participant numbers under each category and divide that number by the total number of participants to determine the participation rate. In our study, under the helping category "Support from Friends & Family," 15 of the 20 participants provided items for this category, which translates into a participation rate of 75%.

Placing incidents into categories by an independent judge. The purpose of this step is to have an independent person place 25% of the CIs and WL items into the categories that have been created by the researcher and to calculate the match rate between that person's placements and those of the researcher (Butterfield et al., 2005). The researcher randomly chooses 25% of the incidents within each category and sends them to an independent judge, along with the category headings and operational definitions, with instructions to place each incident into the category where the judge thinks it belongs. The researcher then compares the

judge's placement of CIs and WL items into categories with the researcher's own placement. Andersson and Nilsson (1964) suggested a match rate guideline of 80% or better for this credibility check.

In the event of a discrepancy, a decision needs to be made about how to reconcile the differences. The rule we have used, which is effective and respectful of participants' experience, is to base the final decision about the category into which an incident is to be placed on the participant's response during the participant cross-checking, which is discussed next.

Cross-checking by participants. The second interview with participants is conducted after all the CIT data from the first interviews have been coded, analyzed, and placed into categories with operational definitions, and self-descriptive titles have been created by the researcher. It also follows the independent extraction of CIs and placement of the incidents into the category scheme by an independent judge, and the achievement of acceptable match rates.

The second interview is conducted for a number of reasons. First, it invites participants to review the interpretations made by the researcher to ensure they are supported by study participants, thus confirming the CIs and WL items extracted from the transcripts. Second, it affords participants an opportunity to review the categories into which their CIs and WL items have been placed and to comment on how well the category titles capture their lived experience of the specific incidents. Third, it confirms whether or not the CIs and WL items have been placed into appropriate categories. Finally, it ensures participants' voices have been honoured and accurately reported.

Unlike the first interview that is conducted in person, the second interview is generally conducted by e-mail and telephone. It is not necessarily taped, and it is not transcribed. The second interview is a credibility check with three parts: (a) getting input on the CIs and WL items extracted from the participant's first interview, (b) obtaining feedback regarding the categories into which they have been placed, and (c) following up on questions arising from analyzing the participant's data from the first interview.

The first part entails sending to the participant via e-mail the list of CIs and WL items extracted from their first interview, and a separate list of the categories with their CIs and WL items placed into them. The participant is asked to review the list of CIs and then answer the following questions:

1. Are the helping/hindering CIs and WL items correct?
2. Is anything missing?
3. Is there anything that needs revising?
4. Do you have any other comments?

It has been our experience that the majority of participants agree with the CIs and WL items as listed. When that happens, no further action is needed and the researcher can move on to the second part of the interview. If the participant asks for clarification of any CI or WL item, it is appropriate to discuss the context of the incident with the participant by reading the transcript excerpt from which the

item was taken. We have found that providing this information jogs the person's memory and usually results in their agreeing with the item. If the participant disagrees with an item after the context is provided, he or she has the final say about whether it should be included.

The participant is then asked to review the categories into which the CIs and WL items have been placed and to answer the following questions:

1. Do the category headings make sense to you?
2. Do the category headings capture your experience and the meaning that the incident or factor had for you?
3. Are there any incidents in the categories that do not appear to fit from your perspective? If so, where do you think they belong?

The researcher and participant discuss any potential changes suggested by the participant. Although generally the participant's wishes are honoured and the changes made, if the researcher disagrees with the participant's wishes it is permissible to discuss the concerns and arrive at a mutually agreeable solution.

The last part of this second interview consists of following up on questions that arose from the participant's first interview. This is most often needed when something in the first interview sounded like it was a CI or WL item, but the supporting importance or example information was missing. The second interview offers a chance to ask the participant whether an item is a helping, hindering, or WL item and, if the person agrees it is, to ask them for the supporting details.

Assuming the supporting details are provided, the item is then coded, added to the total number of helping, hindering, or WL items, and added to the appropriate category. The researcher would advise the participant, during the telephone conversation, of the category into which the incident will be placed to obtain the participant's agreement.

We have generally found it to be most productive to first e-mail the CI and WL item lists along with the category headings into which they have been placed, then follow up with a telephone conversation that allows the researcher to ask for feedback, probe for more information, and deal with any questions the participant may have. The e-mail provides an audit trail of the interaction; the telephone call allows the researcher to ask the follow-up questions. At the start of the telephone conversation it is important to advise the participant that the researcher will be taking notes of what is discussed and will e-mail them to the participant at the end of the conversation to review, approve or revise, and return via e-mail to the researcher.

Expert opinions. The eighth credibility check consists of submitting the categories that have been created to two or more experts in the field. This occurs once the category scheme is finalized, which is usually after the participant cross-checking has been completed. When choosing the experts, it is important that they have knowledge of the area being studied, even if they are not familiar with the CIT. The experts are asked to provide responses to three broad questions after reviewing the categories:

1. Do you find the categories to be useful?
2. Are you surprised by any of the categories?
3. Do you think there is anything missing based on your experience (Butterfield et al., 2005; Flanagan, 1954)?

In our research, we submitted the category scheme to a psychologist with extensive business experience in the areas of career management and organizational consulting, and to a human resource professional and management consultant with more than 25 years of experience. Since both experts confirmed all the categories were congruent with their knowledge of the research and professional field and both believed the categories were useful, we were then ready to move on to the final credibility check.

Theoretical agreement. As described by Butterfield et al. (2005) and based on Maxwell's description (1992), theoretical agreement has two parts. The first has to do with articulating and reporting the assumptions underlying the study. In our study, some of the assumptions were (a) people experience change, are aware of it, and are able to describe their responses; (b) change has increased in all arenas of people's lives; and (c) the environment is no longer stable, and therefore it is not appropriate to assume that the individual who is experiencing difficulties dealing with change is at "fault." The researcher then reviews the scholarly literature in appropriate disciplines to see if the assumptions are supported. In our research, we reviewed the literature in workplace change, social psychology, psychological thriving, business, stress and coping, positive psychology, career counselling, vocational psychology, and other relevant areas, finding support for these underlying assumptions.

The second part of theoretical agreement compares the emergent categories with relevant scholarly literature. When this literature check was conducted for our study, support for all 10 categories that had been developed was found in the literature. It is important, however, to remember that by definition a CIT study is exploratory. Lack of support for one or more categories in the literature may mean that the study has uncovered something new that is not yet known to researchers rather than suggesting a category is not sound (Butterfield et al., 2005). It may also indicate that different areas of theory and research than those that have been used up to now are needed to describe or explain the area that has been studied. In either case, these categories are considered to be in need of more study to further support or challenge them.

Reporting the results. The final component of Step 5 in a CIT study is to report the results (Flanagan, 1954). Flanagan considered this to be one of the researcher's primary responsibilities, which can be discharged any number of ways. Most often it is accomplished through publishing articles or chapters in relevant scholarly or trade journals or books, or through presentations at trade or scholarly conferences.

CONCLUDING REMARKS

The CIT has proven to be a versatile, adaptive, and robust research method that will likely continue to evolve as researchers utilize it to shed light on new and

innovative research questions. Our intention in writing this article was to illustrate the process involved in conducting an ECIT study by providing a detailed guide based on our own experience with the approach. We hope this elaboration will be of assistance to students and researchers unfamiliar with the CIT research method and the ways it has evolved over the past several years.

One final word: although the number of credibility checks may appear daunting, they can be conducted fairly quickly and they get easier as familiarity with them increases. The payoff is having followed a well-documented research process that increases the researcher's confidence in the credibility and trustworthiness of the results obtained from the study.

References

- Andersson, B., & Nilsson, S. (1964). Studies in the reliability and validity of the Critical Incident Technique. *Journal of Applied Psychology, 48*, 398-403.
- Borgen, W. A., & Amundson, N. E. (1984). *The experience of unemployment*. Scarborough, ON: Nelson.
- Butterfield, L. D. (2006). Helping workers meet the challenges of ongoing change: What strategies help and hinder? Unpublished doctoral dissertation, University of British Columbia, Vancouver, British Columbia.
- Butterfield, L. D., & Borgen, W. A. (2005). Outplacement counseling from the client's perspective. *Career Development Quarterly, 53*, 306-316.
- Butterfield, L. D., Borgen, W. A., Amundson, N. E., & Maglio, A. T. (2005). Fifty years of the Critical Incident Technique: 1954–2004 and beyond. *Qualitative Research, 5*, 475-497.
- Creswell, J. W. (1998). *Qualitative inquiry and research design: Choosing among the five traditions*. Thousand Oaks, CA: Sage.
- Creswell, J. W. (2008). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research* (3rd ed.). Upper Saddle River, NJ: Pearson Education.
- Denzin, N. K., & Lincoln, Y. S. (1994). *Handbook of qualitative research*. Thousand Oaks, CA: Sage.
- Flanagan, J. C. (1954). The Critical Incident Technique. *Psychological Bulletin, 51*, 327-358.
- Kemppainen, J. K., O'Brien, L., & Corpuz, B. (1998). The behaviors of AIDS patients toward their nurses. *International Journal of Nursing Studies, 35*, 330-338.
- Maxwell, J. A. (1992). Understanding and validity in qualitative research. *Harvard Educational Review, 62*, 279-300.
- McCormick, R. (1997). Healing through interdependence: The role of connecting in First Nations healing practices. *Canadian Journal of Counselling, 31*, 172-184.
- Oaklief, C. H. (1976, April). *The Critical Incident Technique: Research applications in the administration of adult and continuing education*. Paper presented at the Adult Education Research Conference, Toronto, ON.
- Ronan, W. W., & Latham, G. P. (1974). The reliability and validity of the Critical Incident Technique: A closer look. *Studies in Personnel Psychology, 6*, 53-64.
- Woolsey, L. (1986). The Critical Incident Technique: An innovative method of research. *Canadian Journal of Counselling, 20*, 242-254.

APPENDIX A

Sample Interview Guide: "Doing Well" Strategies Being Used

Participant #: _____ Date: _____

Interview Start Time: _____

1. *Contextual Component*

Preamble: As you know, I am investigating the ways in which working women and men have successfully handled change(s) that affect their work. This is the first of two interviews, and its purpose is to collect information about the changes you have experienced and the ways in which you are dealing well with them.

- a. As a way of getting started, perhaps you could tell me a little bit about your work situation.
- b. You volunteered to participate in this study because you identified yourself as experiencing workplace change and doing well with it. What does “doing well” mean to you?
- c. What are the changes that have affected your work life?
- d. How have these changes affected your work life? (Probe, as needed: Are there any other impacts on your work?)

2. *Critical Incident Component*

Transition to Critical Incident questions: You said that even with all these changes, you rated yourself as a 5-6 (or whatever the participant rated him- or herself in question 1 (c) above).

- a. What has helped you in doing well with the changes that have affected your work? (Probes: What was the incident/factor? How did it impact you? – e.g.: “Persistence is helping. How is it helping?” Can you give me a specific example where persistence helped? How did that help you to do well in handling the changes affecting your work?)

Helpful Factor & What It Means to Participant (What do you mean by ...?)	Importance (How did it help? Tell me what it was about ... that you find so helpful.)	Example (What led up to it? Incident. Outcome of incident.)

- b. Are there things that have made it more difficult for you to do well? (Alternative question: What kinds of things have happened that made it harder for you to do well?)

Hindering Factor & What It Means to Participant (What do you mean by ...?)	Importance (How did it hinder? Tell me what it was about ... that you find so unhelpful.)	Example (What led up to it? Incident. Outcome of incident.)

- c. Summarize what has been discussed up to this point with the participant as a transition to the next question:
 We've talked about what's helped you to do well (name them), and some things that have made it more difficult for you to do well (name them). Are there other things that would help you to continue doing well? (Alternative question: I wonder what else might be helpful to you that you haven't had access to?)

Wish List Item & What it Means to Participant (What do you mean by ...?)	Importance (How would it help? Tell me what it is about ... that you would find so helpful.)	Example (In what circumstances might this be helpful?)

- d. Have you always handled change well?
 (Circle one) Yes No
- e. If not, when did this change for you?
- f. What happened that caused you to begin handling change well?

3. *Demographics Component*

- i. Occupation
- ii. Number of years in this occupation
- iii. Occupation/job level
- iv. Length of time in current job
- v. Industry in which the person works
- vi. Number of years in this industry
- vii. Length of service in this company
- viii. Age
- ix. Sex
- x. Income level (household)
- xi. Country of birth
 ___ If not Canada, (a) length of time in Canada; and (b) 1st language
- xii. Marital status
- xiii. Family status/parental status
- xiv. Education level

Interview End Time: _____

Length of interview: _____

Interviewer's Name: _____

APPENDIX B

Sample Table for Tracking the Emergence of New Categories

Date of CI/WL Extraction	Participant #	Date Categorized	New Categories Emerged?
February 14	13	February 28	All new categories emerged
February 18	39	February 28	
February 25	54	February 28	
March 2	14	March 15	12 new HE; 3 new HI; 4 new WL categories emerged
March 8	15	March 15	
March 12	51	March 15	No new categories emerged
March 17	16	March 25	No new categories emerged
March 20	32	March 25	No new categories emerged
March 24	40	March 25	No new categories emerged
March 26	52	March 29	No new categories emerged
March 27	35	March 29	No new categories emerged
March 28	65	March 29	No new categories emerged
March 30	60	April 3	No new categories emerged
March 31	42	April 3	No new categories emerged
April 2	64	April 3	No new categories emerged
April 5	41	April 10	No new categories emerged
April 7	38	April 10	No new categories emerged
April 9	33	April 10	No new categories emerged
April 13	21 (10% left to end)	April 15	No new categories emerged
April 14	37 (10% left to end)	April 15	No new categories emerged

Note: HE = Helpful Critical Incidents; HI = Hindering Critical Incidents; WL = Wish List items

About the Authors

Lee D. Butterfield and Asa-Sophia T. Maglio are core faculty at the Adler School of Professional Psychology, Vancouver Campus. William A. Borgen and Norman E. Amundson are professors in the Educational & Counselling Psychology and Special Education department at the University of British Columbia.

Address correspondence to Dr. Lee D. Butterfield, Adler School of Professional Psychology, Vancouver Campus, 1200 – 1090 West Georgia Street, Vancouver, British Columbia, Canada, V6E 3V7, e-mail <lbutterfield@adler.edu>.