

RESEARCHING STUDENT PERCEPTIONS OF PRACTICES AND ARTIFACTS AT UNIVERSITIES USING THE CRITICAL INCIDENT TECHNIQUE

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Abstract

The Critical Incident Technique (CIT) holds significant potential for identifying areas of improvement and detecting illogical cultural artifacts (i.e. observable social practices and texts) within higher education institutions by capturing critical events from students' perspectives. Through systematic analysis, domains requiring enhancement—such as curriculum content, administrative procedures, and the educational environment—can be uncovered across individual disciplines and institutions. This study aims to assess global CIT research interconnectivity, as sustainable international higher education development relies on how these diverse studies build upon each other. A literature review found 51 student CIT studies with which a citation network was formed. Although, on average, 1.68 of the other student CIT studies are cited (SD = 2.35), there are 16 studies classified as completely unconnected, meaning they are neither cite nor get cited by any identified study. These isolated studies often cite only general CIT or discipline-specific literature. The network analysis shows that few established researchers repeatedly applied CITs to examine university practices from students' perspectives, thus conducting iterative research projects and building upon existing findings. Overall, there is sufficient empirical evidence to identify key themes, insights, and contradictions, which can inform further reflection and strategic development within higher education and the broader educational sector. Practitioners globally could systematically synthesize these disconnected findings, thereby enabling targeted, cross-cultural improvements of weaknesses in international university structures and practices. However, the results show that researchers rarely build upon previous global findings to examine cultural university practices students' perspective and improve them strategically.

Keywords: *Organizational issues, educational environment, organizational change, educational quality.*

1. Introduction

Academic disciplines develop specific practices that shape the actions of their members and are reflected in their professional cultures. Schein (1996), in his model of organizational culture, defines culture as a construct comprising three levels. The lowest level consists of shared basic assumptions, which are taken for granted and not questioned (underlying assumptions). Espoused values represent the intermediate level and provide a normative framework for behavior (e.g., what constitutes good research, what is considered typical teaching). The highest level is characterized by artifacts, that is, concrete products resulting from the practices of a community. These observable cultural outputs manifest as communicative artifacts, including student dialogues, specific arguing styles, critique expressions, or formal academic texts. For individuals who are new to a disciplinary community and lack direct experience with the scientific system, disciplinary practices are often difficult to discern and may conflict with their expectations. This issue is particularly relevant for students.

Increasingly, higher education institutions are realizing themselves as a global, service-oriented industry, focusing on divers, cross-cultural student expectations (Gruber et al., 2010). In this context, student satisfaction has emerged as a central strategic success factor. High satisfaction yields significant long-term benefits, particularly through increased student loyalty, positive word-of-mouth (WOM), and a strengthened institutional image (Arambewela, 2010). To capture such formative experiences from the student's perspective methodologically, the Critical Incident Technique (CIT) is highly suitable. However, sustainable higher education development requires that such studies do not remain isolated, but build upon each other iteratively. Against this background, the following research question arises: To what extent is the CIT method utilized in higher education research to investigate students' perspectives and what research gaps and potentials exist for a more interconnected and in iterative scientific discourse?

2. Methods and procedure

The CIT method involves the targeted collection and analysis of critical, meaningful incidents in order to derive practically relevant insights related to specific events or situations (Flanagan, 1954). This technique has frequently been employed to capture and analyze both negative and positive critical incidents (Edvardsson & Roos, 2001). In contrast, in-depth interviews are broader conversations aimed at gaining a comprehensive understanding of individual persons and their experiences, perspectives, and opinions, without necessarily focusing on specific events. Although there may be some thematic overlaps, this study exclusively focused on research utilizing the CIT method to derive practice-related insights.

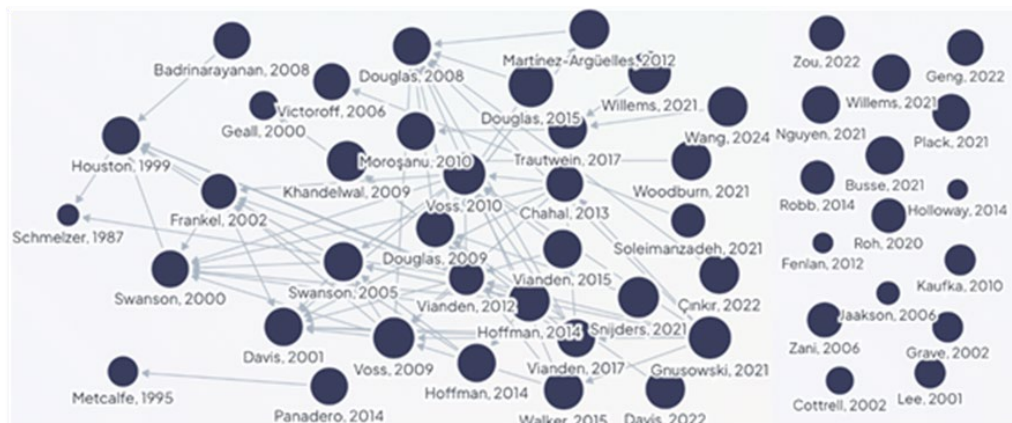
The procedure of the study involved a comprehensive literature search (ERIC, search terms: 'critical incident' OR 'CIT' AND 'first year of higher education' OR 'FYHE' OR 'students' OR 'college' OR 'university'), which yielded 40 sources. Additional sources were identified through snowball system, resulting in 5 further references (totaling 45 sources). After screening and exclusion, 26 sources remained. These 26 sources were uploaded into an AI-based platform (ResearchRabbit). The platform suggested an additional 1,254 sources. After reviewing the titles, 43 abstracts were examined, leading to the inclusion of 18 more sources. The final set comprised 51 sources, which were used to construct a citation network.

Within the AI-based platform, the sources were visualized on a coordinate system, with the publication date on the X-axis and the citation count on the Y-axis (articles with a high citation count generally have had a greater impact on their field). The size of each studied article was influenced by its reference count (articles with particularly high reference counts cite many studies). Due to numerous overlaps in the visualization, which significantly hampered visual analysis, the visualization was gradually adjusted to ensure that all author names were visible with minimal shifts and that unrelated studies were clearly delineated (see Figure 1). Following this visual inspection, the analysis focused on: A) the number of unconnected studies (those lacking any incoming or outgoing citations within the identified CIT network) versus connected studies (those with at least one internal network citation), B) how the studies are interconnected and the extent to which prior empirical findings are built upon, and C) whether there are researchers who conduct multiple CIT studies.

3. Results

Descriptive statistical analysis revealed that the 51 identified articles, on average, cited 1.68 of the other student CIT studies ($SD = 2.35$). Sixteen articles were identified that neither cite nor are cited by any other articles (unconnected studies; see Figure 1 on the right side). These 'unconnected' studies often reference general CIT literature (e.g., Flanagan, 1954) and, similar to connected studies, investigate topics such as perceived teaching quality, expectations and (dis-)satisfaction of students.

Figure 1. Adjusted citation network.*



*Note: A list of complete details of the studies, along with the descriptive analyses, together with the original visual representation prior to the gradual adjustment, can be requested via email from the lead author.

An additional nine articles do not cite any other identified student CIT study but are connected insofar as they cite later works by other authors, thereby building upon prior research. The remaining 26 studies cite between 1 and 9 other student CIT studies. Within the connected studies, explored topics include (dis)satisfaction with higher education practices, service quality, perceptions of interactions with faculties, peers, and professors, as well as diverse expectations and coping strategies regarding global university demands. Interconnections were found not only in terms of methodology (CIT), target group (students),

and citations, but also in terms of theoretical frameworks and empirical findings. The visualizations of the presented studies did not vary greatly in size, as their reference counts were similar, but they differed primarily in their focus (subject-specific vs. university didactics; see Figure 1).

Nine researchers were identified who published multiple studies (not all as first authors). In these studies, a clear thematic connection to prior work as well as triangulation is most evident.

4. Discussion

The analysis and visualization clearly indicate that only a few established researchers have repeatedly employed CIT to explore cultural practices and observable artifacts in international higher education from students' perspectives, thereby implementing iterative research projects. There is little evidence of these studies building upon existing findings, which reveals a significant gap regarding an interconnected scientific discourse. The results suggest that there is sufficient empirical data to conduct a review that identifies central themes and insights, as well as contradictions, and reflects on these within the context of science didactics and psychological effects. Such a review could also address the 'research dead ends' evident in the disconnected studies, thereby utilizing the method's full potential for the strategic and sustainable development of global higher education practices.

Furthermore, the findings reveal that the earliest study dates from 1987 (Schmelzer et al., 1987), and between 2006 and 2017, many CIT studies were conducted (22 out of the 51 identified studies). Recently, however, the number of student CIT studies has been declining, which may be related to the broader Big Data trend.

Studies employing in-depth interviews that focus on students' perspectives on cultural university artifacts (e.g., particularly effective teaching) were not included in the data analysis, even though these studies examined critical incidents. This exclusion represents a limitation of the current analysis, yet it highlights a further potential to systematically integrate such qualitative approaches into future CIT-networks.

5. Conclusion and implications

Addressing the central research question, the analysis demonstrates that while CIT has been utilized across 51 identified studies to capture various students' perspectives, the research landscape remains fragmented. As the citation network reveals, current CIT studies in higher education rarely build upon one another. With an average of only 1.68 citations to other student CIT studies and 16 completely unconnected studies, the method's overarching potential for strategic institutional development is currently limited. To bridge this gap, the student perspective could be integrated more systematically and cumulatively. For researchers, the overview highlights existing research gaps and emphasizes the need to design future, iterative CIT studies that explicitly connect to and build upon prior, often overlooked findings. For practitioners, this fragmented state means they may need to actively synthesize these isolated studies themselves. By reflecting on which specific results are transferable to their own contexts—such as drawing on CIT applications involving international students (Arambewela, 2010)—practitioners can overcome the lack of interconnected research and still derive actionable recommendations for their own higher education development.

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