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Abstract

Case study methodology has long been a contested terrain in social sciences research which is characterized by varying, sometimes opposing, approaches espoused by many research methodologists. Despite being one of the most frequently used qualitative research methodologies in educational research, the methodologists do not have a full consensus on the design and implementation of case study, which hampers its full evolution. Focusing on the landmark works of three prominent methodologists, namely Robert Yin, Sharan Merriam, Robert Stake, I attempt to scrutinize the areas where their perspectives diverge, converge and complement one another in varying dimensions of case study research. I aim to help the emerging researchers in the field of education familiarize themselves with the diverse views regarding case study that lead to a vast array of techniques and strategies, out of which they can come up with a combined perspective which best serves their research purpose.

Keywords

Qualitative Research, Case Study Methods, Epistemological Foundations.

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Three Approaches to Case Study Methods in Education: Yin, Merriam, and Stake

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Case study methodology has long been a contested terrain in social sciences research which is characterized by varying, sometimes opposing, approaches espoused by many research methodologists. Despite being one of the most frequently used qualitative research methodologies in educational research, the methodologists do not have a full consensus on the design and implementation of case study, which hampers its full evolution. Focusing on the landmark works of three prominent methodologists, namely Robert Yin, Sharan Merriam, Robert Stake, I attempt to scrutinize the areas where their perspectives diverge, converge and complement one another in varying dimensions of case study research. I aim to help the emerging researchers in the field of education familiarize themselves with the diverse views regarding case study that lead to a vast array of techniques and strategies, out of which they can come up with a combined perspective which best serves their research purpose. Keywords: Qualitative Research, Case Study Methods, Epistemological Foundations.

Case study is one of the most frequently used qualitative research methodologies. However, it still does not have a legitimate status as a social science research strategy because it does not have well-defined and well-structured protocols (Yin, 2002), so emerging researchers who plan to utilize case study usually become confused "as to what a case study is and how it can be differentiated from other types of qualitative research" (Merriam, 1998, p. xi). Research methodologists do not have a consensus on the design and implementation of case study, which makes it a contested terrain and hampers its full evolution. In this paper, I aim to provide an analysis and synthesis of the differing perspectives which are held by three prominent methodologists, namely Robert K. Yin, Sharan Merriam, and Robert E. Stake, on the utilization of case study method in the field of educational research. I will zero in on the ensuing works: Robert K. Yin's *Case Study Research: Design and Methods* (2002), Sharan B. Merriam's *Qualitative Research and Case Study Applications in Education* (1998), and Robert E. Stake's *The Art of Case Study Research* (1995).

I selected these three methodologists and their particular books for the following reasons. First, Yin, Merriam and Stake are the three seminal authors who provide procedures to follow when conducting case study research (Creswell, Hanson, Plano, & Morales, 2007) which aid educational researchers to construct a roadmap in their utilization of case study. They are seen as three foundational methodologists in the area of case study research whose methodological suggestions largely impact educational researchers' decisions concerning case study design. Second, previous work on case study detailed the design (Baxter & Jack, 2008), introduction (Tellis, 1997a), and application of case study methodology (Tellis, 1997b) for broader audience of novice qualitative researchers. I believe this paper would be most beneficial and fruitful by exposing novice researchers to a spectrum of different views and conceptualizations of case study that are provided by prominent research methodologists from differing vantage points. This exposure would help them construct or position their own understanding in this spectrum so that they can conduct their research with a dependable and defensible design. Therefore, I present each one of the three distinctive stances on the knotty

design issues in case study methodology through points of divergence, convergence, and complementarity. Finally, I opted to concentrate on their particular books for the juxtaposition in this paper, because in these seminal volumes they conscientiously expound upon case study research in its entirety by providing valuable insights into its every step from how it is being conceptualized to how it is communicated to the readers. Thus, the readers of the current paper will have a synthesis and analysis of three complete guides to case study methods, from which they can select the tools that are most appropriate and functional for their own research purposes.

In this paper, I endeavor to scrutinize the areas where these three perspectives diverge, converge and complement one another in varying dimensions of case study research. I am going to follow six categorical dimensions which the three scholars mostly converge upon in their seminal texts on case study method: Epistemological Commitments, Defining Case and Case Study, Designing Case Study, Gathering Data, Analyzing Data, and Validating Data.

Researcher's Position

Prior to moving on to present a comparison of three case study perspectives, I believe readers need to know my identity as a researcher, my investment in this topic, and my intentions in this project. I just completed my doctoral degree in the field of applied linguistics with a dissertation focusing on English as a second language (ESL) teacher candidates' professional identity development. As a doctoral student at the University of Maryland, my search for a research methodology led me to develop interest in case study, one of the most contested methods in educational research. I was engaged in the iterative process of narrowing down my research topic, honing my questions, and trying to find the most instrumental research methodology. I had the chance not only to weigh the instrumentality of case study for my dissertation research but also to decide which approach to case study would best fit my epistemological orientation as an emerging researcher. The current paper is the product of this decision-making process.

My intention in this paper is to provide a comparative preview of three foundational texts of case study research for those emerging researchers who are in the process of making decisions about their methodological choices. Through this paper, they can familiarize themselves with differing case study approaches from which they can select in order to make their research design compatible with their epistemological leanings and robust enough to address their research questions. They can either choose to utilize the tools offered by one methodologist or construct an amalgam of tools from two or three of them.

Challenges of Comparative Analysis

Before presenting the comparison of the three perspectives on case study method, I should mention the major challenges involved in the composition of this comparative piece. The three authors seem to have different purposes in writing seminal books I attempt to analyze in this paper. This difference partially precluded me from comparing and contrasting the three case study perspectives on the same ground in all aspects of case study method. For instance, in Stake's (1995) *The Art of Case Study Research,* the main addressee is students who are planning to employ case study as a methodology in their research projects. The chief purpose of his book is the explication of a set of interpretive orientations towards case study which include "naturalistic, holistic, ethnographic, phenomenological, and biographic

research methods" (Stake, 1995, p. xi). Yin appears to aim at presenting the design and methods of case study and advocating the case study in social sciences as a legitimate methodology to conduct inquiries into a theoretical proposition. He maintains that all of the previous attempts seemed to lack a comprehensive guide to the utilization of case study method. Therefore, he wants his text to fill "a void in social science methodology, which has been dominated by texts ... that offer few guides on how to start a case study, analyze the data, or even minimize the problems of composing the case study report" (Yin, 2002, p. 3). Having noticed the paucity of available resources for case study researchers, Merriam, like Yin, had the purpose of contributing to the case study literature which "still lags behind [literature on] other types" of research (Merriam, 1998, p. 19). Merriam's text principally centers upon general tenets and usages of qualitative research with a secondary emphasis on how they are applied to case study as one of the qualitative research methods. She intends to elucidate the extant "blurred" areas in case study. The purpose of her book is to clear out the confusion about case study in qualitative research and to illuminate "what constitutes a case study, how it differs from other qualitative research methods and when it is most appropriate to use it" (Merriam, 1998, p. 19). These disparities could explain the questions about authors' varying emphases which may arise in the remainder of the analysis. The subsequent section will highlight another type of disparity which I should address before commencing to delve into the analysis.

To describe the method I followed in this analysis, my initial scrutiny of the three texts led me to select a set of criteria to focus on while conducting my comparative and contrastive analysis. This set of criteria include the following: epistemological commitments, defining case and case study, designing case study, gathering data, analyzing data, and validating data. My second step was to create a chart in which I inserted what I found in terms of similarities and differences of those three case study approaches. I built this chart by going through the relevant sections of each text to understand how they diverge and converge in each criterion. Upon completing this chart, I wanted to check the validity of my analysis with more experienced qualitative researchers whom I call critical friends. I had one-on-one meetings with three advanced doctoral students and the professor of the case study seminar course I took. My conversations with them gave the final shape to the chart that guided the current paper.

Epistemological Commitments

Researchers' views about the nature and production of knowledge, their epistemological bent in brief, underlie the inquiry project they conceptualize and operate. It permeates every step of the entire investigation process, from selection of the phenomenon of interest that is put under scrutiny to the way the ultimate report is composed. As Merriam notes, "Research is, after all, producing knowledge about the world – in our case, the world of educational practice" (Merriam, 1998, p. 3). As researchers and research methodologists, Yin, Merriam and Stake have their own epistemic commitments which impact their perspectives on case study methodology and the principles and the steps they recommend the emerging researchers to adhere to while exploiting case study method in their research endeavors. These commitments manifest themselves either explicitly or implicitly throughout their seminal texts on case study research and determine the vantage points from which they conceive of case study. Therefore, prior to my analysis, I will capitalize on Yin, Merriam and Stake's particular epistemological orientation, which will inform the ensuing analysis.

Yin demonstrates positivistic leanings in his perspective on case study. Crotty (1998) suggests that three notions are fundamental in positivistic orientation in research: objectivity, validity and generalizability. If the researchers claim that the findings their proposed study

will yield will be "established facts, or at least as close to established fact as [their] research has enabled [them] to reach," from Crotty's (1998) viewpoint, it means that the philosophical tradition that is undergirding their research is positivism (p. 41). Yin does not explicitly articulate his epistemological orientation in his text, but the way he approaches case study or research in general and the aspects he emphasizes most indicate that his philosophical stance is towards the positivistic tradition. For example, from a Yinian outlook, case study researcher is supposed to "maximize four conditions related to design quality: construct validity, internal validity, external validity, and reliability. How investigators deal with these aspects of quality control" (Yin, 2002, p. 19) is highly crucial in every step of the case study research. In his text, Yin continually suggests that emerging researchers should keep these four "yardsticks" in their mind in every phase of their inquiry process so as to ensure the quality in their investigation. Thus, from Crotty's understanding, a positivistic orientation underlies Yinian perspective on case study research. Besides, Yin's view on the dichotomy between quantitative and qualitative research traditions might be indicative of why he would rather not overtly touch upon his philosophical orientation. He argues against those who make distinctions between qualitative and quantitative orientations due to the irreconcilable philosophical disparities: "regardless of whether one favors qualitative or quantitative research, there is a strong and essential common ground between the two" (Yin, 2002, p. 15). He attends to the commonalities of the two research traditions and pragmatically foregrounds the common tools which can be functional and instrumental in the design and methods of case study he suggests, so he does not distinguish between quantitative and qualitative case study methods.

Unlike Yin who seems to evade making statements about his epistemic commitments or his preferred epistemology that should lead the case study methodology, Stake allots a big part of a chapter in his text to the explication of the epistemological tradition to which he suggests qualitative case study researchers should cling. For he holds the claim that "How case study researchers should contribute to reader experience depends on their notions of knowledge and reality" (Stake, 1995, p. 100). From a Stakian viewpoint, constructivism and existentialism (non-determinism) should be the epistemologies that orient and inform the qualitative case study research since "most contemporary qualitative researchers hold that knowledge is constructed rather than discovered" (Stake, 1995, p. 99). Thus, he mainly conceives of the qualitative case study researchers as interpreters, and gatherers of interpretations which require them to report their rendition or construction of the constructed reality or knowledge that they gather through their investigation. In Stakian perspective, qualitative researchers should expect another level of reality or knowledge construction to occur on the side of the readers of their report, in addition to the above mentioned two levels. This conclusion is also pertinent to his contention that "there are multiple perspectives or views of the case that need to be represented, but there is no way to establish, beyond contention, the best view" (Stake, 1995, p. 108).

In terms of her epistemological stance, Merriam seems to be much closer to Stake's viewpoint than Yin's. From her perspective, the epistemology that should orient qualitative case study is constructivism since she maintains that "the key philosophical assumption upon which all types of qualitative research are based is the view that reality is constructed by individuals interacting with their social worlds" (Merriam, 1998, p. 6). In the same vein, she comments "that reality is not an objective entity; rather, there are multiple interpretations of reality" (Merriam, 1998, p. 22). Therefore, espousing this philosophical assumption, the primary interest of qualitative researchers is to understand the meaning or knowledge constructed by people. In other words, what really intrigues qualitative researchers is the way people make sense of their world and their experiences in this world. Moreover, Merriam's conception of meaning making in the research process is aligned with Stake's multiple-

layered reality or knowledge construction, but the former does not expect the readers to get involved in this construction or interpretation. She elucidates the two lines of interpretation or meaning making that the reality in the ultimate report has undergone:

The researcher brings a construction of reality to the research situation, which interacts with other people's constructions or interpretations of the phenomenon being studied. The final product of this type of study is yet another interpretation by the researcher of others' views filtered through his or her own. (Merriam, 1998, p. 22)

After discussing the differing epistemological commitments of the three case study methodologists which permeate the three texts, I think this section should close with a brief description of my epistemological stance and how it impacts the way I approach Yin's, Merriam's and Stake's renditions of case study. As an emerging educational researcher, epistemologically I position myself much closely subscribed to constructivist paradigm. I conceive knowledge as being socially constructed and emerging from peoples' social practices; therefore, I conceptualize social reality as being generated and constructed by people and existing largely within people's minds. I believe that research endeavors are geared towards seeking "for culturally derived and historically situated interpretations of the social life-world" (Crotty, 1998, p. 67). Due to this philosophical stance, I find myself epistemologically discordant with Yin and much more consonant with Merriam and Stake. However, since my orientation is also more aligned Deweyan pragmatism, the current analysis does embrace the instrumentality of the sets of strategies, guidelines, and tools suggested by Yin. That is, my constructivist leanings have not led me solely to adhere to Stake's and Merriam's renditions. Conversely, I attempted to analyze and synthesize all three authors' works by considering their contributions to conceptualizing, designing, and conducting a "disciplined inquiry" (Shulman, 1988).

Defining Case and Case Study

In their texts on case study methodology, the three authors diverge in the definition of case and case study. For instance, Yin (2002) defines case as "a contemporary phenomenon within its real life context, especially when the boundaries between a phenomenon and context are not clear and the researcher has little control over the phenomenon and context" (p. 13). His definition of case reflects his advocacy for the case study as a legitimate method of research, too. The assumption underlying the definition is that other research strategies such as history, experiment and surveys are not capable of inquiring into the case that interests researchers. Therefore, they need an utterly novel "comprehensive research strategy" named case study (Yin, 2002, p. 14). Given this definition, from Yinian point of view, case study is an empirical inquiry that investigates the case or cases conforming to the abovementioned definition by addressing the "how" or "why" questions concerning the phenomenon of interest. He finds it particularly instrumental for program evaluation. The rest of his technical definition draws attention to the aspects of data collection and analysis in relation to the situation under study: in order to investigate a distinct situation including "many more variables of interest than data points," case study draws from manifold lines of evidence for triangulating purposes and avails itself of "prior development of theoretical propositions to guide data collection and analysis" (Yin, 2002, pp. 13-14). This attention is indicative of how meticulous his approach is in terms of the cohesion and consistency among the design components and phases of case study as a research strategy. From his stance, when making every move or decision in the research process, researchers should be able to provide the logic behind it in conformity with the theoretical propositions and the characteristics of the case.

From a Stakian view of case study, a precise definition of cases or case studies is not possible since it is highly likely that the accurate definition of cases or studies he can come up with will not be aligned with the definition that the users of case study in other disciplines make. As for the definition of case, Stake (1995) agrees with Louis Smith's (1978) rendition: researchers should view case as "a bounded system" and inquire into it "as an object rather than a process" (p. 2). He himself depicts some of the attributes of case in his conceptualization: case is "a specific, a complex, functioning thing," more specifically "an integrated system" which "has a boundary and working parts" and purposive (in social sciences and human services) (p. 2). Accordingly, given this definition, he notes that the methods he delineates in his book would be more beneficial to study programs and people and less beneficial to study events and processes, which is partially a point of intersection with Yin who finds case study methods a best fit for program evaluation. Moreover, Stake mentions four defining characteristics of qualitative research which are valid for qualitative case studies as well: they are "holistic", "empirical", "interpretive" and "emphatic". Holistic means that researchers should consider the interrelationship between the phenomenon and its contexts which is similar to the inseparable link Yin alludes to while defining the case. Empirical means that researchers base the study on their observations in the field. Interpretive means that researchers rest upon their intuition and see research basically as a researchersubject interaction, which is compatible with the constructivist epistemology. Lastly, empathic means that researchers reflect the vicarious experiences of the subjects in an emic perspective.

For Merriam (1998), the defining characteristic of case study research is the delimitation of the case. Her definition is in line with Smith's (1978) view of case as a bounded system and Stake's view of case as an integrated system. She sees "the case as a thing, a single entity, a unit around which there are boundaries" (p. 27). Then, case can be a person, a program, a group, a specific policy and so on, which represent a lot more comprehensive list than Yin's and Stake's. In Merriam's view which is influenced by Miles and Huberman's (1994) understanding of "the case as a phenomenon of some sort occurring in a bounded context" (cited in Merriam, 1998, p. 27), as long as researchers are able to specify the phenomenon of interest and draw its boundaries or "fence in" what they are going to inquire, they can name it a case. In short, the definition she presents is broader than Yin's and Stake's and provides flexibility in utilizing qualitative case study strategy to research a much wider array of cases. As for the definition of case study research, Merriam conceives qualitative case study as "an intensive, holistic description and analysis of a bounded phenomenon such as a program, an institution, a person, a process, or a social unit" (p. xiii). In order to further differentiate case study method from casework, case method, case history (case records), she stresses its unique distinctive attributes: Particularistic (it focuses on particular situation, event, program, or phenomenon); Descriptive (it yields a rich, thick description of the phenomenon under study); Heuristic (it illuminates the reader's understanding of phenomenon under study). Like Yin's advocacy for case study as a legitimate research strategy, Merriam seems to bear the responsibility to help case study become a well-defined and well-structured research methodology since she highlights its quintessential and idiosyncratic features so that emergent researchers can use it as a research strategy separate from other qualitative research methodologies.

Designing Case Study

Yin places a great emphasis on the design of the case study as the subtitle of his book suggests. As I mentioned while describing the purpose of his book, he has observed that case study does not have a "codified design" like the other research strategies social scientists employ, which is the reason why some investigators do not grant it the merits as a notable research method. In other words, he concludes that "Unlike other research strategies, a comprehensive "catalog" of research designs for case studies has yet to be developed" (Yin, 2002, p. 19) and he obviously commits himself to this development. Therefore, he presents a definitely detailed and comprehensive approach to the formation of the design with a highly scrupulous look at every step of the research process from construction of the research questions to collection and analysis of data in light of prior theoretical propositions to the reporting of the entire investigation.

Defining design essentially as "the logical sequence that connects the empirical data to a study's initial research questions and, ultimately, to its conclusions," (p. 20) Yin (2002) suggests four types of design that case study researchers can make use of. They include single holistic design, single embedded design, multiple holistic design and multiple embedded design. Holistic designs require one unit of analysis, whereas embedded designs require multiple units of analysis. Yin advises the apprentice researchers to select the design which provides them with the maximum instrumentality to answer their research questions, and to consider the strengths and limitations of each design and the certain pitfalls to be avoided while implementing each of them.

From a Yinian perspective, case study research design is comprised of five components: a study's questions; its propositions, if any; its unit(s) of analysis; the logic linking the data to the propositions; and the criteria for interpreting the findings. While designing the inquiry, the researcher is supposed to make sure that these components are cohesive to and consistent among each other. Yin directs extra attention to the fourth and fifth components which refer to the planning for the data analysis steps in case study method. He also advises that case study researchers plan these "least well-developed components" very conscientiously and rigorously in order that their inquiry has a solid foundation for the analytic operations (Yin, 2002, p. 26). In relation to these components, Yin emphasizes the necessity that researchers review the relevant literature and include theoretical propositions regarding the case under study before starting to conduct any data collection, which distinguishes it from such methodologies as grounded theory and ethnography. As another point about Yin's rendition of case study design, he suggests measuring the quality of the design against four criteria which include construct validity, internal validity, external validity, and reliability. The maximization of these conditions in every phase of the inquiry process is incumbent upon researchers who want to develop rigorous and robust case study designs. Lastly, Yin places considerable emphasis on preparation of a detailed design at the outset of the research and advises that investigators make minor changes in the design after they begin data collection. However, if they need to make major alterations, from Yin's perspective, researchers are supposed to go back to the first step of the conceptualization and start over to design the study.

Contrary to Yin who suggests a really tight and structured design for case study method, Stake argues for a flexible design which allows researchers to make major changes even after they proceed from design to research. The only initial design he suggests concerns the issues and issue questions, which will lead to the design of the research questions. From a Stakian point of view, investigators "use issues as conceptual structure in order to force attention to complexity and contextuality [and] ... because issues draw us toward observing, even teasing out, the problems of the case, the conflictual outpourings, the complex

backgrounds of human concern" (pp. 16-17). Stake gives important advice about the initiation of the two types of case studies: "for intrinsic case study, case is dominant; the case is of highest importance. For instrumental case study, issue is dominant; we start and end with issues dominant" (Stake, 1995, p. 16).

Although Stake (1995) does not suggest a specific point during the research process when data collection and analysis should start, his advice about research questions indicates that case study researchers need a set of two or three sharpened or evolved issue questions (research questions) that will "help structure the observation, interviews, and document review" (p. 20). Ten or 20 substantive questions trimmed to 2 or 3 through researchers' initial "contacts with the case or from experience or relevant literatures" (p. 20). Stake's obvious flexibility in terms of case study design stems from his adoption of the notion of "progressive focusing" which Parlett and Hamilton (1972) first put forward. This notion builds upon the assumption that "the course of the study cannot be charted in advance" (cited in Stake, 1998, p. 22), which Yin would definitely oppose. Parlett and Hamilton comment that "The transition from stage to stage, as the investigation unfolds, occurs as the problem areas become progressively clarified and redefined" (cited in Stake, 1998, p. 22). When novice investigators learn about Stake's flexible approach, they can find it favorable because it does not require as much design preparation as Yin's approach. However, if they were to set out their initial research journey without a detailed roadmap and timeframe, they could get lost or stuck at some point during the process. Even expert researchers may need a very-well prepared design before carrying out their inquiry. Stake's advice, as an advocate of qualitative research, would lead to uncertainty and ambiguity on the emerging researchers' side since clear guidelines are missing.

Merriam's (1998) text includes a chapter entitled "Designing the study and selecting a sample," which complements not only Stake's rendition of qualitative research design but also Yin's well-structured case study design. She presents very informative and clear guidelines and advice regarding the review of the relevant literature for the construction of the theoretical framework that will guide the inquiry. Neither Yin's nor Stake's parts on case study design include such guidelines and advice. Novice case study researchers need to write literature reviews for their research projects or ultimately for their dissertation. This review helps them to conceptualize their inquiry and to construct a theoretical framework on which they can build their entire research process. They can consult Merriam's text to learn the necessary instructions to properly conduct a literature review which will inform their theoretical framework.

Merriam (1998) presents step by step the process of designing qualitative research in a rather detailed fashion. Her discussion includes conducting literature review, constructing a theoretical framework, identifying a research problem, crafting and sharpening research questions, and selecting the sample (purposive sampling). Merriam's approach in case study design is close neither to Yin's nor Stake's; it is a combination of both approaches. The design she recommends is flexible to a certain degree which is the influence of her coming from a qualitative tradition, but it is not as flexible as Stake's account. For example, Merriam (1998) suggests that "Purposive or purposeful sampling usually occurs before the data are gathered, whereas theoretical sampling is done in conjunction with data collection" (p. 66). This suggestion is not acceptable in Yin's perspective since he maintains that case study design should precede the data collection. Stake does not mention any sampling strategies or procedures for qualitative case study research; rather, he avoids determining an exact point to start data collection, which he considers as a feature of qualitative tradition.

Gathering Data

All three scholars contend that it is incumbent upon the case study researchers to draw their data from multiple sources to capture the case under study in its complexity and entirety. As for the tools to gather data, the epistemological tradition they are subscribed to influence their selection and how they conceive the entire data gathering process. Yin becomes the advocate of the combination of quantitative and qualitative evidentiary sources because he views them equally instrumental, whereas Stake and Merriam suggest exclusive use of qualitative data.

After describing the procedures that the case study inquirer is supposed to follow while designing the case study, Yin incorporates a chapter which explains the preparatory steps or the planning phase of data collection prior to discussing the actual data gathering procedures. This indicates one more time how much emphasis he places on the process which precedes the actual data collection or on the roadmap which includes the detailed directions that the researchers will need when they embark on their journey of investigation. His emphasis on the planning of case study pertains to the caution he recurrently states: "In actuality, the demands of a case study on your intellect, ego, and emotions are far greater than those of any other research strategy. This is because the data collection procedures are not routinized" (Yin, 2002, p. 58). While delineating the preparation for data collection, Yin capitalizes on the desired skills of case study investigator, training for a specific case study, the development of a protocol for the investigation, the screening of the case study nominations (making the final decision regarding the selection of the case), and the conduct of a pilot study. In this preparation, he highlights particularly the pilot case study because he assumes that it "will help you to refine your data collection plans with respect to both the content of the data and the procedures to be followed" (Yin, 2002, p. 79). In this aspect, Yin complements Stake and Merriam who do not underline the crucially important function of pilot case study. Instead, they largely concentrate on the piloting of each data collection instrument.

From a Yinian perspective, case study research should rest upon multiple sources of evidence, with data needing to converge in a triangulating fashion, and benefit from prior development of theoretical propositions to guide data analysis and collection. Yin suggests the researchers make use of six evidentiary sources: documentation, archival records, interviews, direct observations, participant observation and physical artifacts, each of which has its own strengths and weaknesses. He also notes that these are the most commonly used ones and the complete list is much broader. His explanation of data gathering instruments includes "the procedures associated with using each source of evidence" (Yin, 2002, p. 96), that is, particularities of the data collection instruments which researchers are supposed to get acquainted with as part of their training. Then, he discusses the general principles that apply to all six tools and the entire data gathering process. These general principles, which, he claims, have been neglected in the past and discussed at length in his book, include the use of (a) multiple sources of evidence (evidence from two or more sources, but converging on the same set of facts or findings for the purpose of triangulation), (b) a case study database (a formal assembly of evidence distinct from the final case study report which helps the novice researchers understand how to handle or manage data), and (c) a chain of evidence (explicit links between the questions asked, the data collected, and the conclusions drawn which helps "follow the derivation of any evidence, ranging from initial research questions to ultimate case study conclusions;" Yin, 2002, p. 83). These "overriding principles", as he mentions, are conducive to data validation which constitutes Yin's first priority in every phase of the process to maximize the quality of the inquiry.

Data gathering in Stakian outlook is extremely disparate from Yin's account. For instance, as opposed to Yin who argues for the exact planning for every step of the inquiry, Stake (1995) argues "There is no particular moment when data collection begins" (p. 49) since data collection can lead to some fundamental alterations in the inquiry process. From Yin's perspective, especially in order to avoid these major modifications, case study researchers should construct a conscientious design and preparation prior to data collection. Besides, Stake's definition of legitimate data for case study is much broader than Yin's. While the former contends that "A considerable proportion of all data is impressionistic, picked up informally as the researcher first becomes acquainted with the case" (Stake, 1995, p. 49), the latter would not acknowledge this "considerable proportion" as data that researchers can gather and use for analysis purposes. From my view, deeming data as impressionistic might bring about serious problems for emerging researchers like me. Impression is a notion which is fairly hard to define concretely, so gleaning data from our impressions about the case would be quite misleading for me and other apprentice inquirers. It is almost impossible to draw a clear-cut distinction between what is my impression and what it is not in a set of data.

Although not as emphatic as Yin's account, Stake's account highlights the significance of the skills that researchers need in order to carry out a qualitative research. They include "Knowing what leads to significant understanding, recognizing good sources of data, and consciously and unconsciously testing out the veracity of their eyes and robustness of their interpretations. It requires sensitivity and skepticism" (Stake, 1995, p. 50). After this argument, I would expect him to describe the strategies that can help novice researchers develop these skills that I find hard to define and explain. For example, when someone recommends being sensitive and skeptic while approaching the case and collecting the data, I would not know the degree of sensitivity and skepticism or how I can acquire these skills if I do not have them. Therefore, in my understanding, Yin's account complements Stake's in terms of the training of researchers since the former provides more concrete strategies to gain the necessary investigation skills.

Even though it is not as structured and detailed as Yin's case study protocol, Stake's protocol suggests preparing a data gathering plan which should include "definition of case list of research questions identification of helpers, data sources, allocation of time, expenses, intended reporting" (Stake, 1995, p. 51). However, the question about this well-meaning plan is "when do researchers have to have this plan prepared to be implemented?" For Stake does not determine an exact point to start gathering data from the case. Besides, Stake does not provide a detailed and sufficient guide to prepare and implement this plan of action. As for the data collection instruments, Stake suggests the use of observation, interview and document review in qualitative case study research. As opposed to Yin, he denies the use of quantitative data sources since his version of case study is exclusively qualitative.

In her perspective on data collection, Merriam (1998) continues attending to the disparities between quantitative and qualitative research, which is mostly because the primary focus in her book is qualitative research in general. However, when compared to a Stakian qualitative case study approach, Merriam's account provides more extensive and comprehensive guidance for the data collection procedures. For example, as the titles of the sections of her book suggest (conducting *effective* interviews, being a *careful* observer, *mining* data from documents), Merriam presents the techniques and procedures which researchers need in order to become effective users of the collection tools she suggests. To illustrate, while describing interviews as data collection tools, she zeroes in on the following aspects of interviews and provides excerpts from transcribed interviews conducted in a case study: types, asking good questions, questions to avoid, probes, the interview guide, beginning the interview, the interaction between interviewee and respondent, recording and

evaluating interview data. Neither Stake (1995) nor Yin (2002) concentrates on these aspects of interviewing in the data gathering process as much as Merriam does. Therefore, those novice investigators who are planning to conduct qualitative case study can find Merriam's account noticeably more useful and beneficial in terms of the guidelines for data collection.

After the scrutiny of the three different perspectives on case study, it seems to me as an emerging investigator that Yin's and Merriam's accounts on data collection in case study complement each other. The combination of Yin's three principles and Merriam's comprehensive guidance for data collection procedures would benefit me most. To elucidate my rationale more, since I am going to conceptualize a qualitative case study, I am planning to stick to Merriam in terms of data gathering procedures. However, I need to borrow Yin's account because his principles will help me keep constantly concentrating on the link between data collection and the questions and theoretical propositions I had at the inception of the research, which will promote the data validation and holistic coherence of the inquiry. Finally, the analysis of the three views on case study would yield the following conclusion: Merriam and Stake place very much emphasis on their epistemic commitments as qualitative researchers, so they do not consider the quantitative data sources legitimate ways of gleaning data for the case study. Thus, their definition of triangulation seems restricted in terms of data collection. On the other hand, from Yinian perspective, quality in an inquiry hinges upon the enhancement of validity and reliability in every phase of the research process, so for the purpose of triangulation, which impacts validity in particular, Yin suggests six tools.

Analyzing Data

The epistemological stances of the three methodologists seem to have impacted their approach to data analysis in case study, as well. That is, the reason why they are making divergent suggestions regarding the analysis of case study data is their dissimilarities in conceiving reality and knowledge. Yin's (2002) definition of analysis "consists of examining, categorizing, tabulating, testing, or otherwise recombining both quantitative and qualitative evidence to address the initial propositions of a study" (p. 109), which is compatible with his opposition to the bifurcation between quantitative and qualitative research. Because researchers will be handling both qualitative and quantitative evidence in his rendition of case study, they should be competent in analyzing both types of evidence. In addition, from Yinian perspective, researchers need highly structured analytic guidelines and principles because case study as a research methodology is still evolving and suffers from the paucity of well-defined strategies and techniques. To address this issue, Yin describes both general strategies and specific strategies. Researchers are supposed to apply the former into each one of the latter. Then, he suggests researchers stick to four overriding principles to press for high quality analysis. Novice researcher can find this highly guided approach to data analysis quite instrumental. As they step into the realm of research without any expertise and experience, they would need a lot of guidance.

Yin addresses his criteria for quality research, namely validity and reliability, while discussing the analytic procedures in case study. All the techniques and strategies he suggests are conducive to enhancing validity and reliability during analysis. From a Yinian perspective, researchers control these criteria through well-defined and well-structured data analysis procedures. Yin seems to assume that through the analytic steps and techniques he describes, researchers are able to reach the objective truth about the case or the most approximated one. This assumption obviously reflects the philosophical tradition he is coming from.

Stake (1995) defines analysis as "a matter of giving meaning to first impressions as well as to final compilations" (p. 71). In a Stakian view, "analysis essentially means taking ...

our impressions, our observations apart" (p. 71). His arguments about data analysis are consistent with those in data collection. He capitalizes on researchers' impressions as the main source of data and making sense of them as the analysis. Although he recognizes the use of analysis protocols "that help [researchers] draw systematically from previous knowledge and cut down on misperception," he gives precedence to intuition and impression rather than guidance of the protocol (Stake, 1995, p. 72). As a common trend in qualitative tradition, he suggests that researchers should conduct data collection and analysis processes simultaneously. Hence, there is no exact point in the research process to start analysis because there is no exact point to start data collection. Moreover, Stake continues to accentuate the distinction between qualitative and quantitative orientations in case study data analysis. He asserts that the analysis phase is the point where these two orientations diverge most from each other. This assertion opposes Yin's argument for focusing on the similarities rather than the philosophical divergences between the two for the sake of rigorous research.

Stake describes two strategic ways to analyze data: Categorical Aggregation and Direct Interpretation, which he presents as two general strategies to handle case study data. Then, he presents specific techniques for finding the patterns which is an essential part of the two general strategies. However, he recognizes that these strategies do not constitute the right way to conduct case study analysis and he adds that "Each researcher needs, through experience and reflection, to find the forms of analysis that work for him or her" (Stake, 1995, p. 77). However, novice researchers would need more guidance than their expert counterparts since they do not have so much experience yet. Suggesting that they should rely on their impressions and intuitions would not be the sort of guidance they need. On the other hand, unlike Stake, Yin seems to acknowledge the method and design he presents in his book is the right or the closest to the right way to conduct case study methods, which is evident in the title of his book as well.

Because of the purpose of her book which has affected the way she has organized it, Merriam discusses analytic techniques and data management in qualitative research before she exemplifies the special features of case study method in the three sample inquiries. Her model of qualitative data analysis for case study seems to be mostly complementary not only for Stake's but also Yin's rendition of case study. First of all, she defines data analysis as "the process of making sense out of the data. And making sense out of data involves consolidating, reducing, and interpreting what people have said and what the researcher has seen and read – it is the process of making meaning" (Merriam, 1998, p. 178). Compared to Stake's definition that stresses researchers' impression and intuition in analysis, Merriam's definition of qualitative data analysis seems a more thorough application of constructivist epistemology in research and provides more concrete guidance for the researchers. Consolidation, reduction and interpretation help the clear and concrete application of constructivism in analytic process more than impression and intuition.

Second, Merriam expounds upon the simultaneous data collection and analysis, which Stake briefly mentions. She devotes one section of the chapter to explaining why and how data can/should be collected and analyzed simultaneously. She also highlights that this is a quintessential attribute of qualitative research design which distinguishes it from the research oriented by positivistic epistemology. In addition, she makes a caveat: advocating for a recursive and dynamic data collection and analysis "is not to say that the analysis is finished when all the data have been collected. Quite the opposite. Analysis becomes more intensive as the study progresses, and once all the data are in" (Merriam, 1998, p. 155). This concurrent and interactive process stems from the fact that qualitative methodologists advocate for an emerging design. The preliminary analysis of the data may lead to alterations in the ensuing phases of the research. Third, Merriam devotes a section to the strategies to manage data which complement both Yin's and Stake's account. Especially those novice researchers who want to make use of a computer software program to handle the data would find this section of the chapter quite useful. This part enlightens the novice researchers about the use of computer software programs for the service of data management. As the last point, Merriam's account of levels of analysis complements Stake's discussion regarding categorical aggregation and search for patterns in qualitative data. She provides a more thorough description and more complete guidance for the analysis of qualitative data. It is a combination of "persuasion and recipes" in Stake's words since she presents step-by-step directions for the implementation of each one of the qualitative analytic techniques and procedures which investigators need in order to develop theory from the data they are analyzing.

Validating Data

The three methodologists have differing views on data validation which is associated with the notions of validity and reliability in investigation. Especially, Merriam and Stake's outlook demonstrably diverges from Yin's, which is the manifestation of the differences in their philosophical viewpoints. Through the control of validity and reliability, positivistic research tradition aims at capturing or discovering an accurate or approximated knowledge about the case under scrutiny. However, constructivism puts forward the idea that there are multiple versions of knowledge since it is a product of a construction between "knower" and "known." Merriam and Stake are cognizant of the fact that it is almost impossible to apply the concepts of validity and reliability into qualitative inquiry since they were first generated in positivistic tradition. Implementation of these originally positivistic notions into a qualitative research which is oriented by constructivist epistemology is not possible. Therefore, Merriam and Stake's conceptualization of validity and reliability considerably differs from Yin's.

Yin explains (construct, internal and external) validity and reliability in traditional sense at the outset of his text prior to describing the procedures of case study design and deems them as the criteria to judge the quality of the research. He repeatedly reminds the readers of the paramount importance of these criteria which "are common to all social science methods" (Yin, 2002, p. 34) in the remainder of his text. He suggests that case study researchers should make sure that they take these criteria into consideration while designing and implementing the entire inquiry. Because research quality and rigor mean the achievement of these criteria, "An important innovation of this book is the identification of several tactics for dealing with these four tests when doing case studies" (Yin, 2002, p. 34). According to Yin, Case study researchers need to guarantee construct validity (through the triangulation of multiple sources of evidence, chains of evidence, and member checking), internal validity (through the use of established analytic techniques such as pattern matching), external validity (through analytic generalization), and reliability (through case study protocols and databases). Coming from an epistemological tradition which places considerable emphasis on these tests, Yin presents tactics for all these four tests not only in the designing stage but also data collection, analysis and compositional stages. He does not have a chapter on these constructs contrary to Merriam and Stake, but his emphasis has permeated the entire book.

Stake discusses the issues regarding validation of the gathered data in a chapter called "Triangulation." He offers four strategies for triangulating data: data source triangulation, investigator triangulation, theory triangulation, and methodological triangulation. He also asks the following questions concerning data validation: "All the way through our case study work, we wonder, 'Do we have it right?' Not only 'Are we generating a comprehensive and

accurate description of the case?' but 'Are we developing the interpretations we want?'" (Stake, 1995, p. 107) For the first time in this chapter, he mentions his concern about accuracy, alternative explanations and discipline: "In our search for both accuracy and alternative explanations, we need discipline, we need protocols which do not depend on mere intuition and good intention to 'get it right.'" (Stake, 1995, p. 107). He seems to abandon his intuitive and impressionistic point of view while discussing the issue of validation, but this approach does not seem pervasive in his account of the every phase of case study design such as data collection and analysis.

Moreover, Stake's constructivist epistemology evinces itself in his view of data validation, which is opposed to Yin's (2002) view. He remarks that "most qualitative researchers not only believe that there are multiple perspectives or views of the case that need to be represented, but that there is no way to establish, beyond contention, the best view" (p. 108). He also adds that due to the ethical obligations, qualitative researchers need "to minimize the misrepresentation and misunderstanding" (p. 109). For the purpose of this minimization, Stake suggests the use of some protocols and procedures that constitute the "efforts that go beyond simple repetition of data gathering to deliberative effort to find the validity of data observed" (Stake, 1995, p. 109). Through these protocols along with member checking, researchers intend to "gain the needed confirmation, to increase credence in the interpretation, to demonstrate commonality of an assertion" (Stake, 1995, p. 112). They are supposed to be seeking the most credible interpretation or knowledge about the case, which Yin would strongly oppose to.

Merriam's view on data validation manifests her epistemic commitments, too. She notes "One of the assumptions underlying qualitative research is that reality is holistic, multidimensional, and ever-changing; it is not a single, fixed, objective phenomenon waiting to be discovered, observed, and measured as in quantitative research" (Merriam, 1998, p. 202). In the light of this assumption, she explains how qualitative research approaches the notions of validity and reliability and juxtaposes this approach with the relevant assumptions underlying quantitative research. Merriam's conception of data validation is aligned with Stake's. She contends that "The qualitative study provides the reader with a depiction in enough detail to show that the author's conclusion 'makes sense'" (Merriam, 1998, p. 199), thereby, to increase the credence of their interpretation.

Validity and reliability are the concepts which were first postulated in natural sciences and borrowed by quantitative research in social sciences. Therefore, reconciling these terms with constructivist epistemology that undergirds the qualitative research is a thorny task for qualitative methodologists, which is extensively discussed in Merriam's text. Merriam observes that applying data validation criteria into an inquiry which is conducted by researchers who are coming from a totally different and opposing epistemology is "something of a misfit" (Merriam, 1998, p. 206). Therefore, she summarizes how qualitative methodologists conceive of these notions and what alternatives they present. Then, she provides techniques or strategies which qualitative researchers can use so as to enhance validity and reliability in the sense they are conceptualized in qualitative tradition. In general, compared to Stake, Merriam presents a much more comprehensive approach to qualitative understanding of data validation. On the other hand, Stake's discussion of triangulation is the only part that can complement Merriam's account of data validation. The novice researchers who are planning to conduct an exclusively qualitative case study would make more use of the descriptions and guidelines provided in Merriam's text, along with Stake's rendition of triangulation.

Conclusion

Wrapping up the juxtaposition of three case study approaches, I present a table (See table 1), which can best serve to provide an overall synthesized assessment of those approaches.

| Dimension of interest | Robert Yin's Case Study Research: Design and Methods | Robert Stake's <i>The Art of</i> <i>Case Study Research</i> | Sharan Merriam's Qualitative Research and Case Study Applications in Education |
|---------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Epistemological Commitments | Positivism | Constructivism and existentialism (non- determinism) | Constructivism |
| Defining Case and Case Study | Case is "a contemporary phenomenon within its real life context, especially when the boundaries between a phenomenon and context are not clear and the researcher has little control over the phenomenon and context" (p. 13). Case study is an empirical inquiry that investigates the case or cases conforming to the abovementioned definition by addressing the "how" or "why" questions concerning the phenomenon of interest. | Case is "a specific, a complex, functioning thing," more specifically "an integrated system" which "has a boundary and working parts" and purposive (in social sciences and human services) (p. 2). Qualitative case study is a "study of the particularity and complexity of a single case, coming to understand its activity within important circumstances" (p. xi). Defining characteristics: <i>Holistic</i> (considering the interrelationship between the phenomenon and its contexts); <i>Empirical</i> (basing the study on their observations in the field); <i>Interpretive</i> (resting upon their intuition and see research basically as a researcher-subject interaction); <i>Emphatic</i> (reflecting the vicarious experiences of the subjects in an emic perspective). | Case is "a thing, a single entity, a unit around which there are boundaries" (p. 27) and it can be a person, a program, a group, a specific policy and so on. Qualitative case study is "an intensive, holistic description and analysis of a bounded phenomenon such as a program, an institution, a person, a process, or a social unit" (p. xiii). Defining characteristics: Particularistic (focusing on particular situation, event, program, or phenomenon); Descriptive (yielding a rich, thick description of the phenomenon under study); Heuristic (illuminating the reader's understanding of phenomenon under study). |
| Designing Case Study | Design refers to "the logical sequence that connects the empirical data to a study's initial research questions and, ultimately, to its conclusions" (p. 20). Four types of case study design include single holistic design, single | Flexible design which allows researchers to make major changes even after they proceed from design to research. Researchers need a set of two or three sharpened issue questions (research questions) that will "help structure the | Literature review is an essential phase contributing to theory development and research design. Theoretical framework emerging from literature review helps mold research questions and points of emphasis. |

Table 1. Juxtaposition of three case study approaches

| | embedded design, multiple holistic design, and multiple embedded design. Case study design has five components : a study's questions; its propositions, if any; its unit(s) of analysis; the logic linking the data to the propositions; and the criteria for interpreting the findings. | observation, interviews, and document review" (p. 20). He relies on Parlett and Hamilton's (1972) notion of "progressive focusing" which builds upon the assumption that "the course of the study cannot be charted in advance" (cited in Stake, 1998, p. 22). | Five steps of research design : conducting literature review, constructing a theoretical framework, identifying a research problem, crafting and sharpening research questions, and selecting the sample (purposive sampling). |
|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | Quantitative and qualitative evidentiary sources should be combined. | Exclusive use of qualitative data sources. | Exclusive use of qualitative data sources. |
| Gathering Data | Data gathering is influenced by case study investigator's skills, training for a specific case study, the development of a protocol for the investigation, the screening of the case study nominations (making the final decision regarding the selection of the case) and | Being a qualitative case study researcher requires "Knowing what leads to significant understanding, recognizing good sources of data, and consciously and unconsciously testing out the veracity of their eyes and robustness of their interpretations. It requires sensitivity and skepticism" (Stake 1995 p. 50) | Qualitative case study researcher needs to acquire the necessary skills and follow certain procedures to conduct effective interviews and careful observations and mine data from documents. |
| | selection of the case), and the conduct of a pilot study. Case study researchers make use of six data gathering tools: documentation, archival records, interviews, direct observations, participant observation and physical | (Stake, 1995, p. 50). Qualitative case study researchers exploit observation, interview and document review as data gathering tools. | researchers utilize three data collection techniques conducting interviews , observing , and analyzing documents . |
| Analyzing Data | artifacts. Data analysis "consists of examining, categorizing, tabulating, testing, or otherwise recombining both quantitative and qualitative evidence to address the initial propositions of a study" (p. 109). | Data analysis is "a matter of giving meaning to first impressions as well as to final compilations" (p. 71). Simultaneity of data collection and analysis. | Data analysis is "the process of making sense out of the data [which] involves consolidating, reducing, and interpreting what people have said and what the researcher has seen and read – it is the process of making meaning" (p. 178). |
| | Five dominant techniques for data analysis : pattern matching, explanation building, time-series analysis, program logic | Two strategic ways to analyze data : Categorical Aggregation and Direct Interpretation. "Each researcher needs, | Simultaneity of data collection and analysis. Six analytic strategies: ethnographic analysis, |

| | models, and cross-case synthesis. | through experience and reflection, to find the forms of analysis that work for him or her" (p. 77). | narrative analysis, phenomenological analysis, constant comparative method, content analysis, and analytic induction. |
|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | Case study researchers need to guarantee construct validity (through the triangulation of multiple sources of | Issues of data validation are involved in the notion of triangulation. | Qualitative methodology approaches differently to validity and reliability of the knowledge produced in research. |
| Validating Data | evidence, chains of evidence, and member checking), internal validity (through the use of established analytic techniques such as pattern matching), external validity (through analytic generalization), and reliability (through case study protocols and databases). | Four strategies for triangulation: data source triangulation, investigator triangulation, theory triangulation, and methodological triangulation. | Six strategies to enhance internal validity: triangulation, member checks, long-term observation, peer examination, participatory research, and disclosure of researcher bias. |
| | | | Three techniques to ensure reliability: explanation of investigator's position with regards to the study, triangulation, and use of an audit trail. |

Three techniques to enhance external validity: use of thick description, typicality or modal categories, and multi-site designs.

Aspiring researchers will be seeking a research methodology to conduct their study after or in the process of making their mind about their phenomenon of interest and research question(s). If they choose to use case study, what they usually come across is the multiplicity of approaches and a contested terrain marked by variety of perspectives. With the primary intention to help them as they are charting their way in this terrain, the current paper could be instrumental for them in at least three main ways different from generic case study texts. First, novice case study researchers will understand the relationship between their epistemic orientations and the case study approaches they lean towards. In other words, they will realize that their research-related decisions will manifest their emerging identities as educational researchers. Second, in this paper, they will see the perspective of another novice case study researcher who has been through the processes (of designing and conducting a case study research) similar to what they are (going to be) experiencing. Thirdly, becoming exposed to various case study approaches in this paper, they will have the opportunity to eclectically combine elements (e.g., different research techniques and strategies) from each approach that best serve and support their design. Therefore, I believe that this comparative analysis of three different renditions of case study methods can be helpful for emerging researchers as a quick reference while they are conceptualizing and designing their research projects.

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