Review:

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Abstract: The employment of software packages to support different stages of research is increasingly common amongst qualitative scholars. The review addresses DI GREGORIO and DAVIDSON's book, one of the most recent published on this topic, paying particular attention to its first part. There, the authors propose and discuss some innovative aspects of computer-assisted qualitative data analysis, such as the emergence of the E-Project as a "genre" affecting the whole qualitative research design. The review briefly presents the second and third part of the book, more pragmatically oriented to the actual use of software packages in qualitative research. The review ends with some critical remarks on the book, which remains an essential tool of learning and reflection for qualitative research scholars and students across different fields of research and inquiry.

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1. Introduction

Qualitative scholars increasingly employ software packages to undertake and develop their research. Organizing, exploring and analyzing qualitative materials —from texts to images—in the digital and electronic environment of software packages may support the interpretative skills of qualitative researchers. These tools may indeed render visible the process of thinking in an analytical way (KONOPÁSEK, 2008) and the process of theory building because "software that allows dynamic, real-time representation of a researcher's thinking can be a substantial aid to theorizing" (WEITZMAN, 2003 p.317). The use of these software packages, moreover, "enables the analytic process to be more transparent and therefore accountable" (FIELDING, 2002 p.168). They do not, rather obviously, substitute for researchers in conducting the analysis of qualitative materials, though they may render qualitative research even more systematic, rigorous and creative, no matter the theoretical and methodological traditions that inspire the researcher. [1]

Despite the growing use of software packages and the enlarging field of *C*omputer *A*ssisted *Q*ualitative *D*ata *A*nalysi*s* (CAQDAS), there is a lack of literature combining traditional concerns of qualitative methodologies with the consideration of characteristics and peculiarities belonging to *Q*ualitative *D*ata *A*nalysis *S*oftware (QDAS). Many of the books dealing with QDAS focus, indeed, on one specific software package and can be then considered as training manuals for beginners and/or advanced users. There are, of course, valuable exceptions that consider CAQDAS in the broader context of qualitative research, including the pioneering books by FIELDING and LEE (1998), introducing the very term CAQDAS, and by TESCH (1990), who introduces early distinctions amongst software tools and links them to different types of qualitative analysis. These textbooks dealt, of course, with older generations of software tools and packages, which can be categorized as: text retrievers, text-based managers, code-and-retrieve programs, code-based theory-builders and conceptual network builders (WEITZMAN & MILES, 1995; WEITZMAN, 2003). Apart from training manuals based on a specific software packages, there is a lack of comprehensive books dealing with current generations of QDAS which DI GREGORIO and DAVIDSON define as software "designed to assist qualitative researchers in the various stages of a research undertaking" (p.1). An exception is LEWINS and SILVER (2007), who systematically compare the use of three different software packages supporting qualitative scholars, focusing on the different stages of research projects. Another valuable exception in this line is the book by DI GREGORIO and DAVIDSON. [2]

With this book the authors attempt to go beyond the format of the traditional training manual, usually centered on a single commercial brand. The book intends to provide a comprehensive understanding of the meanings, implications and requirements of CAQDA as a whole, no matter the type of QDAS. In short, the authors structure the book around one main underlying argument: the use of QDAS has an impact on every aspect and stage of qualitative research. [3]

2. Exploring the Book

The book is divided into three parts. Part I (Chapter 1 – Chapter 4) discusses qualitative research design from the methodological perspective of software packages users. Part II (Chapter 5 – Chapter 13) presents eight actual pieces of research conducted using software packages in the commercial, academic, and public sectors. Part III (Chapter 14 – Appendix 5) provides a series of practical resources to compare, use and understand software packages. [4]

1.1 Principles of qualitative design and software packages

Despite the many differences characterizing each software package, the authors suggest that all of them provide a digital environment in which researchers develop specific E-Projects, that is, electronic projects. In Chapter 1, the authors suggest that the E-Project can be conceived as a relatively new "genre" in the field of qualitative research. The authors see an E-Project as a tool to communicate results and not only to analyze data. Along this line, Chapter 1

discusses the E-Project as a genre considering both authors (i.e., researchers using the software) and readers (i.e., other researchers reading the electronic project developed through the software). The authors also argue that there is the need to establish new standards for the E-Project as a genre, across different QDAS. [5]

After a brief overview of the main steps of a general qualitative research design (from the formulation of the research topic and research question to the data handling and analysis), Chapter 2 displays several insights with regard to the main steps involved in the design and development of qualitative research. The authors explore two features in particular: the organization of research materials and the transparency of the research design structure and its change over time. With regard to organizational issues, for instance, the authors also support the use of QDAS to arrange and analyze the literature review material looking for common themes, different approaches, and similarities and differences amongst the authors in a certain field of research. With regard to the transparency of the research design structure and its change over time, the authors suggest that all the materials related to the development of the research process, like supervisors' comments and remarks in the case of Ph.D. students, may be stored in the E-Project together with the main components of their research design, such as unit of analysis and unit of observation. [6]

The E-Project thus becomes, to a certain extent, the living and accessible archive of the peculiar path each piece of research undertakes. These features may render processes of knowledge production more transparent for researchers whose self-reflexivity about methodological issues and research practices in general could be enhanced. The chapter concludes with a set of practical suggestions to translate the research design structure in QDAS: it lists the main components of the E-Project, otherwise named the software shell, to be then implemented throughout the research. [7]

Chapter 3 goes a step further in discussing the actual implementation of the research design structure in QDAS. The focus is on methodological concerns that may arise due to the very employment of QDAS before, during and after conducting empirical research. The authors suggest three crucial steps with regard to methodology. First, to code all the relevant methodological passages found in literature and, also, write memos and notes about them to be included in the E-Project. While coding the data, second, methodological codes should be developed in parallel to methodological memos and notes. In the conclusive stages of the research, third, retrieving all the methodological codes and memos stored in the E-Project may help researchers to enhance self-reflexivity about the methodological tradition they choose and to develop a grounded discussion about methodological concerns. The chapter then discusses four areas that may be affected by the use of QDAS: access and ethics; subjectivity and role. In this regard, software packages can both enhance researchers' reflections on these issues and, at the same time, raise new issues and concerns that researchers should take into account when relying on CAQDA. [8]

Another methodological issue Chapter 3 develops is the one of interpretation generated through the intertwining processes of coding (dividing texts or other types of data into meaningful portions and assigning to them a specific meaning) and re-aggregation (combining coded portion of texts or other types of data to obtain new meanings). The authors point out that despite the fact that many researchers use software just to code and then retrieve coded portion of texts or other types of data, software packages provide powerful tools to re-contextualize, compare them, and recombine coded data according to specific dimensions and conditions. In other words, DI GREGORIO and DAVIDSON point out that QDAS allow researchers to "compare, contrast and juxtapose [of] data we have collected and tagged in ways that were not possible without the computer" (p.50). Related to interpretation is the topic of validity at the descriptive, interpretative, and theoretical levels: according to the authors, the use of software packages allows researchers to support their claims of validity related to the three levels. [9]

QDAS can serve in support of representation of the research results and outcomes, since they all come with a specific tool enabling researchers to produce a visual account of the data, from networks to tables of codes. But, also and most interestingly, in the last section of Chapter 3, DI GREGORIO and DAVIDSON claim that software packages are representations in themselves: through the E-Project researchers can show the main steps of their research to different types of audiences, including the Ph.D. supervisor. It is in performing this function that, according to the authors, the E-Project becomes a "genre" in itself and, as with any other genre, it is expected to fulfill certain standards that would enable the evaluative communication between the E-Project author and the E-Project audiences. [10]

Chapter 4 is the last chapter of Part I: it puts the development of E-Projects and the use of CAQDAS in their broader contexts and environments. As previous empirical research demonstrates (e.g. FIELDING, 2002), contexts and environments should be also considered to fully understand the implications and outcomes of QDAS. DI GREGORIO and DAVIDSON, indeed, claim that "research does not take place in a social vacuum" (p.56). Rather, there are a set of context-bound factors functioning as both constraints and opportunities for researchers. The first part of the chapter deals with large-scale qualitative research projects involving different researchers and institutions. The electronic environment of software packages supports team work, though it should be readapted to the new context linked to computer-assisted qualitative data analysis. The division of labor, in particular, has to be readjusted keeping in mind the constraints and opportunities software packages bring with them. Along this line, the project coordinator, or supremo, should have an extensive and comprehensive knowledge of the software package in use within a given research project in order to set up the shell of the E-Project, to distribute tasks to the team members, and to constantly evaluate the ongoing E-Project. [11]

The authors then consider the use of software packages in research conducted by Ph.D. students. In this case, the academic context relates to the development of E-Projects in two respects. On the one hand, the authors recommend that

Ph.D. students' advisers and the dissertation committee should also be concerned with and informed about E-Project related issues. In other words, DI GREGORIO and DAVIDSON claim that throughout the research process the E-Project in itself, and not only the empirical and theoretical results of the study, should be considered and evaluated: "it is important," therefore, "to make sense of the dissertation in light of the E-Project" (p.72). On the other hand, academic institutions providing qualitative research courses should integrate teaching qualitative research with the use of QDAS, since to train students in the use of QDAS, the authors argue, is not enough. Qualitative research instructors willing to integrate CAQDAS in their courses should then change their teaching practices so as to support, in turn, the necessary changes in students' research practices. Another context in which software packages may be used, according to the authors, is the commercial one. The last part of Chapter 4 addresses the necessary change private companies need to make in order to fully integrate the use of software packages in their research programs and to understand the benefits and challenges this would imply. [12]

1.2 Practices of qualitative design and software packages

The second part of the book (Chapter 5 – Chapter 13) is more pragmatically oriented toward the presentation of actual studies that employed QDAS and that, according to the authors, are able to fulfill the qualitative standards E-Project should meet. Each chapter is devoted to one specific study, underlines the most important aspects related to the use of QDAS emerging during research, and ends with a short "lessons for this case" section. Chapters differs under in regards: the specific QDAS employed (Atlas.ti 5, Nvivo 7, MAXqda 2007, Xsight 2); the number of researchers involved (one vs. team); the type of research design (from simple to compound complex); the kind of data used (from in-depth interviews to focus groups, from artifacts to websites); the theoretical approach and the field of investigation; and the number and type of units of analysis (from one unit to multiple units, from individuals to organizations). Finally, also, the sector in which each piece of research has been developed varied: academic field, commercial sector, higher education, and public sector. [13]

Part III (Chapter 14 – Appendix 5) opens with a conclusive chapter that reconsiders and deepens some of the most important issues raised in the first part of the book: the role of the E-Project as a genre, representing a "technological shift in the practice of qualitative research that is unlike anything qualitative researchers have faced before" (p.214); issues of representation in and through the E-Project; the challenges that QDAS offer to academic and commercial institutions in terms of resources, organizational and professional practices. After this conclusive chapter, five appendixes provide more practical resources: a short "how to get started in QDAS" section (Appendix 1), a checklist for implementing E-Projects in different software packages (Appendix 2) and for teams using QDAS (Appendix 3), a glossary, and a list of resources (Appendix 4 and 5 respectively). [14]

2. Some Critical Remarks and Conclusions

One of the objectives of the book, probably the most ambitious, is to set the meta-qualitative standards for the E-Project, seen as a new genre deeply linked with the emergence of QDAS. Whether the authors will succeed in this task will depend, however, on the diffusion of and appreciation for this book in the academic community which is the place where peer-reviewed discussions about questions of validity, reliability and adequacy develop. In any case, the book certainly has the potential to be one of the authoritative voices in the debate about qualitative standards in developing E-Projects. Linked to this, the very idea of establishing the E-Project as a genre is certainly fascinating and might bring some advancement in the field of QDAS. At the same time, however, the book seem to suggest a series of rules, desiderata and practices which risk sounding too normative and far away from the variety of actual uses that researchers make of software packages. E-Projects could be seen as the most advanced employment of all the opportunities software packages offer to researchers, but there may be many other ways according to which QDAS can be integrated in qualitative research. [15]

While Part I of the book is rich in inspiring suggestions and proposals that can resonate especially with those scholars already familiar with QDAS, Part II seems to be the weakest point of the book. The attempt to present how researchers actually use different types of software packages is certainly valuable in itself, though the result is not always convincing. The main reason is that those who are not familiar with the peculiar features of a given software package might find some difficulties in fully understanding and appreciating the various steps informing a specific E-Project. [16]

In general, qualitative researchers and Ph.D. students who are already familiar with CAQDAS could find the first part of the book particularly interesting in that it assumes a kind of holistic approach to the use of QDAS and it includes plenty of inspiring suggestions about how to use these software beyond the mere task of coding and retrieving data. Those who are not familiar with QDAS, on the other hand, could use the book as an additional and more advanced tool when approaching CAQDAS for the first time. As the two authors also stress, this book is not a software manual and does not speak of any software package in particular, though Part III provides some tools to understand and compare some of them. In short, this book is a valuable resource of learning and reflection for students, researchers and professors in the field of qualitative research and CAQDAS. [17]

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