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ABSTRACT

The increased use of qualitative research methods has spurred interest in developing formal standards for assessing its validity. These standards, however, fall short if they do not include public disclosure of methods as a criterion. The researcher must be accountable in documenting the actions associated with establishing internal validity (triangulation), theme development, and the relationship between research questions and data sources. This paper calls for openness about analytical techniques in qualitative research. Tables of strategies are included that have been used in qualitative research as examples of approaches that should enhance the opportunity for criticism and public inspection of qualitative studies. The qualitative ethic calls for researchers to substantiate their interpretations and findings with a public accounting of the research process. An appendix contains interview questions from a study that is used as an example of good practice in qualitative research. (Contains 3 tables and 44 references.)  
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# Qualitative Analysis on Stage: Making the Research Process More Public

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## Qualitative Analysis on Stage: Making the Research Process More Public

### Introduction

The worth of any research endeavor is assessed by a variety of audiences—peers, editorial review boards, publishers, grant reviewers, and dissertation committees. Early in the introduction of naturalistic inquiry in the field of education, critique of qualitative research seemed to come primarily from those quantitatively oriented. Too frequently, qualitative research was evaluated against the positivist criteria of validity and reliability and was found to be lacking or “soft.”

In defense of this criticism, many educational researchers, in their eagerness to embrace qualitative methods, did not provide adequate and clear justifications for their methods, findings or conclusions (Howe & Eisenhart, 1990). As was foreshadowed by Guba (1981), “...the naturalistic approach is likely to be tarred with the brush of ‘sloppy research’...” (p.90). Indeed, providing access to the decisions that are made in the process of conducting qualitative research is part of responding to the question of whether or not the findings are sufficiently credible and trustworthy (Borman, 1985).

Recently, the source of this critique has changed. “Unprecedented criticism of ethnographic or qualitative methods, substance, style, practice, and relevance has emerged. The criticism emerges not from the traditional enemies, the positivists who fault qualitative research for its failure to meet some or all of the usual positivistic criteria of truth, but from the insiders to the ethnographic movement” (Altheide & Johnson, 1994, p.485).

Criticism from both inside and outside sources, as well as the proliferation of qualitative methods in educational research, has led to considerable controversy about standards for the design and conduct of research (Howe & Eisenhart, 1990, p. 2). The fact that justifications are often inadequate or unclear is due in no small measure to confusion about how to best think about standards for qualitative research design and analysis.

It is argued here that discussions regarding standards for qualitative research (see Goetz & LeCompte, 1984, Ethnography and Qualitative Design in Educational Research; Smith & Glass, 1987, Research and Evaluation in Education and the Social Sciences; Denzin, 1989, The Research Act: A Theoretical Introduction to Sociological Methods) have failed to address one very important dilemma—questions concerning the credibility and status of qualitative inquiry as related to the *privatization* of this type of analysis. Put another way, criticism stems from our inability to deal with the “art of the science” (see Denzin, 1994; Fontana & Frey, 1994). We operate from the basic premise that how researchers account for and disclose their approach to all aspects of the research process is key to evaluating the work substantively and methodologically.

Our purpose in this paper is to address some of the strategies that we have employed in our work with doctoral students and to offer suggestions for assessing the methodological rigor and analytical defensibility of this paradigm. As used in this paper, rigor is defined as the attempt to make “data and explanatory schemes as public and replicable as possible” (Denzin, 1978, p.7). We offer these strategies as suggestions for judging the rigor of products of naturalistic inquiry and as a criterion to be considered by the qualitative research community.

We are motivated in this endeavor by three observations. First, what exactly does it mean when a researcher writes, “themes emerged?” As an example, recently the first author of this paper reviewed a manuscript for a major educational journal. In the methodology section the author of that manuscript noted, “In analyzing the data and identifying patterns, I developed themes, episodes, and subcategories... I arrived at the subcategories by analyzing my data further.” The reader is expected to take the word of the researcher that he/she did a credible job in data analysis—that the themes that emerged actually have some congruence (verisimilitude) with the reality of the phenomenon studied.

Secondly, while triangulation, member checks, and other qualitative techniques are mentioned frequently in design or methods sections of research articles, rarely is there evidence of exactly how these were achieved. They are invoked as if magical incantations and the reader must simply believe and trust the researcher—a leap of faith that is sometimes hard to accomplish. Referring to triangulation techniques, the author of the manuscript noted above wrote, “Additionally, I used triangulation to increase the reliability of my research findings....Triangulation of data in this research occurred between [sic] the teacher, researcher, student participants and the data sources.” Unfortunately, no evidence of this was found in the data analysis presented in this manuscript. Verbatim quotes from students were presented, but there was no evidence of direct quotes from teachers or “the data sources.”

Thirdly, rarely are we privy to the interview protocol that is used to collect data. Using the same manuscript mentioned above, the author did not provide the reader with the interview questions or any hint of those questions. The analysis presented actually

leads the reader to wonder what the interview protocols looked like. These observations have led us to conclude that in all the discussions of validity in qualitative research there is one major element missing—the public disclosure of processes.

The particular stages of the research process that are the focus of this paper are under the umbrella of research design and analysis. We focus specifically on the relationship between research questions and data sources, the processes of theme development, and triangulation. Examples from dissertations (Brown, 1999; Mickey, 2000; Roney, 2000) are presented for the purpose of illustrating the utility of this approach.

In our attempt to do this, we follow the lead of Conastas (1992) who wrote, “Since we are committed to opening the private lives of participants to the public, it is ironic that our methods of data collection and analysis often remain private and unavailable for public inspection (p.254). Other scholars have said this in different ways. Guba (1981) wrote, “...while practitioners of naturalistic approaches have been reasonably introspective about what they do, they have not made systematic efforts to codify the safeguards that they intuitively build into their inquiries” (p.76). Agreeing with this sentiment, Oakley (1981), in discussing the interviewing process, commented, “...behind every closed front door there is a world of secrets” (p. 41).

Indeed, a key part of qualitative research is how we account for ourselves; how we reveal that “world of secrets.” Good naturalistic inquiry shows the hand and opens the mind of the investigator to his/her reader. “The effort may not always be successful, but there should be clear ‘tracks’ indicating the attempt has been made” (Altheide & Johnson, 1994, p.493).

## Validity in Qualitative Research: A Review of the Debate; What is Missing

The literature is replete with discussions of standards for assessing the quality and rigor of qualitative research. Early proposals addressing concerns for validity in ethnographic or qualitative research focused on foundational metaphysics. They were grounded in the issues and concerns to which conventional inquiry typically addressed itself. Early proposals for validity criteria focused on four issues—internal validity, external validity, reliability, and objectivity—that are traditionally addressed in quantitative studies. Realizing, however, that those concerns simply could not be addressed well in naturalistic research, different researchers and theoreticians recast the four criteria to meet varying needs that were thought to exist (Lincoln, 2001).

Among the first scholars to address this issue were Guba and Lincoln (1981; 1982) and Lincoln and Guba (1985). Retreating from the language of experimental inquiry, Lincoln and Guba restated the rigor criteria as trustworthiness criteria (see Table 1). Reflecting back, Lincoln (2001) noted, “At the time we devised the trustworthiness criteria (Guba & Lincoln, 1982), we realized they were rooted in the concerns of positivist inquiry, but were not certain how to proceed with breaking free of those mandates” (p.34). These trustworthiness criteria are “well employed in dissertation research... helping students to understand that fieldwork is a prolonged process, with many steps which can be utilized to ensure that unexplored bias does not creep into the work, and that sufficient credibility and plausibility checks are carried out to ensure that

Table 1: Quantitative and Qualitative Criteria for Assessing Research Quality and Rigor

QUANTITATIVE TERM	QUALITATIVE TERM	STRATEGIES EMPLOYED
Internal Validity	Credibility	<ul style="list-style-type: none"> <li>• Prolonged engagement in field</li> <li>• Use of peer debriefing</li> <li>• Triangulation</li> <li>• Member checks</li> <li>• Time sampling</li> </ul>
External Validity	Transferability	<ul style="list-style-type: none"> <li>• Provide thick description</li> <li>• Purposive sampling</li> </ul>
Reliability	Dependability	<ul style="list-style-type: none"> <li>• Create an audit trail</li> <li>• Code-recode strategy</li> <li>• Triangulation</li> <li>• Peer examination</li> </ul>
Objectivity	Confirmability	<ul style="list-style-type: none"> <li>• Triangulation</li> <li>• Practice reflexivity</li> </ul>

the case matches the constructions of individuals and groups in the context” (Lincoln, 2001, pp. 34-35).

Other constructions of validity for qualitative inquiry do not resemble the more traditional positivist typology offered by Guba and Lincoln (1982)—they are alternatives to the more conventional/traditional approach offered by positivism (see Lincoln, 2001 for a more complete discussion of these validities). Five general standards for validity



were discussed by Howe and Eisenhart (1992) in the first major handbook of qualitative research, The Handbook of Qualitative Research in Education, edited by LeCompte, Millroy, and Preissle (1992). Warning that any general standards for evaluating educational research would have to be very abstract, Howe and Eisenhart (1992) proposed the following five criteria: (1) ensuring a fit between research questions, data collection procedures, and analytic techniques; (2) ensuring the effective application of specific data collection and analytic techniques; (3) being alert to and cognizant of prior knowledge; (4) being cognizant of both internal and external value constraints; and, (5) assessing a study's comprehensiveness.

Silverman (1989) offered the research community six rules for qualitative research: (1) don't mistake critique for a reasoned alternative, (2) avoid treating the actor's point of view as an explanation, (3) recognize that the phenomenon always escapes, (4) avoid choosing between all polar oppositions, (5) never appeal to a single element as an explanation, and (6) understand the cultural forms through which "truths" are accomplished. In a similar vein, Athens (1984) offered three scientific criteria for evaluating qualitative studies: theoretical import, empirical grounding, and scientific credibility (see pp.261-266 for discussion of these criteria).

Whether we remain faithful to the concerns of positivist metaphysics or depart from these validity and reliability criteria we cannot ignore the caution offered by Howe and Eisenhart (1990) that the common strategy of grounding qualitative research in the positivist paradigm creates a "procrustean bed" for itself by assuming it must coexist with positivism and it must define itself as positivism's opposite. There is no doubt that the

traditional criteria for methodological adequacy were formulated and essentially owned by positivism (Altheide & Johnson, 1994).

Validity issues in qualitative research will not go away. “Validity is virtually synonymous with trouble these days. It is trouble for the simple reason that, although originally conceived as a requirement for rigor in the pursuit of conventional inquiry, it has been carried over into phenomenological, naturalistic, participative, poststructural, postmodern, and other case study forms of inquiry” (Lincoln, 2001, p.25). While the question has been answered with a set of procedures that satisfy both positivist and experimental researchers, it is far from settled in qualitative research.

Interestingly enough, all of these “varieties of validities” (Lincoln, 2001) have failed to address the issue of publicly disclosing decisions made during the research process—demonstrating the methods and processes “by which raw data were collected and the processes by which they were compressed and rearranged so as to be credible” (Lincoln, 2001, p.25). We offer this as a new criterion for consideration by the qualitative research community. It is our belief that public disclosure will afford us the ability to deal with the “science of the art” of qualitative research.

### The Documentational Tables

As note earlier, the problem is that qualitative researchers do not always provide their readers with detailed explanations of how research questions are related to data sources, how themes or categories are developed, and how triangulation is accomplished. While researchers claim to utilize triangulation, member checks, and discuss the development of the themes presented, what is actually done is often anyone’s guess. Most

studies do not reveal these inner-workings and good writing can cover up awkwardly collected and poorly documented fieldwork.

Three dissertation studies (Brown, 1999; Mickey, 2000; Roney 2000) are used to illustrate the utility of the tables presented herein. Conducted in middle schools, the first focused on teaming and advisory programs in middle schools, the second looked at characteristics of effective middle school teachers, and the third study investigated the principal as change agent and instructional leader.

Two disclaimers should be kept in mind when considering application of the approach described here. First, no claim is made that this approach assures validity or trustworthiness. Secondly, the primary value of this approach rests on its potential to encourage researchers to make analytical events open to public inspection.

#### Data Collection: Designing Interview Questions that Address Research Questions

Research design deals with answering who, what, when, where, how, and why questions. Yin (1994) discussed design as “the logic that links the data to be collected (and the conclusions to be drawn) to the initial questions of the study” (p.18). Keeping in mind that research questions provide the scaffolding for the investigation and the cornerstone for the analysis of the data, the process of forming interview questions on the basis of what truly needs to be known is a fundamental step. In-depth interviewing as a method of gathering information is a way to correlate etic issues (see Stake, 1995) with emic issues (see Hamel, 1993). The following matrix, Table 2, presents the reader with an example of three major research questions and two subquestions which served as the

Table 2: Research Questions in Relation to Interview Questions

Research Questions	Interview Questions
1) What are the characteristics identified by principals, teachers, and students that middle level teachers need to possess in order to be effective in teaching young adolescents?	P2, P3, P4, P6 T2, T5, T6, T7, T8, T9, T10 S1, S4, S5, S6, S7, S8, S10, S11
a) Are there common identifications between and among the three groups of participants (middle school principals, teachers, and students) with regard to characteristics middle level teachers need to possess in order to be effective in teaching young adolescents?	P2, P3, P4, P6 T2, T5, T6, T7, T8, T9, T10 S1, S4, S5, S6, S7, S8, S10, S11
b) Are there different identifications between and among the three groups of participants (middle school principals, teachers, and students) with regard to characteristics middle level teachers need to possess in order to be effective in teaching young adolescents?	P2, P3, P4, P6 T2, T5, T6, T7, T8, T9, T10 S1, S4, S5, S6, S7, S8, S10, S11
2) How do teacher preparation programs help or hinder the development of middle level teachers and their feelings of effectiveness?	P2, P4, P5, P6, P7 T2, T3, T4, T5, T6 S4, S5, S7, S8, S9
3) How do on-the-job experiences help or hinder the development of middle level teachers and their feelings of effectiveness?	P1, P3, P4, P6, P7, P8, P9, P10 T1, T2, T5, T6, T7, T8, T9, T10 S2, S3, S4, S5, S7, S8, S10 Legend: P = principal T = teacher S = student

foundation on which the subsequent interview questions (see Appendix A) were designed. To the right of each research question are codes (i.e., P2, T5, S4) referring to specific interview questions. P2, for example, indicates the second question from the interview protocol developed for the school principals. Constantly revisiting the central questions that the researcher hopes to answer is helpful in establishing a base of reference for the exploratory interview questions.

This multisite qualitative case study (Roney, 2000) was devoted to defining “effective” as it relates to characteristics of middle level teachers. Semi-structured interviews were the primary data gathering source used to help construct the participants’ perspectives regarding the research questions (i.e., What are the characteristics that middle level teachers need to possess in order to be effective in teaching young adolescents?). Because of this fact, it was imperative that the interview questions be carefully cross-referenced to the study’s research questions. The researcher (Roney, 2000) could not afford to conduct interviews and prepare transcriptions only to discover that the right questions were not asked. It needs to be pointed out that this type of matrix could just as easily show the relationship of other data sources (documents, observations, surveys) to the study’s research questions. From our experience with dissertation advising, though, the utility of utilizing this matrix has helped to insure that the right questions are asked; at least questions that will help answer the study’s main question(s).

#### Data Management: Conducting Data Analysis through Code Mapping

The purpose of analysis is to bring meaning, structure, and order to data. Interpretation requires acute awareness of the data, concentration, and openness to subtle undercurrents of social life (Marshall & Rossman, 1995). Confronted with a mountain of

impressions, documents, transcribed interviews, and field notes, the qualitative researcher faces the difficult task of making sense of what has been learned. Denzin and Lincoln (1994) called this task the “art and politics of interpretation” (p.500). Van Maanen (1988) also noted that the researcher must translate what has been learned into a body of textual work that communicates these understandings to the reader. He referred to this process as telling the “tales of the field.” The purpose of this process is to present the reader with the stories identified throughout the analytical process, the salient themes, recurring language, and patterns of belief linking people and settings together. Table 3 outlines six themes that emerged from the data analysis of a research study (Brown, 1999) investigating how advisory programs either help or hinder the creation of a sense of care and community in middle schools.

The process of data analysis is eclectic; there is no “right way” (Tesch, 1990). Creswell (1994) noted that “data analysis requires that the researcher be comfortable with developing categories and making comparisons and contrasts. It also requires that the researcher be open to possibilities and see contrary or alternative explanations for findings” (p.153). According to Patton (1980), the data generated by qualitative methods are “voluminous” and this process of sitting down and making sense out of pages of interviews and whole files of field notes can be “overwhelming” (p.297). The purpose of Table 3 is to present the reader with the larger, consolidated picture that emerged from the “reduction and interpretation of the data collected” (Marshall & Rossman, 1989, p.114). As the reams of data were brought into manageable chunks (see Table 3, First Iteration) and meaning and insights were brought to the words and acts of the participants involved, several themes (see Table 3, Second Iteration) were generated. Tesch (1990)

Table 3: Code Mapping: Three Iterations of Analysis

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**CODE MAPPING FOR ADVISORY PROGRAMS**

(Research Questions 1, 2 and 3)

RQ#1: A Sense of Community  
And Care?

RQ#2: Structural/Procedural  
Components and the  
Sense of Community?

RQ#3: The Effect of Advisory  
Programs on Teachers  
and Students?

**(THIRD ITERATION: APPLICATION TO DATA SET)**

Creating Community in a State of Bureaucracy:  
The Paradox of Producing and The Process of Praxis

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**(SECOND ITERATION: PATTERN VARIABLES)**

1A. Caring is Woman's Work

2A. Battle Lines: Administrative  
Support Vs. Teacher  
Resistance

3A. From Attention Provider  
to Detention Giver

1B. Fear of the Affective  
Domain: For Some  
Yes and For Some No

2B. Student Mingling or  
Teacher Meddling?

3B. No Matter What Happens,  
Something Good Seems  
to Result!

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**(FIRST ITERATION: INITIAL CODES/SURFACE CONTENT ANALYSIS)**

1A. Gender Issues/Equity?

2A. Organizational Structure

3A. Discipline Problems

1A. Nurturing Ability?

2A. Accountability?/Training?

3A. Demanding/Disruptive

1A. Male Advisors?

2A. Support Vs. Dissatisfaction

3A. Positive and Proactive

1A. Only Women Can Care?

2A. Scheduling/Resources?

3A. Focused and Patient

1B. Affective Vs. Cognitive

2B. Student Interest/Sharing?

3B. Connections/Interactions

1B. Waste of Instructional Time

2B. Trust/Respect

3B. Feel Better/Get Help

1B. Uncomfortable/Touchy-Feely

2B. Unreceptive/Bewildered

3B. Know Personally/Easier

1B. Interpersonal/Family-like

2B. Supportive Relationships

3B. Communication/Difference

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called this process “de-contextualization” and “re-contextualization.” The Third Iteration (see Table 3) brings the analysis to a level of hypothesis or theory development.

Table 3 attempts to examine interpersonal support structures through the lens of advisory programs. Underlying patterns that form theoretical constructs about how relationships can be fostered and developed in middle school advisories and how these programs can promote a caring, community atmosphere were investigated. The research questions that were answered included: (1) How do advisory programs help or hinder the creation of a sense of community and care for students and teachers?, (2) How do the structural/procedural components of an advisory program hinder or enhance the creation of a sense of community?, and (3) What do teachers and students say is the most significant effect of advisory programs on school? Through the voices of the interviewees Table 3 highlights the preconceived notions, fears and findings of actual advisories, the levels of support and resistance associated with such programs, and the pros and cons involved when establishing interpersonal advisor-advisee relationships.

Merriam (1988) and Creswell (1994) recommended simultaneous data collection and analysis for generating categories and building theories. As data were being coded (first iteration), the responses were compared within categories and between categories (second iteration). This technique, described in detail in the work of Glaser and Strauss (1967), is referred to as constant comparative analysis. Constant comparative analysis occurs as the data are compared and categories and their properties emerge or are integrated together. Utilized in this study, this process led to the generation of the theoretical properties of the categories and was intended to generate the findings of the study.



Constant comparative analysis aided in identifying patterns, coding data, and categorizing findings. Miles and Huberman (1994) suggested that initial coding be conducted to find conditions among the participants, as a method of pointing to regularities in the setting (first iteration). As Bogdan and Biklin (1982) explained, “... certain words, phrases, patterns of behavior, subject’s ways of thinking, and events repeat and stand out” (p.166). In this study, the words and phrases generated from the formulated patterns served as the coding categories. This process of identifying and “tagging” data for later retrieval and more intensive analysis is called “code mapping” (Seidel, Kjoiseth, & Seymour, 1988). Patton (1990) stated that the first part of content analysis is to examine what is there and label it. Indeed, Goetz and LeCompte (1984) agreed that the goal of qualitative research is “to reconstruct the specific categories that participants used to conceptualize their own world view” (p.6). The designation of these categories provided the investigator with a manageable way of describing the empirical complexities of summarizing hundreds of pages of interview transcriptions (Constas, 1992).

The qualitative researcher was accountable for indexing the code map in Table 3 and also recording the steps involved in Glaser and Strauss’s (1967) “constant comparative method.” By making all aspects of the analysis process open to public inspection, it was hoped that the chain of evidence created and the “audit trail” constructed (see Lincoln & Guba, 1985) would strengthen the dependability and reliability of this research. Given that the goal of qualitative research is “to reconstruct the specific categories that participants used to conceptualize their own world view” (Goetz & LeCompte, 1984, p.6), the researcher is responsible to document the procedures

used to generate categories. Through the use of constant comparative analysis to identify the ethic of care and the creation of a sense of community, the goal of generating plausible categories, properties, and characteristics of advisory programs was achieved. The goal was not to develop “grounded theory” (see Woods, 1985), but to present a viable interpretation of the findings collected.

### Findings and Data Triangulation: Methods of Verification

A common criticism directed at qualitative research is that it fails to adhere to canons of reliability and validity (LeCompte & Goetz, 1982). Internal validity is concerned with how trustworthy the conclusions are that are drawn from the data and the match of these conclusions with reality, while external validity refers to how well conclusions can be generalized to a larger population. Ratcliffe (1983) states, “data do not speak for themselves; there is always an interpreter, or translator” (p.149).

The aim of the research offered in Table 4 was to investigate the principal as change agent and instructional leader. Shown are the complexities of variables and interactions that are so embedded in the data derived from the setting that it cannot help but be valid (Marshall & Rossman, 1989). Multiple sources of evidence, an established chain of evidence, pattern-matching, replication logic in multiple-case studies, use of proper case study protocol, a developed case study data base, and member checks all add to the validity and reliability of this study. Table 4 shows how multiple sources of data collection as well as multiple voices—the voices of teachers, teacher leaders, and administrators—were used to triangulate the data for this study. Sources of data collection consisted of individual face-to-face interviews with key informants, observations, discussions that resulted from informal visits to classrooms, a questionnaire

Table 4: Matrix of Findings and Sources for Data Triangulation

Sources of Data:	I = Interview		O = Observation	
	Q = Questionnaire		D = Documents	
Major Findings	Sources of Data			
	I	O	Q	D
<b>Category 1: Instructional Leadership</b>				
1. The principal's strong instructional leadership had a significant influence on the success of pedagogical restructuring.	X	X	X	X
2. The principal provided the necessary resources to support change.	X	X	X	
3. Extensive professional development was a key factor for successful pedagogical restructuring. The development of teacher leadership facilitated pedagogical restructuring.	X	X	X	X
		X	X	
<b>Category 2: Accountability</b>				
4. The principal held teachers more accountable for student learning than any other group.	X	X		
5. Teachers resented having the greatest share of accountability for student learning.	X	X		
6. Teachers held the principal accountable to maintain a disciplined school climate and were critical of the principal's refusal to be responsible for how students behaved.	X	X		
7. Prior to restructuring, teachers were held accountable for good classroom management--not student learning.	X	X		
<b>Category 3: Collegiality</b>				
8. Teacher leaders involved veteran teachers in the decisions that affected them and reduced their resistance to change.	X	X		
9. Team building and development of leadership in teachers promoted cooperative relationships among teachers.	X	X		
<b>Category 4: The Milieu: The School Environment</b>				
10. Teachers and the principal were polarized because of two very different philosophies: Good teaching prevents discipline problems versus teachers need discipline to accomplish good teaching.	X	X		
11. The lack of a disciplined school environment was the major barrier in the restructuring process.		X		X
12. A more student-centered environment was a direct outcome of pedagogical restructuring.	X	X		X
<b>Category 5: Change: An Evolutionary Process</b>				
14. New teachers embraced change; veteran teachers resisted change.	X	X	X	
15. The principal was the catalyst for change because change was mandated and teachers could not opt out of the process.		X	X	

that was administered to a select group of teachers, and examination of a wide assortment of documents. Table 4 shows the major findings of this study listed under five categories and the four sources of data collection. Each data source provides corroborative evidence to verify information obtained by other methods. Each finding listed in Table 4 is corroborated by at least one other source of data, and in several cases, three or more sources of data. In this particular study the use of multiple sources of data collection as a form of triangulation prevented reliance exclusively on a single data collection method and thus neutralized any bias inherent in a particular data source.

In this study, triangulation of the interviews with questionnaires, observations, and document analysis, as well as triangulation of the interviews with one another (teachers↔teacher leaders↔administrators), rendered a holistic understanding of the situation and generally converging conclusions. As Fielding and Fielding (1986) stated, “Triangulation puts the researcher in a frame of mind to regard his or her own material critically, to test it, to identify its weaknesses, to identify where to test further doing something different” (p.24).

### Concluding Discussion

After decades of academic and paradigmatic politics, qualitative research finds itself in an astonishing position. This is unanticipated by all, especially by those closest to it, who were for so many decades accustomed to its devalued, unappreciated, marginal status (Altheide & Johnson, 1994). We noted at the beginning of this paper that the heightened use of qualitative methods has spurred interest in developing formal standards

for assessing the validity of qualitative research. Such standards are important because of the legitimacy they afford the research approach. But we contend that these standards have missed the mark by not including public disclosure of methods as a criterion.

The primary point we argued for is the accountability of the researcher in documenting the actions associated with establishing internal validity (triangulation), theme development, and the relationship between research questions and data sources. Generally speaking, this article is concerned with issues related to the integrity of qualitative research. The purpose of these tables is to enhance the opportunity for criticism and public inspection of qualitative studies—to encourage analytical openness.

In calling for the public documentation of category development, Conostas (1992) wrote, “If qualitative research is to gain the acceptance of a broad audience, and not only those inclined to accept qualitative inquiry as valid, individuals engaged in qualitative empirical research must begin to make all phases of their investigations open to public inspection. Extensive methodological and analytical information must be provided if a community of researchers is to perform the desired critique and assessment of a given research project. The absence of the opportunity for public inspection will likely result in suspicion, naïve acceptance, or outright dismissal among a community of readers, none of which is desirable or necessarily warranted” (p.266). Peshkin (2000), discussing interpretation in qualitative research, wrote, “To be forthcoming and honest about how we work as researchers is to develop a reflective awareness that, I believe, contributes to enhancing the quality of our interpretive acts” (p.9).

We share the danger of reducing the practice of qualitative research to technical issues to be resolved by cookbook methods. Indeed, to talk about tabular strategies, such

as those in this article, invites charges of simplification and overgeneralization. This is not our intention. However qualitative researchers address validity in their research, we argue that the processes employed in the research must be made more public. The qualitative ethic calls for researchers to substantiate their interpretations and findings with a public accounting of themselves and the processes of their research.

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## Appendix A

### Interview Questions from Roney (2000)

#### INTERVIEW QUESTIONS: PRINCIPALS

Name: _____	School: _____	Date: _____
Ethnicity: _____	Gender: _____	Age: _____
Years in Middle Level Education: _____	Years in Administration: _____	
Degree: _____	Concentration: _____	Certification: _____

1. Tell me what it is like to be a middle school principal today? When you selected administration as a career goal, did you intend to become a middle grades principal?
2. In your opinion what makes an effective teacher? How does a teacher get to be effective? How does one's background contribute to one's effectiveness?
3. How would you describe an effective middle school teacher? Are there characteristics that middle school teachers need to possess or to develop in order to be effective middle school teachers? Is there a priority order to this list?
4. What qualities or characteristics are lacking in the teachers that apply for teaching positions? What qualities or characteristics would you like to see in the teachers that you interview?
5. In your opinion do teacher preparation programs (in their methodology courses, content areas, and practica student teaching) help or hinder the development of an effective middle school teacher?
  - a. Does the academic/content course work adequately prepare teachers for the classes and the subject area/s that they teach here?
  - b. Do these programs adequately prepare teachers to deal with students in the affective domain?
6. With reference to the "earmarks" of developmentally responsive middle schools, what should teacher preparation programs be focusing on?
  - a. What are the important ideas, principles, or understandings that an effective middle level teacher needs to know about?

- b. What do they need to know about interdisciplinary-thematic organization of curriculum?
  - c. What do they know about teaming?
  - d. What do they need to know about flexible block scheduling?
  - e. What do they need to know about exploratory programs?
  - f. What do they need to know about advisory programs?
  - g. What do they need to know about transition programs?
7. What is your opinion of a specialized middle level teacher preparation program?... certification?... licensure? Since Pennsylvania does not have a middle school certification, which do you prefer for your middle school, a teacher with secondary certification or one with elementary certification? Why?
  8. Do on-the-job experiences help or hinder a teacher in becoming an effective middle level teacher? How? Of the many on-the-job experiences they have in the course of a school year, which do you consider to be the most helpful? Please comment.
  9. In order to help teachers become effective, what should professional development programs be focusing on? In what types of professional staff development programs have your teachers participated? Have any been specifically geared toward middle level education? What were they like?
  10. What do you have here with regard to teacher supervision?... evaluation? ... teacher mentoring? How do they work here? Do they help or hinder the improvement of a teacher's effectiveness? Please comment.
  11. What are the signs that a teacher is effective?

#### INTERVIEW QUESTIONS: TEACHERS

Name: _____	School: _____	Date: _____
Ethnicity: _____	Gender: _____	Age: _____
Years Teaching: _____	Years In Middle Level Education: _____	
Grade/s and Subjects teaching: _____		
Degree: _____	Concentration: _____	Certification: _____

1. Tell me what it is like to be a middle school teacher today? When you selected teaching as a career goal, did you intend to become a middle grades teacher?
2. What makes a teacher effective? How would you describe an effective middle school teacher? How does a teacher get to be effective? How does one's background contribute to one's effectiveness?
3. Thinking back to the teacher preparation program at your college/university (in its methodology courses, content areas, and practica student teaching), did your program help or hinder your development as a middle school teacher?
  - a. Did the academic/content course work adequately prepare you for your classes and the subject area/s that you teach here?
  - b. Did your program adequately prepare you for the adolescent/affective domain of the middle school student?
  - c. Did your program prepare you to lead your students into higher order thinking?
4. Of all the course work you did at the college/university level, which have been the most helpful courses to you? Describe for me why? Was a specialized middle level teacher preparation program available to you at that time?
5. What is distinctive about middle level teaching? With reference to the "earmarks" of developmentally responsive middle schools, what should teacher preparation programs be focusing on?
  - a. What are the important ideas, principles, or understandings that effective middle level teachers need to know?

- b. What do they need to know about interdisciplinary-thematic organization of curriculum?
  - c. What do they need to know about teaming?
  - d. What do they need to know about flexible block scheduling?
  - e. What do they need to know about advisory programs?
  - f. What do they need to know about exploratory programs?
  - g. What do they need to know about transition programs?
6. Are there important characteristics that middle school teachers need to possess or to develop in order to be effective? Is there a priority order to this list? Are there characteristics specifically effective in working with middle school students in their young adolescent phase of development?
  7. Do your on-the-job experiences help or hinder you in becoming an effective middle level teacher? How? Of the many on-the-job experiences you have had, which do you consider to be the most helpful? Please describe one.
  8. Since you have begun teaching, in what types of professional staff development programs have you participated? Have any been specifically geared toward the middle level teacher?
    - a. Have you attended any programs for the cognitive dimension of teaching young adolescents? What were they like?
    - b. Have you attended any programs for the affective dimension of middle level education? What were they like?
    - c. Have you attended any programs for high order thinking skills?
    - d. In your opinion, what should professional development programs be focusing on?
  9. What does this school do with regard to teacher supervision... evaluation... teacher mentoring? How does it work here? Does it help or hinder you in becoming more effective as a teacher? Please comment.
  10. Do you consider yourself (what makes you) an effective middle school teacher today?
    - a. What are the signs that you have been effective?
    - b. What are the rewards of teaching at the middle level?

### INTERVIEW QUESTIONS: STUDENTS

Name: _____	School: _____	Date: _____
Ethnicity: _____	Gender: _____	Grade: _____

1. Tell me about your middle school. What activities do you have here: ... sports? ...clubs? ...anything else? Are any of your teachers the coaches or club moderators?
2. Tell me what it is like to be a middle school student today. What is it like here?
3. Tell me about your classmates. How would you describe them? How would they describe you?
4. What classes do you take here? What is one of your favorite classes? Why? What is one of your least favorite classes? Why? Do any of your classes or teachers help you explore what you want to learn? How?
5. How many teachers do you have in one day? Do you have a team of teachers? What adjectives would you use to describe your teachers? Do they have any similar characteristics? How would your teacher/s describe you?
6. Are middle school teachers different from elementary school teachers? How?
7. Are any of your teachers more effective (or, "better") than the others? How do you know? What makes that teacher effective/better/good? Can you give me some examples? What makes a teacher "not so good"? Can you give me some examples?

8. Do you have an advisor? ...an advisory group? Would you go to a teacher if you had a problem? Why would you go to a teacher? Why wouldn't you go to a teacher?
9. Do the teachers here help you get used to/adjusted to middle school? How? Are they helping you prepare for high school? How?
10. What advise would you give a person who wanted to be a Middle School teacher?
11. What advise would you give a Middle School teacher who wanted to improve as a teacher?  
Can you describe for me the perfect middle school teacher?



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