

A Content Analysis of Qualitative Research in the Journal of Teaching in Physical Education from 1998 to 2008

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Abstract:

Previous reviews of research have documented the increasing use of qualitative inquiry in physical education. In this research note, the authors present a content analysis of qualitative research articles published between 1998 and 2008 in the *Journal of Teaching in Physical Education* (JTPE). A total of 110 empirical articles were published that included a qualitative component, 38.2% of those used mixed methods. Results include analyses of types of qualitative research, research focus, theoretical frameworks, data collection techniques, trustworthiness techniques, and participants. The Research Authorship Score revealed that qualitative research tends to rely on teams of researchers in the conduct of studies. By extending previous work, this study reveals that qualitative research continues to play a significant role in research on physical education.

Keywords: research methods | meta-synthesis | publication trends

Article:

Qualitative research has much to offer the field of sport pedagogy. While the definition of qualitative research has evolved over time (Silk, Andrews, & Mason, 2005), Lincoln and Denzin (1998) describe it as “multi-method in focus, involving an interpretive, naturalistic approach to its subject matter” (p. 3). Qualitative data typically comes from fieldwork and can be classified into three basic methodological forms: (a) interview, (b) observation, and (c) document analysis. In essence, qualitative research can be done “wherever situations of importance to a study can be observed, people interviewed, and documents analyzed” (Patton, 2002, p. 4).

Previous studies demonstrate that qualitative research has enhanced the knowledge

base in sport pedagogy (Byra & Goc Karp, 2000; Ward & Ko, 2006). The evolution of qualitative inquiry in physical education, however, has been gradual. In the introductory issue of the *Journal of Teaching in Physical Education (JTPE)*, only one article reported qualitative findings (Templin, 1981). This study, which employed mixed method research, served as an early example of the richness of qualitative inquiry could bring to the field. In subsequent years, *JTPE* has increasingly supported qualitative and mixed method research.

While several qualitative pieces were published in the *JTPE* during the 1980s, the quantitative paradigm remained the dominant mode of inquiry. Toward the end of the decade, however, Schempp (1987) argued that alternative perspectives (e.g., qualitative methods) were needed since all paradigms are limited by their assumptions. He concluded, “the body of knowledge on teaching physical education is running the risk of myopia due to its overdependence on one mode of inquiry” (p.118). That same year, the editors of the *JTPE* reaffirmed that “both quantitative and qualitative research perspectives are appropriate to the journal” (Templin & Griffey, 1987, p. 3). This editorial stance proved timely as the number of qualitative studies appearing in the literature has increased significantly in the *JTPE* since that time (Byra & Goc Karp, 2000).

In 1989, Locke authored a classic review article that discussed the nature and value of “qualitative research as a form of scientific inquiry” in a *Research Quarterly for Exercise and Sport (RQES)* feature. Various views of qualitative research were presented in this feature (Bain, 1989; Sage, 1989; Schutz, 1989; Siedentop, 1989). While Locke (1989) predicted that “qualitative research has a future in physical education,” he cautioned that “it is the kind of future that is in doubt,” because of theoretical problems, a lack of trained researchers, and doubts about its scientific utility (p. 13). Despite this caution, there has been a steady emergence of qualitative studies through the 1990s and to the present.

Silverman and Skonie (1997) conducted a review of 179 research studies on teaching in physical education (RT-PE) publications from journals and conference proceedings from 1980 to 1994. Most of the studies (91%) used quantitative methods versus qualitative methods (9%) in the study of teacher effectiveness. The authors expressed surprise at the lack of qualitative research given the increased attention qualitative methods had received.

In a review of research from 1988 to 1997 in the *JTPE* and *RQES*, Byra and Goc Karp (2000) examined 332 articles. Forty-four percent of the articles included qualitative research. Furthermore, the percentage of qualitative articles increased from 30% in the first five year period to 50% of the articles in the second five year period of the review.

Ward and Ko (2006) examined publication trends in the *JTPE* related to gender and country of affiliation of authors, the composition of the editorial board, as well as the foci of *JTPE* articles. This study included 677 articles from 1981 to 2005 and discovered a wide range of topics related to research on teaching and teacher education. It revealed that female scholars published at the same rate as their male counterparts.

Finally, Kulinna and her colleagues (Kulinna, Scrabis-Fletcher, Kodish, Phillips, & Silverman, 2009) reviewed 1,819 physical education pedagogy papers from 1995 to 2004 that

were published in 94 journals. Papers were published in all four journal types: (a) physical education (56.40%), (b) kinesiology (20.02%), (c) education and social science (9.35%), and (d) health education/medical journals (4.23%). Across all journal types, the two journals with the most physical education pedagogy articles from 1995 to 2004 were the JTPE and the Physical Educator. The majority of physical education papers were published in the area of teaching (65.31%), followed by curriculum (19.24%), and teacher education (15.45%).

The primary objectives of this investigation were to identify all qualitative data-based articles published in the JTPE between 1998 and 2008 and then employ content analysis techniques to extend previous research and draw conclusions regarding changes over a 10 year period. The JTPE was chosen because it has been identified as a primary outlet for research in sport pedagogy, and the 10 year time period extends previous research (Byra & Goc Karp, 2000; Kulinna et al., 2009; Silverman & Skonie, 1997).

Methods

All articles published in the JTPE between 1998 (volume 17, issue 2) and 2008 (volume 27, issue 4) were reviewed. The primary criteria for inclusion were that articles contained a qualitative component and reported data-based results. Each data-based article was classified as qualitative or quantitative by the two lead authors. A database entry form was created to record information on each article that was determined to employ at least one qualitative data collection or analysis technique. Database categories were chosen based on those used in previous research (Byra & Goc Karp, 2000; Silverman & Manson, 2003; Templin, Graber, & Belcher, 1999; Ward & Ko, 2006). In accordance with Silverman and Manson (2003), initial coding categories and subcategories were developed and then pilot coding was conducted to refine coding procedures. The data collection and analysis process took approximately 70 hr.

The Research Authorship Score (RAS) was developed as a method to assess an investigator's overall contribution to qualitative literature. This system can be employed for either qualitative or quantitative research in any given time frame. The RAS system assigns a point value to every paper an author has published based on the author's position of authorship (i.e., sole author = 3 points; first author = 2; second author = 1; third author = .5, and fourth author or later = .25). This calculation relies on the assumption that all authors have met the criteria for authorship as described by the International Committee of Medical Journal Editors (1991), which is endorsed by the Authorship Guidelines for the JTPE. In instances where these criteria are not met, we acknowledge that the application of the RAS system may be limited.

Results

Percentage of Qualitative Research

Of the 209 research based articles published between 1998 and 2008, 68 (32.5%) were qualitative, 99 (47.4%) were quantitative, and 42 (20.1%) were mixed method studies. A total of 110 (52.6%) articles contained at least one qualitative data collection or analysis technique. Of those 110 articles, 68 (61.8%) included only qualitative methods while the remaining 42 (38.2%) were mixed method studies that included both qualitative and quantitative techniques.

Types of Qualitative Research

Hatch's (2002) classification system includes 16 categories of research representing a broad range of methods of data collection and analysis, some of which are linked to theoretical frameworks. Following that classification system, the majority of the research was identified as interview studies (30 articles) and case studies (23), followed by grounded theory studies (12), naturalistic inquiry studies (11), and symbolic interactionist studies (11). There were very few phenomenological studies (2), artifact analysis studies (1), and narrative studies (1). Furthermore, the review was void of historiographies, ethnomethodologies, or educational criticisms.

Research Focus

Through inductive analysis (Patton, 2002), four higher order themes emerged from the foci of the qualitative and mixed method research that was reviewed: (a) Research on Teachers (36.4%), (b) Research on Students (31.8%), (c) Physical Education Teacher Education (24.5%), and (d) Research on Teachers and Students (7.3%). Each of the four first order themes were then divided into lower order themes to better communicate the focus of research (see Figure 1). Across all of the themes, some of the most prominent research areas included school reform (9), professional development (7), instructional models (9), student perceptions (7), student teachers (10), and early field experiences (7).

Special Topics. The researchers found that the initial analysis of topics covered in the qualitative research published in the JTPE failed to illuminate topics that may have been imbedded in the articles that were classified in another area. For example, an article that evaluates a professional development project in an urban area would have been classified as professional development, not urban issues. Therefore, an additional review of the articles was conducted to bring light to special topics. In contrast to the initial review of topics which was conducted by researchers as a group, in this subsequent review two of the authors coded each article independently to determine if any special topic was present. There was initially 96% agreement between the two independent coders and consensus was reached on which articles were to be included. The review yielded the following six categories of topics: (a) students with disabilities (2 articles), (b) at risk youth (2), (c) gender issues (8), (d) urban issues (7), (e) cultural issues (2), and (f) critical pedagogy (3).

Theoretical Frameworks

The theoretical frameworks specifically referenced (or the lack of a reference) in the studies were recorded. A total of 38 different theoretical or conceptual frameworks were referenced across the articles included in this study. The most common framework was constructivism, which was cited eight times. In addition, feminist theory was cited four times and three papers used innovation adoption theory. The remainder of the frameworks were only cited once or twice. Four of the publications claimed to generate grounded theories, or theories derived from the data. Thirty-four manuscripts (30.9%) did not reference any theoretical or conceptual framework and instead grounded their investigations solely in previous research. The majority of manuscripts (69.1%) referenced theoretical or conceptual frameworks.

Data Collection Techniques

A review of qualitative data collection techniques revealed that three primary techniques were used to gather data: (a) interviews, (b) observations, and (c) document and artifact analysis. Some studies used multiple forms of these data collection techniques. The interview category contained five different types of interviewing techniques: semistructured (47), formal/structured (30), informal (27), focus group (22), and other/unspecified (22). The observation category was divided into participant and nonparticipant observation with nonparticipant observation used far more (46) than participatory techniques (9). The document and artifact analysis category contained three different techniques: document analysis (32 times), journaling (17), and artifact analysis (2). Overall, interviews were the most popular data collection technique (148) followed by observation (55) and document and artifact analysis (51).

A subsequent analysis of the number of data collection techniques employed in each article revealed that the majority of the authors collected data using one (30%), two (29%), or three (25%) techniques. Far fewer articles used four (10%), five (5%), or six (2%) techniques. Of the 33 articles citing only one qualitative data collection technique, 24 (73%) were mixed method articles.

Duration of Data Collection. Qualitative research varies in duration depending on the focus of the research. Some investigations require only one 30 min interview to collect data, while others may take as long as months or even years to complete. While an analysis of the study duration was not possible due to inconsistencies in the methods of reporting time requirements, examples can be provided to demonstrate the variety of time commitments made by the authors that published qualitative research in the JTPE. For example, McCaughy (2004) conducted an investigation on teachers' emotions in which data were collected over a four month period. The author conducted 38 interviews and each of the interviews lasted between 90 min and 2.5 hr. Data collection in MacPhail, Kirk, and Griffin's (2008) investigation on throwing and catching skills took six weeks to complete. Rovegno, Nevett, and Babiarez (2001) report that their data

were collected between October and March. Other studies reported collecting data over two academic semesters, one fall term, 14 weeks, 23 lessons, and eight years. Several studies did not report the duration spent in data collection, making the aggregation of data impossible.

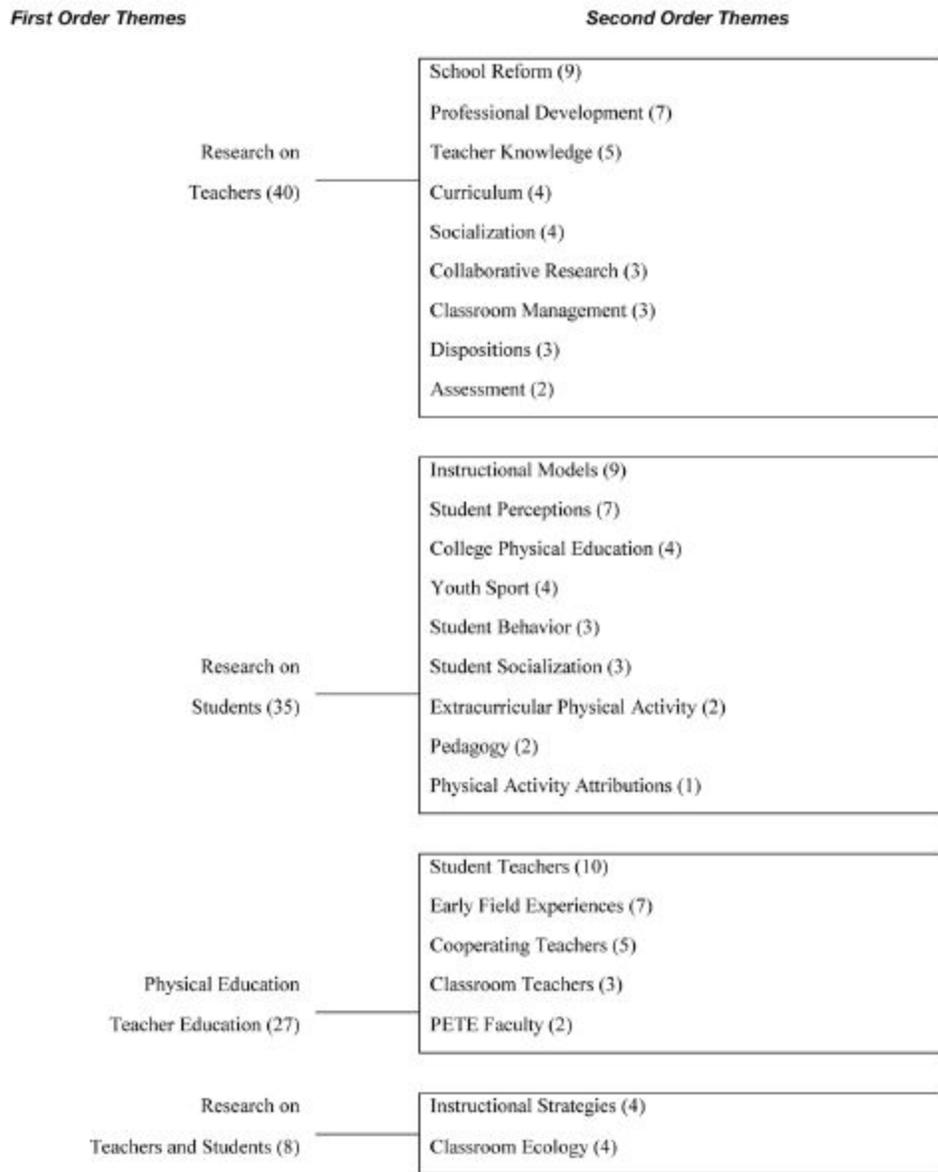


Figure 1 — Focus of the articles that employed qualitative research methods in the JTPE between 1998 and 2008 (numbers in parentheses indicate number of article for each theme).

Analysis of Authorship

Between 1998 and 2008 a total of 170 different authors published qualitative research in the JTPE. There were 88 female authors and 82 male authors and each author published an average of 1.59 articles. Female authors were first or sole author on 57 papers compared with 49 papers where a male was the lead or sole author. The average RAS score for male authors was 1.98 compared with 2.09 for female authors. Only 11 of the 170 authors published four or more articles during the 11 year period with the highest number of publications being eight. In addition, 11 authors (6.47%) were involved in the production of 59 (53.6%) of the publications. On the other end of the spectrum, 116 (68.23%) of the authors contributed to the publication of only one paper. An additional analysis was conducted relative to the number of authors per paper. Most of the papers (73.63%) were multiauthor publications. The most common number of authors on a paper was two (38.18%) and only two articles listed 7 or more authors.

An analysis of the authorship, using the RAS system, revealed that 14 (8.23%) of the authors achieved a RAS score of five or higher and three authors (1.76%) scored 10 or higher. In contrast, 80 of the authors (47.05%) achieved RAS rating of one or lower and 20 of the authors (11.76%) achieved the lowest RAS score possible by publishing only once as fourth author or later. Nine of the ten authors with the highest RAS score had also served on the JTPE Editorial Board.

Participants

The examination of participants was one of the more difficult analyses that were conducted because the degree to which authors reported the characteristics of their participants varied greatly. While some authors reported the age, years of experience, and gender of participants, not enough information on participants was available for a meaningful analysis. The only characteristics that were reported often enough to analyze were the type and number of participants. Four different types of participants were used to conduct the qualitative research published in the JTPE between 1998 and 2008: (a) K-12th grade students (44 articles), (b) school teachers (65 articles), (c) preservice teachers (22 articles), and (d) other (e.g., university faculty, nonphysical education college students, administrators, camp staff; 17 articles).

Trustworthiness Techniques

The articles examined in this study reported using various techniques related to promoting trustworthiness. The majority of the articles (76%) cited multiple trustworthiness techniques while 14% cited only one and 10% did not cite trustworthiness procedures. The most common technique cited was data triangulation which was employed in 68 (62%) of the articles. Other often cited techniques included member checks (44%), researcher triangulation (34%), peer debriefing (32%), and negative case searches (24%). Several other techniques such as researcher journaling (8%), methodological triangulation (5%), audit trail (5%), thick descriptions (2%),

and purposeful sampling (2%) were cited less frequently. In all, nine of the 20 techniques were cited only once or twice.

Data Analysis Techniques

Twenty different data analysis techniques were used in the articles included in this study. The majority of the articles (99; 90%) cited at least one data analysis technique while the remaining 11 (10%) did not cite any. The two most popular techniques referenced among the articles were inductive analysis (47; 43%) and the constant comparative method (46; 42%). Content analysis and open/axial coding were used 9 (8%) and 8 (7%) times respectively. Techniques such as deductive analysis, grounded theory, and the data reduction process were used sparsely (6, 4, and 3 times respectively). An additional 12 techniques were used only once or twice in those qualitative manuscripts. Of the 110 articles included in this study, only seven (6%) reported using qualitative data analysis software. Of these seven, Nud*ist 4.0 was cited five times while Ethnographer 5.0 and Observer 4.0 were each referenced once.

Discussion

By extending previous research, this descriptive study reveals that qualitative research continues to play a significant role in research on teachers, teaching, students, and teacher education in physical education between 1998 and 2008. The current study found a slightly higher percentage of qualitative research in the sample examined than four previous reviews of research in sport pedagogy (Byra & Goc Karp, 2000; Chen & Zhu, 2001; Silverman & Skonie, 1997; Ward & Ko, 2006).

The RAS revealed that qualitative research appears to be dependent on teams of researchers in the conduct of a study. As Locke (1989) pointed out, qualitative research demands great effort in gaining access to participants, becoming familiar with their contexts, and establishing trusting relationships; these are lengthy but necessary components of qualitative research. The RAS also confirmed that male and female authors continue to publish at a similar rate (Ward & Ko, 2006). In this study, female authors published slightly more often than males and were more often the first or sole author on papers.

Demerath (2006) characterized qualitative research in education as being “on trial,” after the Education Science Act of 2002 prioritized quantitative research as the “gold standard” (p. 97) for educational research. Evidence from this study suggests that qualitative research in PETE has not been marginalized by such standards. Qualitative research is included in over half of the studies published in the JTPE. An explanation for the rise in qualitative studies may be use of mixed methods. Authors often combine use of qualitative methods to complement quantitative findings, and vice versa. Furthermore, authors ground their work in a wide range of theoretical constructs and often establish trustworthiness through various methodological strategies. Finally,

the RAS scores show that many of the editorial board members of the JTPE often publish qualitative research.

In this study, 25 different topic areas were identified in addition to the six special topic categories. These findings demonstrate that qualitative and mixed method research has played a central role in the field of sport pedagogy. Yet questions remain. What do the results really tell us about the evolution of qualitative research in sport pedagogy? Furthermore, how can the specific findings of this research be summarized? To answer such questions, future researchers should consider synthesizing the results from qualitative studies. Qualitative research synthesis offers a strategy to summarize the increasing number of qualitative studies, make connections between studies, and advance theory. Furthermore, it offers a complement to quantitative meta-analysis by providing new perspectives on a given topic area (Major & Savin-Baden, 2010).

While qualitative designs appear to be accepted, research activities linked with measurable “quantitative” outcomes still seem to garner more attention and support. However, the teaching-learning process is a complex phenomenon that may be examined through various methods. Furthermore, no singular research paradigm can fully explain the complexity of teaching and learning in sport pedagogy. The diversity of research methods published in the JTPE suggests that the journal welcomes multiple perspectives. To maintain or enhance the status of qualitative research in sport pedagogy and more broadly in education, scholars will need to further demonstrate how qualitative research can inform best practice in our field.

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