

Using Qualitative Data Analysis Software in Teaching About Group Work Practice

Mark J. Macgowan
Richard L. Beaulaurier

SUMMARY. Courses on social group work have traditionally relied on in-class role plays to teach group work skills. The most common technological aid in such courses has been analog videotape. In recent years new technologies have emerged that allow the instructor to customize and tailor didactic experiences to individual classes and individual learners. This article discusses the use of technologies such as digital video combined with computer aided qualitative data analysis software (CAQDAS). Two examples illustrate the use of Atlas.ti, a popular CAQDAS program, for advancing group work education. The use of data analysis software in group work courses gives students concrete examples and experiences in using research in group work practice. While

Mark J. Macgowan, PhD, LCSW, Associate Professor, and Richard L. Beaulaurier, MSW, PhD, Associate Professor, are affiliated with the School of Social Work, Florida International University, Miami, FL.

Address correspondence to: Richard L. Beaulaurier, School of Social Work, Florida International University, 11200 Southwest 8th Street, HLS II 364B, Miami, FL 33199 (E-mail: beau@fiu.edu).

[Haworth co-indexing entry note]: "Using Qualitative Data Analysis Software in Teaching About Group Work Practice." Macgowan, Mark J., and Richard L. Beaulaurier. Co-published simultaneously in *Journal of Teaching in Social Work* (The Haworth Social Work Practice Press, an imprint of The Haworth Press, Inc.) Vol. 25, No. 1/2, 2005, pp. 45-56; and: *Technology in Social Work Education and Curriculum: The High Tech, High Touch Social Work Educator* (ed: Richard L. Beaulaurier, and Martha Haffey) The Haworth Social Work Practice Press, an imprint of The Haworth Press, Inc., 2005, pp. 45-56. Single or multiple copies of this article are available for a fee from The Haworth Document Delivery Service [1-800-HAWORTH, 9:00 a.m. - 5:00 p.m. (EST). E-mail address: docdelivery@haworthpress.com].

Available online at <http://www.haworthpress.com/web/JTWSW>

© 2005 by The Haworth Press, Inc. All rights reserved.

Digital Object Identifier: 10.1300/J067v25n01_03

45

this article discusses the use of such technologies in teaching group work, the approach could be adapted for use in other direct practice courses and in direct practice settings. *[Article copies available for a fee from The Haworth Document Delivery Service: 1-800-HAWORTH. E-mail address: <docdelivery@haworthpress.com> Website: <<http://www.HaworthPress.com>> © 2005 by The Haworth Press, Inc. All rights reserved.]*

KEYWORDS. CAQDAS, qualitative research, group process, group therapy, social work education, computer assisted teaching, distance education

Social group work educators in academic and field settings have traditionally utilized a range of methods for teaching group work skills. Some of the traditional written tools for teaching social group work include process recording, group work log, and group analysis (Getzel, Kurland, & Salmon, 1987; Graybeal & Ruff, 1995; Kurland & Salmon, 1998, pp. 205-206; Wayne & Cohen, 2001). In addition, most group work educational programs require students to observe experienced group workers leading groups and, more importantly, to lead or co-lead groups under supervision (Association for Specialists in Group Work, 2000; Shapiro, Peltz, & Bernadett-Shapiro, 1998; Wayne & Cohen, 2001; Yalom, 1995). Most would agree that the passive method of observing groups should be ancillary to active work with groups (Wayne & Cohen, 2001).

The most important technological innovation in the teaching of social group work has come with the advent of inexpensive videotaping equipment. In a survey of 212 faculty in BSW and MSW programs concerning teaching about group work, almost all (92%) of group work educators found videotapes to be very useful (Birnbaum & Wayne, 2000). In an early edition of his book, Yalom noted that videotapes held "considerable potential benefit for the teaching, practice, and understanding of group therapy" (Yalom, 1975, p. 437). Tapes are valuable in that they "provide access to more subtle elements of interaction such as tone of voice, the rhythm of the interactions, and body language" (Wayne & Cohen, 2001, p. 63). As Yalom has noted, "valuable teaching sessions which clearly illustrate some basic principles of therapy may be stored and teaching videotape library created" (Yalom, 1995, p. 426).

As useful as standard videotaping methods have been, the survey noted above revealed that the most frequent faculty recommendation (25%) was for the development of new and better teaching materials (Birnbaum & Wayne, 2000). Advances in technology allow the further development of visual media for teaching group work. New and increasingly affordable digital technology allows the instructor to create interactive experiences that can be manipulated by instructors and learners. This allows for a more experiential learning approach, commonly cited as a requirement in the education of group workers (Conyne, Wilson, & Ward, 1997; Wayne & Cohen, 2001).

HOW DIGITAL VIDEO AND QUALITATIVE SOFTWARE ADVANCE PREVIOUS TECHNOLOGY

The use of computer technology has become more frequent in teaching social work practice (e.g., Engen, Finken, Luschei, & Kenney, 1994; Falk, Shepard, Campbell, & Maypole, 1992; Maple, 1994; Maypole, 1991; Poulin & Walter, 1990; Seabury & Maple, 1993; Wodarski, Bricout, & Smokowski, 1996). In some cases these technologies are similar to current digital video technologies such as large videodiscs or programs resident on computers with limited distribution (Goldberg-Wood & Middleman, 1987; Maple, 1994; Maypole, 1991). More recently technologies have emerged that include examples of practice skills on portable compact disks that now accompany text or workbooks about individual (Haney & Leibsohn, 1999) and group practice (Haney & Leibsohn, 2001). While these technologies are considerably more autodidactic than their predecessors, none of these approaches have allowed students and faculty to directly manipulate video, and in particular, video of their own behaviors. However, the current generation of digital video technology, in conjunction with developments in data analysis software, makes this possible and practical.

Digital Video

As the technology has advanced, digital video recordings have come to have virtually the same advantages as analog recordings, with some additional advantages. Although the initial quality of digital recordings was inferior to analog, current technologies rival or exceed the standards of analog recordings. The principal advantage of digital record-

ings is the potential for interfacing with other digital technologies, especially the personal computer and the Internet.

As hard drives have gotten larger, video compression formats have gotten better and processing speeds have gotten faster, the ordinary desktop or even notebook computer has acquired the capability to play high quality video. Moreover, the average new desktop computer gives users access to complex editing techniques far beyond the reach of most analog video users who do not have access to sophisticated editing equipment.

Digital video can be copied with no loss of quality to the recording. Digital video can be stored cheaply and, importantly, can be transmitted easily over the Internet. This gives digital video a distinct advantage over other approaches for use in distance education. Moreover, there is an increase in use of electronic classrooms designed for the presentation of computerized images. Thus, digital images can be presented on the same hardware as other presentation formats such as PowerPoint, web-browsers, spreadsheets, and other specialized computer applications.

Qualitative Data Analysis Software

Since the 1980s a variety of tools have been developed to assist qualitative researchers in the analysis of data (Fisher, 1997). These packages are often referred to as computer aided qualitative data analysis software, or CAQDAS. Most CAQDAS packages have been developed primarily for the analysis of text (Drisko, 1998; Irion, 2002; Weitzman, 1999). In the past, qualitative researchers have often had to transcribe video and audio recordings to analyze them. The advantage of directly analyzing digital video recordings over text is that a more nuanced and holistic representation of the situation under study may be obtained (Irion, 2002; Koch & Zumbach, 2002; Weitzman, 1999). For this reason, some CAQDAS programs have added features that allow them to analyze other sources of qualitative data including still images, audio, and video (Irion, 2002; Weitzman, 1999).

Probably the two best known and most full featured qualitative data analysis software packages are NUD*IST-NVivo and Atlas.ti (Barry, 1998; Drisko, 1998). While both programs have incorporated capability for dealing with digital video, at this writing NUD*IST-NVivo allows links to video clips, but does not allow video segments to be coded directly. By contrast, Atlas.ti allows for the coding of entire video files. Although there are several other programs that are more specialized for qualitative analysis of video data (Koch & Zumbach, 2002), the authors

chose to use Atlas.ti for the examples in this paper due its flexibility and popularity.

This paper will not attempt to discuss all of the uses of CAQDAS. Discussion will be restricted to features relevant to the pedagogical use that we will be putting the software. However, in order to understand the benefits of using CAQDAS, a short discussion of the basics of Atlas.ti and some fundamental principles of qualitative data analysis will be instructive.

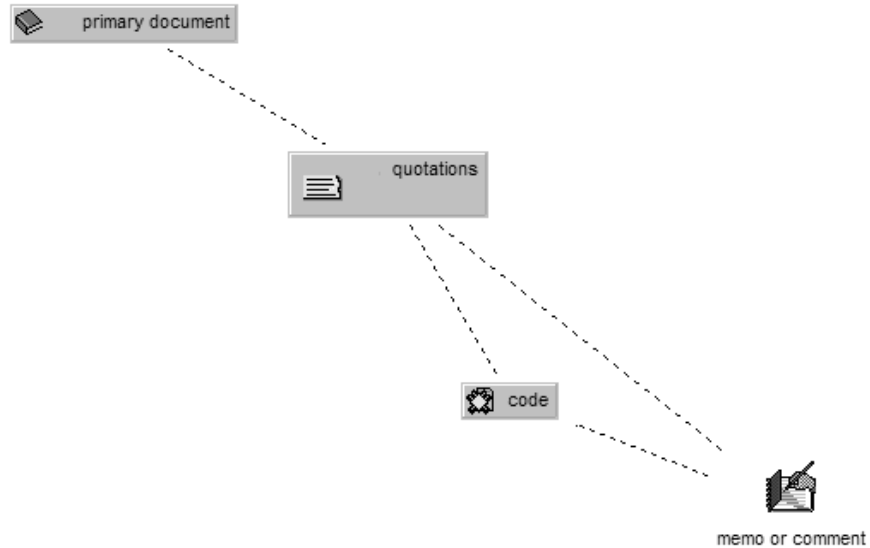
Atlas.ti, like most CAQDAS packages, began development as a program for analyzing text. Thus, all computer files that constitute the raw data for Atlas.ti are called “primary documents.” Although called “documents,” these data can be in the form of text files, digital audio recordings, digital still images, or digital video. Data files are grouped into projects called HUs (Hermeneutic Units) by Atlas.ti. An instructor might, for example, create an HU for each new class. Each video associated with the class would be a primary document organized under the HU for the class.

The latest version of Atlas.ti (4.2 as of this writing) has the ability to read a variety of digital video formats including Mpeg, AVI, and QuickTime. Once a digital video segment has been entered into an HU as a primary document, the user can begin the process of transforming the data into smaller, meaningful segments (Figure 1). In the general parlance of qualitative research this is the process of “coding.” Coding is a semiotic process where the whole of the video segment is broken down into smaller units of meaning, referred to as “quotations” by Atlas.ti.

A quotation is a sub-segment of video, and is tied to the time-code of the primary document file. If we are examining a video file of 30 minutes in length, the user might create a quotation beginning at 1 minute, 20 seconds and ending at 1 minute, 40 seconds. The user can create as many quotations as are needed, and quotations can be as long or as short as the user wishes to make them.

Once a quotation has been created, the user can add other objects, the two most important of which are “codes” and “memos.” Codes are “named concepts” that can be assigned to other quotations. For example, the user may wish to create a code for “purpose statement.” Once a code has been created, it can be assigned to any quotation in which there is an incidence of a purpose statement. Thus any named concept (code) can have one or more incidences (quotations) assigned to it. The creation of codes for major concepts makes it possible to arrange and show a variety of examples of concepts, from one or many video recordings,

FIGURE 1. Coding Process Using Atlas.ti: Relationship Between Objects



at the click of a button. Moreover, examples of concepts can come from sessions that the instructor has saved as exemplars, or from recordings of students' own sessions.

User-added commentaries can be added to any Atlas.ti object. In the literature on qualitative data analysis, such commentaries are known as "theoretical memos" (Strauss, 1987). Atlas.ti has two different strategies for creating theoretical memos. Atlas.ti contains an object called a "memo," which is a commentary that can be attached to any object in Atlas.ti. Atlas.ti also allows the user to attach a "comment" to any of its objects which is also a commentary. There are differences between memos and comments, but for our purposes, the differences between them are unimportant. In the interest of simplicity, the authors have elected to use only the "comments" feature of Atlas.ti as a way of adding commentaries to documents, quotations, and codes.

APPLICATIONS FOR GROUP WORK EDUCATION

Two examples illustrate the use of Atlas.ti for group work education. The first relates to the observation of experts in which educators iden-

tify skills or processes coded for display in video segments. The second involves students coding and commenting on their own work. The examples demonstrate the educational value of this coding process using two core competencies for group work practice derived from the Association for the Advancement of Social Work with Group's Standards for Social Work Practice with Groups (Association for the Advancement of Social Work with Groups, 2000); namely, encouraging member-to-member interaction, and establishing the group's purpose statement.

Observation of Experts

An important task in group work is to foster connections between members (Association for the Advancement of Social Work with Groups, 2000, Standards IIIC and IIID). One strategy that helps to foster member-to-member communication is to deflect comments of members directed to the worker, directing them instead to the rest of the group. Jacobs and colleagues suggest that,

The leader should explain to the members that she/he would not be looking at them all the time when they speak because she/he needs to scan the room and that your scanning should serve as a clue for them to address themselves to the other members. (Jacobs, Masson, & Harvill, 1998, p. 105)

The instructor can create videos of actual groups and then code the video using Atlas.ti to mark behaviors such as "scanning the group with one's eyes while a group member is speaking." Group work educators could provide a set of examples for student reference. These examples could then be easily and cheaply distributed to students on CDs, DVDs or via the Internet. In addition to examples created by the professor, exemplars using student models could be created. This latter approach is preferable, since learning is generally enhanced when the models are similar to the learner (Bandura, 1986). Moreover, this approach lends itself to asynchronous, auto-didactic approaches to learning that have several advantages over conventional classroom approaches (Sarnoff, in this volume).

Student Coding and Commenting on Their Own Work

A more active approach to learning group leadership skills is for students to code and comment on their own work in an adaptation of con-

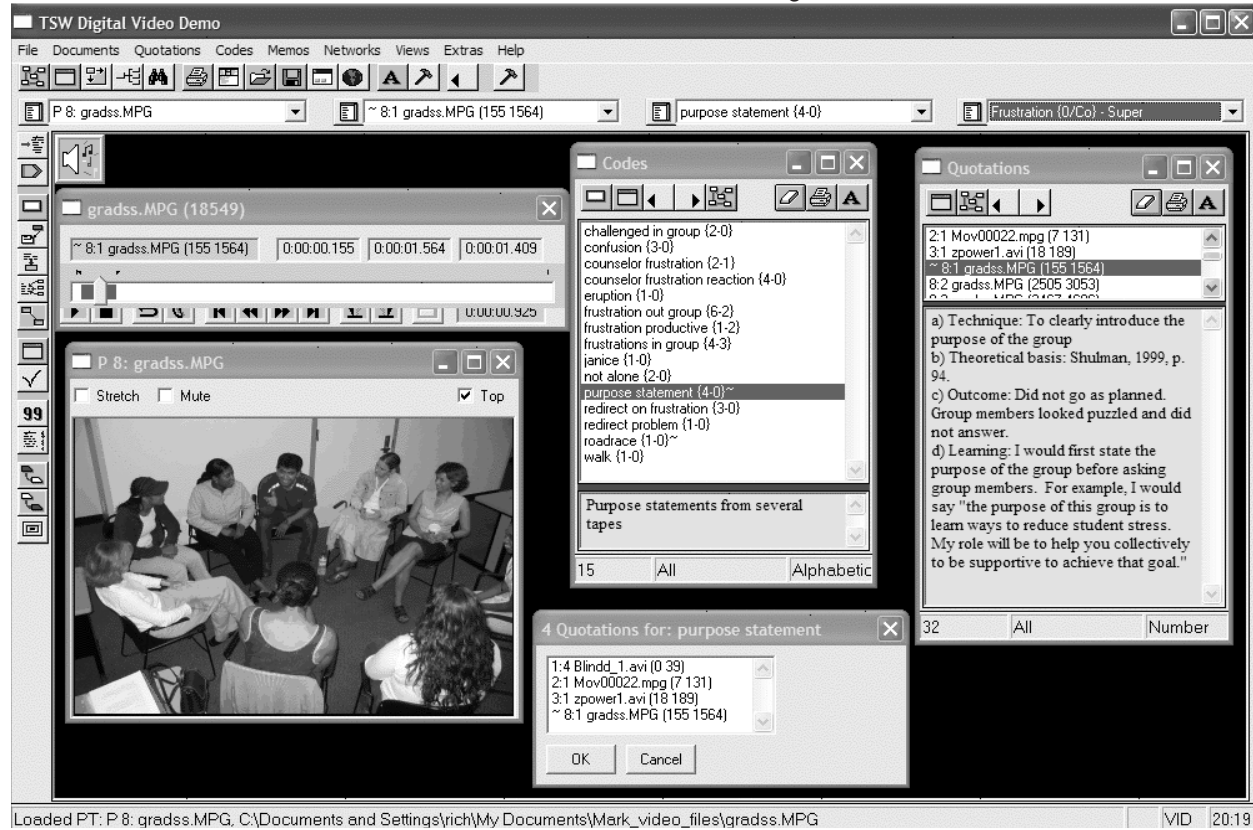
ventional process recording methods. This process has the benefit of not only having students critically review their own group work skills, but also allows students using Atlas.ti to embed process comments directly in the video. Once coded, the students are able to quickly flip through sections of the video where they have problems, and compare their performance to that of exemplars provided by the instructor. This approach also allows the instructor to view sections of video with student comments attached, thus giving the instructor considerable insight into the student's critical skills. Such an approach allows the instructor to give more sharply focused feedback to students.

Process recordings using videotapes have several advantages over paper and pencil approaches. These include more accurate recall and the ability to be replayed for later review, allowing educators and students to examine the subtleties of group interaction (Graybeal & Ruff, 1995). However, written recordings have advantages in that they allow students to make comments about their intentions, thoughts about what went right or wrong, and what might be done to make improvements. By giving users the ability to combine text commentaries with video recordings, Atlas.ti can combine the advantages of both approaches. The advantage of this approach is highlighted in the following example.

A critical task at the outset of group is to clearly introduce and clarify the purpose of the group (Standard, IIIA, Association for the Advancement of Social Work with Groups, 2000). Workers who have mastered the skill succinctly introduce "their vision for the group, their hopes for group accomplishments, and their reasons for, and the agency's interests in, bringing the group members together" (Kurland & Salmon, 1998, p. 47). The skill associated with setting the purpose of the group has been coded in Atlas as "purpose statement" (Figure 2).

In the example in Figure 2, the process recording has been linked to a video recording of the beginning of a group. A code has been created for the skill: namely, making a purpose statement. The appropriate quotation has been highlighted and shown in its own window. Within the quotation window the specific sub-segment of video associated with the student's purpose statement has been highlighted. The comment box in the quotation window contains the student's answer to the following questions posed by the instructor, which are part of the process recording format: (a) what was the skill or technique? (b) What was the empirical or theoretical basis for the technique (with citation)? (c) What was the outcome of the technique—did it go as planned? (d) What would you say or do differently next time? At the bottom of the screen is a window showing all of the quotations that have been coded to "purpose state-

FIGURE 2. Atlas.ti Video Coding Screen¹



ment” even if they are in other videos. This feature allows the student to view their purpose statement as well as the example provided by the instructor, and/or other members of their team in group assignments.

Other Uses

There are several other possible uses for Atlas.ti. For example, Atlas.ti is capable of mixing media through hyperlinks. In this case, the user can assign any combination of text, video, or other media such as still images or sound recordings to an HU as primary documents. For the sake of brevity, the authors utilize a strategy that uses some of Atlas.ti’s most basic functions, and which can be learned quickly. Although the techniques involved for linking mixed media through hyperlinks are more advanced, the strategy offers considerable potential, and is a more elegant way of linking lengthy text to video. Such uses are probably beyond the expectations for bachelor and master level students. However, instructors with advanced knowledge of CAQDAS programs may be interested in creating multimedia presentations that link text, video, and still images using hyperlinks.

In addition, through the use of more advanced functions of Atlas.ti such as “focused networks,” users can graphically display complex relationships and links between concepts. This could have considerable value in showing the relationships theorized in group work writings, by grounding them in the reality of videotaped groups.

A complete exploration of advanced features such as hyperlinking and focused networks would be beyond the scope of this discussion. The two examples described above require only the basic features and understandings of Atlas.ti and qualitative data analysis; the coding and commenting techniques illustrated above are well within the reach of most instructors and students. The potential of the more advanced functions of Atlas.ti and other CAQDAS programs are more easily understood once basic functions have been mastered.

CONCLUSIONS

This paper has demonstrated a relatively simple method for exploiting the enormous potential of modern CAQDAS programs for teaching about social group work. Educators can adapt this approach to other modalities such as work with individuals or families. Such software is particularly helpful in cases where populations are culturally different,

pre-lingual, or have other characteristics that make *seeing* and *hearing* important elements of understanding and treating.

Atlas.ti has considerable potential for helping students to bridge the gap between research and practice. In using the software to learn about groups, students also learn the fundamentals of qualitative data analysis, and the practical application of research techniques. Students who master these techniques have the potential of continuing to apply it to their practice in ways that have yet to be conceptualized. While CAQDAS software has been coming into wide recognition as indispensable to researchers with qualitative data, clearly the potential for the use of such programs has barely been tapped by educators and clinicians.

NOTE

1. Figure 2 was created with an older version of Atlas.ti (ver. #4.2). A newer, much improved version of Atlas.ti is now available. Used with permission.

REFERENCES

- Association for Specialists in Group Work (2000). *Professional standards for the training of group workers*. Retrieved June 22, 2003, from: http://www.asgw.org/training_standards.htm
- Association for the Advancement of Social Work with Groups (2000). *Standards for social work practice with groups*. Retrieved June 23, 2003, from: <http://www.aaswg.org/>
- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice-Hall.
- Barry, C. A. (1998). Choosing qualitative data analysis software: Atlas/ti and Nudist compared. *Sociological Research Online*, 3(3).
- Birnbaum, M. L., & Wayne, J. (2000). Group work in foundation generalist education: The necessity for curriculum change. *Journal of Social Work Education*, 36(2), 347-356.
- Conyne, R. K., Wilson, F. R., & Ward, D. E. (1997). *Comprehensive group work: What it means and how to teach it*. Alexandria, VA: American Counseling Association.
- Drisko, J. W. (1998). Using qualitative data analysis software. *Computers in Human Services*, 15(1), 1-19.
- Engen, H. B., Finken, L. J., Luschei, N. S., & Kenney, D. (1994). Counseling simulations: An interactive videodisc approach. *Computers in Human Services*, 11(3/4), 283-298.
- Falk, D. R., Shepard, M. F., Campbell, J. A., & Maypole, D. E. (1992). Current and potential applications of interactive videodiscs in social work. *Journal of Teaching in Social Work*, 6(1), 117-136.

- Fisher, M. (1997). *Qualitative computing*. Adershot, UK: Ashgate.
- Getzel, G., Kurland, R., & Salmon, R. (1987). Teaching and learning the practice of social group work: Four curriculum tools. In J. Lassner, K. Powell, & E. Finnegan (Eds.), *Social group work: Competence and values in practice* (pp. 35-50). New York: The Haworth Press, Inc.
- Goldberg-Wood, G., & Middleman, R. (1987). Interviewing skills for the human services: Learner's workbook. Park Forest, IL: OUT ST Software.
- Graybeal, C. T., & Ruff, E. (1995). Process recording: It's more than you think. *Journal of Social Work Education, 31*(2), 169-181.
- Haney, J. H., & Leibsohn, J. (1999). *Basic counseling responses: A multimedia learning system for the helping professions*. Belmont, CA: Brooks/Cole.
- Haney, J. H., & Leibsohn, J. (2001). *Basic counseling responses in groups: A multimedia learning system for the helping professions*. Belmont, CA: Brooks/Cole.
- Irion, T. (2002). Einsatz von Digitaltechnologien bei der Erhebung, Aufbereitung und Analyse multicodaler Daten. *Forum Qualitative Sozialforschung, 3*(2).
- Jacobs, E. E., Masson, R. L., & Harvill, R. L. (1998). *Group counseling: Strategies and skills* (3rd ed.). Pacific Grove, CA: Brooks/Cole.
- Koch, S. C., & Zumbach, J. (2002). The use of video analysis software in behavior observation research: Interaction patterns in task-oriented small groups. *Forum Qualitative Sozialforschung, 3*(2).
- Kurland, R., & Salmon, R. (1998). *Teaching a methods course in social work with groups*. Alexandria, VA: Council on Social Work Education.
- Maple, F. F. (1994). The development of goal-focused interactive videodiscs to enhance student learning in interpersonal practice methods classes. *Computers in Human Services, 11*(3/4), 333-346.
- Maypole, D. E. (1991). Interactive videodiscs in social work education. *Social Work, 36*(3), 239-241.
- Poulin, J. E., & Walter, C. A. (1990). Interviewing skills and computer assisted instruction: BSW student perceptions. *Computers in Human Services, 7*(3/4), 179-197.
- Seabury, B. A., & Maple, F. F. (1993). Using computers to teach practice skills. *Social Work, 38*(4), 430-439.
- Shapiro, J. L., Peltz, L. S., & Bernadett-Shapiro, S. (1998). *Brief group treatment: Practical training for therapists and counselors*. Pacific Grove, CA: Brooks/Cole.
- Strauss, A. L. (1987). *Qualitative analysis for social scientists*. Cambridge: Cambridge University Press.
- Wayne, J. L., & Cohen, C. S. (2001). *Group work education in the field*. Alexandria, VA: Council on Social Work Education.
- Weitzman, E. A. (1999). Analyzing qualitative data with computer software. *Health Services Research, 34*(5).
- Wodarski, J. S., Bricout, J. C., & Smokowski, P. R. (1996). Making interactive videodisc computer simulation accessible and practice relevant. *Journal of Teaching in Social Work, 13*(1/2), 15-26.
- Yalom, I. D. (1975). *The theory and practice of group psychotherapy* (2nd ed.). New York: Basic Books.
- Yalom, I. D. (1995). *The theory and practice of group psychotherapy* (4th ed.). New York: Basic Books.