CONTINUING EDUCATION, CERTIFICATION AND EDUCATIONAL TECHNOLOGY NEEDS OF SECONDARY JOURNALISM TEACHERS IN OKLAHOMA PUBLIC SCHOOLS

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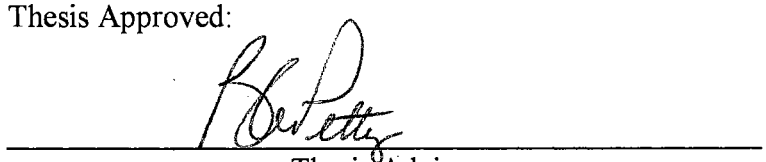

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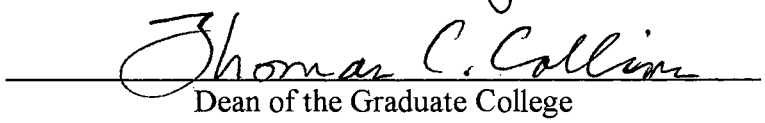

Dean of the Graduate College

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PREFACE

This study was conducted to provide new knowledge about Oklahoma secondary public school teachers who teach journalism and/or advise student newspapers and yearbooks, and to help colleges and universities in the state do a better job of serving this audience.

Of special interest was whether or not these teachers perceived a need for additional coursework, graduate coursework or continuing education courses in educational technology, journalism, video or other areas due to the continuous changes brought about through technology, how they preferred to receive this coursework, and where they would prefer to enroll for this coursework.

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TABLE OF CONTENTS

Chapter Page

Chapter Page

LIST OF TABLES

Table Page

LIST OF FIGURES

CHAPTER I

INTRODUCTION

General

The functions and responsibilities of journalism teachers in Oklahoma's public secondary schools have evolved during the past decade at a tremendous rate due to increasing advances in technology and its use in the high school classroom.

Journalism education today at the secondary level is feeling the effects of increased emphasis on the use of computers and specific software, and other technology including video equipment and photography, primarily because many career journalism teachers lack the educational preparation to adequately function using new technology in the classroom.

As of fall, 1994, only two state universities have programs that meet Oklahoma state certification requirements for secondary journalism teachers, and one of those universities expects to drop its journalism certification program.

High school journalism is quickly becoming an endangered species in Oklahoma.

Background

Changes in the Classroom

Journalism teaching has evolved during this last quarter-century from being dependent upon manual work and graphic arts skills to the use of specialized word processing and desktop publishing.

However, teachers who received educational training during the 1950s, 1960s and 1970s--and many in the 1980s--probably received no form of computer or desktop training as part of their college education, as part of their requirements for an education degree in journalism, or through journalism courses offered in schools of journalism. Until the late 1980s, many college and university journalism classes were still using typewriters to write and edit materials, and typesetting machines such as Compugraphics were used to set the type in strips that would be pasted up by graphic arts people.

To compound this problem for teachers who are responsible for teaching and advising student publications such as newspapers or yearbooks, the companies that print the publications now have in place new standards that must be met by the schools' journalism classes. Until a few years ago, all typesetting on yearbooks was done at the printer/publishers; today, each yearbook company has its own specific software that high schools are required to use to produce the yearbook, and yearbook copy is forwarded to the company on a disk.

Student newspapers in many communities are printed by the local press. During the past 20 years, virtually all printing processes have changed from the letterpress method

(hot type) to offset printing. An advantage of offset printing for schools is that materials can be delivered to the printer camera-ready, which saves on both time and expenses.

Another obstacle facing career teachers and entry-level teachers in journalism education today is the great discrepancy that exists concerning the computer systems chosen by the schools. Although Macintosh has emerged as the leader in publishing, many teachers have classrooms with IBM or PC-compatible computers; in many cases, there are not enough computers for adequate use in the class, or the computers are outdated or incompatible with each other. In some cases, teachers may be the recipients of computers that will not run the needed software for the production of publications.

Changes in Journalism Certification

As of fall, 1994, only two public universities in the state of Oklahoma offer certification in journalism for secondary teaching, Northeastern State University and the University of Central Oklahoma. According to Dr. Laura Schaub, director of the Oklahoma Interscholastic Press Association, headquartered at the University of Oklahoma, it is very likely that in the near future the University of Central Oklahoma will drop its program.

The University of Oklahoma dropped its journalism certification due to the Oklahoma Regents request for cuts in program duplication, but the OU School of Journalism has been meeting with the OU College of Education to see if it could possibly be added again. According to Schaub, they have not been assured that this is possible.

In Oklahoma State University's College of Education, according to Jeanne Barrett, coordinator of Teacher Certification and Education Academic Standards, the Department of Curriculum and Instruction decided in November, 1992, not to print the journalism program degree sheets, and as of the fall, 1994, the journalism certification degree program is no longer offered at OSU.

Two reasons Barrett noted concerning the decision to drop this program was the Oklahoma Regents pressure to drop low enrollment degree programs, and the fact that the emphasis of the faculty and courses of the OSU School of Journalism, which also was dealing with financial cutbacks, was not on offering courses for teachers.

Purpose of the Study

The purpose of this study was to help colleges of education in Oklahoma's universities and colleges to understand the needs of career journalism teachers at the secondary level who desire to obtain graduate-level credit at a college or university for employment or certification needs.

Significance of the Study

Not only is journalism certification suffering in the state of Oklahoma, but the secondary journalism teachers at Oklahoma public schools may need and desire graduate-level coursework to learn instructional methods of using technology in the classroom, such as administering, teaching, supervising or choosing appropriate computers and software for their programs; use of video cameras and editing equipment for teachers who advise or

teach video classes or who are responsible for the production of a video-yearbook; or photography.

Many of these teachers have become journalism teachers/advisers by default--someone is expected to take over the advisement of student publications. For example, some schools just pass the "job" around.

In addition to the need to learn more about journalism, and specifically new technology as it is used by journalism classes, many of these teachers desire to receive graduate-level college credit that can be applied to meet continuing education unit requirements or salary scale levels.

With the number of career teachers now in the state's system, whatever institution or institutions supply this graduate-level college credit coursework will have to consider that these are adult returning students.

Today's higher education environment demands that the traditional delivery systems of graduate-level coursework be re-evaluated. Fiber optic cables administered by the Oklahoma Regents for Higher Education connect many of the state's counties. Telecommunications, teleconferences, talk-back classes and satellite-delivered classes are just a few of the options that journalism teachers will be interested in if they choose to further their education.

Objectives of the Study

This study will seek to determine the continuing education needs, certification needs, and employment needs of career journalism secondary teachers who desire coursework pertaining to technology advances.

The study also will help identify the continuing education needs of journalism teachers in terms of course content, course level, and delivery format so that the state of Oklahoma's colleges and schools of education can better serve the needs of these teachers.

Importance of the Study

This study is important because a specific group of secondary educators in our state are being left without a support system from higher education due to changes in certification of journalism teachers and massive continuing changes in technology used in the journalism classroom.

At the University of Oklahoma, the course "Supervision of Student Publications" is being offered as an independent study course in the School of Journalism in order to meet the needs of teachers across the state.

The desire to keep up with educational technology has been apparent in the membership of the Oklahoma Interscholastic Press Association, according to Schaub, who reports that each year OIPA workshops and seminars that deal with computers and software cannot handle the number of people who wish to enroll. The 1994 one-day fall conference included a workshop on using the Macintosh in journalism publications, and within days of mailing the announcement, the class for teachers was full, Schaub said.

A more far-reaching look at journalism teaching in the state may ultimately affect how people who want to become high school journalism teachers actually enter the field. Schaub said that University of Oklahoma students are now being advised to get their degrees in journalism, to seek work as a professional for at least two years, then apply for

alternative certification. "This may be the only way to go," she said. "We're not going to have a secondary journalism program if something isn't done."

Definition of Terms

For the purpose of this study, the following minimum definitions will be used:

Journalism Teacher: A secondary school faculty member who teaches classes on journalism, which might include such courses as newswriting or reporting, photography, layout and design principles, or mass communications.

Journalism Adviser: A secondary school faculty member who advises and supervises the complete production of a student-produced newspaper, a student-produced yearbook, or a student-produced video-yearbook. The journalism adviser may or may not be responsible for teaching journalism classes.

Publications: Student-produced products such as a newspaper, yearbook, or video-yearbook. For the purpose of this study, student-produced literary publications will not be considered since these publications traditionally have remained separate from journalism publications due to the differences in the nature and content of the publications.

Secondary Public Schools: The secondary public school will be defined, for the purpose of this study alone, as the traditional high school grades 9-12 inclusive.

Technology: Technology, for the purpose of this study that pertains to journalism teachers, will include computer hardware and software, printers, video cameras, video recorders and video editing equipment, and still photography cameras and printing

equipment. This list is not inclusive, but covers the minimum needs of modern journalism programs at the secondary level.

Scope and Limitations of the Study

This study was limited to 66 Oklahoma secondary public school journalism teachers and advisers who held 1994 memberships in the Oklahoma Interscholastic Press Association. These journalism teachers and advisers traditionally teach journalism courses and/or advise student newspapers, student yearbooks, and student video-yearbooks.

Assumptions of the Study

This study assumes that secondary journalism teachers at Oklahoma public schools who were members of the Oklahoma Interscholastic Press Association provided accurate and honest responses to each question on the mailed survey.

It also must be recognized that several factors may have affected the responses given on the survey. These factors include, but are not limited to, teachers' changes of opinion, changes in school staffing, class size, publications' budgets, enrollment figures, and financing of publications.

Outline of the Study

Chapter II of this study looks at other relevant research. Topic areas include secondary journalism education, returning adult students in higher education, delivery methods of graduate-level courses, certification requirements in Oklahoma for journalism

teachers, and continuing education and graduate-degree needs and desires of Oklahoma secondary school journalism teachers.

Chapter III of this study contains the complete methodology of how the study was carried out. It includes statistical methods used and how the instrument was analyzed.

Chapter IV explains the results of this study, how it was analyzed, and includes comparison tables and charts.

Chapter V, the final chapter, contains a summary, interprets the findings of the study, shows recommendations made by the researcher for implementation of findings, and presents possible future research studies.

CHAPTER II

REVIEW OF THE LITERATURE

Overview of the Chapter

This chapter presents a review of available literature concerning adult and continuing education, adult educators, secondary journalism programs, journalism certification for secondary teacher in Oklahoma, technology in the public schools, and teachers' use of technology.

Adult and Continuing Education

Although literature is available on adult learners, little can be found on adult learners who already have a college degree, or adult learners who are seeking graduate degrees. Literature is abundant on adult and continuing education, primarily concerning adults who wish to finish secondary education, adults who wish to obtain some college education or a college degree, or adults who are attending classes in order to get advanced skills for employment needs.

Adult Learners

To define today's adult learners, it is important to understand first how they perceive themselves as students. A comprehensive behavioral study conducted in 1988 by Mary Endorf, chair of the Department of Education at Augsburg College in Minneapolis, and Marie McNeff, professor in the department, defined five types of adult learners using the Ernest Bormann method, a method that depends upon symbolic convergence, a tendency in which people share their symbolic world and which leads to forming shared visions of adult learners. Most participants had had some college study, were coping with external demands on their time, and viewed their college study "not as a last resort, but as a stepping-stone related to career or self-enhancement" (Endorf, McNeff 21).

The five types of learners identified were "(1) confident, pragmatic, goal-oriented learners; (2) affective learners; (3) learners-in-transition; (4) integrated learners; and (5) risk takers" (20).

> Pragmatic, goal-oriented, self-sufficient students were seen as confident and eager to work with peers in an academic setting. For these learners, a support system of peers within the social setting of the institution is unnecessary. Introspective and self-directed, they can identify and meet their academic needs. Success is important, but these learners are in competition with themselves, not their peers. Their learning style is interactive and experiential; they prefer participation in a classroom setting to being 'fed' information. Type one adult learners will go to great lengths to profit from their educational experiences (21).

Characteristics of affective learners, according to the authors, showed that

> They are eager students and enjoy being with other adults who share similar values....They have traditional relationships with faculty--they do not feel comfortable questioning a professor; rather, they regard a

> professor as a source of knowledge, wisdom, and expertise....School does not need to be job-related for these learners (21).

The third type are learners-in-transition who develop independence as a student and recognize that they are changing.

> These adults are interested in knowing how to use their education and how to connect their experience with what they are learning in class. Because they are now financially responsible for their education, school is a serious matter--they are now more ready to take on the responsibility of school....They enjoy a sense of equality with their professors, who are now mentors. Learners-in-transition like discussion and interactive learning; they reject the idea of being fed information and do not expect professors to be experts in all areas (21).

The fourth type of learner identified is the adult who views life and career as integrated, and is interested in personal success.

> They are relaxed students, stimulated and satisfied in their association with other adult learners. They feel in control, and have a sense of freedom, as a result of knowing the techniques of academic success. They can direct their energy toward learning, and not just survival in an academic setting.
>
> Integrated learners understand learning as their own personal responsibility and establish relationships with professors that are more peer-like than that of traditional-age learners....Integrated learners are not the type who will be satisfied as mere receivers of information (21-22).

With integrated learners, the authors recommend that the teacher get out of their way because the students know where they want to go and take responsibility for their own education.

> For these students, quality is of the essence. They want their work to be good, aesthetically as well as in terms of content. Because integrated learners know how to be real students, faculty are freed from the need to teach the basics of how to study and how to perform in class (22).

The final group identified by the authors, the adult learner as risk taker, is

> willing to change routines and schedules--to take risks--to accomplish educational goals. Recognizing the need for further education to change jobs, these students enjoy new ventures and are willing to work hard to meet the goals set by the institution....Rather than rely on support groups, they are sufficiently self-confident to 'go it alone' (22).

Endorf and McNeff said it is no secret that public and private colleges increasingly must depend upon adult learners for both demographic and financial security in the future.

> Higher education will, in all likelihood, continue to find growth in the adult learner population, if settings are provided that attend to their particular needs. By addressing these needs, institutions of higher education can build support systems and educational models that respond to the changing demographics of their campuses (25).

A doctoral study by Fortunato (1993) at Columbia University Teachers College shows that after 10 years, adult students who had been enrolled in a college degree program reported that "their lives have deeper meaning as the result of the learning experience." Changes reported by the adult learners were: "alternative ways of viewing the world around them, independence, and enhanced self-esteem" (Fortunato 4332).

According to a study by Reiff (1992), "Adult learning theory says little about adults as graduate students, and the literature on graduate study does not consider graduate students in theoretical terms as adult learners." Her study at the University of California, Santa Barbara, questioned why only one out of three students pursuing a doctoral degree persists to obtain the degree. She found that graduate students who persisted to obtain the degree differed from those who dropped out in six areas: "clarity of student self, worth of present experience, match with faculty, activeness with other students, attention to academic tasks, and activeness of problem-solving" (Reiff 3084).

Student perceptions fell into three areas: debilitating, domesticating, and liberating.

> Non-persisters perceive the experience as debilitating; persisters divide into two types, perceiving the experience as either domesticating or liberating. Both types are sufficiently socialized into the organization of graduate education to persist; only the liberating persisters show evidence of learning that is personally significant. Therefore, the key difference between persisters and non-persisters is not whether they learn; it is the extent to which they are socialized into the organization (3084).

Adult Educators

Just as adult learners must adjust to returning to a status as a student, those who teach the adult learner many times also must adjust their teaching styles or their perceptions of students' needs and wants in order to accommodate the special needs that come with teaching an older student, as opposed to a traditional-aged student.

According to Bothel (1993), faculty who teach adults need to change their approach to introducing technology.

> The adult learner is often faced with learning today's new technology to retain tomorrow's job....Today's workers need a variety of skills that enable them to adapt to a varying workplace (Bothel 31).

The problem, Bothel said, is that adult educators tell the adult learners to take advantage of computers, while the adult educators might admit they have only learned word processing themselves.

> Students are being exposed to the 'Do as I say; not as I do' attitude that has failed in adult/child relationships for years in the past (31).

Bothel used the example that a person doesn't have to be a mechanic to drive a car, and does not have to be a programmer to use computers (31).

Learning Styles of Adults

Wingo's (1992) University of Florida doctoral study on learning style preferences found that instructional methods that focused on the three dimensions of learning style (cognitive, affective and psychological) were more effective for adult learners than any single method, or any type of instructional method that did not take into account the adults' learning style. With a random sample of adult learners enrolled in a developmental English education class who were placed into five groups, and using a pretest-posttest control group design, Wingo found that only students who had been placed into the group that had focused upon all three learning styles demonstrated a higher level of mean achievement as compared with the four other treatment groups (Wingo 69).

Sennholtz's (1993) doctoral study on staff development at Northern Illinois University found that "teachers felt less positive regarding factors associated with teacher input, time to interact, follow-up evaluation, and monitoring the individual learning styles of staff members" (Sennholtz 4349).

Tisdell's (1992) doctoral study at the University of Georgia looked at two master's level counseling classes, one taught by a female faculty and one by a male faculty. Findings showed differences in how the adult students participated in class with the faculty members of different genders.

> The cross-case analysis showed that the faculty members resisted maintaining structured power relations by sharing power with students, by valuing affective forms of knowledge, and by affirming women and minorities. They reproduced structured power relations in their control over their classrooms, although the female professor was less controlling. There was a greater curricular emphasis on the white male experience than on the female or the minority experience in both classes.

> The students contributed to reproducing the teacher-student power disparity by deferring to their professors, but resisted maintaining it by recognizing their own power to learn, and by their willingness to argue with the female professor. They resisted maintaining societal power relations by initiating discussion about gender and minority issues. But they contributed to reproducing them in their reification of patriarchal values, and by allowing the privileged students to have a greater influence.
>
> Major conclusions from these finds are: (1) students who benefit from interlocking systems of privilege have more power in the classroom; (2) the male professor tended to exert more control than the female professor; and (3) middle-aged women with more education tend to be more participatory, at least in classes where affective forms of knowledge are valued (Tisdell 2210).

Although returning students may have attended a different college or university, their perception of instruction based upon faculty is not affected, according to a doctoral study by Klassen (1993) at the University of North Texas (Klassen 2910).

Schools and Technology

According to Dave M. Hutton, superintendent of the Lebanon, Indiana, Community Schools Corporation, "If we are going to improve the quality of education in our schools, we have to have the technology in place" (Monaghan, A27).

William Safire, delivering the commencement address at Oklahoma State University on May 7, 1994, looked at the other side of the coin when he talked about the information age that was distressing to his generation. What bothered him the most was that the "high priests of the computer age" were focusing on the media. "But the medium is not the message. The medium is only the medium; only the message is the message" (Safire). He also worried about students today becoming cyberhermits, sitting for hours in front of a computer and never speaking face-to-face with another human being. "You

think you are in touch with the world, holding typed conversations with others in your cohort....But stop and think: what kind of human relationships can you have if you never get out of your room" (Safire)?

Papert tried to put technology more in focus when he said "Technology has the power to move primitive people from an industrial base to an information society, completely skipping the ugliness of an industrial revolution" (Gray).

According to Hopkins (1991), as many researchers and authors have repeatedly stated, technology is only a tool.

> While technologies can act as a catalyst in school reform, they cannot direct change. Change is driven by vision. Appropriate tools are selected to bring about the vision. Designers of school reform can use technologies to enhance new environments, to bring about new visions. I believe that it is not sufficient to reform schools; we must transform them. It is simply not enough to do what we already do in traditional schools more efficiently or more economically. We must use new technologies to enable students to learn what they do not or cannot learn in traditional learning environment (Hopkins 27).

Kinnaman (1991) stated that technology has catapulted society in a single generation from the industrial age into the information age.

> Yet for the most part, K-12 education has failed to make the transition; we continue to use the methods and materials of the industrial age to prepare our children for life in the rapidly changing information age. Ironically, although technology is a primary cause of the current crisis in education, it can also be a key ingredient in its solution (Kinnaman 20).

Terrell H. Bell (1992), former U.S. Secretary of Education under Reagan, pointed the finger at the nation's "failure to address the antiquated state of education" as being responsible for the nation's poor economic state.

> How can we prepare our children for the technological world of today, with the educational theories and tools of yesteryear? Just as the abacus was replaced by pencil and paper, the slide rule, and the hand-held calculator,

> education too must keep pace with the technological revolution that surrounds us. Today's knowledge explosion requires schools to fundamentally change the way teachers teach, and the way students learn. Any supermarket checker is supported by more sophisticated technology than our teachers, whose methods of teaching have remained virtually unchanged since Gutenberg....
>
> I would like to emphasize that there is no substitute for a good teacher. Teachers, in the past, were successful because they did not have to deal with the knowledge explosion that we have today. We must acquire a means of teaching that can keep up with this knowledge explosion, meet individual needs of students, provide equal opportunity for learning, individualize instruction to the maximum extent possible--and we must do it without hesitation (Bell 33)!

Pearlman (1989), national consultant on Educational Technology for the American Federation of Teachers, discussed studies that point out that technology (or computers in schools) won't change the schools, but will be important to support teachers as instructors and students as learners. According to Mary Alice White, director of the Electronic Learning Laboratory at Teachers College at Columbia University, "We need not integration (of technology) into the curriculum, we need to change the way we teach and learn. What is missing is a conception of how technology can change schooling" (Pearlman 8).

Pearlman noted that numerous tries to start schools for the future in the United States, based upon new technology in the 1980s, have similar characteristics, especially quick obsolescence, and that technology "drives the school vision, rather than the vision of a restructured school driving the use of technology and other resources" (Pearlman 12).

Fougere (1991), in his survey of faculty at a vocational-technical high school, found that the more microcomputers are used in education, the more everyone benefits.

> Faculty become more adept in using computers, and as a result, are able to use the computer more productively. Students receive a more

> appropriate curriculum commensurate with the requirements of the real world, whether their exposure to the real world is immediate or delayed by pursuing further education (Fougere 135).

Adams (1989) reported that local universities have been among the first to offer graduate level degrees in "Computers in Education," which has allowed teachers to return to school districts wanting to work with computers in their classes. However, he noted that "despite the dollars people may talk about in the budget meetings as 'useless frills,' 99.6 percent of the 'supplies' money goes for textbooks, paper, glue, and other traditional materials. Just 0.4 percent goes for computers" (Fougere 28).

Century High School in California has been named "the most technologically advanced school in California, and one of the most advanced in the USA."

> The place is literally wall-to-wall technology, with miles of cable installed in walls that create a complete computer and video network.... teachers actually have telephones in their rooms--pedestrian technology, to be sure, but a big plus for educators who've often complained that they're asked to communicate with parents regularly but aren't given the tools to do so (Kelly 8A).

The approach of Century High is an integrated learning system, with reading, writing and mathematics being computer-based, and teachers able to monitor the progress of students. Computer technology is so necessary at this school that new freshmen are required to take a six-week long class in keyboarding prior to enrolling in classes (8A).

Elementary Schools

Not all educators have expressed delight at having new technology in the nation's elementary schools, although most reports lean toward the positive side. Douglas Sloan, Columbia University history professor, believes children should be allowed to use and

develop their imaginations, not technology. "He suggests that exposing children in the early grades to computers, television, and other electric media inhibits the development of imagination. Electronic images can overwhelm children's ability to create their own mental images, he adds "(Cordes A-10).

Chin's (1993) Kansas State University doctoral study found that although VCRs and computers were available for elementary teachers, the teachers spent only an average of 15 minutes daily in using this technology. She also learned that newer technology, such as CD-ROM, interactive video and telecommunications, have not made it to the elementary schools (Chin 1769).

Evans-Andris (1991), in her doctoral study at Indiana University, found in 1989 that in nine elementary schools, the introduction of computers into the school disrupted the occupational culture of the teachers, but kept the loosely-coupled organizational arrangements of the schools.

> Through their autonomous workplace behaviors, teachers shape the meaning of computer technology and thus create their role in the innovative process....Computer technology disrupted the job of teaching in terms of occupational skills, status and autonomy, but the direction of disruption was related to the innovative roles defined by teachers (Evans-Andris 3446).

The proper selection of software for use in elementary schools in the San Francisco Bay Area was the topic for a doctoral study by George Chang (1991) at Stanford University. Chang considered it important not only to look at who selects the software, but to understand how that person makes the decision, the factors considered, the problems perceived, steps followed, and other decisional influences. He found that

individual teachers were basically left alone to determine what software to purchase, and that most teachers stayed with software with which they were familiar (Chang 3165).

In 1991, Texas school districts were offered what was then an unusual choice: textbooks or videodisk systems to teach elementary science. The state of Florida made plans, also, to place one videodisk player in every school before the end of Spring, 1991.

> A growing number of classrooms are substituting videodisks for textbooks, bringing education into the MTV age. Videodisks (sometimes combined with computer software) are being used to create teaching programs with video images, sound and text. These 'interactive video' systems are becoming more sophisticated and widespread (Farley 9A).

Secondary Schools

The attitude of Tennessee teachers toward using computers in the classroom was assessed by Nikolaus (1985) in his doctoral study at Tennessee State University. Surveying all 586 teachers in 18 randomly selected public school systems, he found five significant conclusions:

(1) Teachers viewed instructional computing as an enduring educational innovation, and felt all students should have computer experience; (2) Teachers viewed instructional computing as motivational for students; but were uncertain about any effects on student achievement; (3) Teachers lacked confidence in their ability to use computers in class, but indicated they were interested in receiving instructional computing in-service training; (4) Usage of computers by teachers seemed to have the most influence on their attitudes toward computers; and (5) Teachers at schools serving middle class students at

the elementary level, with at least eight to 15 years teaching experience, were more inclined to use computers in class (Nikolaus 2799).

School Administrators and Technology in the Schools

A doctoral study by Bonner (1986) at the University of Pennsylvania showed that high school principals distinguished six elements of computer literacy in their schools, with knowledge of computer-assisted instruction as the most important element (Bonner 906).

Elmusharaf's (1989) doctoral study at Southern Illinois University studied, from the perspective of rural principals, the effects of five factors on teachers using computers. He questioned:

> (1) negative attitudes toward computers on the part of teachers; (2) physical location of computers in schools; (3) existence of a computer coordinator in schools; (4) lack of adequate computer training; and (5) various subjects taught by teachers (Elmusharaf 725).

Using a stratified random sampling of elementary and secondary schools in Illinois, Missouri and Kentucky, which represented 25 percent of the schools in those areas, he found that computer training and the availability of a computer coordinator had an effect on the number of computer users and their use frequency; the computer location affected the frequency use by teachers; and on the subject field of the teachers. No significant differences were found between elementary and secondary levels concerning all five factors (725).

Zhang (1992), in his doctoral survey at the University of Georgia, found that most secondary school administrators in Georgia have a positive attitude toward personal computers. "Their attitudes are influenced neither by their computer literacy nor by their

education level. However, their attitudes are affected, to a small degree, by their experience as school administrators" (Zhang 399).

Secondary school principals in 354 schools in Colorado and New Jersey were surveyed by Zartman (1994) for his doctoral study at the University of Colorado at Boulder, in which he investigated the perceived importance of 10 employment criteria used by secondary school principals in hiring new teachers. The ability to use computers was found to be the least important of the 10 criteria, which also included

> compatible educational philosophy between the teacher applicant and the school, a university grade point average of B or better, positive letters of recommendation, positive student teaching evaluation, positive work experience record, well-groomed appearance, successful interview, knowledge of subject, and positive personal observation (Zartman 2844).

Serabian's (1983) University of Pacific doctoral study recommended that preservice training for administrators include courses on using computers. Administrators at 603 randomly chosen California school sites supported computers in education for students and peers, but were uncertain about their own ability to make decisions regarding computers in their schools (Serabian 2947).

Nancy Chang's (1990) doctoral study at the University of Southern California found that in 272 secondary schools in eight Southern California counties, secondary school principals viewed themselves as unskilled in all computer skills, yet half of the principals reported they have word processing skills (Chang 2175).

Fennell (1984) undertook a study to discover what school administrators, board members and teachers agreed upon on the use and introduction of computers in public schools. She found there was no substantial difference in the judgments of the three

groups concerning computer use and the change processes needed to introduce computers into the public schools. Teachers were most conservative with respect to acceptance and utilization

> of microcomputers as well as the desire for implementation processes. Board members seem to be the most positively inclined toward the utilization of microcomputers in the public schools and were not positive in believing in the potential for acceptance and effective use of computers by school staff members. Administrators' judgments fell in the middle, between teachers and board members. When it came to financial issues involving computers, all three groups varied in their judgments regarding the appropriateness of specific expenditures for such things as computers and teacher in-service training (Fennell 3493).

In his doctoral study at St. Louis University, Herron (1994) found in a sample of 180 of the 448 school districts in Missouri that have high schools, that microcomputers outnumbered traditional terminals for student use, with more personal computers available to students in AAA schools on both the elementary and secondary levels.

> The superintendents saw computer literacy as the primary instructional application of computers, while the least extensive use of computers by districts was for remedial and compensatory education.
>
> The superintendents indicated that funding and in-service teacher training were critical to the initiation and expansion of the instructional use of computers in schools. It was also a clear consensus of those surveyed that computers do have an impact on the quality of life, and teaching the use of microcomputers is important for curriculum development and necessary for preparing students to compete in the labor market.
>
> The data collected indicated that superintendents believe (1) that state universities should offer courses in computer literacy for classroom teachers, and (2) that teacher training should include instructional applications of computer courses (Herron 1590).

Cummings (1990), in her doctoral study at the University of Wisconsin, Madison, found that when a single school district introduced microcomputers into its schools, it first

had to develop a computer literacy curriculum and encourage use by teachers and students. She found that "local conditions and teachers' perspectives about computers influenced teachers' explorations of computers," which helped shape the school's usage of computers, and that although computer literacy began as a top-down model, it became a "bottom-up process dominated by teacher involvement and teacher influence" (Cummings 4005).

An historical prospectus of Moir (1988) at Boston College examined factors that influenced computers in American schools. Issues that needed to be addressed included cost, teacher attitude and training, and curriculum and instructional modification. She found that for teachers at both the elementary and secondary levels, staff development topics should include recognizing the different teacher attitudes and computer skills, the need for hands-on experience, the need to help teachers develop classroom management techniques that would ensure that personal computers were used in class, and the need to involve the teacher in the planning and evaluation phases of implementing computers in the schools (Moir 3253).

Teacher Training and Technology

Teachers find themselves in a rather unusual situation. For many, their "teacher training" took place several years ago; for others, classes at the universities simply did not teach how to use the newer technology. Many teachers, even those who have recently graduated from a teacher education program, were never exposed to ways in which to use new technology in the classroom.

In the words of David Rose, executive director of CAST, a technology curriculum development house in Peabody, Massachusetts: "Teachers are preparing students in the literacy they grew up in. We need to prepare students for the literacy of the world that they will inherit" (Hill 28). Curriculum and technology experts are in agreement, however, that that new world will place "huge demands on students' abilities to think and communicate" (28). Literacy skills for the 21st century that Hill identifies include assessing (reading, listening and researching), thinking, and communicating (writing, speaking and presenting) (28-30).

According to Michael Grady of the Prince Georges County Schools in Maryland, "Computers may hold promise, but there's a great variation in teachers' ability to use them, partly from lack of training" (Ordovensky 7A).

James Mecklenburger of the National School Boards Association agrees.

> There are a lot of examples where [computers] aren't working. The problem is not the system, it's the people using the system. There is a false assumption that all you have to do is buy this stuff, stick it into a building and things will change. You have to change the way you do business. Find new ways to use the time and talent of the teacher (7A).

Turner (1989) reported that computer technology in our nation's schools will never be used unless the students are taught by example, and few of the nation's colleges of education incorporate computers into the curricula, especially methods courses or subject courses, with the exception being courses such as an instructional technology class. Pressure to change has meant that 23 states and the District of Columbia now require some or all of their entry level teachers to be proficient with computers, and 11

states require computer courses before teachers can be recertified. What Turner calls a "delay" in using computers in teacher education

> may be that teacher educators do not see technology as the answer to America's problems in education. While studies have shown that microcomputers can be effective in the classroom, they are just one of many tools--an expensive one at that, and difficult to use (Turner A-9).

In 1988, representatives of 34 colleges of education identified three possible models to bring technology into teacher education, including a model that assumes students would pick up the technology on their own. The second model is the single course of study, which

> rushes students through computer literacy, computer use in education, and programming in several computer languages. One educator characterized that as 'addressing the issues of credentials, not competency' (A-9).

The third, and preferred model identified, was to integrate computer use into the teacher education program, especially in the area of methods. It was noted that not a single college at the meeting used this model (A-9).

Isabelle Bruder asked about whether or not teachers were prepared.

> It seems the push to make new teachers technology proficient is muddled by a non sequitur: the field wants teachers to know how to use technology in the classroom, but those universities that make the effort to teach them how are few and far between.
>
> Technology training at the undergraduate level is insufficient for a number of reasons. High on the list are lack of time in undergraduate programs, technology resistant faculty, and diverse competency requirements (Bruder 32).

In 1987, a state educational technology survey conducted by the Office of Technology Assessment found that new teachers are required to receive technology

preparation in only 18 states plus the District of Columbia, with seven other states having recommendations pending. It is estimated that fewer than 15 percent of teachers have the proper skills to work with technology (32).

James Poirot, chair of the Department of Computer Education and Cognitive Systems at the University of North Texas, places the blame on what he refers to as "computer-resistant faculty" at the undergraduate level, pointing out that instruction by example is the only way for new teachers to use technology. For example, teachers in training have the tendency to teach subject matter in the same method in which they learned the subject matter, and if they do not use new technology or computers in their own classes, they tend not to use it in the real world. Poirot characterizes this as by saying that colleges of education pay closer attention to the needs of teachers already in the field than to training preservice teachers and preventing them from becoming new teachers who need technology training (33).

According to a 1994 Associated Press news story, which reported that schools now have a computer for every 13 students, teachers and others are not happy about the computers because most are too old or inferior to run today's software. In addition to that, less than half of the schools reported that they have any method in which to teach their teachers about the computers. According to Hampson, a computer franchise operation is now operating in more than 1,000 schools in 25 nations to begin teaching children at the age of three how to use computers. Children are enrolled at such an early age because parents ". . . fear their kids won't be prepared for the future, because even

good schools don't provide a level of computer literacy they think will be necessary," according to Peter Marokovitz of Los Angeles (Hampson 17).

Teachers and Technology

In a USA TODAY interview of 188 teachers and principals considered the best in their states in 1990, 63 percent rated "computers, interactive videos and similar technologies" as very promising; another 23 percent said this technology was somewhat promising; and a small 2 percent called the technology impact as being highly overrated (Kelly 7A).

> New technology holds great promise for education, but it can't replace caring teachers, top U.S. educators say (7A).

Kreitlow (1991) became a teacher in 1935, embraced the newest technology of the time, and today is an outspoken advocate on educators learning to use the newest technology in the classroom.

> Today researchers are focusing on computerized learning systems, interactive technologies, two-way video, varieties of software, and integrated systems, and as was true forty years ago, we continue to study how teachers' skills can be upgraded to deal with changes in instructional technology and its wider use.
>
> Those who use the technology are often frustrated when they urge colleagues to do so as well. From the early beginning of 35mm slides and 16mm films, there were many teachers who would not even try to use these technologies in the classroom....The same phenomenon exists today with interactive video and computer-assisted instruction. Those who use it swear by it, while others are afraid to try. In the 1940s I enrolled in an 'advanced' graduate class on the use of technology in the classroom. Only one lecture and demonstration remains with me. This lecture focused on the use of 16mm film in instruction. The key concept was, 'get it into the machine, thread the film, start it rolling, you won't hurt it, and it won't bite you. and if by chance you break it, learn to fix it. When

> you are using it away from the lab, that is what you will have to do.' Great lesson! I have followed that concept with all technology ever since (Kreitlow 6).

Bracey (1992) looked at teachers who used computers in the classroom, and why some used computers better than others. To be considered "exemplary," a teacher had to use a computer nearly every day, the use had to support what was going on, and the use had to be curriculum centered. He identified five characteristics these teachers probably had: (1) a network with other teachers in the same school who used computers; (2) a work environment that supported the use of computers for things other than learning; (3) staff development activities and a full-time computer coordinator; (4) a school administration interested in equity access; and (5) smaller classes, a good student-to-computer ratio, and a good selection of software (Bracey 12).

Driscoll's (1987) doctoral study at the University of Pittsburgh looked at the extent to which teachers in public schools used computers for instruction and learning, surveying a random sample enrolled in Pennsylvania's Information Technology Education for the Commonwealth, an in-service training course. His findings showed that teachers vary in how they use computers, and that "two computer courses had more of an impact on teachers' use of the technology than did one course; more than two courses had no additional effect" (Driscoll 1119).

According to Les Watson (1991), teachers are faced with implementing the national curriculum, and today must use informational technology in their classrooms. To overcome computer phobia, he said, you must get to know what the computer can do.

> Phobias tend to be inversely proportional to the amount of information that is available to the sufferer. Computers have been used in various ways in education for over 10 years. Ten years is long enough for the

> development of an extensive collection of classroom case studies, useful relevant programs, and a number of readable texts with good sound advice on what is and is not a good way to go about including the computer in your teaching plans (Watson 16).

Brady (1992), in his doctoral study at Purdue University, looked at how to integrate computer-based instruction into social studies, and found that a major weakness of integrating computers into classrooms "center on a lack of logistics, the absence of support for the development of medium-based instructional skill, and the habitual reinvention of prior innovations" (Brady 152).

Hadley and Sheingold (1993) conducted a nationwide survey in 1989 of 600 teachers who had integrated computers into their teaching, and questioned how they use computers in the classroom, how their teaching had changed, and barriers or incentives they met. Their findings showed that teachers who are motivated have learned to use computers in a variety of ways, and these teachers believe their teaching has changed. Three key factors emerged as contributing to the teachers' achievement:

> (1) the teachers' motivation and commitment to their students' learning and to their own development as teachers, (2) the support for integration and collegiality they experience (other teachers making similar efforts) in their schools and districts, and (3) access to the technology itself, in sufficient quantity. These factors do not operate alone, but together, to mutual benefit and effect (Hadley, Sheingold 261).

Norman (1992) proposes a simple test for technology--look at the number of remedial books on computers. "The more books, the more my suspicions are raised. If computers and computer programs supposedly are getting easier to use, why are so many companies still making a nice living publishing books on how to use them?" Most of all, he said, computers have to be used by people, and so people must understand.

> Computers have the power to allow people within a company, across a nation or even around the world to work together. But this power will be wasted if tomorrow's computers aren't designed around the needs and capabilities of the human beings who must use them--a people-centered philosophy, in other words. That means retooling computers to mesh with human strengths--observing, communicating and innovating--instead of asking people to conform to the unnatural behavior computers demand. That just leads to error (Norman 102).

Permaloff and Grafton (1991) found that

> many post-secondary instructors are finding that a large portion of their students, both those of traditional age and adult learners, have little if any computer experience. A sizable number of students have never taken a basic typing course in high school much less a 'keyboard' class teaching typing skills on the microcomputer (Permaloff, Grafton 689).

One recommendation for teachers they made is that before using a new software program in the class, the teacher should use it first. "In this way you will internalize it and also pick up on additional quirks it may have" (690).

Silver (1992) noted that software and computers are only tools. "Adults often overlook the obvious: What children really need is practice using the home PC in the ways they are likely to use computers as adults--to write, edit, draw and do research" (Silver 97).

Stenzel (1982), in his doctoral study at the Louisiana State University and Agricultural and Mechanical College, surveyed 464 teachers in five randomly chosen parishes in Louisiana to analyze and document reasons that teachers used to avoid using computer technology in their classrooms. He found that "lack of opportunity, lack of assistance, and lack of equipment and materials appeared to be the primary obstacles to teacher use of computers in schools." Other findings were that teachers had a general

positive attitude toward computers; that age, teaching level and teaching field did not affect their perceptions of computers; and that more than 94 percent wanted to learn to use computers in their jobs. He recommended that individual computer training be made available as in-service training, and that software be developed to allow these teachers to use computers in their classroom while increasing their own computer skills (Stenzel 145).

DiMuzio's (1990) doctoral study at the University of Miami described fourth grade teachers' perceptions of computers and use. A total of 716 teachers in 166 schools were surveyed, with a 51 percent response rate for teachers representing 77 percent of the schools surveyed. Findings indicated that almost all of the teachers had the ability to use a computer, and more than one-third of the teachers had a home computer.

> More than half of the teachers have had some computer training, considered themselves computer literate, have used computers for at least a year and have a computer resource person available on-site. Most teachers believed instructional computers have some benefit and they favored the increased use of computers in schools (DiMuzio 3047).

Much has been written about different "computer anxieties" held by adults in all works of life who find themselves confronted with new technology and told they must use it in order to do their job. Unfortunately, the "joke" that there are people who have to ask their elementary school-aged child to program the family videocassette recorder is too often true.

Teachers have not escaped this fear. In many cases, the addition of new technology in the classrooms has far outpaced teacher training to use the new technology effectively. Hancock (1990) addressed technophobia: "Technology is everywhere. Unfortunately, so is fear of technology, and school people are far from exempt" (Hancock 95). Hancock,

assistant director of the ASCD's Curriculum/Technology Resource Center, recommended getting faculty involved in computer use through core groups of teachers representing all disciplines to show what computers could do. The core group could help present the technology to other faculty in in-service activities to

> (1) introduce unfamiliar technologies, (2) demonstrate the uses of technology to enhance personal productivity, (3) examine content curriculums and match with appropriate media materials, (4) preview and evaluate media materials, and (5) illustrate ways for integrating media into content teaching (95).

Fear of technology was diffused due to planning for technology in one school, however. Stafford (1989) reported that when a Florida high school received new portable computers, the teachers got to take them home first. The assistant principal wanted the teachers to experience control of the teaching tool, since computer novices fear experimenting with computers because they are afraid of damaging or breaking them. What is not ordinary about his approach was that this occurred a year before the scheduled introduction of instructional technology in their classrooms.

> Most technology-related staff development is isolated and casual. While many schools are investing in computers, very few dollars are spent on training teachers to use them. For the most part, teachers are on their own in learning to use new technology and integrating it into the curriculum....Schools must put staff training programs in place to make computer technology work effectively. Adequate teacher training is the vital key to integrating new instructional technologies into the schools (Stafford 30).

Through new technology in the classroom, the roles of teachers and students are changing dramatically, Stafford found.

> Individualized instruction becomes the norm. The learner becomes more self-directed. The teacher becomes a coach. Teachers must be confident in using their new 'teacher's aide' if they are to adjust to their new role. The school district with a long-range educational technology plan that

> includes a realistic and practical staff development program facilitates development of the new relationship between teachers and students (30-31).

Susan N. Friel, director of Lesley College's center for mathematics, science, and technology in education, summed up the problem. "If you are really teaching right with computers, you have to rethink your discipline" (Turner A-10). David G. Moursund, professor of education at the University of Oregon, believes it is hard on professors and public school teachers to change, noting that both are comfortable knowing their fields. What he proposes is that universities have staff development programs just like the large school districts (A-10).

The Apple Connection

Dwyer, Ringstaff and Sandholtz (1991) chronicled the Apple Classrooms of Tomorrow Project, funded by Apple Computer, Inc., since 1985. This project involved 32 teachers and 650 students in elementary and secondary levels. "ACOT's mission is formative: to explore, develop, and demonstrate powerful uses of technology in teaching and learning." The classrooms involved were described as being "true multimedia environments," with a principle of using "the media that best support learning goals across the curriculum" (Dwyer, Ringstaff, & Sandholtz 46).

In the beginning, many teachers showed a fear of change, and worried primarily about whether the students would do as well academically using the technology instead of some workbooks.

> These beliefs were ingrained in the traditional classrooms where they spent years, first as students and later as teachers. What we found is that the more

> things change, the more teachers must confront their beliefs about learning and the efficacy of their instructional activities (46).

The authors called the evolutionary process that teachers went through to change their teaching patterns: Entry, Adoption, Adaption, Appropriation, and Invention.

In the Entry phase, teachers with little experience in computer technology were characterized by feeling frustrated and more like an entry-level teacher with problems in discipline and resource management (47).

The second year they entered the Adoption stage, where they became more concerned with using the computers than with setting them up. Physically the classrooms had changed due to technology, yet the majority of instruction the students received was by traditional methods (47).

In the Adaption phase, traditional teaching methods became supported by technology anywhere from 30 to 40 percent of the class time. Teachers noted changes in the speed in which students completed assignments, and that students were more interested in doing class work. Teachers' perspectives about using technology in the classroom began changing (47-48).

The Appropriation stage arrived during the second year, and was dependent upon teachers mastering the use of technology. At this stage, new instructional patterns began, including students helping to teach each other (48).

The final stage, invention, is an integration of curriculum, student assessment, and a combination of direct teaching and technology (50).

Staff Development Needs

According to Branscum (1992), there have been numerous factors that have kept computer technology from being implemented into our nation's schools, but it all boils down to inadequate support, training, research, money and leadership.

> Teachers cannot be expected to make up this stuff as they go along. If teachers do not receive appropriate training, computers will continue to be used as electronic baby-sitters (Branscum 83).

Equally important, Monnie Edmunds of the Council of Chief State School Officers, noted that even though entering teachers might be trained in technology, they must continue to be retrained (83).

Characteristics of the most effective staff development programs, as recognized through the literature, were identified in a study by Rodgers (1993) at Virginia Polytechnic Institute and State University as validation of staff development, resources for staff development, accommodation of adult learning needs, and climate to support staff development (Rodgers 1638).

Dempwolf's (1993) doctoral study at the University of La Verne looked into whether or not California public schools' staff development programs adequately addressed the needs of their teachers by paying attention to adult development, affective factors and learner involvement. The practices most often used that were successful and related to adult development were research-based practices that included opportunities for self-directed learning, more than one training mode, and the autonomy to determine the learning experience best for the participant (Dempwolf 3718).

When Massachusetts teachers were offered in-service training in one of four adult areas--personal, professional, career or organizations--comparing age and gender factors, professional in-service training was preferred by all age groups, according to a doctoral study by Minihan (1993) at Boston College. Minihan found no significance in age or gender preferences using a two-way ANOVA (Minihan 2120).

McKinney's (1993) doctoral study at the University of Georgia looked at how teachers of adults define teaching, how that definition affects their teaching practice, and if gender plays any role.

> The findings suggest that adult educators are vitally interested in learning, whether it be the adult learner's or their own, through interactional teaching. Co-learning with other adults and reflection on one's practice according to learner's reactions offer adult educators further topical knowledge and opportunity to hone one's teaching practice. Organizational climate can affect how teachers define and act on their meaning of teaching while gender has minimal influence on either aspect of teaching (McKinney 2026).

A doctoral study set in the Midwest, conducted by Chin (1993) at Kansas State University, included guidelines for in-service training programs in technology for elementary teachers, and their personal need for the training. Chin surveyed 283 elementary teachers in an urban school district, with a 54.4 percent response.

> The results of this study indicate that teachers' level of instructional technology use has much to do with their perceptual level of knowledge, skill, and comfort level in technology as well as the administrative leadership. When equipment and support are made available, there is less of a need for technological in-service training.
>
> Teachers expressed a need for technological in-service training and suggested having release time to attend in-service training held at their home school. Group workshop would be most useful to them. Teachers could not afford more than one hour of training each week. Hands-on is a must for any type of technological training. Computer software

> application, computer software evaluation, word processing, data base skills are the most demanded topics for computer in-service training. Videotaping skill should not be overlooked by schools, either (Chin 1769).

Panteli's (1993) doctoral study at Peabody College for Teachers of Vanderbilt University concerned the educational uses of personal computers in New Hampshire elementary schools, and found that 82 percent of the school districts studied had a staff-development program focused on computer technology, and 51 percent said computers were integrated as learning tools in the elementary classes (Panteli 4289).

Heppell, Davis, Alderson, Heppell, Coultas, Higgins and Govier (1991) wrote and conducted a [New York] Times Educational Supplement/Information Technology Survey of Teacher Education by contacting 113 United Kingdom teaching education institutions. They found that teacher education programs have changed their approach to information technology in teacher education. More than 75 percent of teaching training colleges in the United Kingdom now have a formal policy for information technology, and nearly half the colleges have advanced courses for information technology specialists. The change in attitude even embraced considering an entry requirement in information technology for all new faculty entering the colleges, and half of the colleges already check to see if the students have "information technology capability." But government financial support of new technology is termed "bleak."

> Almost every time a national initiative has been announced to support schools in their information technology provision, the institutions responsible for training the teachers who will be in those schools, have been left out. This does not look like competent manpower planning and resource management. Of course, moving forward with information technology in initial teacher education is not simply about hardware. Staff development and technical support are key ingredients in a successful mix.

> Like technical support, staff development requires resourcing if it is to move forward and almost half the colleges found money to provide courses for staff. But few gave colleagues time to attend them (Training better but investment still inadequate, 16).

Mogharreban (1989) conducted a study at Southern Illinois University at Carbondale to learn about content and organization of computer literacy in in-service workshops. After reviewing literature in staff development and computer training, surveying two populations of teachers in the Midwest, and 25 certification divisions in state department of education, he discovered that there was agreement on what teachers should know about computers, including being familiar with operating the computer, application software, courseware programs, selection of software, and computer programming. His findings on using workshops to advance teachers' computer education was in-depth, and recommended the following should be included when planning computer literacy workshops for teachers:

> (1) Workshops should be offered on a continual basis; (2) workshops should be planned and structured; (3) workshops should be delivered by subject matter area; (4) workshops should utilize examples that are classroom related; (5) workshops content should be limited according to the participants' prior computer experience; (6) workshops should provide ample time for practicing the new skill; (7) teachers should be rewarded for attending workshops by monetary means, credit hours, release time or free access to software and hardware; (8) access to resource material and resource persons should be provided after the workshop (Mogharreban 714).

Chugani (1992) tackled in-service training when she described how it

> used to be planned on a grand scale and then 'cascaded' down to people who had little say in identifying their own needs. But we are now moving to an era where smaller organizations and individuals are expected to identify and address their own in-service needs (Chugani 38).

A survey by the National Association of Advisers for Computers in Education reported that during the past three years, the amount of time spent on information technology had dropped, while information technology was becoming mandatory. The problem, Chugani said, is that many teachers don't have the knowledge to make the decisions about what in-service they need with information technology when they had virtually no computer experience before entering the field.

> This can also be true for teachers who have been in the profession for some time but who may have rarely used a computer or do not want to use it because of their 'technofear'. Even for experienced IT teachers, there may still be problems when machines vary from school to school. In changing jobs they may come across machines that are totally unfamiliar to them (38).

Chugani noted that many user groups now hold annual conferences, computer-related companies now offer courses in how to use their software, and independent training and computing centers are now widespread.

> There are resources available to teachers for open and flexible learning, such as videos, resource packs, computer-based training programs and educational television programmes. These are particularly useful for those who want to control their own pace of learning (38).

A doctoral study by Rich (1994) at the University of Wisconsin, Madison, discovered that age affects adults 55 and older who wished to learn how to use word processing software, because they "neither wanted nor expected a role in the planning of their learning." The study showed that adults "had realistic expectations about the amount of word processing skill they would attain and neither expected nor tried to remember specific keystrokes" (Rich 2431).

Using a two-phased Dephi technique, Rittenhouse (1992) at the University of Maryland, College Park, studied perceived professional development needs of educators in rural Maryland. She tried to distinguished between a need for knowledge and a need for skills, and found that all groups studied perceived a definite need for more skills than knowledge (Rittenhouse 3422).

A doctoral study of the Mississippi Cooperative Extension Service personnel's involvement with computer applications and computer technology transfer, conducted by Goode (1990) at Mississippi State University, showed that the most frequent request of personnel was to have more time to practice using the computer. The highest importance ratings in the study went to achieving competencies related to computer operations and resource management (Goode 3603).

D'Amore, a 1987 graduate of Glassboro State College in New Jersey, took only two required computer courses while getting her degree in education: "Introduction to Computer Science" and "Computer Science for Teachers." At her first job, she noted that she had more experience than 80 percent of her colleagues.

> Most of them have been in the district for at least 10 years, and it was not mandatory in their work to have a computer program course, or they had one but it is so outdated at this point. There are some teachers that have their own computers, and that's how they've gotten acquainted with them.
>
> The people who have been teaching for a while seem to have their own system. But I think the biggest problem with the teachers who don't know the computer is that they are afraid. They are afraid to touch it, difficult as most people think (Bruder 38).

Educational Delivery Systems

Institutions of higher education have had to expand traditional systems of delivery during the past decade in order to be competitive with other systems and in order to meet the growing demands of the public, which has especially been needed for the non-traditional aged students.

According to Sandy Garrett, Oklahoma Superintendent of Schools, instructional changes in the classrooms are necessary because "the traditional model of delivery, the teacher lecturing from a textbook to all students from Page 36 every Oct. 2, has not worked for our nation or our state" (Killackey 1-2).

One rural university that has embraced using non-traditional systems of delivery is Fort Hays State University in Hays, Kansas, which has leaped from having almost no mediated courses 10 years ago to delivering over one-third of its off-campus courses using new media, according to Jim Petree, dean of Continuing Education.

> The university classifies mediated courses as either 'interactive' or 'non-interactive.' Interactive courses involve a live hookup to instructors. Depending on the technology, students can hear and talk to instructors or they may also see them on televisions. Non-interactive methods use video and audio tapes and in most cases, those courses can be taken at home (Shaver 4-D).

According to the provost, Rodolfo Arevalo, the university is focusing its attention on interactive television since the university's service area covers nearly 50,000 square miles. He predicted in 1993 that within a few years, the university would double its ability to deliver interactive television courses, and eventually be able to offer a complete degree program off-campus. A problem of the university, however, is that it does not have

enough faculty trained to use the interactive technology. All new faculty are told they are expected to teach on television, and a center for faculty development is being implemented to train faculty. Fort Hays also offers videotaped courses, in which students use videotapes, textbooks, study guides and timelines, and are given telephone numbers for the instructors, and audiotaped courses, such as one on the history of radios.

According to Arevalo, using new technological delivery systems not only increases the university's instructional resources, it also helps bring "equity of access to higher education in the 44 western Kansas counties the university primarily serves" (4-D).

Gerhard Casper, president of Stanford University, has expressed his belief that information technology that is available today "will transform both the content and delivery of higher education to an extent not yet fully understood or appreciated on most campuses" (4-D).

Chandler (1993) of Andrews University, in her doctoral study, looked at computer and related instructional technology training for preservice teachers at three universities accredited by the National Council for the Accreditation of Teacher Education that were identified "as doing a good job of preparing teachers to teach in the Information Age" (Chandler 2441). One of the areas she looked at was graduate-level instruction in computers and related instructional technologies. What she found supports other educators' opinions who believe that not only is the delivery in instruction changing, but that technology will continue to play a major role in that change.

> Distance education, multi/hyper/interactive media, and technical skills necessary to access, manipulate, sort, and retrieve information are perceived as growing in importance, due to the demands of the Information Age (2441).

Black (1992) addressed a study concerning controversy among academicians over the credibility of distance education for degree credit, noting that faculty skepticism actually has slowed the expansion of distance education.

> Distance education is an educational method in which the teacher and learners are separated in time and space for the majority, if not all, of the teaching-learning process; two-way communication occurs primarily via print, postal service, and telecommunications (Black 490).

She found that, in general, faculty weren't familiar or supportive of distance education except for undergraduate education. "There was very little support for a graduate program by distance education. There were significant differences in faculty support by discipline and gender." Those who favored a mass education believed in distance education, while those who proposed a more elitist education were opposed (490).

In delivering a graduate level nursing seminar course over the Interactive TV network of the Community College of Maine in 1991, Nealand (1992), in her doctoral study at Peabody College for Teachers of Vanderbilt University, said that

> Students believed a skillful professor and a topic of interest held the keys to success. Important attribute of the instructor included a sense of humor, positive regard and acceptance for students, and a theatrical sense of timing.
>
> Broken connections frustrated students. Suggestions to improve connections included changes in camera work, providing students with class rosters having pictures of distance students, and providing for communication between sites. Students also noted shortcomings of the origination classroom and safety problems at distance sites (Nealand 4173).

Walsh (1993) at the University of Oklahoma studied the attitudes and perceptions of university faculty toward distance education. With a population of 121 university faculty members, he found that age and number of years teaching did not affect attitudes.

He found that faculty attitudes were influenced by peers and personal experience; faculty believed that their views were similar to those of their colleagues; and faculty were concerned with interaction between themselves and students. Although many faculty showed little knowledge of distance education, regardless of their attitude, they believed all faculty should receive training before teaching a distance education class. Walsh found that attitudinal differences could not be explained by any single variable.

> Attitude is comprised of a series of interrelated factors: exposure; peer influence; barriers and incentives to engaging in distance education; need for distance education; and, opportunity and support for teaching a distance education course (Walsh 781).

Gee (1990) found that since using technology in distance education is so new, research that exists is not conclusive concerning learning style preferences of students upon their academic achievement, attitude, and completion rate of courses. In her doctoral study at Texas Tech University, she found that no significant differences in the attitudes of students on-campus or off-campus, and no significant differences between the completion rates (Gee 138).

Linking culinary programs at Johnson and Wales University was the topic of a doctoral study by Vanlandingham (1993) at Nova University. With a shortage of faculty to offer the complete culinary program at branch campuses, alternative types of delivery systems were studied, with administrators choosing a two-way interactive television delivery method to allow immediate response for both faculty and students in the program. Looked at were alternative delivery systems that included interactive television, cable television, telecommunications, and educational television (Vanlandingham 2553).

Lucy (1993) looked at the attitudes of faculty and students toward computers, computer literacy and learning styles of adults in an accelerated off-campus undergraduate program. She found in her doctoral study at the University of San Francisco that both faculty and students showed an interest in using computer mediated communication tools to exchange information, but only if training was available first (Lucy 1200).

Bucciarelli's (1993) doctoral study at Seton Hall University School of Education studied how community colleges look at delivery systems to meet the needs of an increasing number of adult students in New Jersey. Students indicated that the main reason they enroll in the non-traditional courses is to improve their careers.

> The results of this study indicate that telecourse, off-campus course and weekend college class programs are stronger and more successful in community colleges where the senior administration fully supports these endeavors (Bucciarelli 745).

Studying graduate students in social work at an external site, Foster (1993), in her doctoral study at the University of North Carolina at Chapel Hill, found that

> Comparisons between telecast and on-site instruction revealed that faculty teaching methods, student-faculty interactions and peer interactions differed by method. Faculty used more monologue, reading and visual cues to focus discussion, and students more often guided topic shifts during telecast (Foster 1214).

Eastmond (1993) found that computer conferencing has grown rapidly since 1987, especially in allowing higher education to offer distance education coursework. In his doctoral study at Syracuse University, he found that adults actively engage in social relationships outside their studies, which helps them to persist in their education. He did identify a somewhat unusual phenomenon, however, in how they used their past learning experiences:

> They incidentally transferred or invented learning strategies to deal with the different dynamics of this instructional environment. The computer conference brought together widely dissimilar students and encouraged them to 'talk' with one another while unaware of each other's physical attributes (Eastmond 2845).

Lucore (1992), in his doctoral study at Peabody College for Teachers of Vanderbilt University, found that evening courses were assuming more responsibility for nontraditional students, and this sometimes caused a problem he termed "jurisdictional disputes within the academic community" (Lucore 2264).

Research at the New Jersey Institute of Technology in 1988 found that students who took courses on-line believed technology would improve the educational quality of their courses; make access to education more convenient; involve them more actively in the classes; and improve their access to professors. Proponents of on-line instruction said that the report, "A Virtual Classroom on EIES: Final Evaluation Report," would help to promote a greater interest in computer conferencing--a medium that many believe will be used extensively in the next decade as colleges explore ways to reach working adults and other nontraditional students who are expected to account for larger proportions of the student population (DeLoughry A21).

Secondary Journalism Programs

Numerous studies have shown that secondary journalism coursework has numerous benefits for high school students, but concern is also present that high school journalism teacher and advisers are not getting the support and coursework they need from universities.

Iorio and Garner (1988) surveyed 487 Oklahoma public high school and /or mid-high school journalism teachers, newspaper advisers and yearbook advisers during the 1985-86 academic year to find out what high school teachers want in journalism programs at universities.

> Recently, concern has arisen about the ability of these programs to meet the current needs of high school journalism. Demographic changes in students and teacher-advisers and changes in educational policies regarding secondary education are among the forces that can affect university programs (Iorio, Garner 990).

A 1987 report of the Journalism Education Association has had great significance in proving that journalism programs at our nation's high schools have a great affect on the students involved, yet the value of the journalism courses has been largely ignored. The report found that students who studied journalism in high school achieved higher scores on the American College Test (ACT) and higher grades than other students, and also showed that these students felt their high school journalism classes were more beneficial than other language arts classes offered at their high schools (High School Journalism, 106).

Indeed, the National Commission on the Role of Journalism in Secondary Education reported that the future of secondary journalism programs were in danger and recommended that six major concerns be addressed: journalism's academic status in the school; the growing scarcity of training and certification programs for journalism teachers; censorship; school budgets; declining enrollments; and dwindling support from professional media to retain school journalism programs (106).

Johnson (1992) delved into the question of why the nation's journalism schools are failing to provide their graduates with computer database skills, noting the mandate from the Chicago Tribune in 1986 when it announced that it would no longer accept unsolicited manuscripts that had to be keyboarded. According to writer-editor Larry Townsend, "This means, quite simply, that we are not a market for free-lance articles unless they can be sent to us electronically or via a mailed-in IBM-compatible disk. Welcome to the electronic age" (Johnson 31)!

> The electronic age specifically for journalism clearly began in 1967 when Philip E. Meyer used a computer to study survey data drawn from African-Americans who lived in the Detroit neighborhoods hardest hit during the riots that year. Meyer's analysis and the reporting that grew out of it helped the Detroit Free Press win a Pulitzer Prize.
>
> The vast majority of journalism professors--indeed, the vast majority of all university educators--simply have not grasped the magnitude or specifics of the change now extant in information storage, management, and communications, the fundamental components for all teaching and learning (31).

When Roosevelt University's John McClelland served on a panel on computer instruction in journalism during a national conference attended by over 1,600 journalism educators in the 1960s, only nine people were in the audience. By the 1970s, when a few schools installed computerized typesetting equipment, talk began about whether journalism schools should start teaching "computer skills," defined in its narrowest terms.

Nolan's (1987) survey at the University of Texas found that 81 percent of 271 journalism school respondents were using computers to teach journalism skills, and all but two of 51 schools without computers said they wanted them but lacked the funds. "But

only 13 percent of Nolan's respondents who had computers claimed to be using them for much beyond writing, or word processing, and page design and production" (Johnson 32).

University of Kansas graduate student Lee Hill surveyed 80 journalism programs in 1990 and found that fewer than six taught computer-based analysis. She did find that many department chairs considered someone computer literate if they knew how to use a word processor.

> It appears a large majority of journalism students--indeed, the great mass of all students in most universities--are not being adequately prepared to cope with the information-retrieval and analysis environment that is used daily by government and business, and a steadily increasing number of print and broadcast companies. Our students, therefore, are being defrauded, bilked out of the skills vital to their intellectual and professional due (32).

Computer retrieval skills are vital for journalists, Johnson explained, because the traditional paper trails of government or corporations have disappeared, and information stored on-line has multiplied. In addition to that, the cost of storing materials electronically is decreasing, while periodical subscriptions, for example, are escalating (31-34).

According to Bernard A. Brown, computer graphics instructor at Century High School in California, computer technology is vital to journalism. " 'Linotype was a revolution. So was Guttenberg,' Brown says. 'Today, I feel the Macintosh and the new computers are a revolution' " (Kelly 8A).

Of even greater importance for future journalists could be the potential libel suit in which they may have to prove "due diligence" in checking facts (Johnson 34).

According to Wright (1988), teachers who teach writing should be prepared for major changes. Ten instructional changes she noted are that teachers have to become more flexible due to technology in the classroom, especially when students have to share computers; teachers have to learn word processing; although the students' work at computers is seen as better, teachers have to allow for more revision of student papers; the attitudes of students toward revising their own work is more positive; the manner in which students peer edit has changed from looking at a printed copy, to help on computers; there is less homework and more work done in class; teachers have to learn how to use the computers in their classroom for instructional purposes; the more experienced the teacher is in using computers, the better the teacher can help students learn to word process; teachers can work with individual students while other students continue working; and immediate access to computers makes a difference in both teachers' and students' attitudes toward computer use (Wright 33-38).

Lail (1993), an editor for the Knoxville News-Sentinel, said the main topic at journalism conferences and seminars is computer-assisted journalism. The Investigative Reporters and Editors Association has devoted entire conferences to the topic, including using personal computers to give participants hands-on training, and plans to hire a full-time educator to conduct on-site classes for reporters at newspapers. The University of Missouri School of Journalism's Missouri Institute for Computer-Assisted Reporting holds week-long classes on how to use government computer tapes to retrieve information, and in New York, reporters, on a space available basis, can attend Columbia University's advanced CAR classes (Lail 22).

According to Mike Kautsch, dean of the University of Kansas School of Journalism, the computer is definitely the medium of the future in communications. "And that means that students will have to learn how to gather information using the computer and how to convert it into meaningful messages, using the computer" (Toplikar 12C). But technology, Kautsch said, is not the only focus of journalism curriculum, and it never will be. "We still view technology as a tool for the purpose of communication" (12C).

Video Yearbooks

For a growing number of high schools, video yearbooks are supplementing, or in some cases, replacing the traditional printed and bound yearbook. Video yearbooks in schools present some major problems for journalism curriculum that must be identified and solved, including questions concerning whether schools should shoot and edit their own videotape, whether schools should shoot their own video but have it professionally edited, or whether a professional company should be contracted for the entire project. There are also questions of finances, since many schools may be unable to afford video and editing equipment, and questions of teachers who may not be qualified to instruct students on that equipment.

According to a doctoral dissertation at Oklahoma State University by Jeffrey Root (1991), this trend toward meeting what is perceived as the needs of an MTV generation can present problems for secondary education.

> At present, fewer than 1,000 high schools have produced video yearbooks, but as that number increases, teachers, principals, students and business leaders will have both economic and educational concerns about how the video yearbook will be

> worked into the present high school organizations and curricula, or, indeed, if it even should be (Root 3).

Seven major problems identified by Root in his Delphi study were:

> 1. Prepackaged video formats pushed by some companies do not take into account the personality of each school.
> 2. The price of a video yearbook may be too high for many students and lack of sales may keep the price high.
> 3. Lack of time would be a problem. Journalism teacher and staffs are already overburdened.
> 4. Few journalism teachers are trained in video production.
> 5. It will be difficult to keep the overall cost of the project affordable to smaller schools with less than 1000 student population.
> 6. Few administrators would support a video yearbook program when they have to make choices for space, time and money.
> 7. Video yearbook staffs would compete with print yearbook, magazine and newspaper staffs for advertising sales (86-99).

Root's respondents did identify three major solutions to problems posed by schools who have or are considering video yearbooks:

> Advisers and video yearbook staffs can be trained through courses at colleges and universities and seminars and workshops offered by video yearbook companies, video professionals or scholastic press associations.
>
> Video advisers will learn the necessary skills in the same manner that most high school yearbook and newspaper advisers learned about their publications, through experience. Two respondents wrote that few journalism teachers, including newspaper and yearbook advisers, are trained in journalism. One suggested that the first year' frustrations would provide the lessons necessary upon which to build future successes.
>
> Advisers can reduce their need for technical knowledge by relying on a professional video company to do the editing. Two respondents suggested that leaving the editing to professionals would greatly reduce the amount of training necessary for both advisers and students (Root).

It is expected that the video yearbook might soon be outdated. Jostens, Inc., discontinued its video publishing program after only one year (Root 101).

Technology and Secondary Journalism Teachers

Technology for the production of student publications, and for teaching journalism, continues to change, usually at a much faster rate than school districts can handle financially. However, it has usually not been a problem of appropriate equipment that has bothered journalism teachers as much as it has been a problem of how, when and where to learn the new technology in order to use it in the classroom.

Better teachers are more likely to use computers in the production of the school newspapers and yearbooks, according to Bracey (1992). However, Bracey did not take into account the fact that for several years, the majority of yearbook publishing companies have provided software to schools that they service. Also, few newspapers still use hot type as set-ups, and schools that can provide camera-ready art can save money. Camera-ready copy can be produced using some typewriters, but more likely is produced using typesetting equipment or desktop publishing programs.

One teacher participating in the Apple Classrooms of Tomorrow Project was thrilled that her students could do publications in class.

> I was so excited after the first day, I thought it was too good to be true. The students were using the software to make a publication in a 40-minute class period using the network....Now we can simulate a newspaper company. Eventually, students will work in groups, each with their own task, some for art, business graphs, articles, and the editing group (Dwyer, Ringstaff, Sandholtz 48).

Journalism Certification Requirements

In the 1987 Journalism Education Association survey of 154 directors of high school press associations with memberships in the Journalism Education Association and/or the National Scholastic Press Association, findings showed that 88 percent of the 61 percent of teachers who responded "believed the professional press should take a more active interest in state department-of-education policies and decisions that affect high school journalism" (High School Journalism Confronts Critical Deadline 106).

However, if public high schools want or expect to have good student newspapers or student yearbooks, then someone must emphasize or take responsibility for setting standards for teacher/advisers.

> In the early 1980s, there appeared to be some optimism that scholastic journalism had come of age and that a new breed of journalism-teacher-adviser had emerged, but educating advisers is an elusive goal when as many as 30% of the advisers are replaced each year. Some high school press directors believe scholastic journalism's low academic standing is related to inconsistent teacher certification policies. Many states have no certification requirements for high school journalism teachers, and others have varying standards which include simply accepting English teachers as qualified to teach journalism. Professional press associations have encouraged newspaper editors to convince college and university journalism programs to help educate high school journalism teachers (Omeren, Olson, Rossow 49)

Jackie Engle, a long-time secondary journalism teacher in McPherson, Kansas, addressed the Journalism Education Association Commission in defense of keeping journalism teachers certified in journalism, citing statistics that showed nearly 75 percent of the high schools in Kansas did not follow the minimum hours required for journalism certification (High School Journalism Confronts Critical Deadline, 7). According to

Engle, if schools did not have a certified journalism teacher, they go around the problem by calling the program something like "creative writing," and if that doesn't work, the school loses its publications (7-8).

Oklahoma Certification Requirements for Secondary Journalism Teachers

According to the "Teacher Education and Certification Handbook" of the Oklahoma State Department of Education, certification in journalism "authorizes the holder to teach, supervise, and/or administer programs in journalism in accredited secondary schools in Oklahoma (70)." Applicants for certification must also satisfy all general regulations and all specialization requirements for Secondary School Certificate Programs, in addition to Admission, General Education and Professional Education Standards.

In Oklahoma, a total of 40 semester hours in journalism are required for the Specialization Standard Certificate, including a minimum of 32 hours of academic preparation in 12 areas:

1. Foundations of Mass Media--Three (3) semester hours minimum
2. Newswriting--Three (3) semester hours minimum
3. Reporting--Three (3) semester hours minimum
4. Graphic Arts--Three (3) semester hours minimum
5. Editing--Three (3) semester hours minimum
6. Advertising--Three (3) semester hours minimum
7. Feature Writing--Three (3) semester hours minimum
8. Supervision of School Publications--Three (3) semester hours minimum
9. Field Experience in Yearbook Production--One (1) semester hour minimum
10. Field Experience in Newspaper Production--One (1) semester hour

minimum
11. Radio-TV-Film/Educational Broadcasting--Three (3) semester hours minimum
12. Photography--Three (3) semester hours minimum

Eight semester hours must come from electives: Legal Aspects of Journalism, Radio-TV Newswriting, Public Relations, Radio-TV Production, Advanced English Grammar, Advanced English Composition, or Technical Writing (70-71).

Journalism Certification Requirements in Other States

In a doctoral dissertation at Oklahoma State University by Deborah Root (1991), in a survey of journalism coursework required for certification in the United States, 17 of 44 responding states required coursework: Arizona, Arkansas, Idaho, Illinois, Indiana, Iowa, Kansas, Louisiana, Mississippi, Missouri, Montana, Nebraska, North Dakota, Oklahoma, South Dakota, Texas, Utah and Wisconsin (Root 10).

An additional 19 states required certification in English, language arts or journalism for a teacher to receive journalism certification: Alabama, Colorado, Delaware, Florida, Georgia, Hawaii, Kentucky, Maine, Michigan, Minnesota, New Jersey, New Mexico, North Carolina, Ohio, Pennsylvania, South Carolina, Tennessee, Washington and West Virginia. The only states reporting no existing requirements to teach journalism were Alaska, California, Connecticut, Massachusetts, New Hampshire, Oregon, Rhode Island and Vermont. The state of Nebraska, according to Root's survey, allowed each college or university to set its own certification requirements (11).

According to the report from the Journalism Education Association Commission, standards for programs preparing journalism teachers and publication advisers should

require extensive study in all types of journalistic writing and in research; a study of language, journalism history, laws and ethics that relate to journalism, and other basic areas of journalism such as photography, design, advertising, publishing, and word processing programs (High School Journalism Confronts Critical Deadline104-105).

A long-standing English/journalism debate, however, is likely to continue for some time if for no other reason than the apparent decline in the number of journalism certification programs available in higher education programs at universities and colleges, and financial conditions at public schools that are causing cutbacks in elective areas.

CHAPTER III

METHODOLOGY

Overview of the Chapter

Chapter III provides information on the research methodology that was used to gather the data for this study, the research questions, and the variables considered. It also includes the plans used to collect, tabulate and analyze the data.

The purpose of this study is to help colleges of education in Oklahoma's universities and colleges to understand the needs of career journalism teachers at the secondary level who desire to obtain graduate-level credit at a college or university for employment or certification needs.

This study will help define the primary needs of this audience, and may also help colleges and universities in the state of Oklahoma do a better job of serving those audiences by recognizing that the perceptions and needs of these career educators influence the quality of education given to the secondary students of our state, and also may reflect the retention of quality journalism educators in Oklahoma.

Methodology

For this study, a written questionnaire was mailed to 66 journalism teachers and advisers at public secondary schools in the state of Oklahoma who were 1994 members of the Oklahoma Interscholastic Press Association. This group of teachers and advisers was chosen for this study because it is the only organized secondary education journalism association in the state, and all teachers who are members are responsible for at least one publication, a yearbook or a newspaper.

These teachers were asked questions concerning their continuing education needs and wants, their certification needs, course areas they wish to explore that would be the most beneficial for their classroom, and their experience with and knowledge of technology as used in today's journalism classrooms. The teachers also were asked for preferences in the delivery system of their courses.

Research Design

The questionnaire that was sent to these teachers who were 1994 members of the Oklahoma Interscholastic Press Association included six independent variables. These independent variables were the number of years the teacher has taught/advised journalism classes at the secondary level, whether the journalism teacher is an adviser only or also teaches journalism courses, how the teacher is certified in the state of Oklahoma in journalism, the student population, the area of the state in which the school is located, and the teachers' use of computers in the classroom.

This study gathered information to answer the following research questions:

Research Question No. 1: Do secondary journalism teachers believe they have graduate-level continuing education needs that are not being met?

Research Question No. 2: Do journalism teachers in Oklahoma's public secondary schools view graduate courses available at state colleges and universities as satisfying specific certification, continuing employment needs or salary level needs?

Research Question No. 3: Are there specific areas in which journalism teachers in Oklahoma's public secondary schools view themselves as deficient in terms of coursework or experience with technology in the classroom?

Research Question No. 4: What needed graduate-level courses in journalism or technology do the journalism teachers view as most beneficial to them in preparation for being a journalism teacher?

Research Question No. 5: What methods of course delivery are preferred by the secondary journalism teachers, along with times of day, days of the week, and semesters?

Theory: The continuing education, graduate-level courses and certification and recertification needs of journalism secondary education teachers in Oklahoma public schools are not being adequately met due to journalism certification cuts in the state, although there is a perceived need for the certification program that would include both journalism and educational technology courses.

Demographic Variables

Demographic information was requested from the journalism teachers surveyed in order to explore possible relationships between characteristics of the teachers studied and technology experience and needs (See Appendix A).

Demographic information included years teaching journalism, whether or not the teachers had classes in journalism in addition to or other than publications, types of publications the teachers advise, the highest degree the teacher has attained, the teacher's major and minor, whether or not the teacher was interested in taking additional coursework, and preferences for the delivery and type of coursework.

Selection of the Subjects

Subjects who received this survey were Oklahoma public school secondary journalism teachers who had 1994 memberships in the Oklahoma Interscholastic Press Association. To reach the number of subjects used, a total of 66, teachers and administrators at private Oklahoma secondary schools were omitted from the membership mailing list, along with yearbook representatives and others representing yearbook or photo industries, plus faculty or others representing the state's colleges of education or schools of journalism.

Research Instrument

The research instrument for this study was a questionnaire. All subjects received the same instrument, and a copy of this questionnaire is placed in Appendix B.

The questionnaire included four sections.

Section one was concerned with demographical information about the secondary journalism teacher.

Section two was concerned with demographic information concerning the school, its location, coursework, student population and the journalism program at the school.

Section three was concerned with journalism and certification questions.

Section four was concerned with technology education and delivery systems of education.

Data Collection Plan

The questionnaire, cover letter, and postage-paid return envelope listed the researcher's home address as the place to return the survey. All questionnaires contained a number, located in the upper right hand corner of the first page, that corresponded to a set of printed labels. When the questionnaire was returned, the number was matched with the labels, then the label removed and the number removed from the returned questionnaire.

Questionnaires were mailed on April 1, 1995, with the request that the completed questionnaire be returned by April 10, 1995. Had the return rate from the first mailing been less than 60 percent, a second mailing, identical to the first with a changed cover letter, would have been mailed to those who had not responded.

Data Processing and Analysis

This single survey instrument collected data from the 66 members of the Oklahoma Interscholastic Press Association according to fall 1994 membership list.

In some cases, percentages from each demographic group were computed for each of the possible responses on the questionnaire to answer the five research questions listed above.

Methodological Assumptions

This study assumed that the journalism teachers were familiar with technology that is being used in many classrooms, although the teachers may or may not have experience using that technology. It also assumed that the journalism teachers surveyed were interested in keeping abreast of changes in their teaching field.

Limitations of the Study

The study was limited to secondary journalism education teachers/advisers in the Oklahoma public schools who belong to the Oklahoma Interscholastic Press Association, whose membership in the association is considered to be representative of the journalism teachers in the state of Oklahoma. The findings of this study should not be applied to graduate level education needs for secondary journalism teachers in other states due to possible differences in certification requirements of the individual states, and differences and availability of journalism education programs in the colleges and schools of education.

CHAPTER IV

FINDINGS AND ANALYSIS OF DATA

General

As outlined in Chapter III, 1994 members of the Oklahoma Interscholastic Press Association who teach journalism or advise student yearbook or newspaper publications in state high schools in the state of Oklahoma were surveyed by mail to determine the continuing education, certification and educational technology needs of secondary journalism teachers in Oklahoma public schools.

The 66 journalism teachers who were surveyed held memberships in the Oklahoma Interscholastic Press Association, which is headquartered at the University of Oklahoma H. H. Herbert School of Journalism in Norman.

Chapter IV will begin by showing the demographic data of those surveyed and the respondents. Tables and data will then follow with information concerning the respondents' responses on the questions.

Description of Respondents

A total of 66 questionnaires were mailed in April, 1995, to 1994 members of the Oklahoma Interscholastic Press Association who, by their school address, could be

identified with a public secondary school in Oklahoma. A total of 46 completed questionnaires were returned, for a response rate of 69.7 percent.

Demographics

Respondents were asked, for identification purposes only, to place their school in one of the four quadrants if the state of Oklahoma were divided by I-35 and I-40. As shown in Figure 1, of the 46 respondents, eight placed themselves in the northwest quadrant of the state, or 17.4 percent of the respondents; 22 placed themselves in the northeast quadrant, or 47.8 percent; nine placed themselves in the southwest quadrant, for 19.6 percent; and seven placed themselves in the southeast quadrant, or 15.2 percent. Since the survey was mailed to members, and did not take into account any disparity in membership resulting from any area of the state, no attempt was made to account for any percentage of respondents to areas mailed.

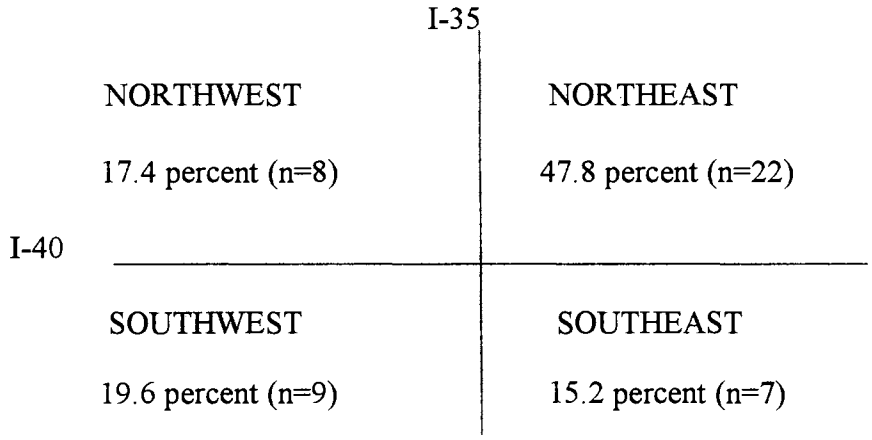


Figure 1. Identifying Quadrants of Respondents Using I-35 and I-40 to Divide the State of Oklahoma into Four Sections: Northwest, Northeast, Southwest, and Southeast.

Highest Degree of Education Attained by Respondents

Respondents were asked to check the highest degree of education that they had attained, with choices of "Bachelor's degree," "Bachelor's degree plus 15 graduate credit hours," "Master's degree," "Master's degree plus 15 graduate credit hours," "Education specialist degree," and "Doctorate."

As Figure 2 shows, the largest number of respondents indicated they had an earned master's degree, or 15 of the 46 respondents for 32.61 percent. The next highest degree held was master's degree plus 15 graduate hours, indicated by 12 respondents, or 26.09 percent. This was followed by respondents with bachelor's degrees only, 11, or 23.91 percent; bachelor's degrees plus 15 graduate credit hours, indicated by seven respondents, or 15.22 percent. One respondent, or 2.17 percent, had an earned doctorate, and none of the respondents had an education specialist degree.

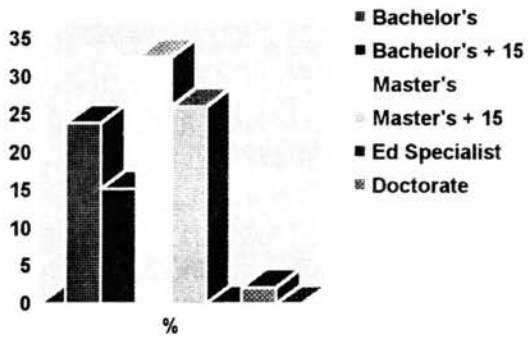


Figure 2. Highest Degrees of Education Attained, as Reported by the Respondents.

Undergraduate Major Areas of Study as Identified by Respondents

Sixteen undergraduate majors were identified by the 46 respondents. As Table I shows, the top two majors identified by the responding members of the Oklahoma Interscholastic Press Association were English, which had 19 responses, or 41.30 percent, and journalism, which had six responses, or 13.04 percent. A double major of journalism and English was noted by three additional respondents, or 6.52 percent.

TABLE I

UNDERGRADUATE MAJOR AREAS OF STUDY
(BY FREQUENCY)

Major Areas of Study	Number of Respondents
English	19
Journalism	6
Journalism and English	3
Business Education	3
English and Spanish	2
Latin	2
Language Arts	2
Art	1
Advertising	1
Social Studies	1
History	1
Political Science	1
Political Science and History	1
Journalism and Psychology	1
English and History	1
Education	1

Undergraduate Minor Areas of Study as Identified by Respondents

The 46 teachers who responded to the survey identified 23 minor areas of study, with journalism being identified seven times, or 15.22 percent; and English and education being identified four times each, or 8.70 percent each.

Only four other double minors identified journalism as part of the minor, or 8.70 percent.

Of the eight respondents who identified no minor areas of study, they had listed as majors only the following fields: journalism (2), language arts, English (2), political science/history, journalism/English, and English/speech.

Table II lists the minor areas of study by frequency as identified by the 46 respondents.

TABLE II

UNDERGRADUATE MINOR AREAS OF STUDY
(IN ORDER OF FREQUENCY)

Undergraduate Minors	Number of Respondents
Journalism	7
English	4
Education	4
Social Studies	3
Psychology	2
Spanish	1
Business	1
Marketing	1
Business Ed/Journalism	1
Math/English	1
Biology	1
Geography/Reading	1
German	1
Speech	1
Art Education	1
Journalism/Art	1
Journalism/French	1
Language Arts	1
History	1
Social Studies/Journalism	1
Speech/Theater	1
Speech/Drama	1
Education/Social Studies	1
No response	8

Respondents with Master's Degrees

Twenty-eight, or 60.87 percent of the 46 respondents, indicated that they had received master's degrees with one respondent indicating that he or she had received two

master's degrees. Of these 29 master's degrees, 19 were master's degrees in education, or 65.52 percent; two were master's degrees in journalism, or 6.89 percent; and eight were master's degrees in another field, or 27.59 percent. As Figure 3 shows, the number indicating master's degrees in education far outnumbered other fields.

One of the respondents wrote in that he or she was working on a master's degree in journalism and expected to receive it in Spring of 1996.

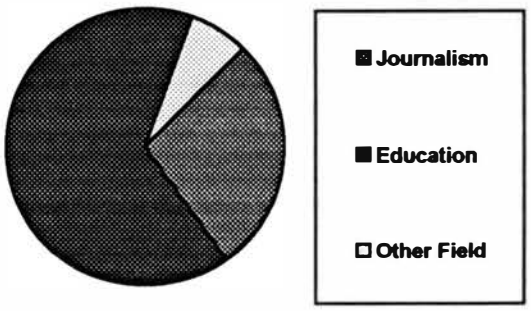


Figure 3. Percentage and Number of Respondents Who Hold Master's Degrees in Journalism, Education, or Another Field.

Teaching Certification of Respondents

Of the 46 respondents, 45, or 97.5 percent, received their teaching certification through a traditional college teacher education program, and one respondent, or 2.5

percent, received teaching certification through alternative certification route, as shown in Table III.

Without explaining the comment, one teacher checked "traditional college teacher education program," but crossed out the word "teacher" and wrote: "I have a 'strange' degree."

TABLE III

TEACHING CERTIFICATION OF RESPONDENTS

Certification	Percentage Responding	Number Responding
Traditional college teacher education program	97.5	45
Alternative certification	2.5	1
	100.0	46

Number of Years Respondents Have Taught Journalism or Advised Student Publications

As Table IV shows, the number of years that respondents had taught journalism courses or advised a student newspaper or yearbook, including this academic year, were

actually evenly divided. Fourteen respondents, or 30.43 percent, had taught between one and five years, and an addition 14 respondents, or 30.43 percent, had taught between 11 and 15 years. Similarly, nine respondents, or 19.57 percent, reported teaching between six and 10 years, and the same number of respondents also reported having taught 16 or more years.

TABLE IV

NUMBER OF YEARS RESPONDENTS HAVE TAUGHT JOURNALISM

Years Taught	Percentage Responding	Number Responding
1-5 years	30.43	14
6-10 years	19.57	9
11-15 years	30.43	14
16 or more years	19.57	9
	100.0	46

Grade Levels of the Journalism Students

As part of the demographical information, respondents were asked the grade levels of the students in the journalism classes or publications taught or advised by the respondents. Table V shows the grade levels taught by the teachers responding.

TABLE V

GRADE LEVELS OF JOURNALISM STUDENTS
TAUGHT BY RESPONDENTS

Grade Levels	Number of Respondents
9-12	16
10-12	16
11-12	7
9-10	3
8-12	2
10-11	1
9, 11-12	1
	46

Student Population of the Schools

As Table VI shows, the largest number of respondents indicated that the student population of their school was more than 501 students, or 32 responses for 69.57 percent. The next largest group were teachers from schools with between 251 and 500 students, which was 13 responses, or 28.26 percent, followed by teachers from schools with between 101 and 250 students, or one response, 2.17 percent.

There were no responses from teachers at schools with fewer than 100 students, which could indicate that these schools do not participate in the Oklahoma Interscholastic Press Association, that these small schools do not have journalism education programs, or that they just don't do surveys.

TABLE VI

STUDENT POPULATION OF RESPONDENTS' SCHOOLS

Population	Percentage Responding	Number Responding
Fewer than 100 students	0.00	0
Between 101 and 250 students	2.17	1
Between 251 and 500 students	28.26	13
501 or more students	69.57	32
	100.0	46

Journalism and Advising Responsibilities of Respondents

Respondents were asked to check one or more boxes that apply to the journalism or journalism-related work that they do at their high school.

Figure 4 shows that 37 of the 46 responding to the survey, or 80.43 percent, advised the printed yearbook, while 34 respondents, or 73.91 percent, said they advised the student newspaper. A total of 29 respondents, or 63.43 percent, said they teach journalism coursework and advise the student publications, and an equal number also teach photography.

No respondents checked the box that said they taught only journalism coursework, but did not advise the publications.

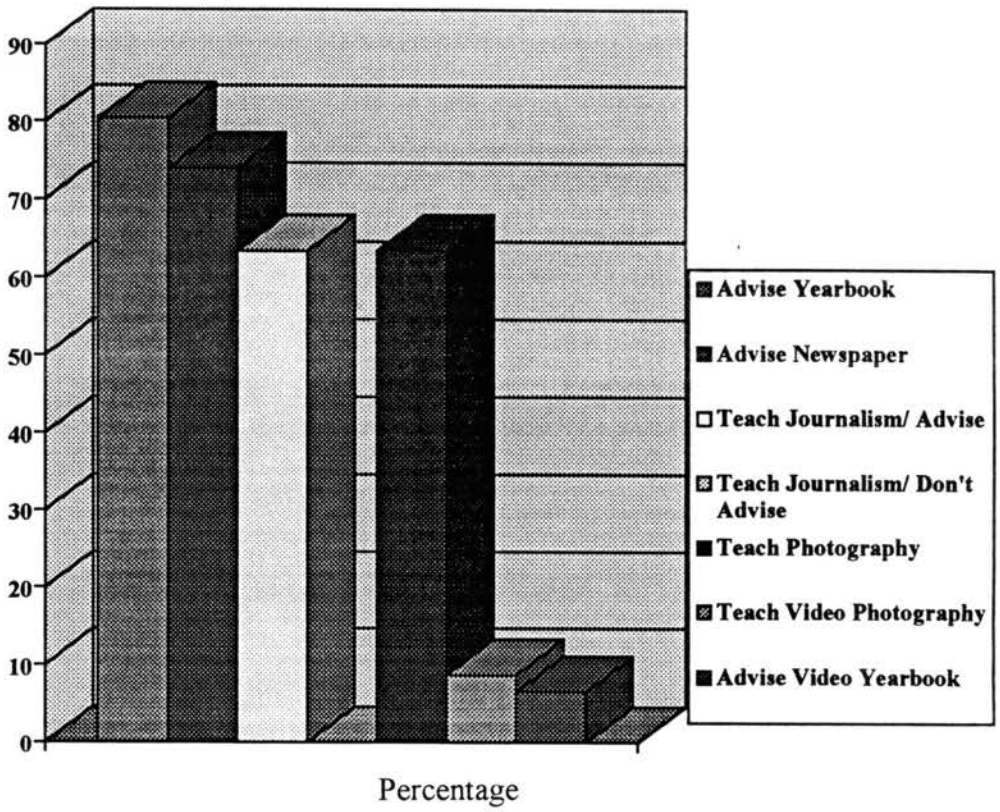


Figure 4. Journalism and Advising Responsibilities of Respondents Listed by Percentages.

Only three respondents, for 6.52 percent return, said they advised the student video yearbook, and only four respondents, or 8.70 percent, said they taught video photography. The extremely low response rate for these two items could be questionable for the schools, however, since it brings into question whether or not the journalism teacher or the publications adviser is the person who might have the responsibility for a video yearbook in the school. Only 15.22 percent, or seven respondents, said that their school had a video yearbook.

Computer Preference for Respondents' Homes, and

Computers for Respondents' Use in Schools

Teachers were asked to respond whether or not they had Macintosh computers or PCs in their home, and also whether or not they had a computer for their own use in their classroom (Table VII).

Sixteen teachers responded that they had a Macintosh, or 34.78 percent, while 10 teachers responded they had a PC, or 21.74 percent. A total of 26 of the 46 who responded to the survey said they had a computer for their own use in their classroom, or 56.52 percent of the respondents.

TABLE VII

COMPUTER PREFERENCE FOR RESPONDENTS' HOMES AND RESPONDENTS WHO HAVE COMPUTERS FOR PERSONAL USE IN THE CLASSROOM

Home Computer Preference and Computers for Personal Classroom Use	Percentage Responding	Number Responding
Teachers Who Have Macintosh Computers at Home	34.78	16
Teachers Who Have Personal Computers at Home	21.74	10
Teachers Who Did Not Have a Home Computer	43.48	20
	100.0	46
Teachers Who Have Computers for Personal Use in the Classroom	56.52	26

Computer Instruction in the Classroom

Forty-five of the 46 respondents, for 97.83 percent, currently use computers for instruction in the classroom, while only one, for 2.17 percent, does not.

Since so many of the respondents, according to their data, teach a variety of other subject areas in addition to journalism, or in addition to advising journalism publications or teaching photography, the large percentage who stated they currently use computers for instruction in the classroom does not, of itself, indicate that computers are being used by journalism students in a classroom or publication situation.

As Table VIII shows, computer instruction by these respondents' is nearly 100 percent.

TABLE VIII

COMPUTER INSTRUCTION IN THE CLASSROOM

Category	Percentage Responding	Number Responding
Use computers for instruction	97.83	45
Does not use computers for instruction	2.17	1
	100.0	46

Using Computers to Design Yearbooks

Respondents were asked whether students used computers to design the printed yearbooks. As shown by Table IX, nine teachers did not respond, or 19.565 percent, which probably includes teachers who are not responsible for yearbooks. Five checked the box that said it did not apply, or 10.87 percent, which probably means they did not work with the yearbook. Of the remaining respondents, all 32 reported using a computer to design the yearbook, or 69.565 percent.

TABLE IX

USING COMPUTERS TO DESIGN YEARBOOKS

Schools That Use Computers To Design Yearbooks	Percentage Responding	Number Responding
Journalism students design yearbooks on computers	69.565	32
No response	19.565	9
Did not apply	10.870	5
	100.0	46

Computer Software Used by Respondents in Class

Software programs used to produce newspapers and/or yearbooks by the public high schools in the state of Oklahoma varied greatly, as is shown in Table X, with most schools reporting a variety of software.

PageMaker, the software that was used most often by those responding to the survey, was mentioned 36 times. A variety of editions were mentioned, including 20 responses that mentioned no edition, six listings of PageMaker 4.2, nine listings of PageMaker 5.0, and one listing of PageMaker 4.1

Software listed only twice included Claris Works, Page Master, Write Now, Ultravision by Taylor Publishing Co., Microsoft Works, and OFOTO.

Software listed once included: Auto Copy, Correct Grammar, Word for Windows, PFS Write, Super Paint, Omni Page, Microsoft Publisher, Corel Draw, Paint Works, Red Ryder, Alud Personal Press, MacPaint, Aldus Typefacer, Paint, and Clip Art Files.

One teacher wrote "We have PageMaker but I haven't mastered it yet. I need to learn how to use it so I can teach it to my kids."

TABLE X

COMPUTER SOFTWARE USED BY TEACHERS
(IN ORDER OF FREQUENCY)

Software	Respondents Who Use the Software
PageMaker	36
Microsoft Word	12
Aldus Freehand	10
Typestyler	6
MacWrite	6
Word Perfect	5
Aldus with Josten's Yeartech	4
Quark Xpress	3
Type Twister	3
Aldus Illustrator	3

Video Yearbooks

As Table XI indicates, only seven respondents reported that their school had a video yearbook, for 15.22 percent. A total of 37 reported not having a video yearbook, or 80.43 percent, and two did not respond to the question, or 4.35 percent.

One respondent wrote in that his or her school did not have a video yearbook, "But our Tech Ed teacher does help his kids make a senior video."

TABLE XI

VIDEO YEARBOOKS

Oklahoma Schools' Use of Video Yearbooks	Percentage Responding	Number Responding
Have a video yearbook	15.22	7
Do not have a video yearbook	80.43	37
No response	4.35	2
	100.0	46

Using Computers to Make Newspapers Camera-Ready

Journalism classes that use computers and software to make the school newspapers camera-ready for printers are not only teaching students desktop publishing, but are saving a lot in finances since typesetting is one of the largest expenses in printing. As Table XII shows, delivering newspaper pages camera-ready is becoming an important part of journalism classes.

A total of 36 respondents, or 78.26 percent, reported that their class used a computer to make the newspaper camera-ready, while only one reported it did not, for 2.17 percent. Two did not respond, for 4.35 percent, and seven said the question did not apply to them, for 15.22 percent.

TABLE XII

USING COMPUTERS TO MAKE NEWSPAPERS CAMERA-READY

Classes That Use Computers	Percentage Responding	Number Responding
Journalism Classes That Use Computers to Make Newspapers Camera-Ready	78.26	36
Journalism Classes That Do Not Use Computers to Make Newspapers Camera-Ready	2.17	1
Does Not Apply	15.22	7
No Response	4.35	2
	100.0	46

One respondent noted that his or her class uses a computer to make the copy camera ready, but "We still paste-up our newspaper."

Interest in Pursuing Graduate Level Coursework in Education, Educational Technology, Journalism or Video Production and Editing

Respondents were asked to identify, marking yes or no, if there were interested in pursuing graduate level coursework in education, in educational technology, journalism, or video production and editing. Respondents, the completed survey showed, tended to mark only those areas in which they were interested, with many respondents leaving a

particular area of study, for example, without a response. The numbers who responded to the questions are shown in Table XIII.

TABLE XIII

INTEREST IN PURSUING GRADUATE LEVEL COURSEWORK

Coursework Area	Interested	Not Interested	No Response
Education	13	19	14
Educational Technology	17	17	12
Journalism	22	15	9
Video Production/Editing	13	21	12

In education, a total of 13 respondents said they were interested in pursuing graduate level coursework, while 19 responded they were not.

In educational technology, 17 responded they would like to pursue graduate level coursework, while 17 said they would not.

In journalism, 22 responded they would like to pursue graduate level coursework, while 15 said they would not.

In video production and editing, 13 said they were interested in pursuing graduate level coursework, while 21 said they were not.

Respondents' comments were:

"I have 2 masters already. I do take computer vo-tech classes for complex programs."

"At this point it isn't--but it was before I got my degrees."

One of the respondents also noted that he or she has attained two master's degrees, one in language arts education, and the other in English and creative writing.

Importance of Receiving Graduate Credit for Courses

A total of 41 responded to the question asking how important it was for them to received graduate credit for the courses they might take at one of the state's public universities.

Twenty-eight of the 46, accounting for 60.87 percent of the respondents, already noted that they held at least one master's degrees,

As shown in Figure 5, a total of 18 of the respondents, or 39.13 percent, viewed receiving graduate credit as being "very important." A total of nine, or 19.57 percent, felt receiving graduate credit was "important." Five, or 10.87 percent, said they had no opinion. Eight, or 17.39 percent, felt it was "unimportant" to receive graduate credit, and one respondent, or 2.17 percent, felt it was "very unimportant." No responses accounted for five respondents, or 10.87 percent.

One respondent checked both "important" and "unimportant," and wrote it an explanation. "Both--but I've taken about 15 hours at TJC in writing which have been great personally for my writing but don't count toward a degree. I would like the

masters but I want to publish one of my novels more." Another respondent noted that it wasn't important now, but that it was very important before he or she obtained two master's degrees.

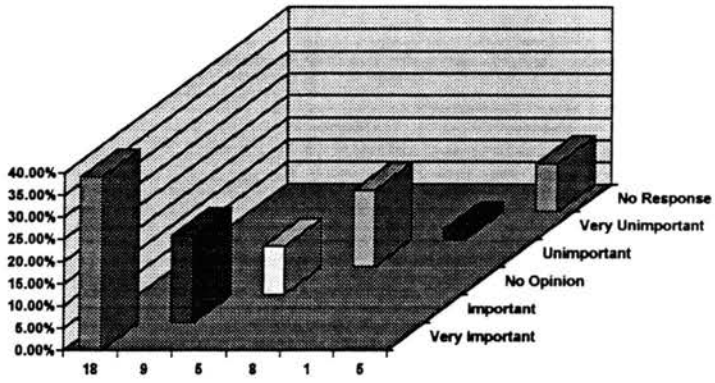


Figure 5. Importance of Receiving Graduate Credit for Courses Taken at State Universities.

Most Important Reasons for Journalism Teachers To Take Graduate Level Courses

Teachers surveyed were asked to mark the three top reasons they would be interested in taking graduate level coursework at one of the state's universities. Although the question was intended to show the needs and reasons for journalism teachers, as has been shown in previous tables, the majority of teachers surveyed were not journalism majors, and most, in fact, taught or also taught in other subject areas. As shown in Table XIV, of the 46 respondents, the item receiving the most votes in first, second or third

place on this question was "To improve my skills for teaching position," which received 38 votes. This item also received the majority of number one rankings, or 24, with 11 respondents ranking it second, and three respondents ranking it third.

The second highest reason was "For self-improvement," with this item receiving a total of 34 votes, including 17 votes for second place, making it the highest second place ranking also.

TABLE XIV

TOP THREE REASONS FOR JOURNALISM TEACHERS TO TAKE GRADUATE LEVEL COURSES (IN ORDER OF FREQUENCY)

Reason for Taking Graduate Courses	Number Responding
To improve my skills for teaching position	38
For self-improvement	34
Other reasons	21

A total of 21 respondents identified that one of their top three reasons was not listed. Items that those surveyed wrote in include:

"To better meet the students' needs."

"Love of learning."

"To stay on top of what is current in field."

"Earn master's."

"To produce a better yearbook."

"Stay technically current."

"So my students can receive academic credit for the class rather than an activity credit."

"So I can teach photography."

One respondent did not check "To use to obtain salary increments," but wrote beside it: "Forget it!!! These are minimal at best!"

The next highest category for responses was "To receive continuing education units to meet job requirements," which received a total of 14 votes, evenly divided between second and third places.

A total of 13 respondents voted for "To use to obtain salary increments," including four votes for first place, one for second place, and eight for third place.

Only six respondents chose "To meet certification requirements," with the six votes evenly placed in all three places.

A total of four respondents voted for "To meet recertification requirements," with one vote for second place and three votes for third place.

Most Important Courses a Teacher Needs to Teach High School Journalism or Advise Publications Today

Table XV shows, in order of preference, the three courses that respondents considered to be the most important courses a teacher needs in order to teach high school journalism or advise high school publications today. Respondents were asked to check only three.

TABLE XV

TOP THREE PREFERENCES FOR COURSES NEEDED TO TEACH JOURNALISM OR ADVISE PUBLICATIONS (IN ORDER OF FREQUENCY)

Course	Number of Votes Given by Respondents
Newswriting or Feature Writing	29
Supervision of Student Publications	26
Desktop publishing for the Macintosh	19
Photography	18
Computer design/graphics	10
Desktop publishing for the PC	8
Journalism ethics	7
Editing	5
Other	4
Using the computer in the classroom	2
Techniques for computer-based instruction	2
Evaluating and choosing software for the classroom	1
Multimedia program production	1
Advertising	0
Videography	0
No response	1

The course receiving the highest number of checks was "Newswriting or feature writing," which received 29 checks, followed closely by "Supervision of Student Publications," which received 26 checks. The next two highest ranked courses were "Desktop publishing for the Macintosh," which received 19 votes, and "Photography," which received 18 votes.

This question brought about the most written comments, as teachers were able to share their major concerns. Comments received included:

"Photography--underestimated--much needed."

"Layout and design whether manually or on computer--student should be taught both methods."

"Journalism law."

Another respondent did not check "supervision," but wrote beside it: "Only if it includes journalism law."

One respondent added a fourth, "writing."

Another respondent wrote in "PageMaker for IBM users."

One respondent checked three, and then placed stars by several others and wrote: "There is no way that you can be a good adviser with only three of these. Advisers must be taught desktop publishing in depth so we can move forward in teaching pubs."

Preferences of Attendance at State Universities

for Graduate Level Courses

Respondents were asked which of the state universities offering graduate level education programs they would be most likely to attend to take graduate level courses.

Forty-four out of 46 respondents replied to this question, with the number of colleges and universities ranging from one response to five responses per person.

Table XVI shows the total statewide preference for taking graduate level coursework, with the university receiving the most total votes listed first.

TABLE XVI

UNIVERSITY PREFERENCES FOR TAKING GRADUATE LEVEL COURSES
(IN ORDER OF FREQUENCY)

University	Number Responding
University of Oklahoma	18
University of Central Oklahoma	14
University Center at Tulsa	12
Oklahoma State University	11
Southwestern Oklahoma State University	6
Northeastern State University	5
East Central University	3
Northwestern State University	2
Southeastern Oklahoma State University	1
University of Science and Arts of Oklahoma	1
No response	2

As Table XVII shows, regional preferences did appear when the responses were tabulated by areas of the state. By areas of the state, the universities chosen include.

TABLE XVII

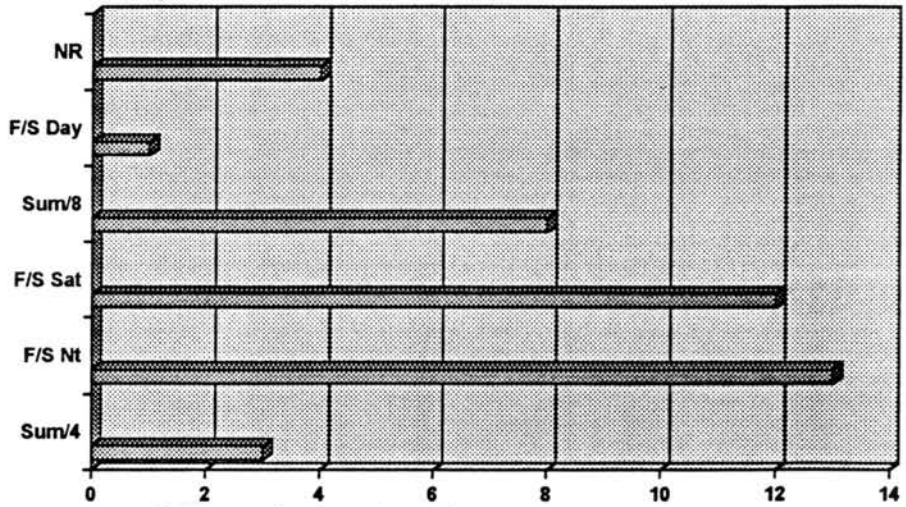
REGIONAL PREFERENCES FOR TAKING GRADUATE LEVEL COURSES

Quadrant	University	Number of Respondents
NORTHWEST		
	University of Central Oklahoma	4
	Oklahoma State University	3
	University of Oklahoma	2
	Southwestern Oklahoma State University	2
	Northwestern State University	1
	No response	0
NORTHEAST		
	University Center at Tulsa	12
	Oklahoma State University	6
	Northeastern State University	5
	University of Oklahoma	5
	University of Central Oklahoma	1
	Northwestern State University	1
	No response	1
SOUTHWEST		
	University of Oklahoma	5
	Southwestern Oklahoma State University	3
	University of Central Oklahoma	3
	East Central University	2
	University of Science and Arts of Oklahoma	1
SOUTHEAST		
	University of Oklahoma	6
	University of Central Oklahoma	3
	Oklahoma State University	2
	Southwestern Oklahoma State University	1
	East Central University	1
	Southeastern Oklahoma State University	1

One respondent checked OU as a preference, but wrote in that "OU is not what you call 'user' friendly!"

Preference for Times in Taking Coursework

Teachers and advisers were offered up to five choices as preferences in time of the year and time of day in which they might be interested in taking additional coursework: "Summer school session of four weeks or less," "Evening courses during a fall or spring semester," "Saturday course during a fall or spring semester," "Summer school session of eight weeks," and "Daytime courses during a fall or spring semester." As Figure 6 shows, 42 of 46 responded to the question, and of the 42, all respondents except two chose one or two choices; of the two who chose more responses, one chose three and one chose four.



Summer school session of four weeks or less--3
Evening courses during a fall or spring semester--13
Saturday course during a fall or spring semester--12
Summer school session of eight weeks--8
Daytime courses during a fall or spring semester--1
No response--4

Figure 6. Respondents' Preferences for Times and Semesters in Taking Graduate Level Coursework.

Top Three Preferences for Ways in Which

To Take Graduate Level Coursework

Table XVIII shows the preference of respondents interested in graduate level coursework, with the number of votes for first place, second place and third place that each of the preferences received for their top three preferences in methods of receiving the coursework.

Taking courses "at the university" received the most first place votes, 15, followed by "one-to-three day local seminar/workshops," which received 10 first place votes, and "at a class held in your community or nearby," which received nine first place votes.

Overall, "one-to-three day local seminars/workshops" received a total of 33 first, second or third place votes, making it the number one response. This was followed closely by "At the university," which received a total of 32 votes, and "At a class held in your community or nearby," which received a total of 28 votes.

The remaining preferences showed "By independent study" was next in preference, receiving a total of 12 votes; followed "By correspondence," which received eight total votes; "Satellite instruction in your local community" received a total of seven votes; and "On cable" received a total of three votes. "By correspondence" and "Distance learning" each received a total of two votes.

Preferences for receiving graduate level coursework, with the number of times each was chosen for a first, second or third place, are shown in Table XVIII.

TABLE XVIII

PREFERENCES FOR RECEIVING GRADUATE COURSEWORK

Preference	Number of First Place Votes	Number of Second Place Votes	Number of Third Place Votes
At the university:	15	6	11
By correspondence:	0	4	4
By independent study:	7	2	3
Two-way audio/video:	1	1	0
Distance learning:	0	1	1
At a class held in your community or nearby:	9	13	6
Satellite instruction in your local community:	0	2	5
On cable:	0	0	3
One-to-three day local seminars/workshops:	10	14	9

CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

General

This study examined the continuing education needs, certification needs, and employment needs of career journalism secondary teachers in Oklahoma public schools who might desire to take coursework at an institution of higher education that pertains to the continuing changes in technology that affect both teachers and students in the classrooms.

The study also examined the continuing education needs as perceived by these journalism teachers, many of whom also taught in disciplines other than journalism, in terms of course content, course level, delivery format, and time and location of the courses.

It was discovered during the review of available literature that little research had been done in the area of studying adults who already held at least one college degree and who were interested in graduate coursework, a graduate degree, or continuing education for specific job-related training. Abundant literature was available on adults who were interested in completing a high school degree, a vocational-technical degree or course, a junior college degree, or a first bachelor's degree.

Summary and Conclusions

The researcher expected to find journalism teachers reporting a variety of needs relating to educational uses of technology, including computer instruction, desktop publishing, distance learning, photography, or videography.

It was surprising to learn, however, that a large number of teachers in Oklahoma's public secondary schools who were teaching journalism or advising student publications did not hold major or minor degrees in journalism or a journalism field. All respondents advised at least one publication, although all respondents did not teach traditional journalism classes such as newswriting.

It appears that although these teachers are doing an admirable job, many need help not only in technological areas, but also in the traditional journalism areas. This was most evident in their responses to the question concerning their opinions on the three most important courses that a teacher needs today to teach high school journalism or advise high school publications: newswriting or feature writing, supervision of student publications, and desktop publishing for the Macintosh. An overwhelming number of respondents chose this question, as compared to the other questions, to write comments in the margins, many of which have been reproduced in Chapter IV. It was obvious from this impromptu response that questioning their needs in the area of journalism struck a strong chord.

A large number of secondary journalism teachers believe, according to the survey, that they have graduate-level continuing education needs that are not being met, as is evidenced by the question concerning their interest in pursuing graduate level coursework

in education, educational technology, journalism or video production and editing. Journalism classwork drew the highest number of responses, which was expected, followed by educational technology; courses in education and video production/editing had an equal amount of interest. Overall, 35 percent of the votes were yes, 39 percent were no (for no interest), and 26 percent of the questions elicited no response. Fewer responses indicated a need only for education courses, which might be explained by the fact that nearly all teachers surveyed had degrees in education; while the highest percentage of the degrees held were bachelor's of education, the numbers were very high who also held master's degrees in education.

The fact that these teachers are dedicated to their students and their jobs was evident in their responses to the question concerning the top three reasons they would seek graduate level courses. The number one reason chosen by the respondents was "To improve my skills for teaching position," followed by "For self-improvement." The third highest choice of the respondents was a write-in response, which, as shown in Chapter IV, also leaned toward improving skills to benefit students.

"Newswriting or Feature Writing," "Supervision of Student Publications," "Desktop Publishing for the Macintosh," "Photography," and "Computer Design/Graphics" were the courses viewed by the respondents as being the most necessary in terms of preparation for being a journalism teacher, with these choices receiving the most preference votes. The first course, receiving 29 votes, "Newswriting or Feature Writing," is traditionally offered through departments or schools of journalism, and the

second choice, "Supervision of Student Publications," can be offered as a journalism course also. The other top courses are primarily technology-related.

It was unexpected when respondents overwhelming chose taking courses "At the university" as their preference for delivery methods, primarily because it was assumed that with teachers' schedules, they would choose coursework that would be available locally, or in an easy-to-access mode. However, it was the next two highest responses that demonstrated the need or desire to take coursework locally. The delivery method receiving the second highest number of votes was "At a class held in your community or nearby," followed closely by "One-to-three day local seminars/workshops," then "By independent study." Classes delivered through technology were far down the list of their choices. Since these teachers had already expressed a need to learn or become more familiar with new technology, that might explain why their choices leaned toward the traditional methods of delivery.

Their preferences for time of classes, however, was overwhelmingly for short summer sessions of four weeks, which received nearly a 70 percent choice rate. This was followed by Saturday classes during the fall or spring semesters, then evening classes during the fall or spring semesters. The desire for short summer sessions is basically self-explanatory for public school teachers: most do not teach in the summer so it is the easiest time for them to take classes.

Recommendations from Findings

The findings of this study should be of interest to several areas of education in the state of Oklahoma.

First of all, the findings should be of interest to the state's colleges of education in the universities and colleges, who might benefit by having a better understanding of the continuing educational needs of this segment of the state's teachers. By understanding better where these teachers currently are in their knowledge base and desire for additional coursework or degrees, the state's colleges of education can better plan to meet those needs.

Teachers are able to receive journalism certification, at this time, only through two state universities, Northeastern State University in Tahlequah and the University of Central Oklahoma in Edmond. Avenues for becoming a certified journalism teacher in Oklahoma are becoming rare.

It must be noted that colleges of education that no longer offer journalism certification are not alone in the problems that caused these programs to be dropped. A strong cooperation must exist, in most cases, between arts and sciences colleges, where journalism coursework needed to satisfy certification should be offered, and the colleges of education, which need to have a qualified faculty member who understands how to prepare future journalism teachers for the secondary schools. Traditional lesson plans, as taught by most curriculum areas, do not always fit the molds needed by journalism teachers since they are responsible for the active production of publications, in addition to being teachers of a subject area at the same time.

Another area that is worthy of additional consideration is the preference for times and places in which these teachers are interested in taking classes. A majority of teachers preferred short summer sessions, which no doubt accounts for the fact that they, too, like to be able to take summer vacations or spend time with families. Although their first choice was to take classes at the university, the fact that the next two choices indicated a desire to stay in their community opens the door for extension classes delivered by the universities or by university faculty.

With so few choosing delivery methods that utilize technology, it might be in the best interest of the colleges of education to begin an information education plan to keep in contact with the schools and teachers to inform them of new technology delivery methods, and perhaps to lessen their fears of the unknown.

The findings might also be of interest to departments of journalism or schools of journalism at the state's universities and colleges, since in order for a teacher to be certified in journalism, these departments or schools must offer the coursework necessary for the returning teachers or future teachers to meet the state's certification guidelines. Obviously, journalism departments have a lot to gain by having qualified journalism teachers at the state's secondary schools, because a qualified journalism teacher will have a better journalism program, which in turn guarantees that the state's departments or schools of journalism will have entering students of a higher educational quality.

Journalism teachers and journalism organizations can also benefit by exploring this survey to learn about the needs of the profession. In many cases, national or state journalism organizations or associations have had to provide training for journalism

teachers in areas in which the teachers were unable to find help at the universities. For the Oklahoma Interscholastic Press Association this has been especially true, as evidenced by the association's attempts to supply short desktop seminars for teachers at least once a year.

Recommendations for Further Research

Responses to this 1995 study have demonstrated that additional research should be conducted in several areas. Some of the areas that could use additional research include:

1. Why are there so few journalism teachers in teaching and advising positions who hold degrees in journalism?

2. Are these teachers advising publications or teaching journalism as extracurricular, rather than curricular, activities?

3. Why are public high schools in the state of Oklahoma, a primarily rural state, not demanding better-trained journalism teachers?

4. A comparison of journalism teachers in Oklahoma and Kansas might be of interest to researchers because of the differences in philosophy between the two states. For example, in the state of Kansas, forensics and journalism courses and activities are considered very important parts of the schools. The state further reinforces this with numerous regional and state competitions for students in both groups. In Oklahoma at this time, however, journalism teachers have to struggle to find ways to become fully certified in journalism.

Conclusion

Journalism coursework is quickly disappearing from Oklahoma's public high schools. Many current secondary school teachers appear to be teaching journalism even though they may not have any or much journalism background, and some of these teachers without any journalism background are advisers to the student publications.

Unless colleges of education, schools or departments of journalism, and the Oklahoma State Department of Education, make some changes in certification for journalism teachers, journalism as a course is likely to be dropped from many high schools for lack of a certified teacher. At the present time, only two state universities even offer certification classes. The lack of a qualified journalism teacher, as signified by certification, ultimately affects the quality of the school's publications and the written history of each school and community.

The study of journalism at the secondary level has always been an elective subject, although schools have in the past, and many still do, accommodate journalism credit as a class toward English, or more specifically, toward language arts hours needed in order to graduate from high school.

In recent years, in the state of Oklahoma, the push for public schools has been to return to the "basics," a concept which for most people encompasses English, the social sciences, biological sciences and mathematical areas. What are being lost are the electives that make a real difference not only in students' lives, but in their futures. Electives such as art, foreign languages, auto mechanics, drama, and journalism are not courses in which students enroll because of their perceived "easiness," but because they offer students

something they need. All of these electives, plus many more, can play not only an important part in the students' future avocations, but introduce the students to career possibilities of which they might not be aware. In many cases, students are able to excel in an elective area, which goes a long way to enhancing young people's self-esteems.

In today's information age, good writing skills have become not only important for classroom work of students, but for survival. A tremendous emphasis continues to be placed upon communication in the workplace and in higher education. Certified secondary journalism teachers have known for many years that students who study journalism may show improvement in other areas of study, too, because of journalism's emphasis on accuracy and paying attention to details.

Educational budgets, whether at the university or public school levels, can be stretched only so far. However, it shows extreme short-sightedness at both levels to drop or curtail elective studies. Students in the public schools deserve to be exposed to a variety of subject areas, and they also deserve to receive the best possible education from qualified teachers in those areas.

As technology is a tool for use by communicators, and by journalists of both today and tomorrow, the ability to communicate must come first. To cut off the avenues for students to learn, in at least one way, how to communicate, harms them in the future.

In rural Oklahoma, small enrollments, small budgets, and many times difficulties in getting qualified teachers to live in areas far from major cities, continues to have a negative impact upon many of the elective subject areas for students. Ultimately, this affects their choice of future careers.

Everyone does not have equal access to the information superhighway. All students in secondary schools in Oklahoma now don't have access to certified journalism teachers. This omission may impact harshly upon the writing abilities of future journalism majors, and may impact harshly upon the quality of our state's newspapers and other communication media.

Ultimately, the omission of certification programs in our state's colleges of education will affect harshly the way in which those colleges and their educational programs are viewed by the public, including future students.

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APPENDIXES

APPENDIX A

COVER LETTER FOR JOURNALISM

TEACHER SURVEY

April 3, 1995

Dorothy A. Witter
2833 Mark Circle
Stillwater, OK 74075

Dear Journalism Teacher/Adviser:

As a former high school journalism teacher who advised the newspaper and yearbook--and was the first person to be assigned to sponsor the popcorn stands at the games or chaperone the dances and other student events--I know that your time is limited.

The enclosed questionnaire, with a postage-paid envelope, is very important for my dissertation. I am trying to identify the continuing education, certification, and educational technology needs of journalism teachers and advisers in Oklahoma public schools. Technology has brought so many changes since I first began teaching. In the 1970s, we believed having an electric typewriter in the journalism classroom was wonderful.

Your responses will be kept completely anonymous. The only "identification" that will be used is in Section II, question 10, the "quarter" of the state in which your school is located. In the upper right hand corner of the questionnaire is a number that corresponds to your name on my list. When you return the questionnaire, I cross out your name, and cut off the corner number.

Thank you in advance for your help. It should not take more than 10 minutes of your time, and it is invaluable to me. If it is possible, please return the questionnaire in the postage-paid envelope by April 12, 1995. If you would like to receive a summary of the results, please include a separate sheet with your name and address. DO NOT place the request or your name on any part of the survey.

Sincerely,

Dorothy A. Witter

enc.

APPENDIX B

SURVEY INSTRUMENT

Please complete this survey and return it in the enclosed envelope by **April 12, 1995**. If you have any questions, please call Dorothy A. Witter at 405-624-2235. All responses to this survey will be kept confidential

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Section I: Demographical Information About You:

1. The highest degree of education that I have earned (please check one):
   - ___ Bachelor's degree
   - ___ Bachelor's degree plus 15 graduate credit hours
   - ___ Master's degree
   - ___ Master's degree plus 15 graduate credit hours
   - ___ Education specialist degree
   - ___ Doctorate

2. My undergraduate major is _____.

3. My undergraduate minor is _____.

4. If you have obtained a master's degree, is it in:
   - ___ Journalism
   - ___ Education
   - ___ Other field

5. My teaching certification was obtained:
   - ___ Through a traditional college teacher education program
   - ___ Alternative certification route
   - ___ I am teaching on a provisional certificate

6. How many years have you taught journalism courses or advised a student newspaper or yearbook, including this academic year?
   - ___ 1-5 years
   - ___ 6-10 years
   - ___ 11-15 years
   - ___ 16 or more years

Section II: Demographical Information About Where You Teach:

1. What grade levels are your journalism students? Please check all appropriate levels.
   - ___ Below 9th grade
   - ___ 9
   - ___ 10
   - ___ 11
   - ___ 12

2. What is the student population of your school?
   ___ Fewer than 100 students
   ___ Between 101 and 250 students
   ___ Between 251 and 500 students
   ___ More than 501 students

3. Please check all boxes that apply to you at your high school:
   ___ I advise the student newspaper
   ___ I advise the student printed yearbook
   ___ I advise the student video yearbook
   ___ I only teach journalism coursework, but do not advise the publications
   ___ I teach journalism coursework AND advise the publications
   ___ I teach photography
   ___ I teach video photography

4. Please check any of the following statements that pertain to you:
   ___ I have a Macintosh in my home
   ___ I have a PC in my home
   ___ I have a computer for my own use in my classroom

5. Do you use computers for instruction in your classroom?
   ___ yes ___ no

6. If you advise the yearbook, do your students design the yearbook on a computer?
   ___ yes ___ no ___ does not apply

7. What computer programs do you use to produce newspapers and/or yearbooks? Please list these programs:
   _____
   _____
   _____

8. Does your school have a video yearbook? ___ yes ___ no

9. Do your newspaper students use a computer to make the paper camera-ready for the printer?
   ___ yes ___ no ___ does not apply

10. If you divide Oklahoma into quarters, using I-35 and I-40 and the cutting lines, which quadrant would the school in which you teach be located?
   ___ Upper left
   ___ Upper right
   ___ Lower left
   ___ Lower right

Section III: Graduate Coursework and Certification

1. Are you interested in pursuing graduate level coursework in education, educational technology, journalism, or video production and editing?
   Education ___ yes ___ no
   Educational technology ___ yes ___ no
   Journalism ___ yes ___ no
   Video production and editing ___ yes ___ no

2. How important is it to you that you receive graduate credit for the courses you take?
   ___ very important
   ___ important
   ___ no opinion
   ___ unimportant
   ___ very unimportant

3. The following are reasons for journalism teachers to take graduate level courses. Please choose the TOP THREE reasons that FOR YOU would be the most important reasons to take additional coursework, with "1" being the most important reason. There is also a space to add additional reasons if they apply to you.
   ___ To improve my skills for teaching position
   ___ To meet certification requirements
   ___ To meet recertification requirements
   ___ For self-improvement
   ___ To receive continuing education units to meet job requirements
   ___ To use to obtain salary increments
   ___ Other, please specify: _____
   ___ Other, please specify: _____
   ___ Other, please specify: _____

4. Which three courses, in your opinion, are the most important courses that a teacher needs in order to teach high school journalism or advise high school publications today? Place a checkmark by only THREE courses.
   ___ Newswriting or feature writing
   ___ Advertising
   ___ Supervision of Student Publications
   ___ Journalism ethics
   ___ Desktop publishing for the PC
   ___ Desktop publishing for the Macintosh
   ___ Computer design/graphics
   ___ Using the computer in the classroom
   ___ Evaluating and choosing software for the classroom
   ___ Editing
   ___ Photography
   ___ Videography
   ___ Multimedia program production
   ___ Techniques for computer-based instruction
   ___ Other, please specify:

_____

Section IV: Educational Technology and Preferred Course Delivery Methods

1. If you were to take graduate level courses at a university or college, which of the following state universities with graduate level education programs would you be most apt to attend?
   - ___ East Central University, Ada
   - ___ Langston University, Langston
   - ___ Northeastern State University, Tahlequah
   - ___ Northwestern State University, Alva
   - ___ Oklahoma Panhandle State University, Goodwell
   - ___ Oklahoma State University, Stillwater
   - ___ Southeastern Oklahoma State University, Durant
   - ___ Southwestern Oklahoma State University, Weatherford
   - ___ University of Central Oklahoma, Edmond
   - ___ University of Oklahoma, Norman
   - ___ University of Science and Arts of Oklahoma, Chickasha
   - ___ University Center at Tulsa, Tulsa

2. I would be most interested in taking additional coursework during these times:
   - ___ Evening courses during a fall or spring semester
   - ___ Daytime courses during a fall or spring semester
   - ___ Saturday course during a fall or spring semester
   - ___ Summer school session of eight weeks
   - ___ Summer school session of four weeks or less

3. If you are interested in graduate level coursework, what are your top three preferences for receiving this coursework, with "1" being the most important:
   - ___ At the university
   - ___ By correspondence
   - ___ By independent study
   - ___ Two-way audio/video
   - ___ Distance learning
   - ___ At a class held in your community or nearby
   - ___ Satellite instruction in your local community
   - ___ On cable
   - ___ One-to-three day local seminars/workshops
   - ___ Other, please specify: _____
   - ___ Other, please specify: _____

Thank you for your time and your help.

APPENDIX C

INSTITUTIONAL REVIEW BOARD FORM
(IRB)

OKLAHOMA STATE UNIVERSITY
INSTITUTIONAL REVIEW BOARD
HUMAN SUBJECTS REVIEW

Date: 03-29-95 **IRB#:** ED-95-060

Proposal Title: CONTINUING EDUCATION, CERTIFICATION AND EDUCATIONAL TECHNOLOGY NEEDS OF SECONDARY JOURNALISM TEACHERS IN OKLAHOMA PUBLIC SCHOOLS

Principal Investigator(s): Bruce Petty, Dorothy Witter, Ray Sanders

Reviewed and Processed as: Exempt

Approval Status Recommended by Reviewer(s): Approved

ALL APPROVALS MAY BE SUBJECT TO REVIEW BY FULL INSTITUTIONAL REVIEW BOARD AT NEXT MEETING.
APPROVAL STATUS PERIOD VALID FOR ONE CALENDAR YEAR AFTER WHICH A CONTINUATION OR RENEWAL REQUEST IS REQUIRED TO BE SUBMITTED FOR BOARD APPROVAL.
ANY MODIFICATIONS TO APPROVED PROJECT MUST ALSO BE SUBMITTED FOR APPROVAL.

Comments, Modifications/Conditions for Approval or Reasons for Deferral or Disapproval are as follows:

Signature:  Date: April 3, 1995

Chair of Institutional Review Board

VITA

Dorothy Ann Witter

Candidate for the Degree of

Doctor of Education

Thesis: CONTINUING EDUCATION, CERTIFICATION AND EDUCATIONAL TECHNOLOGY NEEDS OF SECONDARY JOURNALISM TEACHERS IN OKLAHOMA PUBLIC SCHOOLS

Major Field: Curriculum and Instruction

Biographical:

Education: Graduated from College High School, Bartlesville, Oklahoma, in May 1967; received Bachelor of Science degree in Education, University of Kansas, Lawrence, Kansas, in May, 1971; received Master of Arts degree in Journalism and Public Relations, University of Oklahoma, Norman, Oklahoma, in May, 1973; completed the requirements for the Doctor of Education degree at Oklahoma State University in December, 1995.

Experience: High School journalism teacher and adviser at Hays High School, Hays, Kansas, 1973-1977; instructor in journalism and director of University and Student Publications at Northeastern State University, Tahlequah, Oklahoma, 1977-1979; director of communications, Bacone College, Muskogee, Oklahoma, 1979-1987; public information office, Oklahoma State University, 1987 to present.