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Curriculum alternatives in graduate dental hygiene education

Jennifer Hubbard Grilli
West Virginia University

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CURRICULUM ALTERNATIVES IN GRADUATE DENTAL HYGIENE EDUCATION

Jennifer Hubbard Grilli, BSDH

Thesis submitted to the School of Dentistry
of West Virginia University
in partial fulfillment of the requirements for
the degree of

Master of Science
in
Dental Hygiene

Christina DeBiase, PhD
Joan Gibson-Howell, MS
Marcia Gladwin, PhD

Department of Dental Hygiene

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ABSTRACT

CURRICULUM ALTERNATIVES IN GRADUATE DENTAL HYGIENE EDUCATION

Jennifer Hubbard Grilli, BSDH

The nursing profession has designed a variety of curriculum options for individuals who wish to pursue graduate education in nursing. These options have been created to meet the changing needs of their profession, society, and potential students in the field. The profession of dental hygiene has similar needs. Presently there are only nine programs granting graduate degrees in dental hygiene. More graduate programs are needed to fulfill the future demands for educators, researchers, and practitioners with the knowledge and skills necessary to provide advanced levels of care in a variety of practice settings. Unfortunately, a mean of only 20 students earn the MSDH degree annually. Often potential applicants are not geographically mobile, have family commitments, or may desire dental hygiene as their second career. Based on a review of the literature and a needs assessment of all dental hygiene programs nationally (n=237), two accelerated graduate programs have been proposed. One program has been designed for individuals with associate degrees in Dental Hygiene and the other for non-dental hygienist college graduates. Distance education and web-based courses are integral parts of both curriculum designs.

Conclusion: Increasing the number of applicants to and graduates of master's programs in Dental Hygiene is needed. Improving access to existing graduate programs by providing flexible enrollment options and curriculum paths may decrease this shortage. If these program options were successful, long-term goals would include increasing the number of MSDH programs nationally.

To my wonderful husband Carl Angelo, who has a never-ending flow of unconditional love and support. Forever.

To my Mother and Father, thank you for everything.

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CHAPTER 1

INTRODUCTION

Currently in the United States, there are 236 undergraduate dental hygiene programs that are accredited by the American Dental Association. (See Appendix A) The majority (80.1%) of dental hygiene programs award an associate degree. Only, 18.2% offer the Bachelor of Science in Dental Hygiene. A few programs still exist that grant a certificate in Dental Hygiene (1.7%). Only nine of these programs also offer the Master of Science in Dental Hygiene.¹ Graduate programs in dental hygiene are accredited by the regional boards responsible for evaluating the institution of higher education where the dental hygiene program is located.

Current dental hygiene graduate programs include:

- Caruth School of Dental Hygiene, Texas A&M
- Old Dominion University
- University of Maryland at Baltimore
- University of Michigan
- University of Missouri-Kansas City
- University of North Carolina, Chapel Hill
- University of Texas Health Science Center, San Antonio
- University of Washington

- West Virginia University

A shortage of educators with masters' preparation in dental hygiene exists.¹

While opportunities to gain a Masters of Science in Dental Hygiene (MSDH) are limited. Many potential applicants would have to geographically relocate to attend one of the nine programs scattered geographically throughout the United States. Curricular alternatives in graduate dental hygiene education should be studied to address the changing needs of educational programs and potential graduate students.

The purpose of this study was to determine if administrators of dental hygiene education programs perceive a need for curricular alternatives in graduate dental hygiene education. Two curricular alternatives were purposed for potential students interested in pursuing the degree of Master of Science in Dental Hygiene:

- Associate of Science in Dental Hygiene or ASDH fast-track to Master of Science in Dental Hygiene
- Non-dental hygiene BS graduates to MSDH

STATEMENT OF PROBLEM

Curriculum alternatives have not been explored to address the limited number and inaccessibility of Master of Science programs in Dental Hygiene.

SIGNIFICANCE OF THE STUDY

This study is important because recent dental publications advertise numerous vacancies in dental hygiene faculty positions across the country.¹ A 1999 study conducted by Rebecca Wilder concluded 61% of dental hygiene directors indicated a full time faculty vacancy at their institution between 1994 and 1996. Colleges and universities require educators to have a minimum of one degree higher than the degree being granted. The majority of teaching position advertisements state the preference of a minimum MSDH or its equivalent. Presently there are only nine programs that offer graduate degrees in dental hygiene. A mean of twenty students earn the MSDH degree annually. These numbers are not sufficient to provide potential faculty to address the shortage of dental hygiene educators stated in the literature.¹

Often potential graduate program applicants are not geographically mobile due to family commitments and the absence of dental hygiene graduate programs in their location makes pursuing the master's degree in dental hygiene virtually impossible. In addition, individuals holding baccalaureate degrees in other disciplines make inquiries about pursuing dental hygiene as their second career.² Unlike nursing, they are required to complete dental hygiene at the undergraduate level prior to pursuing a graduate degree.² An increase in graduate level options would offer potential students greater opportunities to seek the Masters of Science in Dental Hygiene. Increased enrollment could eventually lead to future educators. A needs assessment was conducted to determine if dental hygiene

directors find these curricular alternatives (ASDH fast-track to MSDH and non-dental hygiene BS graduates to MSDH) both feasible and beneficial.

RESEARCH QUESTIONS TO BE ANSWERED

1. What are opinions of dental hygiene directors regarding enrollment and scheduling options?
 - a. Are both part-time and full-time options necessary?
 - b. What type of scheduling options should be offered to the student (evening courses, weekend courses, etc.)?
2. Do dental hygiene directors support the two proposed curricular alternatives for obtaining a Masters of Science in Dental Hygiene?
 - a. Accelerated MSDH for individuals holding Associate degrees in dental hygiene?
 - b. MSDH for individuals with non-dental hygiene related baccalaureate degrees?
3. Is there a correlation between the type of degree granting academic institution and the type of curricular alternative supported?
4. Should distance education be a component of the MSDH curriculum?
 - a. Are web-based courses considered beneficial and feasible?
 - b. Is there a correlation between the type of degree granting institution and support of web-based courses?

- c. What type of courses/content areas would be best suited for this type of instruction?
5. What skills do dental hygiene directors expect MSDH graduates to possess?
6. What are dental hygiene directors' perceptions regarding the obstacles preventing potential graduates from pursuing the MSDH degree?
 - a. Is there a correlation between type of degree granting institution and perceived obstacle?
 - b. If directors consider inaccessibility an obstacle, which type of curricular alternative do they support to increase accessibility?
7. Is there a correlation between directors who support the ASDH to MSDH degree curricular alternative and their perceptions of educational requirements, i.e., credit for work experience and a clinical proficiency exam prior to entrance into a graduate program?
8. Is there a correlation between directors who support non-dental hygiene BS to MSDH degree curricular alternative and their perceptions of the type of prerequisite courses completed prior to entrance?
9. Is there a correlation between directors who support non-dental hygiene BS to MSDH degree curricular alternative and their willingness to give preference to students with similar backgrounds?

OPERATIONAL DEFINITIONS

ASDH	Associate of Applied Science, Associate of Science, or Associate of Arts in Dental Hygiene obtained from a community college, technical school, or junior college.
BSDH	Bachelor of Science in Dental Hygiene obtained from a four-year college or university.
MSDH	Master of Science in Dental Hygiene obtained in a setting that offers a baccalaureate degree. This degree offers opportunities in research, education, and administration.
Certificate in Dental Hygiene	Not equivalent to the ASDH, but recognize completion of a specific curriculum of study.
ASDH to MSDH:	Student progresses through a curriculum that first fulfills the college/university and dental hygiene requirements for the baccalaureate degree (student may stop here and obtain the degree) or move directly into the accelerated graduate program (approximately 3 years in length). (See Appendix B)
Non-dental hygiene BS to MSDH:	Student takes basic dental hygiene courses to fulfill the requirements for a baccalaureate degree in dental hygiene and dental hygiene licensure (approximately 45 hours)

and then has the option of moving directly into the MSDH program (approximately 3 years in length).

(See Appendix C)

- Proficiency:** Level of skills that exceed competency. Ability of an individual to manage more complicated problems and greater internalization of professional standards.
- Accelerated program:** Curriculum which integrates both the baccalaureate and masters degree requirements allowing the student to graduate at the masters level without requiring traditional completion of the baccalaureate dental hygiene program.
- Web-based courses:** Courses of study where instruction is provided solely via the world wide web rather than traditional classroom setting.
- Curricular Innovation:** New and unique accelerated approach to obtaining the Master of Science in dental hygiene.
- Discipline:** Directed course of study.
- Obstacle:** Deterrents to obtaining the MSDH degree.
- Recruitment:** Promote benefits of the program to potential applicants that are interested in graduate dental hygiene education.
- Prerequisite:** Required courses that enable the student to enroll in the preferred course of study.

ASSUMPTIONS

The investigator has assumed:

- Each individual responding to the questionnaire was the director of an accredited dental hygiene education program.
- There is a need for graduate dental hygiene programs in the United States.
- There is limited access to graduate programs in dental hygiene due to geographic location.
- There is a lack of awareness regarding the existence of these programs among potential applicants.
- Each respondent understood the definitions for the two types of curricular alternatives.

LIMITATIONS

Potential limitations of this study include:

- The diversity of dental hygiene program directors' responses may be affected by their location and state practice acts.
- The target population was limited to dental hygiene directors of accredited programs (ASDH, Certificate, BSDH, and MSDH).
- The open-ended questions of the survey may be unanswered.

DELIMITATIONS

- This study surveyed all directors of accredited undergraduate dental hygiene education programs within the United States, as listed by the American Dental Hygienists Association, Accredited Entry-Level Dental Hygiene Academic Programs, fall 2000 listing.
- Only directors of accredited dental hygiene education programs were asked to complete the survey.

CHAPTER II

LITERATURE REVIEW

INTRODUCTION

Professionalization may be defined as a “dynamic process whereby many occupations can be observed to change certain crucial characteristics in the direction of a profession”.³ Advancing dental hygiene education is increasingly important to the growth of the profession. In published literature by MA Gaston she states, “a masters degree prepares professional dental hygienists with specialized skills for various roles in academics, business, industry, research, and community health settings.” The report of the task force on dental hygiene education states, master’s programs in dental hygiene prepare the graduate to assume leadership roles and promote acquisition of skills in research, critical thinking, evaluation, and oral and written communication.” Opportunities for dental hygiene educators needs to be expanded thus will ultimately satisfy future demands for educators, administrators, researchers, and practitioners with advanced skills.

In 1995, the Institute of Medicine (IOM) defined the present and future needs of dental education. Developing strategies to recruit dental hygiene educators is a necessity to the profession. Literature from various nursing journals

examines types of distance learning (world wide web and via satellite) and non-traditional forms (accelerated and non-nurse programs) of graduate learning.

REPORTS FROM THE INSTITUTE OF MEDICINE

The Institute Of Medicine is the health policy arm of the National Academy of Sciences, a private non-profit organization. The 1995 report discussed the future of dentistry, related work issues, and developed recommendations for dental education. The report urged the dental community to continue to research, to advance knowledge to prevent and treat oral health diseases.⁴ The report encouraged prevention, research, and teaching geared at the individual and community levels.⁴ It is paramount that dental/oral health receives priority status from primary care providers, educators, geriatricians, and public officials.⁴ Faculty and administrators are also challenged by the need to remain current in areas of research and teaching. Students and faculty must also be prepared for changes in clinical and didactic teaching.⁵ Dentistry will need to make changes to survive in the next century.

The IOM report also studied curriculum change in dental education. Areas of concern included the need to establish competencies for new graduates, examine current curriculum, teaching and evaluation methods, and to develop a process for review and change.⁵ Revised curricula should include: active learning, scientific thinking, depth of content, and resist crowding.⁵ Program flexibility (scheduling options, full or part-time status, etc.) is becoming a major part of

curriculum development. Dental programs need to increase program flexibility to improve the changing needs of individual patients, faculty and student diversity.⁴ Standards, criteria, and projected outcomes can be established and achieved by varying approaches and methods. The IOM report also states that faculty must come from all types of backgrounds and be willing to retrain to advance new programs and curriculums.⁴

Dental education was a major concern of the Institute of Medicine committee. For example, committee members expressed concern about the weak-link between dentistry and medicine, the lack of basic concepts in teaching methods used in clinical instruction, and the inability of students to critically think.⁶ Research purports that problem based learning helps integrate scientific principles in clinical instruction.⁵ It is prudent that administrators encourage and support dental educators to challenge students in various ways to promote and enhance critical thinking and decision-making skills to identify solutions.⁴

Dental educators must have knowledge base in general medicine, and to relate oral health to the general health of the patient. Institutions must reinforce the importance of pre-clinical/clinical instruction. Thus enabling students to maximize clinical skills.⁵ Appropriate faculty staffing would increase comprehensive patient care, which ultimately satisfies the needs of a diverse population.⁶

The Institute of Medicine made 22 recommendations concerning dental education. Some of these include: preparing future practitioners for more

medically compromised patients, developing an integrated curriculum including basic sciences, preparing students and faculty for an environment that will demand increased efficiency, responding to future shortages in dental education (including faculty), and building a dental work force that reflects the nation's diversity.⁴

DENTAL HYGIENE EDUCATION

Today, college degrees do not guarantee a position in the professional work force. Most dental hygiene schools are associate degree programs in a community/technical college setting. In a published article on this issue an example is given that the President of the United States, states that the associate degree is replacing the high school diploma.⁷ This philosophy affects the dental hygiene profession, since most are associate programs. There are few baccalaureate programs in dental hygiene, which help foster critical thinking skills. Within the aspects of dentistry, community colleges do not offer the same advantages as universities.⁷ Communication between the community colleges and universities could open new ideas to the dental hygiene curriculum. Dental hygiene as a profession; deals with oral and total patient health, students and faculty must be highly skilled with their abilities. Highly skilled practitioners are needed in the profession and in education. In Elizabeth Brutvan words, "Clinical faculties are the agents for socialization, responsible for molding the level of professional identity and commitment developed by dental hygiene students."⁷ Dental hygiene schools need to evaluate curriculum and teach students the art of

critical thinking. Dental hygiene programs are usually small in scale with limited personnel. Schools must take an approach that relies on consortia of educators to design and execute substantial inquiries may facilitate dental hygiene education's involvement in the development of new knowledge.⁸

Dental hygiene education plays a decisive role in shaping the future of the profession. Careful evaluation of current dental hygiene patient care or outcomes could result in expansion of the dental hygiene curriculum. Thus enabling an increase in dental hygiene program length and enrollment. Maintaining and raising educational standards are extremely important to the dental hygiene profession. For example, in 1998 Alabama adopted 'on the job training' for dental hygienists, also termed perceptorship.⁹ Dental hygienists are saying increased education is necessary to fulfill our job requirements beyond clinical abilities. The American Dental Association is allowing dentists that are unfamiliar with dental hygienists responsibilities to determine licensure requirements. As stated in 1999 by West Virginia University's previous director of dental hygiene, Barbara Komives, four-year programs do offer advantages.⁹ We are becoming a global society, so dentistry has to become educated racially and culturally. Dental hygienists need to collaborate with other health care professionals; specifically we are oral health care providers, but generally health care providers. Published authors are suggesting the need for interdisciplinary education, which will educate the dental hygienist in other fields¹⁰ The future of dental hygiene lies within the

graduates desire to educate. Dental hygiene faculty and administration need to develop new ways of learning to include the non-traditional student.

Opportunities for graduate dental hygiene education have been available since the 1960s. These early programs focused on educating dental hygienists for careers in research, administration, and education.¹¹ Rebecca Wilder states, a master's program in dental hygiene prepares graduates to assume leadership roles, critical thinking, problem solving, evaluation and oral and written communication. In June 1999, there were only eight schools that offered a master's degree in dental hygiene in the United States.¹ There is a need for program expansion in dental hygiene higher learning program, to meet the needs of growth in research, educators, and administrators. At the time of the published study by Rebecca Wilder in 1999, there were 234 dental hygiene programs; of these programs eight granted a Master of Science in Dental Hygiene. Wilder concluded 16-24 students graduated annually from MSDH programs. From 1990 to 1996, 45 new dental hygiene programs opened in the United States and Canada. It seems unlikely that this would meet the faculty needs of dental hygiene programs.

Wilder conducted a study of all dental hygiene program directors in 1996. Of those directors responding, sixty-one percent had an opening in the program for a full time faculty position between 1994-1996. Wilder's discussion stated one-half of responding programs required a master's degree for full time tenure positions. Dental educators must also have one degree higher than the degree being taught.¹² The dental hygiene profession needs educators skilled in research,

administration, and education to prepare future dental hygienists and advance the professions knowledge base. As of 1999, there were no dental hygiene masters degree programs west of Texas. Many graduates of the MSDH programs choose private industry or research, leaving few graduates for teaching.¹³ Career opportunities are expanding and recent MSDH graduates have more diverse and better career options. This ultimately has decreased the number of MSDH graduates choosing academics.¹³

Society is changing with a more diverse population. Total dental hygiene knowledge will better serve total community health. With an increase in education level, educators are expected obtain the highest degree possible. To increase professional status, graduate dental hygiene education must develop and adapt to a changing healthcare environment.¹

Jevack and Wilder conducted a study in July 1998, concerning career satisfaction and job characteristics in dental hygiene masters graduates. The questionnaire contained three primary domains: (1) background information; (2) closed-ended items that assessed career opportunities and satisfaction levels, and the pursuit of higher degrees; and (3) open-ended items to determine future educational needs of graduate students. This study had a sixty-nine percent response rate. Eighty percent of respondents wanted to receive a graduate education in dental hygiene for their own personal growth. Advancing careers in dental hygiene was also cited as a reason to obtain a graduate degree. Ninety-nine percent of respondents received an associate degree in dental hygiene first.

In 1999, Gaston stated “the vast majority of dental hygienists with masters degrees have them in areas other than dental hygiene, presumably because graduate programs are not easily accessible throughout the country. Increasing the numbers of hygienists with advanced degrees in their own disciplines would no doubt strengthen the profession.”¹¹ Holcomb and Thompson stated, “the majority of dental hygienists with master’s degree have obtained them in another discipline.”¹⁴ An increase in dental hygiene education will also increase the number of well-qualified graduates.¹ The development of new graduate programs, especially in the western region of the United States, would also show an increase in graduate students.

DENTAL HYGIENE EDUCATORS

“Dental hygiene as a field of study and practice can be viewed as being engaged in the process of professionalism and as such, has already established university programs that grant a graduate degree in the discipline”.¹²

Accreditation Standards for Dental Hygiene Education Programs states that,

“Dental hygiene faculty members must have qualifications which include advanced study in subjects they teach,” and “should have credentials at least one degree higher than the degree to be granted to their students...”¹⁵ In April 1988,

The Prospectus for Dental Hygiene, published by the ADHA stated, “promote and support master’s degree programs in dental hygiene education to provide the faculty resources and research required to further develop the scientific basis for

dental hygiene practice.”¹⁶ The primary purpose of dental hygiene graduate programs is to prepare and promote dental hygiene educators. Entry-level education is important, but equally important is the need to focus on graduate professional dental hygiene education for the future of oral health care needs. “If dental hygiene is to achieve the status of a developing profession, continued emphasis must be placed on improving the educational preparation and academic status of faculty.”¹⁷

Identifying concerns and future needs of graduate dental hygiene education is essential for continued professional growth.¹ A 1997 survey found there are not a sufficient number of graduate dental hygiene programs available to prepare for professional careers in dental hygiene.¹ The focus of many graduate dental hygiene programs has been to prepare students for administrative, research, and teaching roles. Researchers found a need for additional graduate programs in dental hygiene, which in turn will produce more teachers and administrators. A 1982 study conducted by Wayman, surveyed the population of registered dental hygienists in the education field, compared to those educators who held a Master of Science degree. Results of this study concluded that the majority of graduate degrees held by dental hygiene faculty were in other disciplines than dental hygiene. The investigator assumes that educators with varied backgrounds are teaching the dental hygiene component of curricula at the national level. “Expertise in dental hygiene is gained primarily through formal study in dental hygiene beyond the basic level of dental hygiene education.”¹² Another study in

1982 compared attitudes of dental hygiene graduates and dental hygiene dropouts toward dental hygiene education.¹⁸ A consistent finding in this study concluded that graduates of dental hygiene programs reported pre-clinical and clinical courses as well as the quality of instruction increased their interest in dental hygiene. This also confirms the importance of well-qualified instructors in dental hygiene.¹⁸

DISTANCE AND WEB-BASED LEARNING

Distance education can be defined, as “a set of teaching and learning strategies for connecting people who have learning needs with the resources required to meet those needs.”¹⁹ Distance education is becoming more popular due to geographical location of many students. Television has become an important tool in education.²⁰ Nursing programs have started using the power of television to increase technology for distance learning. In the United States, there are more than 100 colleges and universities offering courses through distance education. This type of teaching modality is popular in rural areas; Students can continue their daily activities without regular school interruptions.

Research by Tagg & Arreola highlights a unique nursing program at University of Tennessee, Memphis. Students work to receive a Master of Science in Nursing without physical presence on campus. Technology has contributed to professor-student contact by via e-mail, postal service, toll-free phone numbers, and interactive video. Rural communities have difficulty attracting and retaining

faculty. The University of Tennessee in Memphis has set up many sites across the state of Tennessee to supply Master of Science in Nursing into these areas.

Faculty and administrators periodically visit the sites, providing students the opportunity to interact on a personal basis. As of 1996, this program has graduated over 100 nurses with Masters of Nursing through distance education.²⁰

Distance education in North Carolina has also permitted students to earn a Bachelors of Science in Nursing.²⁰ Students who participate in these programs must be assertive and take responsibility for their own learning. Distance education is increasing in all disciplines and is providing large numbers of new learners. Many students taking advantage of this type of learning will usually stay within the community, which in turn maximizes patient care.

Programs of all types are developing alternative ways to reach learners from a distance. Along with distance education, videoconferencing and web-based instruction are becoming popular methods in transmitting information. In other published studies, the integration of videoconferencing at eleven different sites in one state proved to be successful.²¹ Students and faculty could complete their academic work in locations and times convenient to them.²¹ Also, videoconferencing allowed communication between the different sites.

Within distance learning literature, strengths and weaknesses of have been identified. Weaknesses included lack of computer skills, computer anxiety, and older students had more trouble adapting to the new teaching methods. Students also expressed concerns about their difficulty obtaining resources and lack of

structure. Students also experienced feelings of alienation, due to decreased faculty and peer interaction.²¹ Learners working with online assignments discovered enhanced team performance, because it provided tools, which enabled better communication. Students have freedom from traditional classroom settings. They have convenience and ability to study and work on their own individual schedules. This type of learning also allows the student to become more self-directed.

Distance programs should be carefully planned. Technology must follow, not lead the curriculum. Creative techniques must be explored to stimulate all types of learning (problem-based, critical thinking, etc.) and develop ways to measure learning outcomes.¹⁹

NON-TRADITIONAL GRADUATE PROGRAMS

Nursing schools are challenged to meet the changing needs of the growing student population and changing healthcare environment.²⁰ Healthcare programs, including dental hygiene, need to develop strategies to attract non-traditional students into graduate programs. Nursing and business education curricula models are available for further study. These types of programs designed for the non-traditional student will ultimately increase the standard level of education.

Accelerated and nontraditional education programs have been implemented into various models of post-baccalaureate nursing education.²² A 1989 study compared accelerated baccalaureate nursing program for college graduates and

traditional nursing programs. Results indicate that students in the accelerated group scored higher on total nursing performance and pass rate on state board examination. The traditionally educated nursing group reported significantly more hours worked and fewer hours studied.²² Another study conducted at the University of Tennessee, Knoxville compared non-nurse college graduates to the traditional family nurse practitioner graduates in terms of academic and career-development characteristics.²³ The study population included the entire class of graduates. Little difference was found between the two groups' academic success, clinical preparedness for practice, and participation in the workforce. Differences between non-nurse and traditional family nurse practitioner graduates were non-nurse graduates had a higher mean Graduate Record Examination (GRE) score and were employed as nurse practitioners in primary health care settings.²³ Graduates of nursing felt comfortable with their skills and reported satisfaction with their current position.²⁴

CHAPTER III

METHODS AND MATERIALS

An application to conduct the research study was submitted and accepted for exempt status by the Institutional Review Board for the Protection of Human Subjects of West Virginia University. (See Appendix D) A 21-question survey, which can be found in Appendix E, was mailed to the entire population of dental hygiene education program directors (n=236). A current list of all dental hygiene program directors (as of August 2000) was obtained from the American Dental Hygienists Association, Accredited Entry-Level Dental Hygiene Academic Programs, fall 2000. (See Appendix A)

The surveys were number coded for the purpose of a second mailing if necessary. The five-page survey was mailed to each dental hygiene program director with a self-addressed, postage paid return envelope. Included with the survey was a cover letter that explained that the purpose of the study was to determine if administrators of dental hygiene education programs perceived a need for curricular alternatives in graduate dental hygiene education and that it was being conducted in partial fulfillment of the requirements for a master's thesis in Dental Hygiene at West Virginia University. The cover letter stated that the survey was voluntary, all responses would remain confidential, and it would be reported in generalities only. (See Appendix F)

Participants were asked to complete the survey and advised that it would take approximately ten minutes of their time. The cover letter requested the participant complete and return the survey in the postage-paid, addressed envelope by February 9, 2001. This allowed respondents approximately five weeks to return the survey.

The survey consisted of 21 questions. Two questions asked the participants to rank responses. Six questions had the choice of “other” with a blank space provided to allow the participant to answer the question more specifically. Four open-ended questions were included for program directors’ comments. The remaining 15 questions were multiple choice.

Information requested on the survey included:

- Degree the dental hygiene program offers,
- Strategies encouraging graduate students to become educators,
- Qualifications directors seek in a potential faculty member,
- Main obstacle preventing students from pursuing the MSDH degree,
- Flexibility in scheduling options,
- Emphasis of graduate dental hygiene education,
- Support of web-based and distance learning, and
- Support for curricular alternatives in graduate dental hygiene education.

Each survey was tabulated on a Microsoft Excel spreadsheet. Statistical analysis of the data was performed using the JMP program. Results were reported

in frequencies, cumulative frequencies, and percents. Analysis of variance and chi-square analysis was performed to test statistical significance. Statistical significance was evaluated for differences among program directors as a whole and by program type for each of the following areas:

- Graduate program curriculum alternatives,
- Primary strategy in recruiting applicants to MSDH programs,
- Preferred scheduling options in graduate education,
- Role of major emphasis in graduate dental hygiene education, and
- Main obstacle in preventing potential graduate students from pursuing the MSDH.

RESULTS

A response rate of 62.0% (n=146) was achieved. The investigator felt the response rate was adequate and a second mailing was not performed. The majority (83%, n=121) of all respondents were dental hygiene education program directors of associate degree programs. Respondents from dental hygiene programs granting the baccalaureate degree comprised 14% (n=21) of the total response rate. Three percent of program directors' responded offered the certificate or masters of science in dental hygiene. In cases where a school offered more than one degree, the school was categorized by the highest degree granted. Results are described collectively. In cases where (n) is not equal to 146, the question was left unanswered by one or more respondents. Figures display results in a graph format. The results of this needs assessment were subdivided into four main areas. These four areas included:

- The adoption of curricular alternatives in graduate dental hygiene education
- Obstacles and recruitment strategies for:
 - Enrollment in graduate MSDH programs
 - Pursuing pedagogy as a profession
- The curricular design features of graduate dental hygiene programs
- Qualifications for faculty position

CURRICULAR ALTERNATIVES

Over two-thirds (68.0%) of all respondents were supportive of the accelerated ASDH to MSDH program. Conversely, only 14% (n=21) of respondents favored the non-dental hygiene BS to MSDH degree program. See Figure 1.

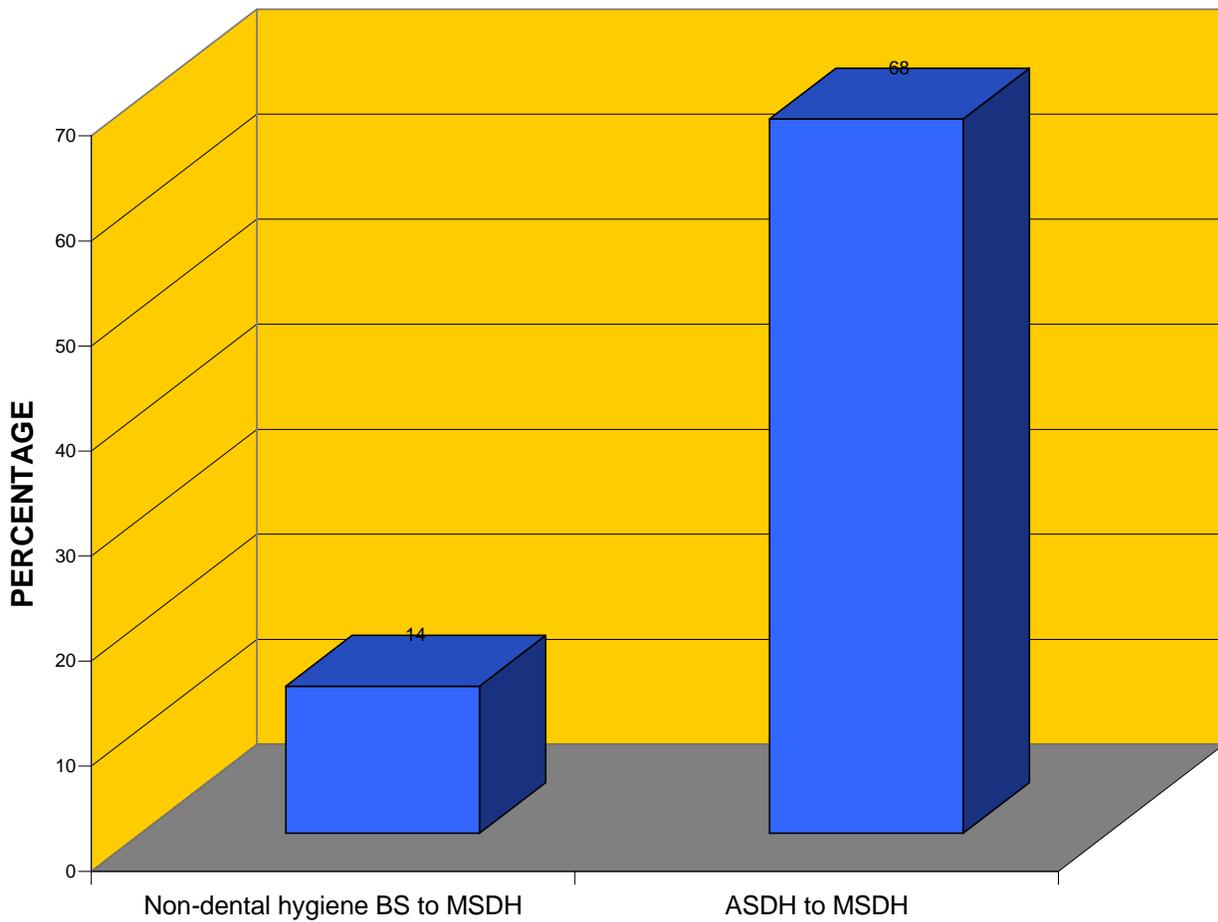


Figure 1. Support for Curricular Alternatives
(n=146)

Seventy- three percent of respondents from associate degree programs support offering an accelerated ASDH to MSDH program, compared to only 43% of respondents from baccalaureate degree programs. ($p \leq .01$). See Figure 2.

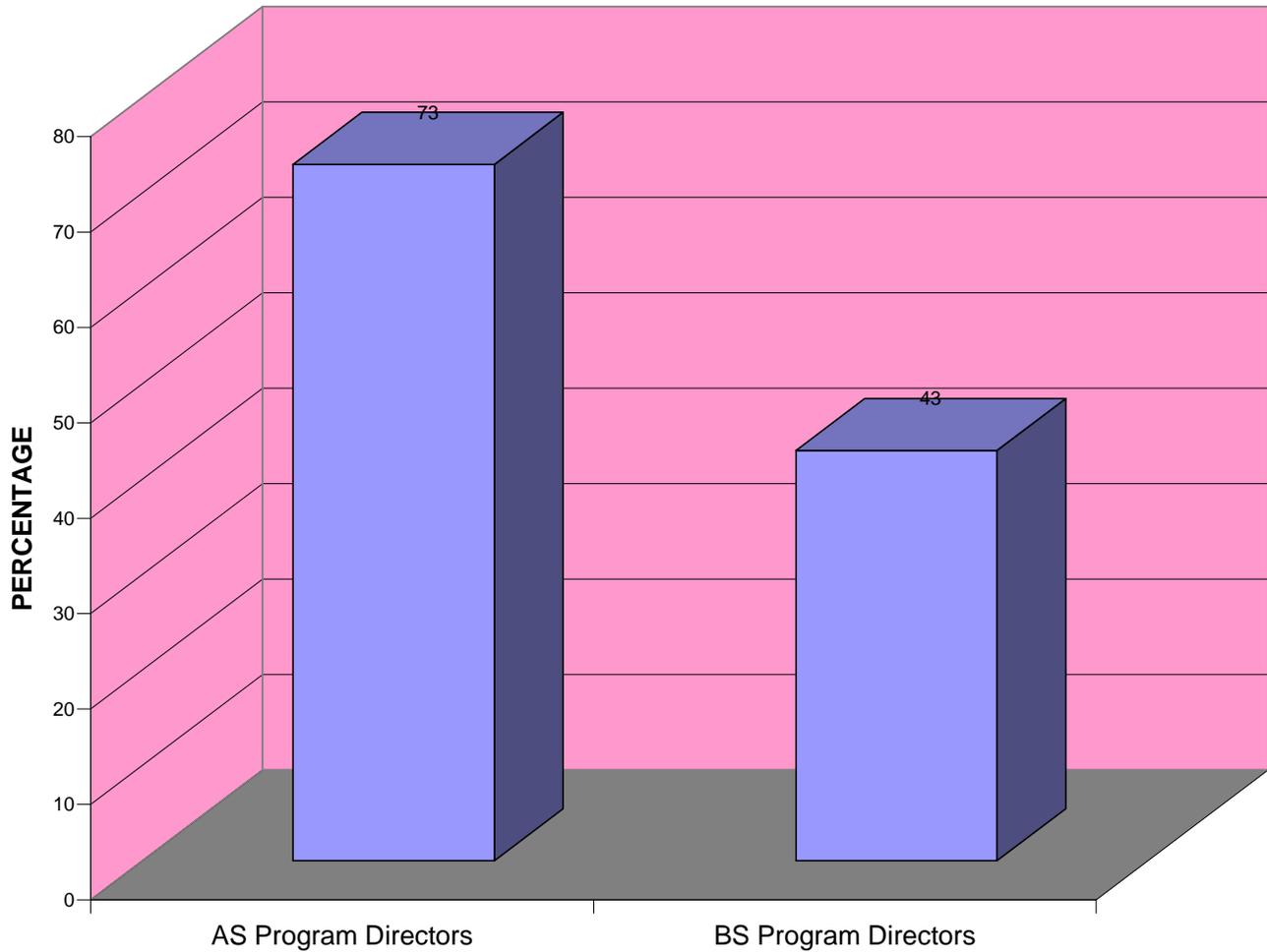


Figure 2. Support for Accelerated ASDH to MSDH by Program Type

Although only, 14% (n=20) of all respondents favored the non-dental hygiene BS to MSDH curriculum alternative. There is no significant difference between baccalaureate and associate degree program respondents relevant to their support for non-dental hygiene BS to MSDH. Only 14% of associate degree program directors and 10% of baccalaureate program directors supported this curricular alternative.

OBSTACLES AND RECRUITMENT STRATEGIES

Enrollment in graduate MSDH programs

In addition to addressing recruitment strategies to increase enrollment in MSDH programs, directors were also asked what obstacles they perceived existed that limited pursuit of the MSDH by potential students. Slightly over half (52% or n=76) of all survey respondents indicated that MSDH inaccessibility was the main obstacle in students' pursuit of graduate dental hygiene education. The second highest response (22% or n=32) was limited career opportunities. Scheduling conflicts were also reported as an obstacle for students wanting to pursue graduate dental hygiene education by 16% (n=24) of respondents. The category 'other' consisted of the following responses: financial limitations, difficulty accessing BS programs, and lack of interest. See Figure 3.

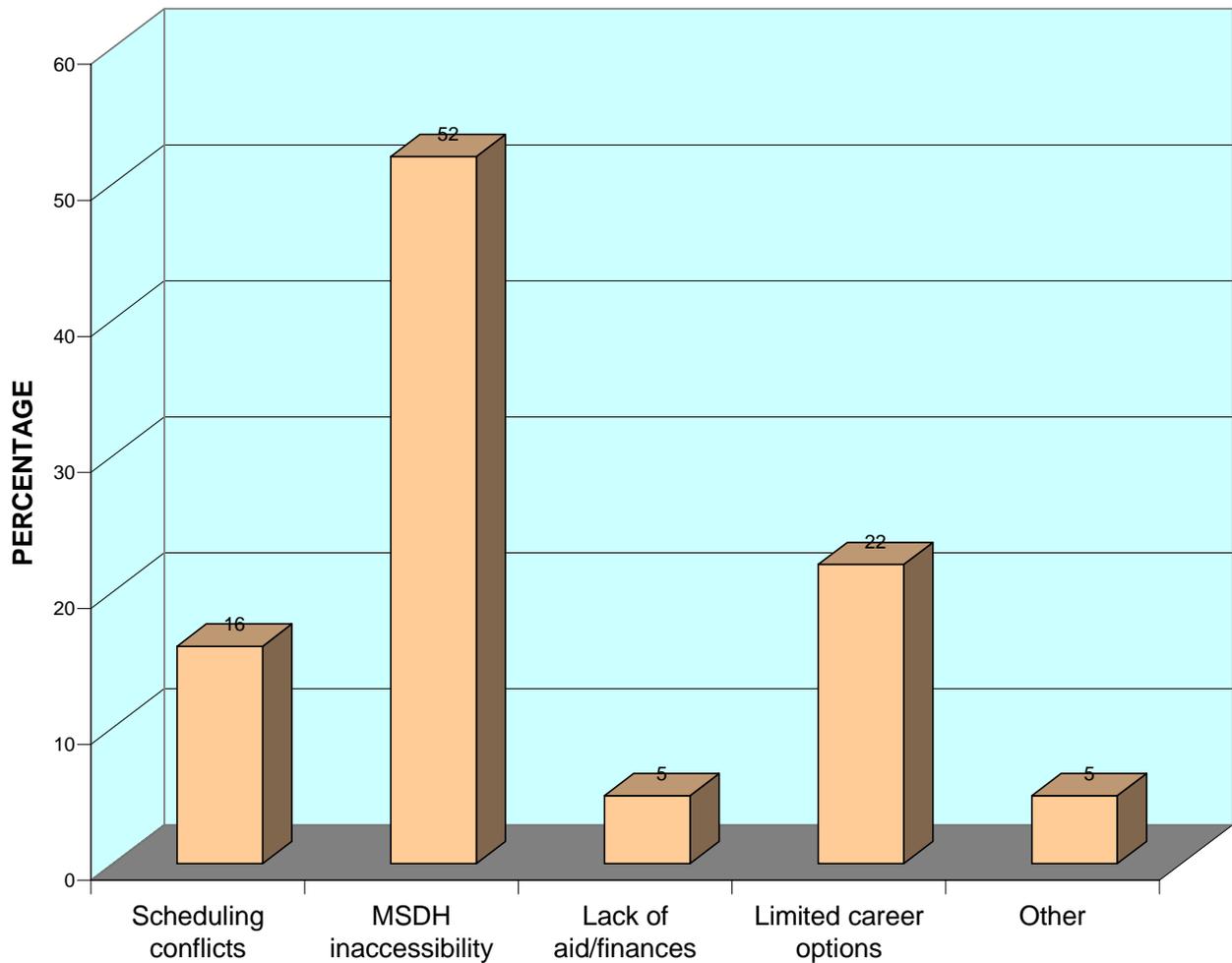


Figure 3. Enrollment Obstacles to Pursuing Graduate Dental Hygiene Education (n=146)

Over half of dental hygiene education program directors responding (58% or n=84) felt that scheduling flexibility could ultimately increase the number of applicants to MSDH programs. Increasing the number of applicants by increasing program options through the accelerated ASDH to MSDH was favored by 47% (n=68) of the respondents. Respondents could also select advertising to increase

awareness and permitting individuals with non-dental hygiene undergraduate degrees to apply to MSDH programs as options. See Figure 4.

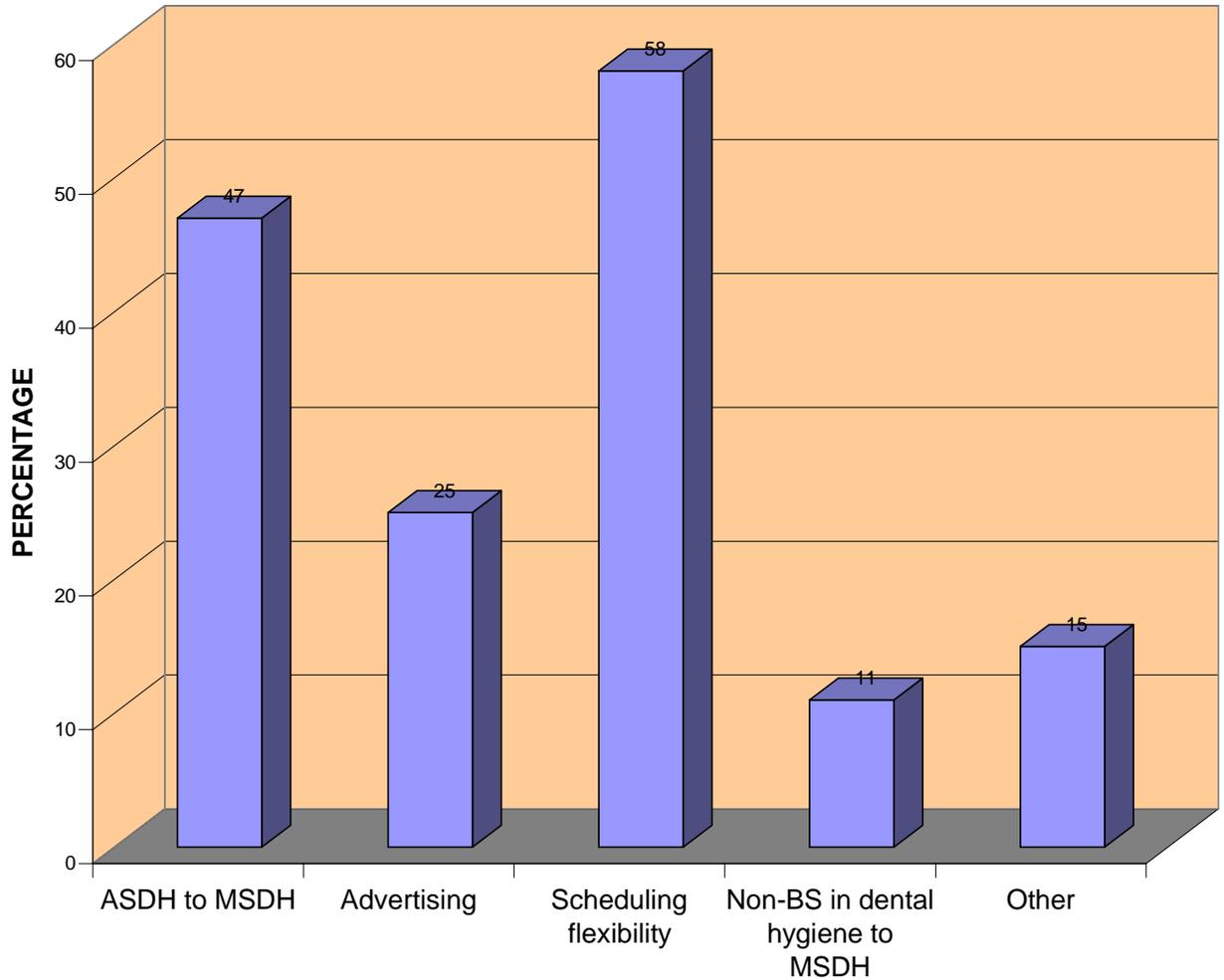


Figure 4. Recruitment Strategies to Increase Enrollment in Graduate Dental Hygiene Education Programs (n=146)

Percents do not equal 100 due to respondents selecting more than one answer.

Pursuing pedagogy as a profession

The literature has identified a need for future educators in the dental hygiene profession. Curriculum enhancements in MSDH programs that provide opportunities for students to experience the role of a faculty member served as responses to the question regarding recruitment strategies to promote future educators. The majority (88% or n=128) of all survey respondents indicated that giving graduate students the opportunity to experience clinical practice teaching in AS/BS programs in dental hygiene influenced these students to choose teaching as a profession. Other recruitment strategies in order of interest included: classroom courses focusing on teaching and evaluation (80% or n=117), externships at other teaching institutions (72% or n=105), experience with recruitment and advising of students (42% or n=61), opportunities observing administrators roles (36% or n=53), and presentations at professional meetings (47% or n=69). See Figure 5.

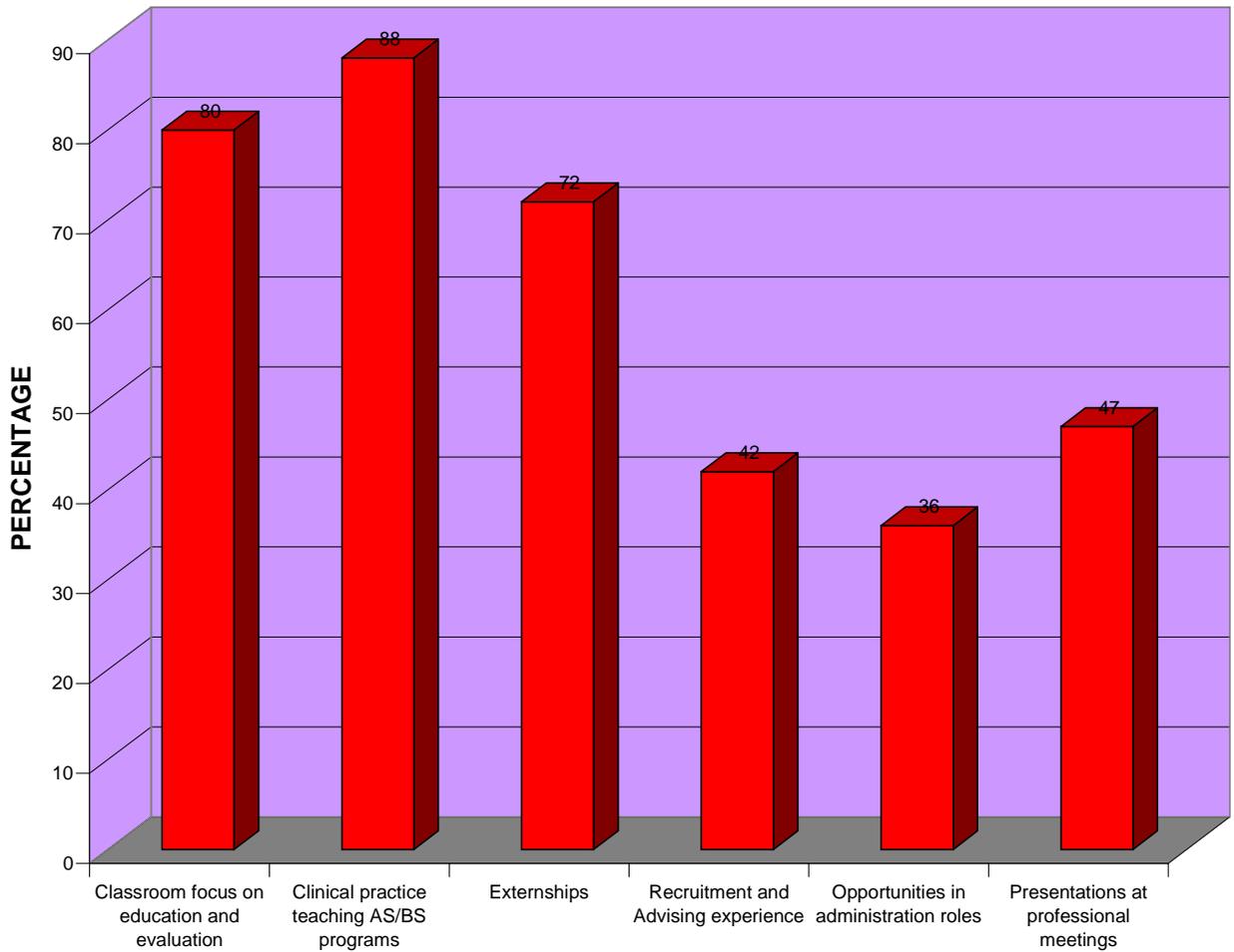


Figure 5. Recruitment Strategies Encouraging Graduate Students to Pursue Teaching (n=146)

Percents do not equal 100 due to respondents selecting more than one answer.

CURRICULAR DESIGN

The majority (92.0% or n=133) of all survey respondents believe graduate programs should offer both full-time and part-time enrollment. Respondents who chose full-time or part-time only comprise 8% (n=12) of all responses. N is not equal to 146, because the question was left unanswered by one or more respondents. See Figure 6.

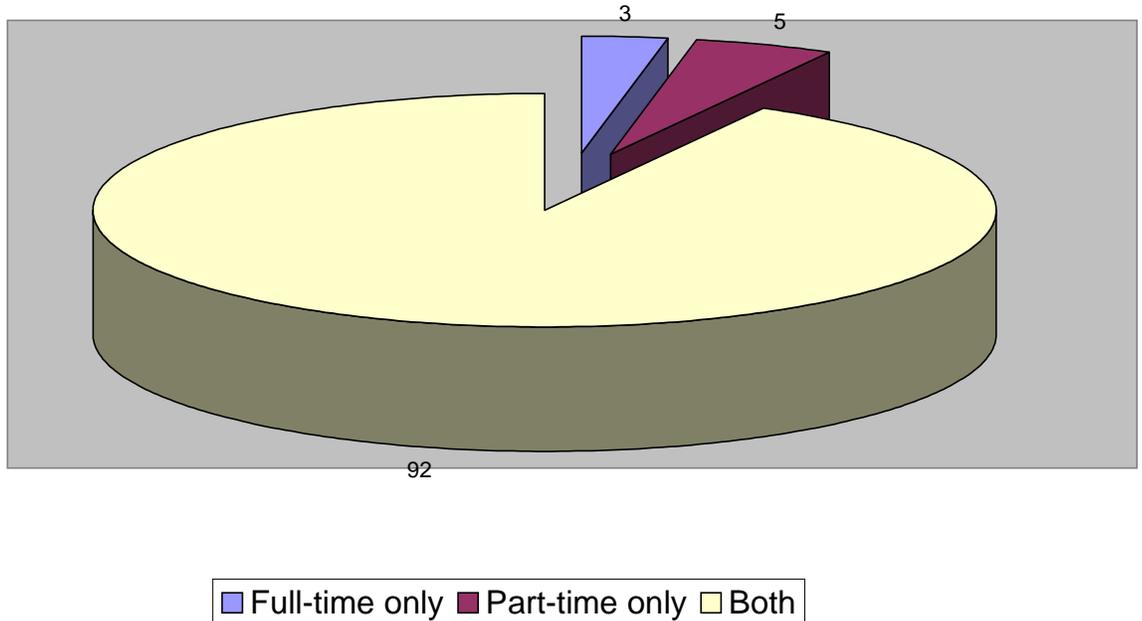


Figure 6. Enrollment Status
(n=145)

Enrollment options accommodating the needs of potential students were also explored. Seventy-four percent (n=108) of survey respondents agree evening courses should be available as a scheduling option for the dental hygiene graduate student. The second highest response selected was weekend courses. (n=96) The remaining responses in order of preference were chosen by $\leq 50\%$ of respondents and included: offering day courses (before 5 pm), one-week summer courses, three-week summer courses, and six-week summer courses. The category of other (13% or n=19) included on-line and web-based courses. See Figure 7.

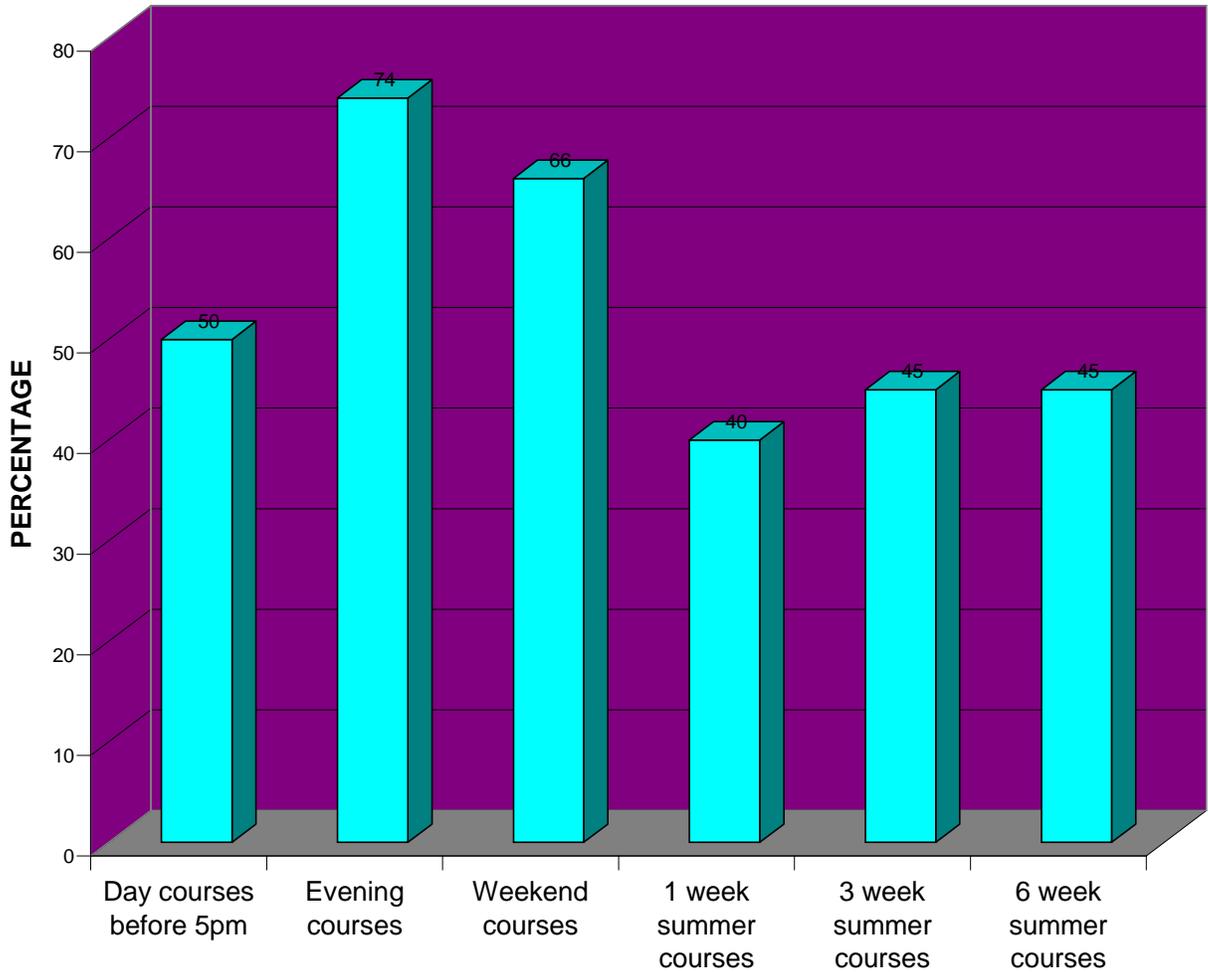


Figure 7. Scheduling Options
(n=146)

Percents do not be equal to 100 because respondents were asked to check all that apply.

The majority (84% or n=124) of all survey respondents felt web-based courses were an ideal option to increase access to graduate dental hygiene education. Neutral, disagree, and strongly disagree were also options (n=23). N is not equal to 146, because the question was left unanswered by one respondent. See Figure 8.

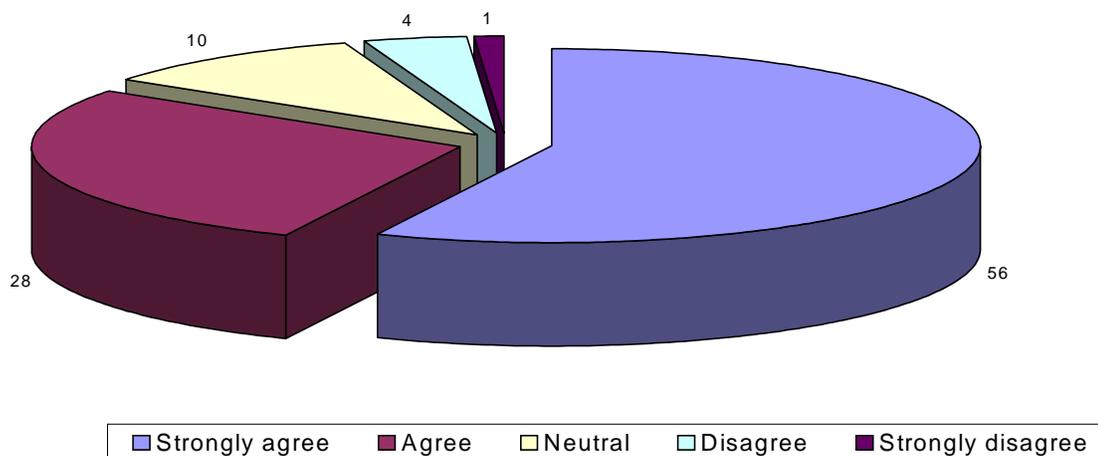


Figure 8. Inclusion of Web-based Courses in Graduate Dental Hygiene Education Programs (n=145)

Respondents were asked to select topics that would be best suited for web-based instruction. The majority (47% or n=66) of dental hygiene education program directors felt research methods would be the best topic suitable for this type of instruction. Responses ranked in order of importance included dental sciences (n=32), administration (n=20), and education (n=16). N is not equal to 146, because the question was left unanswered by one or more respondent. See Figure 9.

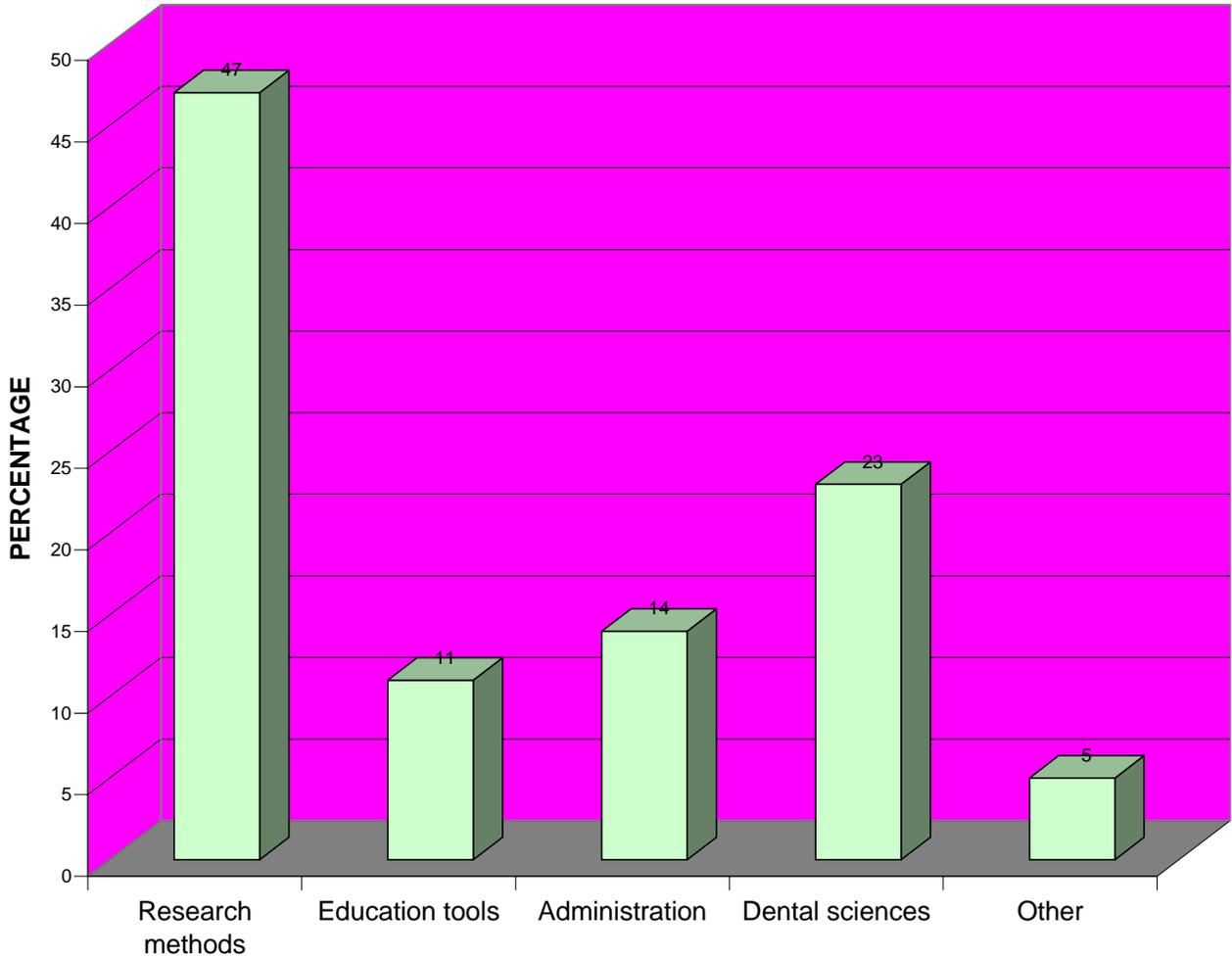
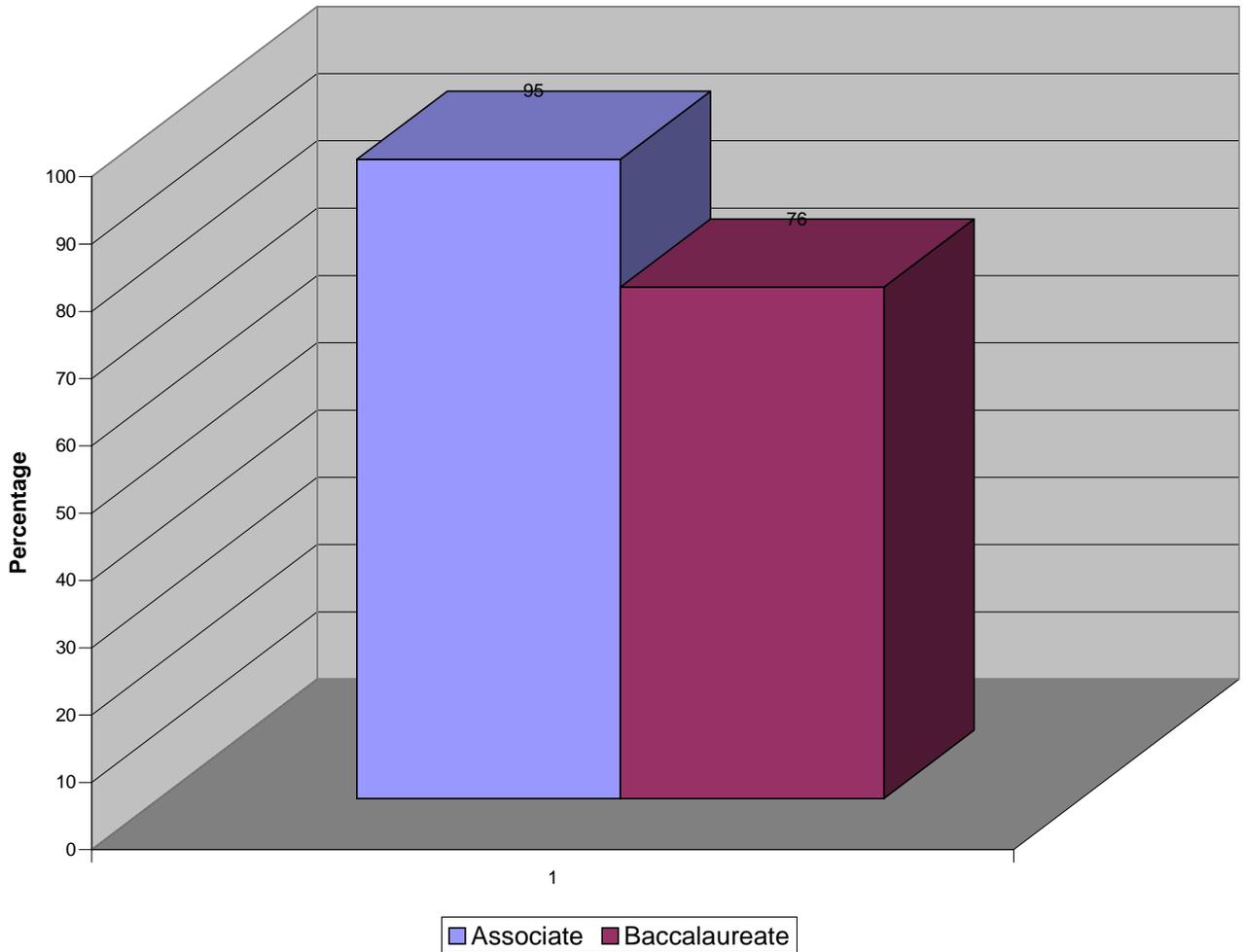


Figure 9. Courses Best Suited for Web-based Instruction
(n=141)

Ninety-five percent of baccalaureate program respondents support distance education via web-based courses, whereas 76% of associate programs support the same concept. This is statistically significant at $p \leq .05$. See Figure 10.

Figure 10. Programs Supporting Distance Education



Respondents were asked under what circumstances would they allow an individual with an associate degree in dental hygiene to fast track to the MSDH degree. The majority (70% or n=101) of all survey respondents stated completion of BS requirements was necessary. An equal number of respondents felt that

completion of national boards and clinical dental hygiene work experience was important. Interestingly, 7% (n=11) of directors responding felt students should not be permitted to enroll in accelerated ASDH to MSDH program under any circumstances. See Figure 11.

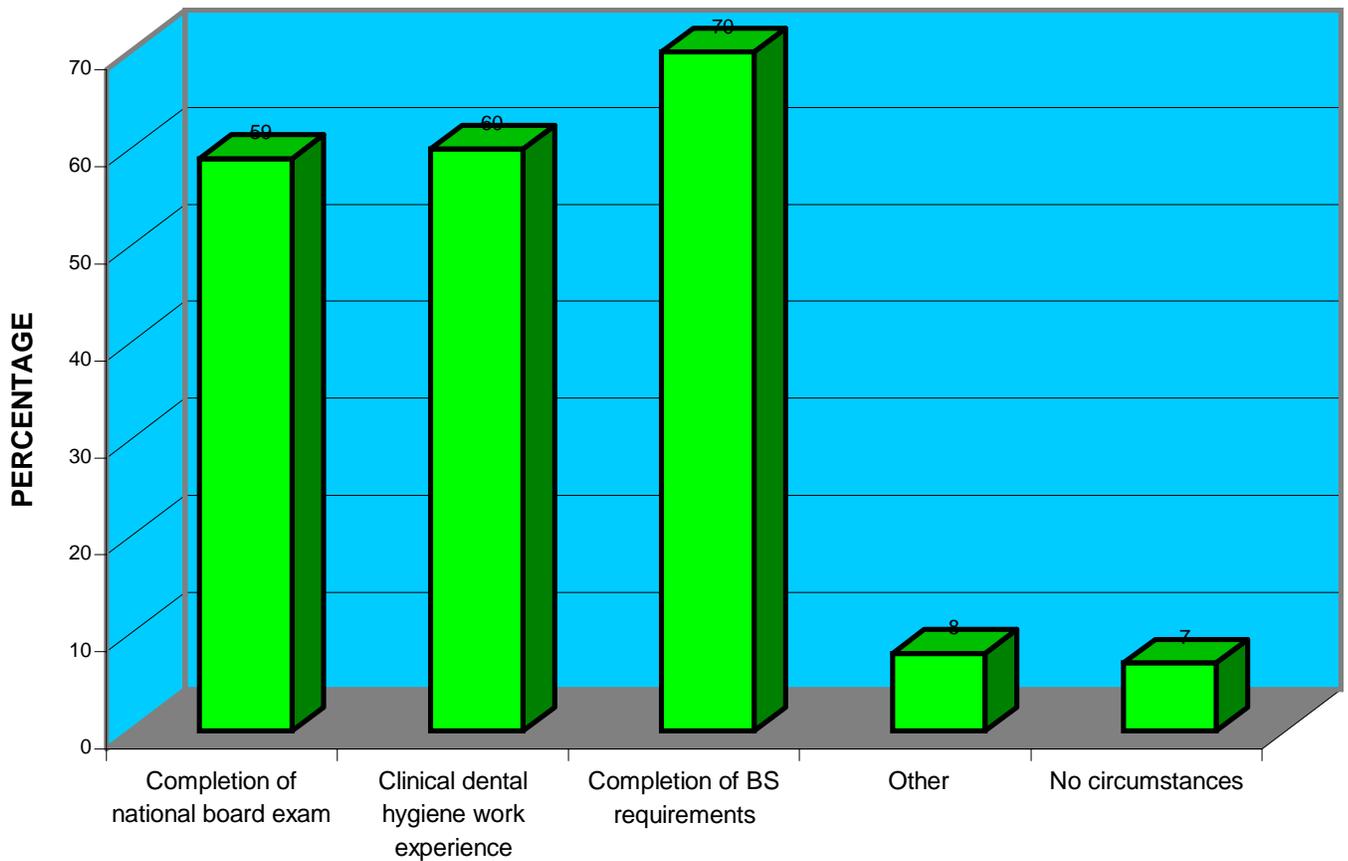


Figure 11. Entrance Criteria for Accelerated ASDH to MSDH (n=146)

Percents do not equal to 100 because respondents were asked to check all that apply.

Utilizing credit for previous clinical work experience to partially fulfill graduate program requirements for the accelerated ASDH to MSDH curricular alternative are inconclusive. This is because an equal proportion of directors were in favor as were against this type of credit given. In addition, the majority (61% or n=86) of respondents do not favor a clinical proficiency exam requirement prior to entrance into this accelerated option.

Respondents were asked what criteria should be used as entrance requirements for a student with a bachelor's degree in a discipline other than dental hygiene interested in enrolling in a graduate dental hygiene program. Over half (55% or n=80) of respondents felt only individuals with an undergraduate degree in dental hygiene should be permitted to pursue the MSDH degree. Additional responses regarding entrance criteria were ranked in order of importance. They included student interest (n=45), undergraduate GPA (n=43), letters of recommendation (n=29), and standardized test scores (n=27). See Figure 12.

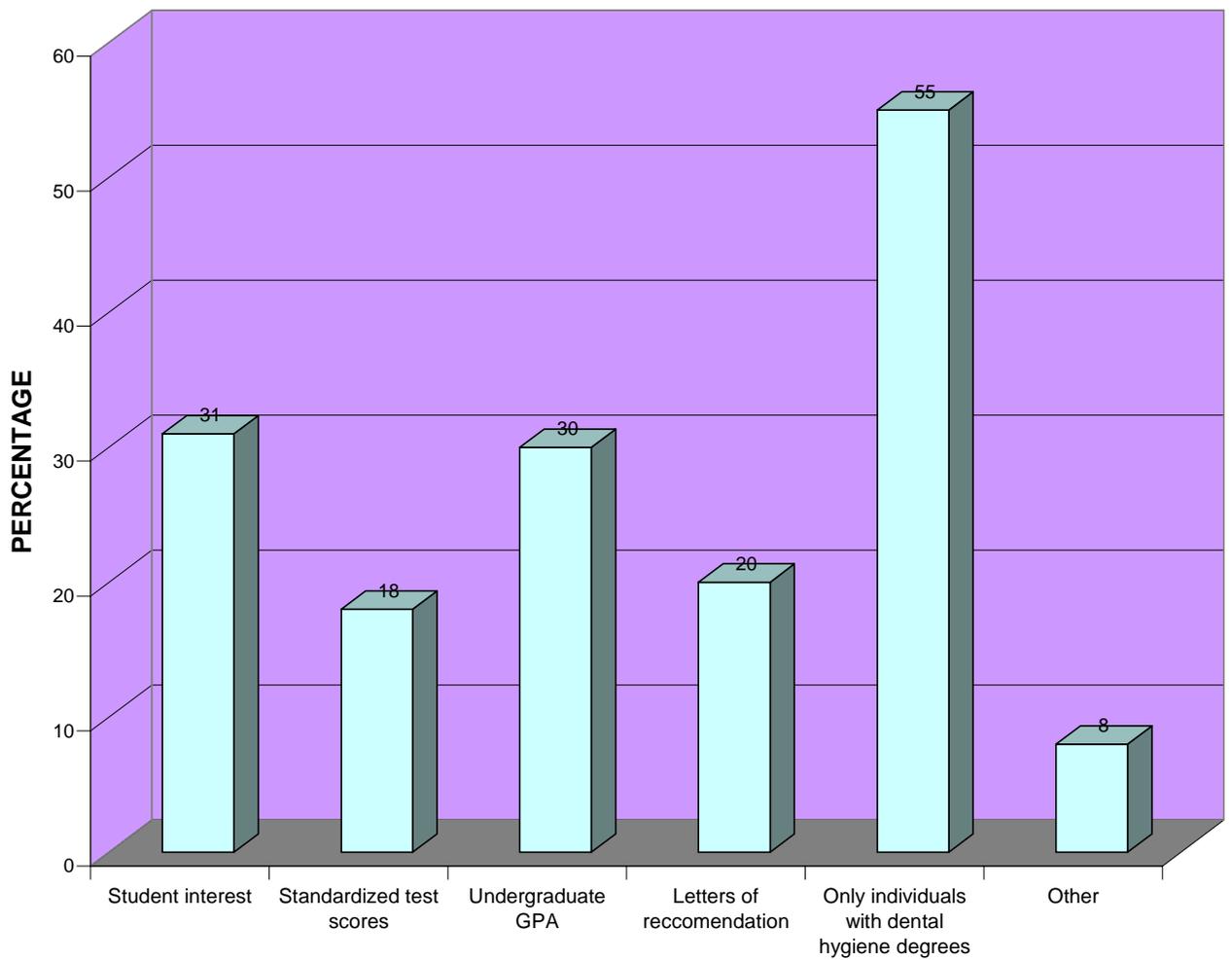


Figure 12. Entrance Criteria for Non-Dental Hygiene BS to MSDH
(n=146)

Percents do not equal 100 because respondents were asked to circle all that apply.

Survey participants were asked to rank what role(s) of a dental hygienist (ADHA specified) should be emphasized in the MSDH curriculum. The majority (82% or n=114) of respondents ranked educator as the main role of emphasis. Other responses ranked in order of emphasis included: sales/marketing manager (n=52), administration (n=48), client advocate (n=44), research (n=41), change agent (n=33), and clinician (n=33). N is not equal to 146, because the question was left unanswered by one or more respondent. See Figure 13.

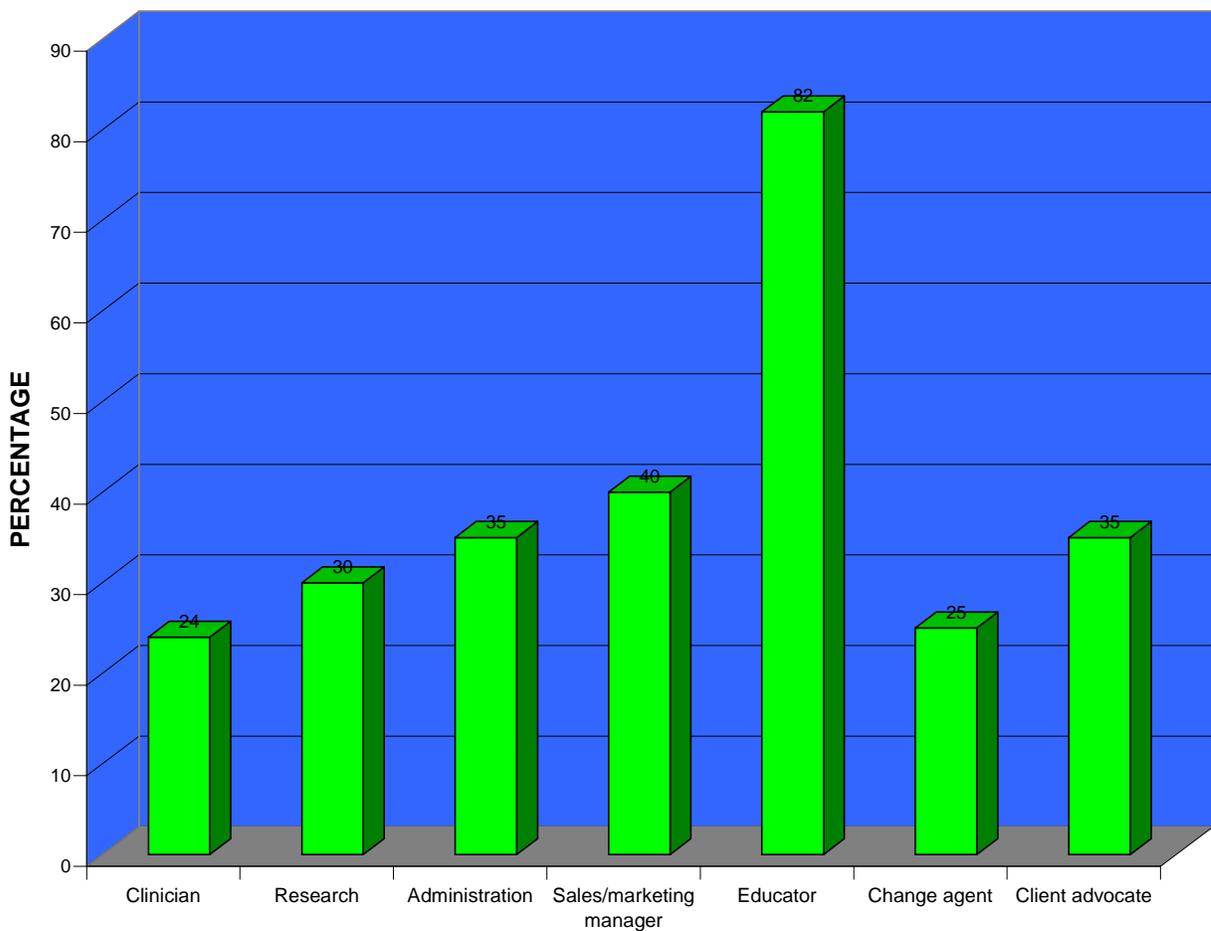


Figure 13. Role Emphasis in Graduate Dental Hygiene Education

Percents do not equal 100 because respondents were asked to check all that apply.

Over half (58%) of directors of baccalaureate degree programs felt the role of sales/marketing manager should be emphasized least in a graduate dental hygiene program, whereas the majority (37 %) of associate degree program respondents ranked sales/marketing manager higher on the continuum. A significant difference $p \leq .05$ existed between those directors responding from associate and baccalaureate degree programs.

QUALIFICATION FOR A FACULTY POSITION

Following completion of the MSDH program, graduates are the best source of potential faculty. Survey participants were asked to rank the qualifications they would seek in an applicant for a faculty position. N is not equal to 146, because the question was left unanswered by one or more respondents. Their selections are outlined in Figure 14.

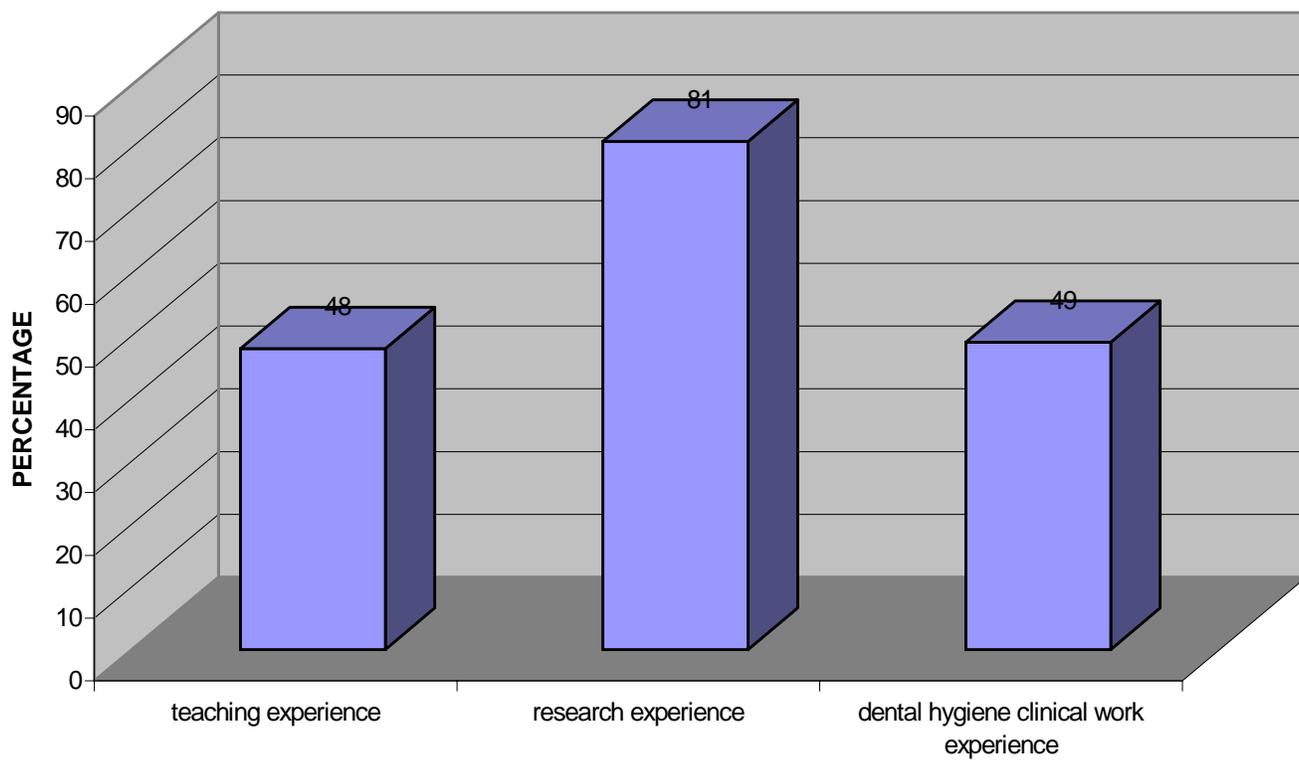


Figure 14. Qualifications for a Faculty Member

The majority (60%) of baccalaureate program respondents ranked prior research as an important qualification when seeking an applicant for a faculty position. An applicant with this qualification would be heavily recruited. Conversely, (87.5%) of associate degree program respondents' ranked prior research as least important. ($p \leq .05$). See Figure 15

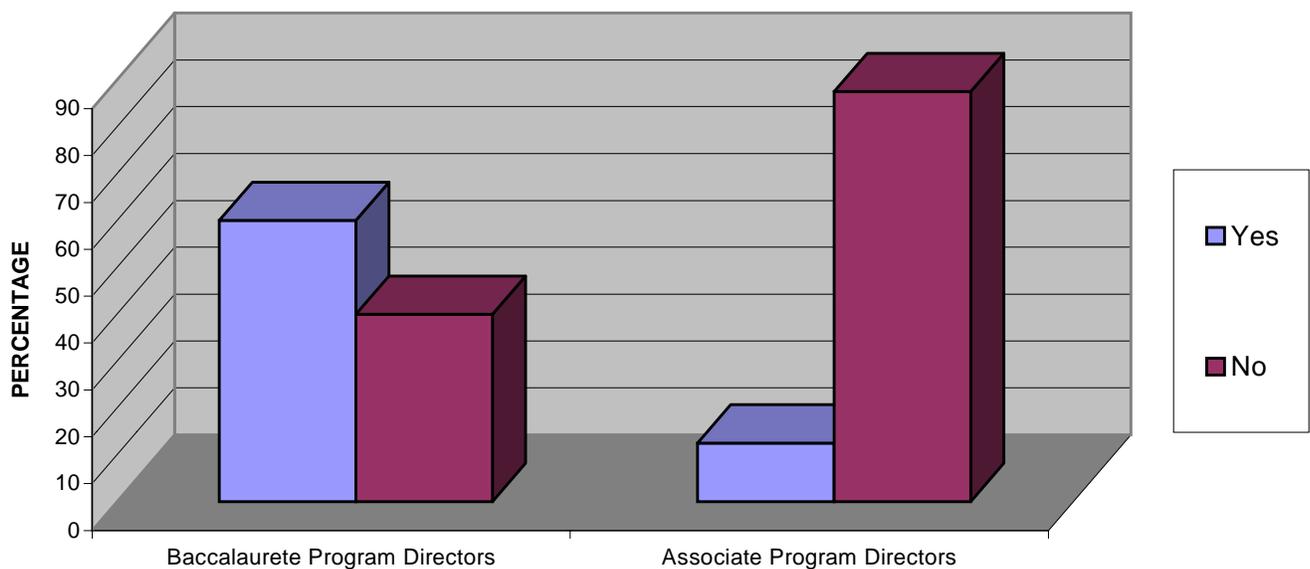


Figure 15. Prior Research as Important Qualification When Seeking an Applicant for a Faculty Position

SUMMARY OF SIGNIFICANT DIFFERENCES

In summary, when comparing differences between directors perceptions from associate and baccalaureate dental hygiene programs, the following areas statistical significance were noted:

- Baccalaureate program respondents (95%) support distance education via web-based courses, whereas fewer (76%) respondents from associate programs support the same concept. ($p \leq .05$) See Figure 10.
- Associate program respondents (73%) support accelerated ASDH to MSDH curricular alternative, whereas only (43%) of baccalaureate program directors support the same concept. ($p \leq .01$) See Figure 2.
- Baccalaureate program respondents (60%) ranked prior research as an important qualification when seeking an applicant for a faculty position, conversely, 87.5% of associate degree program respondents ranked prior research as least important. ($p \leq .05$) See Figure 15.
- Baccalaureate program respondents (58%) rank sales/marketing manager as the least emphasis in graduate dental hygiene education, whereas associate program respondents (37%) ranked the same concept higher on the continuum. ($p \leq .05$)

DISCUSSION

Directors of dental hygiene programs nationally do not favor the non-dental hygiene undergraduate degree to MSDH curricular option. However, the nursing profession has incorporated this type of curricular alternative into existing programs since the early 1990s. Nursing programs that admit non-nurse graduates to masters level status have emerged across the country.^{22,25} Typically, this Master of Science in Nursing curriculum takes three years to complete. The non-nurse graduate takes undergraduate coursework with traditional nursing students and graduate level coursework is usually taken with the traditional graduate student population. Recently, literature has reported the increasing success rate of these programs. These reports may ultimately be a factor in the increasing acceptance of curricular alternatives in graduate dental hygiene programs. Smith and Shoffner state that non-traditional MSN graduates had higher Graduate Record Examination (GRE) scores than traditional graduates. Over half of non-traditional MSN students rated themselves as excellent or good in their ability to use advanced nursing clinical skills. Non-traditional students also experienced high levels of acceptance from other health care providers. Literature states “it is clear that non-nurse college graduates can be very successful in bona-fide masters level specialty nursing programs”.²⁵ Literature also states that non-traditional students have great potential value to the nursing profession and their retention in the field is in the best interest of nursing.²⁵

Data from this research study also suggests that more directors of baccalaureate degree programs supported this option more so than directors of associate degree programs.

The second type of proposed curricular alternative was the fast-track ASDH to MSDH. This curricular option was widely accepted by dental hygiene directors of associate degree programs. The profession of nursing has utilized this type of curricular alternative to increase the educational opportunities for many potential graduate-nursing students. Published literature by WK McDonald in 1995, reported that many schools of nursing across the United States have implemented various models of accelerated learning in nursing education. He concluded that students in the accelerated group scored higher on nursing performance skills tests and had a higher passage rate on state board examinations.

The majority of respondents from this research study stated that MSDH inaccessibility was the main obstacle in potential students pursuing graduate dental hygiene education. However, results from this study show respondents as a whole do not favor curriculum alternatives. If dental hygiene directors, faculty, and administrators would adopt different types of curricular alternatives, it would ultimately benefit the dental hygiene profession. , Since the majority of dental hygienists have an associate degree in dental hygiene, the fast-track ASDH to MSDH curricular alternative could directly benefit them. This curricular alternative promotes a smooth enrollment into graduate dental hygiene education

thereby increasing the numbers of masters-prepared graduates and potential faculty, and enhancing the collegiate status of dental hygiene as a profession.

Accommodating the needs of potential graduate students could ultimately increase enrollment among applicants. Scheduling flexibility was considered the primary strategy in recruiting applicants to MSDH programs. Over half of all undergraduate dental hygiene directors responding agreed that day, evening, and weekend courses should be offered to dental hygiene graduate students. One-week, three-week, and six-week summer courses were also highly favored. If dental hygiene programs can meet the needs of potential students, it may become more feasible for interested dental hygiene graduate students to apply. In addition, the adaptation of curricular alternatives (ASDH to MSDH and Non-dental hygiene BS to MSDH) could increase the number of programs offering a MSDH, increase access to MSDH programs, and increase MSDH graduates.

The ASDH to MSDH curricular alternative poses the need for affiliation agreements with neighboring four-year colleges and universities. When pursuing the non-dental hygiene BS to MSDH the applicant must enter an institution with both undergraduate and graduate level dental hygiene education programs.

The dental hygiene literature reports there is a lack of MSDH programs and program graduates to fulfill present and future needs of dental hygiene education positions.¹ Data from this study is consistent with the literature. Survey respondents felt the main obstacle in potential students pursuing graduate dental hygiene education is program inaccessibility. At the time of this study there were

236 undergraduate dental hygiene programs of which only nine included graduate dental hygiene programs that grant the MSDH degree. Literature also states many dental hygienists who want to become educators will pursue a graduate degree in another field. Results show an immediate need for future dental hygiene graduate programs to prepare future dental hygiene educators.

Eighty- four percent of all undergraduate degree dental hygiene director survey respondents felt the inclusion of web-based courses would ultimately increase accessibility to graduate dental hygiene education. Literature states the nursing profession has developed graduate programs that solely consists of distance and web-based learning.^{19,21} These programs are reported as being a successful and increasing in number. Nursing is not the only discipline taking this approach to accommodate their students. The literature reports this model is used in the business profession. The majority of survey respondents placed emphasis on research methodology (grant writing and thesis preparation) as a course best suited for web-based instruction.

Published literature states graduate dental hygiene education should emphasize the role of educator.¹ It is a goal of graduate dental hygiene programs to prepare students for various opportunities in teaching and administration. The dental hygiene literature states there is a need for dental hygiene educators.¹ Data from this study concurred with recent publications concluding that the majority of dental hygiene directors believed the role of 'educator' should be the greatest emphasis in graduate dental hygiene education. This study further analyzed that

directors of baccalaureate degree programs placed more emphasis on the role of educator in graduate dental hygiene education programs, than directors of associate degree programs. According to directors of baccalaureate programs, the role of sales/marketing manager should be emphasized least, whereas directors of associate degree programs believed that the emphasis of sales/marketing manager should be higher.

Half of all survey respondents agreed on the following strategies to encourage dental hygiene graduate students to become educators: clinical teaching in dental hygiene clinics, didactics/classroom courses which focus on teaching and evaluation, and offering externships at other teaching institutions. Exposing students to teaching/administrative experiences would enable them to be more confident in a faculty/administrative environment.

Research is considered an important skill when obtaining a baccalaureate or masters degree. Survey respondents placed 'prior research' as an important qualification when seeking an applicant to fill a faculty position. Baccalaureate degree dental hygiene program directors felt 'prior research' was a necessity when conducting a faculty search, whereas associate dental hygiene directors did not feel 'prior research' experience was as important. Associate degree dental hygiene directors placed greater emphasis on prior teaching experience and clinical dental hygiene work experience. Their reasoning may be due to the fact that educators at baccalaureate degree granting institutions must do research to fulfill promotion

and tenure requirements. Research for advancement is emphasized less at community colleges and technical schools.

CONCLUSIONS

- On a national basis, directors of dental hygiene programs nationally do not favor the non-dental hygiene undergraduate degree to MSDH curriculum option.
- The majority of all undergraduate degree dental hygiene program directors favor the ‘associate degree fast track to MSDH’ curricular alternative.
- Directors of associate dental hygiene programs support the fast track to MSDH curricular alternative more than directors of baccalaureate dental hygiene programs.
- Scheduling flexibility is considered the primary strategy in recruiting applicants to MSDH programs.
- Day, evening, and weekend courses are preferred scheduling options as compared to one, three, and six week summer courses.
- The role of educator is viewed as the area of major emphasis in graduate dental hygiene education.

- The inclusion of classroom and clinical practice teaching experience in graduate dental hygiene programs is considered to be the most effective strategies in recruiting graduate students into faculty positions.
- The main obstacle in preventing potential graduate students from pursuing the MSDH is availability of programs.
- Web-based courses may increase access to graduate dental hygiene education; the majority of directors of dental hygiene programs support this aspect.
- Research methodology (grant writing and thesis preparation) is best suited for web-based instruction.

SUMMARY AND RECOMMENDATIONS FOR FURTHER RESEARCH

The purpose of this study was to determine if administrators of dental hygiene education programs perceive a need for curricular alternatives in graduate dental hygiene education. A need was established based on concerns over MSDH program inaccessibility (location, number, scheduling, and faculty shortage). Preference was given for the accelerated ASDH to MSDH program as a curriculum alternative to alleviate these obstacles. This program would offer courses in the evenings and on weekends and students would have the option of full or part-time enrollment. Externships and experiences doing clinical and classroom teaching would be included. Web-based instruction was highly advocated.

Dental hygiene educators and administrators should consider modifying programs to meet the needs of students by allowing increased access to dental hygiene educational programs. Curriculum changes in graduate dental hygiene could ultimately maximize the knowledge base and growth of the profession to collegiate status and increase the pool of potential dental hygiene educators.

Recommendations to further this research include:

- Increasing awareness among the community of dental hygiene and dental educators regarding curriculum alternative options and their success rate in other fields.
- Designing a flexible model curriculum that would allow AS students to stop at the BS degree in Dental Hygiene (degree completion) or proceed onward attaining the MSDH at an accelerated pace.
- Proposing this model curriculum to the American Dental Education Association, Council of Allied Dental Program Directors.
- Garnering support from the American Dental Hygienists' Association for promotion of this model.

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APPENDIX A

Accredited Dental Hygiene Schools

University of Alaska
Wallace State Community College
University of Arkansas
Northern Arizona University
Phoenix College
Pima County Community College
Rio Salado College
Cabrillo College
Cerritos College
Chabot College
Cypress College
Diablo Valley College
Foothill College
Fresno City College
Loma Linda University
Oxnard College
Pasadena City College
Sacramento City College
San Joaquin Valley College
Taft College
University of California
University of Southern California
West Los Angeles College
Colorado Northwestern Community College
Community College of Denver
Pueblo Community College
University of Colorado
Tunxis Community Technical College
University of Bridgeport
University of New Haven
Howard University
Delaware Technical & Community College
Brevard Community College
Broward Community College
Daytona Beach Community College
Edison Community College
Florida Community College
Gulf Coast Community College
Indian River Community College
MiamiDade Community College
Palm Beach Community College
PascoHernando Community College
Pensacola Junior College
Santa Fe Community College
St Petersburg Junior College

Tallahassee Community College
Valencia Come College
Armstrong State College
Carroll Technical last
Clayton Cig & State University
Columbus Tech Institute Dental Hygiene
Darton College
Floyd College
Lanier Tech/Gainesville College
Macon College
Medical College GA
Valdosta St University/Tech College
University of Hawaii
Des Moines Area Community College
Hawkeye Community College
Iowa Western Community College
Idaho State University
Illinois Central College
KennedyKing College
Lake Land College
1_ewis & Clark Community College
Parkland College
Prairie State College
Southern Illinois University
William R. Harper College
Indiana University
Indiana University
Indiana University
Indiana University
University of Southern Indiana
Johnson County Community College
Wichita State University
Henderson Community College
Lexington Community College
Prestonsburg Community College
University of Louisville
Western Kentucky University
Louisiana State University
University of Louisiana
Bristol Community College
Cape Cod Community College
Forysth Institute
Middlesex Community College
Mount Ida College
Quinsigamond Community College
Springfield Tech Community College

Allegany Community College
Baltimore City Community College
University of Maryland
University of New England
University College of Bangor
Baker College of Port Huron
Delta College
Ferris State University
Grand Rapids Community College
Kalamazoo Valley Community College
Kellogg Community College
Lansing Community College
Mott Community College
Oakland Community College
University of Detroit
University of Michigan
Wayne County Community College
Century College
Lake Superior College
Minnesota St University
Normandale Community College
Northwest Tech College
Rochester Community/Tech College
St Cloud Tech College
University of Minnesota
Missouri Southern State College Denial Hygiene
St Louis Community College
University of Missouri
Meridian Community College
Northeast Mississippi Community College
Pearl River Community College
University of Mississippi
Central Community College
University of Nebraska
AshevilleBuncombe Tech
Central Piedmont Community College
Coastal Carolina Community College
Fayetteville Tech Community College
Guilford Tech Community College
University of North Carolina
Wayne Community College
North Dakota State School of Science
New Hampshire Technical Institute
Bergen Community College
Camden County College
Middlesex County College

University of New Jersey
University of New Mexico
Community College of Southern Nevada
Broome Community College
Erie Community College North Campus
Eugenio Maria De Hostos Community College
Hudson Valley Community College.
Monroe Community College
New York City Tech College
New York University
Onondaga Community College
Orange County Community College
SUNY
Cuyahoga Community College
Lakeland Community College
Lima Technical College
Lorain County Community College
Ohio State University
Owens State Community College
Shawnee State University
Sinclair Community College
Stark State College of Technology
University of Cincinnati/Walters
Youngstown State University
Rose State College
Tulsa Community College
University of Oklahoma
Lane Community College
Mt. Hood Community College
Oregon Health Science University
Oregon Institute of Technology
Portland Community College
Community College of Philadelphia
Harcum College
Harrisburg Area Community College
Luzerne County Community College
Manor College
Montgomery County Community College
Northampton Community College
Pennsylvania College of Tech
University of Pittsburgh
Westmoreland County Community College
University of Puerto Rico
Community College of Rhode Island
FlorenceDarlington Tech
Greenville Technical College

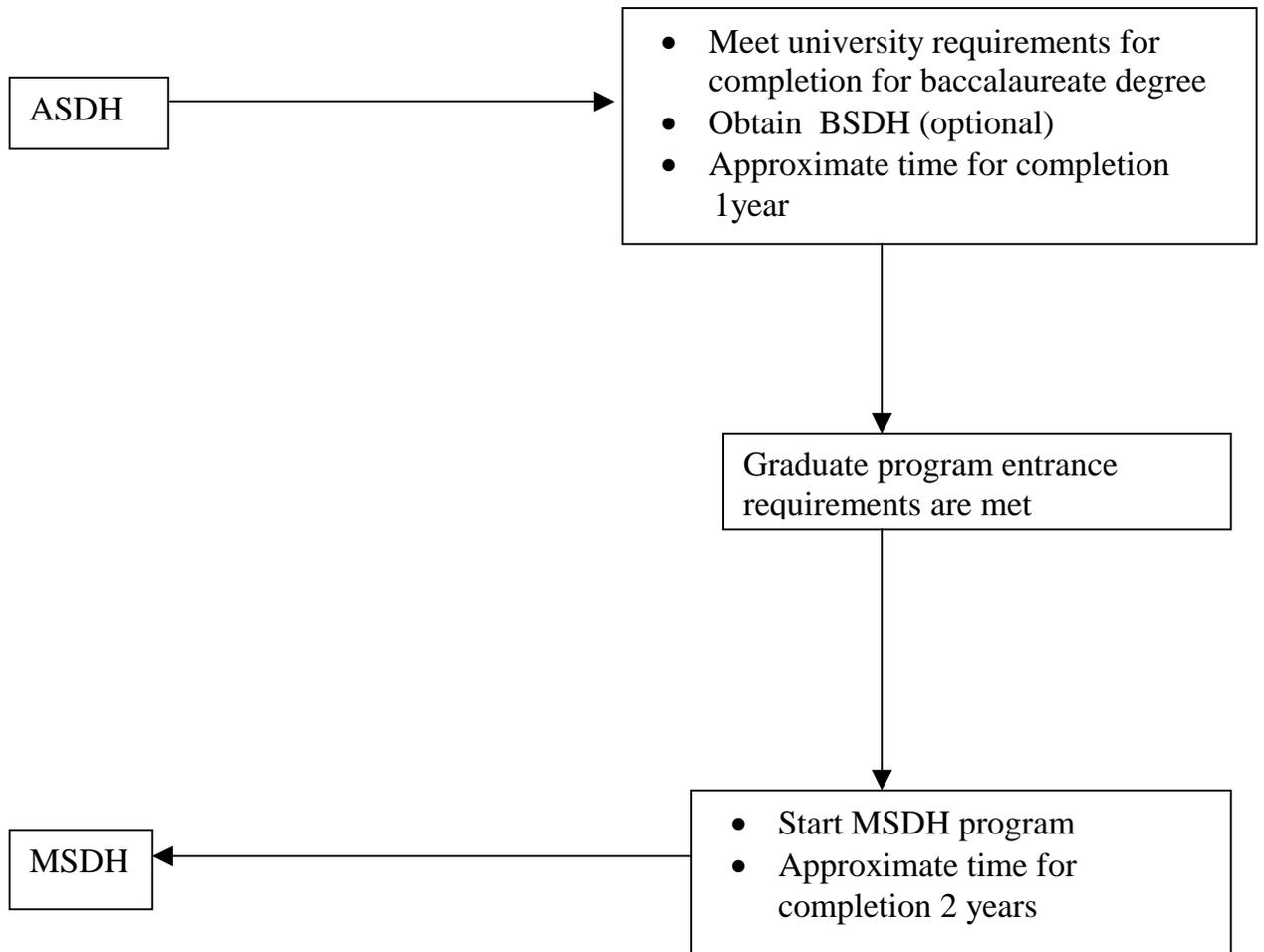
HorryGeorgetown Teach
Midlands Tech College
Trident Tech College
York Tech College
University of South Dakota
Chattanooga State Tech College
East Tennessee State
Roan State Community College
Tennessee St University
University of Tennessee
Amarillo College
Bee County College
Minnesota College
Collin County Community College
De Mar College
El Paso Comet College
Howard College
Lamar Institute of Technology
Midwestern State University
Tarrant County Jr College
Temple Jr College
Texas A&M University
Texas St Tech College
Texas Women's University
Tyler Junior College
University of Texas
University of Texas
Wharton County Jr College
Salt Lake Community College
Weber St University
Northern Virginia Community College
Old Dominion College
Virginia Commonwealth
Virginia Western Community College
Wytheville Community College
University of Vermont
Clark College
Eastern Washington University
Lake Washington Tec
Pierce College
Shoreline Community College
Yakima Valley Community College
Madison Area Tech
Marquette University
Milwaukee Area Tech
Northcentral Tech

Northeast Wisconsin Tech
Waukesha County Tech College
West Virginia University Institute of Technology
West Liberty State College
West Virginia University
Laramie County Community College
Sheridan College

APPENDIX B

ASDH to MSDH Flow Chart

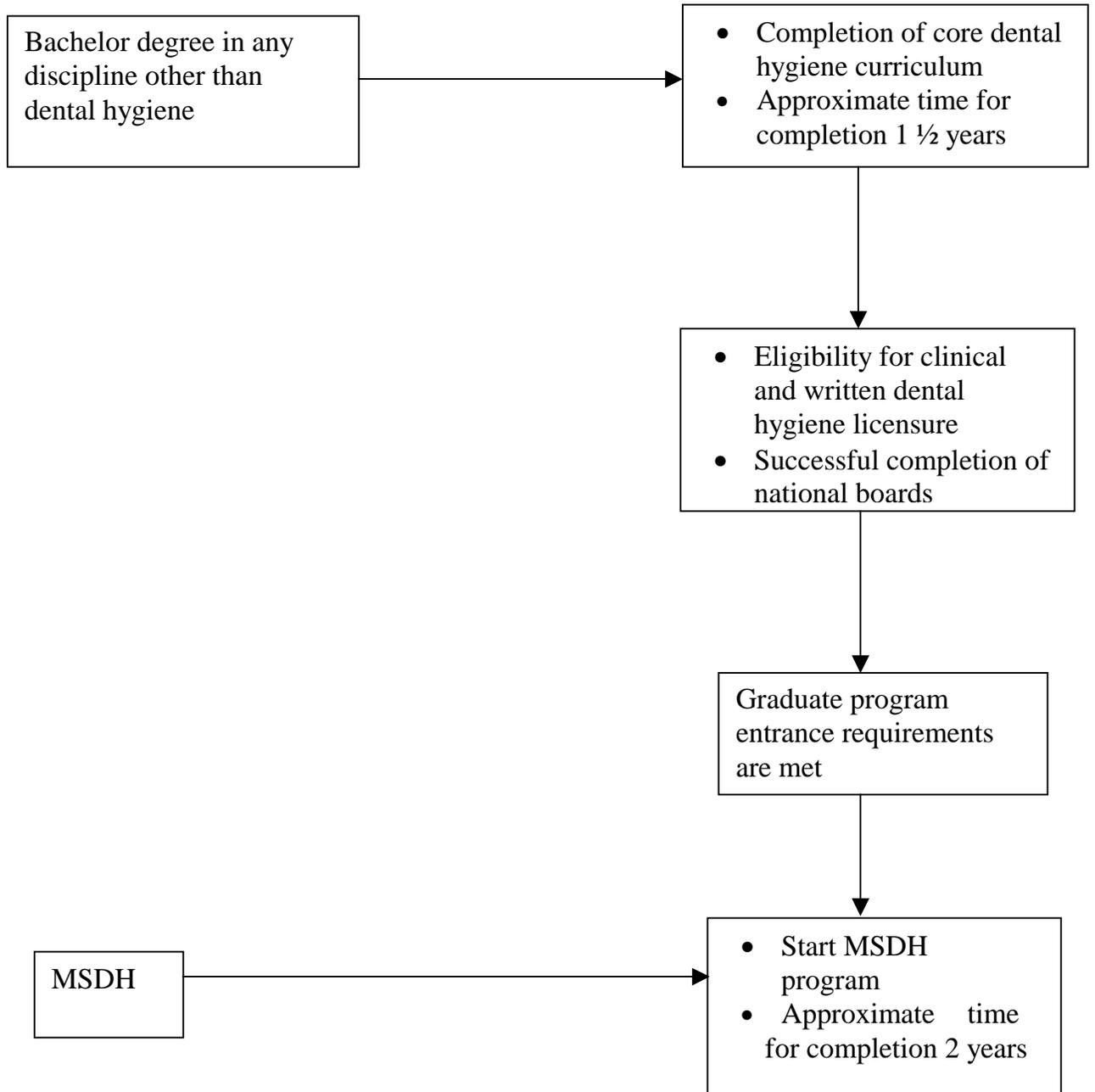
ASDH FAST-TRACK TO MSDH



APPENDIX C

Non-Dental Hygiene BS to MSDH Flow Chart

NON-DENTAL HYGIENE BS TO MSDH



APPENDIX D

IRB Approval

Application for Exemption

You must receive approval from the IRB staff prior to beginning the research described below. Please type all responses and submit this form with original signatures.

1. Title of study: Curriculum Options in Graduate Dental Hygiene Education

2. Investigators (list all investigators, principal investigator first; attach additional sheets if necessary):

Name	Signature	Dept./College	Address	Tel.No.
Jennifer H. Grilli	<i>J. Grilli</i>	School of Dentistry Div. of Dental Hygiene	PO Box 9425 Morgantown, WV 26506	304-293-3417
Christina B. DeBiase	<i>Christina DeBiase</i>	School of Dentistry Div. of Dental Hygiene	PO Box 9425 Morgantown, WV 26506	304-293-3922

3. Estimated period of human subject involvement: Starting date: January 8, 2001 Ending date: February 9, 2001

4. Reason for conducting research: Professional Dissertation Thesis
 Class Assignment Other: (specify) _____

5. Source of funding (if applicable): School of Dentistry

6. Number of projected subjects _____ Number of projected records or data files _____

7. This research involves (check all that apply):

a. collection or study of existing data, documents, records or specimens

b. noneducational practices conducted in established or commonly accepted educational settings

c. educational tests (cognitive, diagnostic, aptitude, achievement)

d. observation of public behavior

e. surveys or interviews:

mail telephone person-to-person

f. any possibility of identifying a subject {discuss in cover letter}

g. the possibility that the subject's responses or conduct (if they became public) may place the subject at risk of criminal or civil liability or be damaging to the subject's financial standing or employability

h. sensitive aspects of personal behavior (for example: illegal conduct, drug use, sexual behavior or use of alcohol)

i. investigator's participation in activities being observed

j. only surveys or interviews of elected or appointed public officials or candidates for public office

k. audiotaping

l. children under age 18 (see Chapter II of the *Guidelines*)

Note: Interviews and surveys with children are never exempt.

m. food tasting and evaluation

n. research and demonstration projects

8. Goal of research To determine if administrators of dental hygiene education programs perceive a need for curriculum alternatives for potential students interested in pursuing the degree of Master of Science in Dental Hygiene.
9. Explanation of procedures involved in research A 16-item survey will be distributed to all dental hygiene program directors. This survey will be mailed January 8, 2001 with a return date of February 9, 2001.
10. Explanation of known risks to human subjects None
11. Explanation of how records will be kept Returned surveys will be tabulated and kept in the Division of Dental Hygiene. Surveys will be coded should a second mailing become necessary. Responses will remain confidential and results will be reported in generalities only.

A cover letter addressed to respondents must accompany any survey or questionnaire. The cover letter must be on *your departmental letterhead* and must include the following:

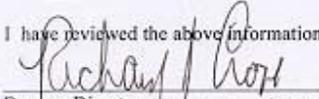
1. a statement that the project is research being conducted in partial fulfillment of the requirements for a course, master's thesis, dissertation, etc.,
2. purpose of study,
3. a statement that subjects' responses will be kept anonymous or confidential (explain extent of confidentiality if subjects' names are requested),
4. if audiotaping, a statement that subject is being audiotaped (explain how tapes will be stored or disposed of during and after the study),
5. a statement that subjects do not have to answer every question,
6. a statement that class standing or grades (or status on an athletic team, if applicable) will not be affected by refusal to participate or by withdrawal from the study,
7. a statement that participation is voluntary.

Attached are:

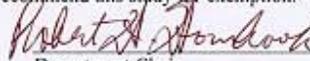
- questionnaire/survey to be used
- telephone text (including introductory remarks as in a cover letter--see above)
- cover letter
- permission from external institution, on their letterhead (if applicable)

I have reviewed the above information and recommend this study for exemption.

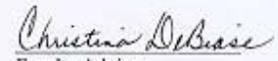
Dean or Director


1-2-2001

Department Chair



Faculty Advisor



APPENDIX E

Survey

OPTIONS IN GRADUATE DENTAL HYGIENE EDUCATION

GENERAL CONCEPTS

1. Which of the following degrees in Dental Hygiene does your program offer?
(Circle all that apply)
 - a. Associate
 - b. Certificate
 - c. Bachelors
 - d. Masters

2. What strategies could graduate dental hygiene programs employ to encourage graduate students to become educators? (Circle all that apply)
 - a. Classroom courses focusing on teaching and evaluation
 - b. Clinical practice teaching in AS/BS programs
 - c. Externships at other teaching institutions
 - d. Experience with recruitment and advising of students
 - e. Opportunities in administrative roles
 - f. Presentations at professional meetings
 - g. Other (please specify) _____

3. As Director, please rank the qualifications you seek in an applicant for a faculty position? (1=most important; 3=least important)
Note: If response 'other' is used, please include in ranking.

___ Prior teaching experience
___ Prior clinical dental hygiene work experience
___ Prior research experience
___ Other (please specify) _____

4. What do you perceive to be the **main** obstacle preventing potential graduate students from pursuing the MSDH degree?
 - a. Scheduling conflicts with work and /or home
 - b. MSDH program inaccessibility
 - c. Lack of student aid/finances
 - d. Limited career options after graduation
 - e. Other (please specify)_____

5. What recruitment strategies could be employed to increase the number of applicants to MSDH programs?
 - a. Offering accelerated Associate in Dental Hygiene to MSDH programs
 - b. Advertising to increase awareness
 - c. Scheduling flexibility
 - d. Permitting individuals with non-dental hygiene undergraduate degrees to apply
 - e. Other (please specify)_____

6. What enrollment options should graduate programs offer?
 - a. Full-time status
 - b. Part-time status
 - c. Both

7. What scheduling options should dental hygiene course directors afford the graduate dental hygiene student? (Circle all that apply.)
 - a. Day courses (before 5 p.m.)
 - b. Evening courses (5 p.m. or later)
 - c. Weekend courses
 - d. One week summer courses
 - e. Three week summer courses
 - f. Six week summer courses
 - g. Other (please specify)_____

8. In your opinion, what role should be the emphasis of graduate dental hygiene education? (Rank in order, 1=greatest emphasis; 7=least emphasis).

Note: If response 'other' is used, please include in ranking.

 - ___ Clinician
 - ___ Researcher
 - ___ Administrator
 - ___ Sales/Marketing Manager
 - ___ Educator
 - ___ Change Agent
 - ___ Client Advocate
 - ___ Other (please specify)_____

9. Web-based courses are an ideal option to increase access to graduate dental hygiene education.
- Strongly agree
 - Agree
 - Neutral
 - Disagree
 - Strongly disagree
10. Which of the following topics would be **best** suited to web-based instruction?
- Research Methods (grant writing, thesis preparation, etc.)
 - Education (teaching methods, tests and measurement, etc.)
 - Administration (curriculum development, accreditation, outcomes assessment, etc.)
 - Dental Science (oral pathology, histology, etc.)
 - Other (please specify)_____
11. In an effort to increase opportunities for graduate education which of the following curricular innovations would **YOU** support? (Circle all that apply.)
- The MSDH degree to individuals with non-Dental Hygiene related undergraduate degrees
 - An accelerated MSDH to individuals with an Associate degree in Dental Hygiene
 - Distance education via web-based instruction
 - Flexible scheduling in graduate courses
12. As Director, what skills do you expect your MSDH graduates to obtain during their graduate studies?

ASSOCIATE DEGREE IN DENTAL HYGIENE TO MSDH

13. Under what circumstances would you allow an individual with an Associate degree in Dental Hygiene to fast track to the MSDH degree? (Circle all that apply.)
- a. Successful completion of the National Board Examination
 - b. Clinical dental hygiene work experience
 - c. Completion of BS requirements (upper division English, Psychology, etc.)
 - d. Other (please specify) _____
 - e. No circumstances
14. Should credit for clinical dental hygiene work experience be granted to partially fulfill graduate dental hygiene education requirements?
- a. Yes
 - b. No
15. Should a clinical proficiency examination be required prior to entrance into the graduate program?
- a. Yes
 - b. No
16. Are there any circumstances under which the student would be exempt from taking this clinical proficiency exam?
17. Do you foresee any obstacles to this curricular innovation?

NON-DENTAL HYGIENE BA/BS TO MSDH

18. What criteria should be used to determine if a student with a bachelor's degree in a discipline other than dental hygiene should be permitted to enter a graduate dental hygiene program? (Circle all that apply.)
- a. Student interest (narrative)
 - b. Standardized test scores (GRE, Miller's)
 - c. Undergraduate GPA
 - d. Letters of recommendation
 - e. Other (please specify) _____
 - f. Only individuals with an undergraduate degree in dental hygiene should be permitted to pursue the MSDH degree.
19. Should preference be given to students with similar educational backgrounds, (i.e. health related professions)?
- a. Yes
 - b. No
20. Should general science prerequisite courses be successfully completed prior to program enrollment (biology, chemistry, general anatomy, general pathology, microbiology, nutrition)?
- a. Yes
 - b. No
21. Do you foresee any obstacles to this curricular innovation?

APPENDIX F

Cover Letter

January 2, 2001

Dear Dental Hygiene Director,

I am currently a graduate student in the Master of Science program in Dental Hygiene at West Virginia University. In partial fulfillment of the requirements for this degree, I must complete a thesis. The purpose of my thesis research is to determine if administrators of dental hygiene education programs perceive a need for two curricular innovations: fast track Associate degree in Dental Hygiene to Master of Science in Dental Hygiene (MSDH) and non dental hygiene BS degree to MSDH degree for potential students interested in pursuing the MSDH. Please see the following page for definitions describing these options.

Enclosed please find a 21-item needs assessment. The surveys are number coded merely for the purposes of a second mailing should it become necessary. Your responses will remain confidential as legally possible and will be reported in generalities only. When given the option of other, please feel free to enter any suggestions you may have. The survey should take no longer than 10 minutes to complete. You do not need to answer every question, however, the completeness of your responses will assist me in gaining an increased understanding in the future needs of dental hygiene education. Participation in the study is voluntary. My class standing and grades will not be affected by your refusal to participate.

Your perceptions may, however, alter the future of graduate dental hygiene education.

Please complete the survey and return it to me in the enclosed postage-paid envelope by

February 9, 2001. Thank you for your time and effort. I look forward to hearing from you.

Sincerely,

Jennifer H. Grilli, BSDH

Proposal for accelerated ASDH to MSDH: This proposal would allow students with an Associate Degree in Dental Hygiene to continue through the MSDH program without stopping. The student's baccalaureate requirements would be met through a condensed curriculum permitting transition into the masters curriculum.

Proposal for accelerated non-dental hygienist college graduate to the MSDH: This proposal would allow the student possessing an undergraduate baccalaureate degree in a discipline other than dental hygiene to pursue a condensed curriculum preparing them with basic knowledge and skills to become licensed in dental hygiene while continuing through the MSDH program without stopping.

VITA

NAME: Jennifer Hubbard Grilli
DATE OF BIRTH: August, 17, 1975
PLACE OF BIRTH: Charleston, West Virginia

DEGREES AWARDED:

May 2001 Master of Science in Dental Hygiene
West Virginia University
May 1999 Bachelor of Science in Dental Hygiene
West Virginia University

PROFESSIONAL MEMBERSHIPS:

American Dental Hygienists' Association
American Dental Education Association