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Dental Service-Learning Curriculum and Community Outreach Programs Perception vs. Practice

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DENTAL SERVICE-LEARNING CURRICULUM AND COMMUNITY OUTREACH
PROGRAMS PERCEPTION VS. PRACTICE

By

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A Professional Project submitted to the Faculty of the Graduate School,
Marquette University,
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the Degree of Masters of Leadership Studies

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Barbara Gaeth

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TABLE OF CONTENTS

TITLE PAGE	i
ACKNOWLEDGMENTS	ii
TABLE OF CONTENTS.....	iii
ABSTRACT	v
INTRODUCTION	1
A. Table One – Attitude Scores (Holtzman and Seirwan, 2009)	4
B. Table Two – Dental Pipeline – Comprehensive Evaluation Framework	13
(Carreon, et. al., 2009)	
MATERIALS AND METHODS	14
REVIEW OF DATA	16
A. Results	16
1) Likert-Type Scale	
2) Focus Discussion Results	
B. Discussion	18
C. Summary	22
D. Recommendations.....	23
CONCLUSION	25
ATTACHMENTS	26
A. Attachment A – Services Learning Spectrum (Yoder, 2005)	26
B. Attachment B – Interview Questions (D3 and D4).....	27
C. Attachment C – Interview Questions (D1 and D2).....	28
D. Attachment D – Consent Form	29

E. Attachment E – Email and Poster (Recruitment Materials)31

F. Attachment F – Likert-type Survey32

BIBLIOGRAPHY34

ABSTRACT

DENTAL SERVICE-LEARNING CURRICULUM AND COMMUNITY OUTREACH
PROGRAMS PERCEPTION VS. PRACTICE

Barbara Gaeth

Marquette University, 2011

The purpose of this study is to determine if the service-learning aspect of Marquette's dental education enhances the dental students' knowledge of the barriers to access to dental care for underserved populations. The goal of this study is to obtain feedback about service-learning in the MUSoD curriculum and disseminate the findings to others who teach service-learning in dental school curricula. MUSoD students have the opportunity to participate in multiple diverse outreach experiences throughout their four years of Dental School. Their attitudes toward service experiences and their perception of service-learning curriculum before and after they perform rotations will be recorded. Volunteers will be recruited with posters strategically placed throughout the school. Each class will also be contacted by email. Seven dental students from each class, D1, D2, D3 and D4 will be randomly selected to attend a one hour focus group during their lunch hour to discuss the MUSoD service-learning curriculum.

Keywords: Dental service-learning curriculum, journaling, outreach programs, dental public health.

INTRODUCTION

Marquette University School of Dentistry is in urban Milwaukee and therefore Marquette dental students who treat patients have experience with diverse patient populations. The diversities include varied religious backgrounds, ethnic and cultural diversity and varied socioeconomic status. D1 and D2 students who have not had exposure in working with patients of diverse backgrounds must learn how to be professionals that are sensitive to the cultural, ethnic and religious needs of their patients. After the student completes the service-learning curriculum it would be assumed that even if he/she is not prone to compassion for the underserved it might give him/her a better understanding of the responsibilities of a dental professional in today's society.

Beginning with the year 2000 Surgeon General's Report on oral health, many dental organizations and researchers have come forward with recommendations of what future dentists should be prepared to do.

"The dental education community must;

- Better communicate our successes to the university and other key stakeholders;
- Graduate a more socially aware, culturally sensitive, and community-oriented dental practitioner; and
- Be a committed partner with other community leaders in improving access to health care for all Americans" (Davis, 2007).

"The American Dental Education Association position paper revised by the 2004 House of Delegates recommends seven roles and responsibilities of academic institutions in meeting the oral health needs of all Americans.

- 1) Preparing competent graduates with skills and knowledge to meet the needs of all

- Americans within an integrated health care system;
- 2) Teaching and exhibiting values that prepare the student to enter the profession as a member of a moral community of oral health professionals with a commitment to the dental profession's societal obligations;
 - 3) Guiding the number, type and education of dental workforce personnel to ensure equitable availability of and access to oral health care;
 - 4) Contributing to ensure a workforce that more closely reflects the racial and ethnic diversity of the American public;
 - 5) Developing cultural competencies in their graduates and an appreciation for public health issues;
 - 6) Serving as effective providers, role models, and innovators in the delivery of oral health care to all populations; and
 - 7) Assisting in prevention, public health, and public education efforts to reduce health disparities in vulnerable populations" (p. 847).

Many dental schools have been incorporating service aspects in their curriculum prior to the 2000 Surgeon General's Report on Oral Health, but after the report began to scrutinize their teachings. The University of Southern California (USC) conducted a survey of 144 freshman dental students in 2005 during orientation week, again at the end of December 2005, after half of the students had completed the DOC program and the other half had not and in October 2006 after both groups had completed the DOC program and their two clinical rotations. "The findings indicated that the freshman dental students started dental school with very idealistic attitudes about oral health for the underserved and remained so throughout their first year. At

baseline, most of the students believed that all individuals have the right to dental care though some limitations should exist and that society has an obligation to provide dental care. Students thought that dentists should provide at least some free care for the needy and that as dental students they had an obligation to care for the needy” (Holtzman and Seirawan, 2008). As the students progressed in school small changes took place in their attitudes about their personal responsibility to care for the underserved. Table one shows the change in attitude scores of the first, second and third testing of the dental students. Since the testing took place at orientation September 2005, three months after their program started in December 2005 and in October 2006 after they did two rotations at public schools we might not have a complete picture. The students administered sealants and oral health education but did not actually work on patients. Percentages might have been lower after more experience in clinic was acquired. Other variables as listed could include age, gender, previous volunteer work, home location of the student (urban, suburban, rural, small city), how much debt they had, and how they intended to repay the debt.

**Table One: Attitude scores of students during the study course, by mean
(standard deviation)**

Variable	First	Second	Third	Sig.
Number	137	140	128	
Societal expectation	22.0 (3.5)	21.8 (3.7)	21.3 (3.5)	
Dentist/student responsibility	33.1 (3.30)	32.0 (3.4)	30.5 (3.6)	*
Personal efficacy	17.5 (1.8)	17.0 (2)	16.2 (2.2)	*
Access to care	18.5 (2.9)	17.4 (3.2)	17.0 (3.1)	*
Total Score	91.1 (8.3)	88.3 (9.5)	84.9 (9.7)	*

Note: Analysis is based on generalized linear models with unbalanced design; statistical significance is similar for testing independent groups or linear trend for independent groups with two concerns related to testing linear trend; unbalanced design and unequal intervals.

* $p < .001$ level (Holtzman and Seirawan, 2009).

Service-learning is experiential learning. Experiential learning theories involve the active involvement of students in the learning process rather than being passive recipients of information transmitted by teachers. “The foundational concepts of experiential learning and service-learning can be traced to John Dewey (1859-1952), who believed that education has a societal as well as individual purpose and that experience alone is not adequate for meaningful learning. Education, he believed, should be concerned with developing students’ long-term commitment and ability to contribute to society and also with the development of students as individuals” (Grobe-Hood, 2009). Historical data has proven that service curriculum programs were created and implemented over sixty years ago. In order to be sustained and facilitated

faculty must continue to eliminate and purge redundant and outdated curriculum. “In this time of serious budget constraints, one objection often voiced to taking students out of the school-based clinic for more days is the fear of lost revenue to the school because of fewer patient visits” (Grobe-Hood, 2009). In lieu of these claims, it has been proven that working in outreach programs increases student efficiency in their dental skills. Funding may be provided by a grant which will cover the lodging and meal expenses of the student. Community dentists and technical schools are willing to partner with dental schools to work with these students then freeing up school time to do more difficult procedures such as crowns and dentures or allowing D1 and D2 students time to work on patients rather than just doing didactic curriculum.

“Dental educators need to ask the question: Do dental graduates internalize an appropriate vision of their role as a health professional in the context of community? Integrating service-learning into the dental curriculum will create a deeper understanding of the dynamics, the assets, and the challenges of the community and its relationship to oral and general health. These insights can be taught most effectively through experiential learning in partnership with the community” (Yoder, 2006).

In 2005 Marquette University Dental School implemented a new Strategic Plan. Their reaffirmation to educate students who exemplify service to others was stated in Theme B – “The way the School of Dentistry educates, which includes our belief that service is a core purpose of the School, will have a major impact on the effectiveness of the educational and patient care experiences it provides” (p.5). Goal Four of the plan includes three strategies that would be used. *Strategy One* - “Programs that address service to the underserved and increase access to care will be given priority as the School (MUSoD) improves the quality and broadens the scope

of its patient care programs. *Strategy Two* – Additional outreach opportunities will be developed as appropriate and will expand the educational environment and provide students with a more diverse practice experience. Numbers of procedures and experiences performed by students in these outreach settings will increase, and students will gain a true understanding of leadership expressed in service to others (p.6). *Strategy Three* – Marquette University School of Dentistry is the only dental school in the State of Wisconsin and therefore has a primary responsibility for providing high quality continuing education (CE) both for its graduates and for the entire practicing community” (p.6). For the convenience of the practitioner at home or in the office this programming can be offered through technology. An example would be a continuum that provides the dental practicing community programming related to practice management and life skills development. As a testament to the outcomes of this commitment in 2005 the Dental School implemented a Foundations Class which includes segments on Jurist Prudence, Service-Learning, Ethics and Dental Public Health. D1 and D2 students teach and demonstrate dental hygiene in Milwaukee Public Schools. The D4 “Smiles for the Future Program” participants do dental education, prophylaxis and sealant programs at local schools. All of these outreach opportunities are then recorded through self-reflected journaling. The purpose of the journal is so that the dental students can study and reassess the outcomes of these events and analyze and contemplate while completing their four year dental program how each outreach event affected their personal professional career. Previous writings reaffirm these methods as pertinent for the longevity of dental service-oriented outreach programs.

Dr. Karen Yoder presented the graphic framework for dental education around which service-learning curriculum should be built. See Attachment A. The wheel graph has ten spokes generated from the service learning spectrum. The spectrum has four main components,

scholarship, partnerships, programs, and growth. From within these components ten spokes radiate to complete the spectrum. These ten spokes (links) are absolutely necessary to build a successful dental service-learning curriculum program. These requirements are what differentiate a dental service outreach program from any other type of community outreach program.

Academic Link - #1. “Some of the most powerful service-learning experiences occur in a non-clinical setting, where the artificial barriers of the ‘white coat’ do not interfere with communication and where students can critically examine and question what they know as they reframe their understanding of the impact of social issues on health” (Yoder, p. 117). The focus group venue of this ‘Perception vs. Practice’ research project is an effort to allow the students to freely communicate their expectations, their experiences, and their honest evaluations of the MUSoD Service-Learning Curriculum and their Dental Outreach experiences. After completion of the curriculum it is expected that the students will put their perceptions aside while performing clinically as educated professionals.

Sustained Community Partnerships Link - #2. Dental schools typically send students to community sites and schools to provide oral health presentations. “The most valuable partnerships are developed with agencies or institutions that provide direct services for populations with which dental students need to increase their level of comfort and competence. Community partner agencies are willing contributors to dental students’ education. They are advocates for the population they serve and are pleased to have the opportunity to influence students’ education and thereby encourage more competent and compassionate care for their clients” (Yoder, p.117). MUSoD partners with dental and health volunteers in the annual Saturday (GKAS) “Give the Kids a Smile” program and in the annual (MOM) “Mission of

Mercy” program which gives free dental care to the poor and underserved dental patients. The D3 and D4 students participate in Milwaukee Public School (MPS) education and sealant programs such as “Smiles for the Future”.

Service Learning Objectives Link - #3. Service learning objectives are taught in class by faculty and in the community by organizers of community programs. It is important that the students understand that these objectives are part and parcel of their didactic classes and their service-learning requirements for graduation. “Both service and learning objectives should progress from actions that are clearly measurable and demonstrable (i.e., list, identify, and define) to those that are more complex and require analysis, application, and synthesis of new materials” (Yoder, p. 119). Group discussions and presentations of difficult cases are effective as study guides for professionals who encounter future complex cases as well as visual learning guides for the inexperienced dental student. Journaling these cases from the social aspect will give the dental student pause for considerations that were not plausible before.

Broad Preparation Link - #4. “Prior to beginning work, students should know, through either research or an orientation session, the mission and vision of the site, what population is being served, funding sources, governance, organizational structure, and characteristics of the population being served” (Yoder, p.119). A Foundations class at MUSoD orientates the D1 and D2 classes before they go on rotations at outreach clinics. In the first two years they assist dentists at Mission of Mercy (MOM) and Give Kids a Smile (GKAS) programs. It gives the students a taste of what is to come when they will be practicing dentistry on their own and also gives them confidence serving the public.

Sustained Service Link - #5. Service Learning is different from short term volunteer experiences like the MOM and GKAS programs. “The amount of time spent in a

service-learning assignment will vary according to availability of time, complexity of the program, and other related issues, but should be of sufficient duration to foster depth of understanding and opportunity for reflection” (Yoder, 119). Most D3 and D4 students at MUSoD have the opportunity to do rotations at outreach clinics for more than one day at a time. They have had volunteer opportunities as undergraduates and dental programs in schools and communities.

Reciprocal Learning - Link #6. Teachers are not only dentists but community partners and mentors who work with people of diversity, special needs, or volunteers who teach effective skills to those who are most in need. People in this type of agency are willing to work with dental students as volunteers because they “want to influence students to become practitioners who will be competent, caring dentists for the population they have dedicated their lives to serving” (Yoder, 119). Students learn that there are people in the community that do not have dental or medical backgrounds but have information and authority about their communities and the people they serve. They can be a great help in helping them understand the people they are going to serve.

Guided Reflection - Link #7. Most dental schools that incorporate service-learning into their curriculum ask the students to keep a journal about their experiences. “It is important to cultivate the personal and professional growth of dental students through assignments that generate valuable reflection and constant re-evaluation of professional integrity” (Strauss, et. al. 2010). “Guided reflection causes students to make the connection between their service and academic objectives and fosters the exploration and clarification of complex social

issues and personal values” (Yoder, 2006). A guided follow up discussion on the content of the journals can stimulate discussion on critical incidents, personal observations, and/or shared concerns about logistics such as training or preparedness for the unexpected.

Community Engagement - Link #8. “Incorporating specific course content related to the health policy process and creating opportunities for students to advocate and lobby for improved general and oral health policy will prepare dental students and graduates to take a leadership role in the health policy process” (Yoder, 120). Public Policy is part of the MUSoD Foundations curriculum. Our future dentists are learning how important the partnerships with community leaders are. “Organized dentistry and individual practitioners, along with political and community leaders, can play a significant role in supporting reform of the dental curriculum and improving access to care” (Johnson, et.al., 2007).

Ongoing Evaluation and Improvement – Link #9. “In service-learning, the evaluation takes place throughout the process and includes not only students, but the community partner agency, mentors, participating faculty, and recipients of the service. Because service-learning programs often involve external funding, the evaluation process can be an effective tool for demonstrating outcomes of the program and encouraging continued funding” (Yoder, 2006).

The research for this paper will give insight into the students’ perception of the Foundations program before and after they participate in outreach clinical rotations. The dialogue is meant to not only enhance the knowledge that is already in place but to add insight into the program didactics for future graduates of MUSoD.

Evaluations for larger programs such as the Robert Wood Johnson Foundation (RWJF) Human Capital initiative to sponsor the Pipeline, Profession, and Practice; and Dental Education

program are necessary to determine the effects or impact of the program. The evaluation framework “maps relations and casualties between the elements and change targets, and illustrates how the program is directly linked to and impacts on the intermediate and longer-term outcomes. It also justifies needed resources and support for the program and offers opportunities to apply evaluation research to monitor program design, implementation, and outcomes”

(Davidson, P.L. et. al., 2009). A comprehensive evaluation of this five year program (See Table Two) includes practice plans of graduating seniors, sustainability, and health policy reform.

“If the Pipeline program is effective, we expect to see an increasing influence of the educational programs (including cultural competence curriculum and extramural rotations) on the practice plans of graduating seniors” (Carreon, et. al, 2009). Research shows that by the time seniors are ready to graduate they believe that it is important to serve the poor and underserved patients but they are not sure if they will do it. “Second, qualitative and quantitative results were used to assess the likelihood that the Pipeline program will be sustained after foundation funding ends” (Carreon, 2009). There are a lot of local programs such as Marquette University Dental School that want to sustain their programs but still do need the help of private donors or state funding. “Third, statewide recruitment and health policy initiatives were closely monitored in California and elsewhere to determine implications for sustainability and lessons learned that are worthy of national and state replication” (Carreon, 2009). This initiative will require schools to develop partnerships to create national and state policy reform to sustain community-based dental education. Dental care access and education has always been an issue. It is related to workforce and the willingness of providers to work in areas where dental care is not available.

Opportunities for Community-Engaged Scholarship – Link #10. “Service-Learning has the ability to provide dental students and faculty with the knowledge, skills, and incentives to enter into the health policy arena and to promote healthful public policy. It can help develop students who have a broader concept of their role as a health care provider” (Yoder, 2006).

Student buy-in of the concept of serving the underserved and vulnerable groups of the population after they graduate is based on “whether they believe that other dental professionals, on all levels, perceive these behaviors as worthy” (Rubin, et.al., 2008). Teaching students to be more altruistic, dutiful and professional as community partners is note-worthy but will not be a copied process if the dental community does not endorse it as a whole.

Table Two – Dental Pipeline

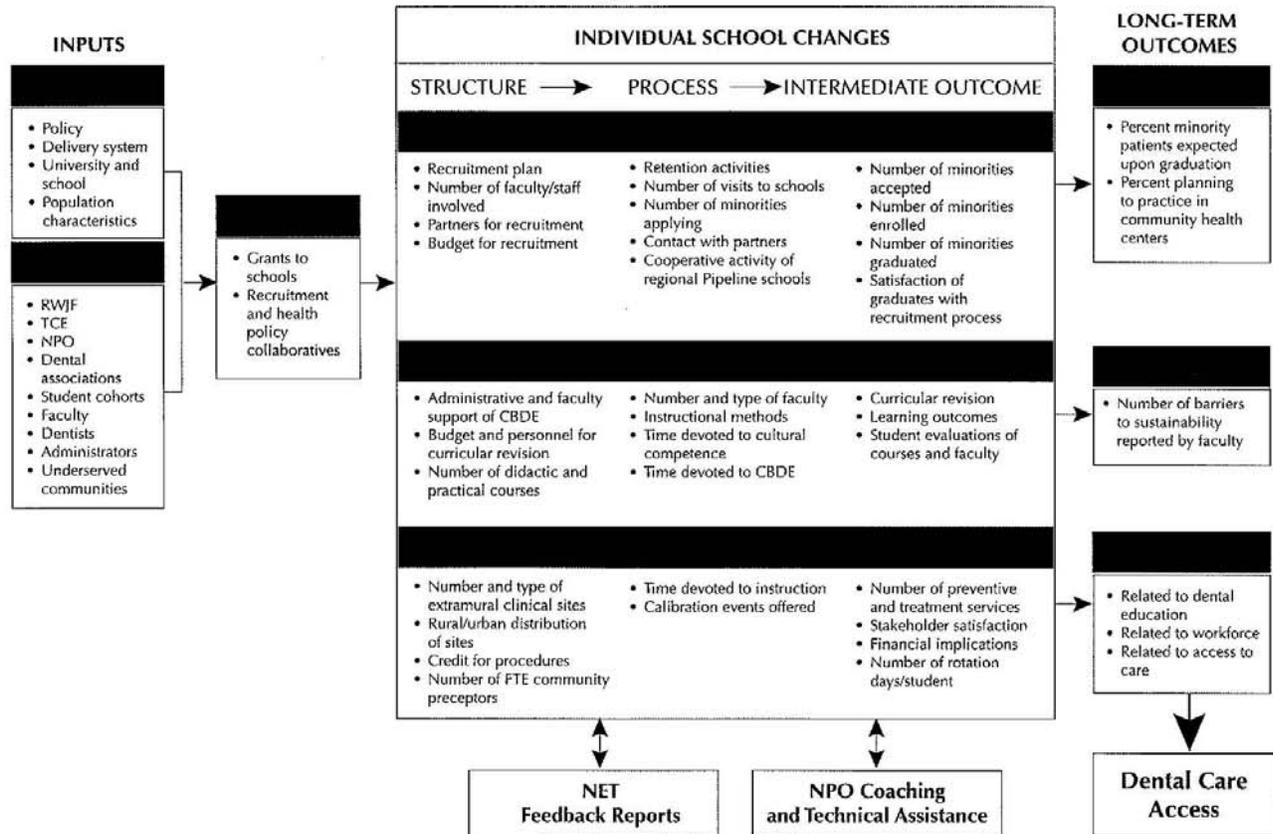


Figure 3.1. Comprehensive evaluation framework

MATERIALS AND METHODS

The research question was, “Does the service-learning aspect of the Marquette University School of Dentistry’s curriculum enhance the dental student’s knowledge of the barriers to access to dental care for underserved populations?”

Institutional Review Board approval was obtained for the project titled, “Dental Service Learning and Community Outreach Programs – Perception vs. Practice.” The protocol number HR-2192 was approved on July 7, 2011. Participants signed a consent form and had the ability to opt out until the date of the focus group discussion. These focus groups were four one hour sessions separated by class level with a minimum of five students per group. They were recorded strictly for clarity in transcribing the details of the discussion. Fifty minutes of these sessions were discussion and the final ten minutes the students were given a ten question, Likert- type survey.

The Likert-type survey was chosen because it was an individual’s assessment based on all of the questions that were previously answered and recorded in the group forum. It allowed me to review my recorded transcription and compare the individual attitudes of the students when they were not being recorded and their faces and names were not identified. I used this type of survey in previous undergraduate classes and found that it was an effective method of generating honest feedback for comparison of the dental students with outreach experience and those that had none. I used the surveys to compare the inexperienced students’ perception vs. the experienced students’ practice attitudes.

The discussion aspect of the focus group allowed the students to freely discuss the service experiences that they’ve had through MUSoD. If the Community-based service-learning program has the support of the dean, leadership and clinical faculty at the college, the students

feel free to discuss their ideas about the program. “The curriculum effort involves a high degree of collaboration, information sharing, a common vision, and dedication to an improved curriculum to better prepare dental students to meet the oral health needs of the public and their communities during their careers as dentists” (Evans, et. al, 2010). The discussion portion also allowed the students to discuss difficulties with their service experience. If the dental students were driving to a rural outreach site some four hours away and encountered a lot of snow during their drive they could talk about it during the discussion in order to be able to clear their minds of that distraction in order to focus on the survey questions. Otherwise the students focused on the events surrounding their service experience and sometimes lost sight of the learning aspect of the service experience. The researchers feel that incorporating time for discussion before the survey is given will allow the dental students to focus on the survey questions.

RESULTS

Likert-type Survey*Marquette University Dental School Service Learning Curriculum
Perception vs. Practice*

<i>Question</i>	<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Undecided</i>	<i>Agree</i>	<i>Strongly Agree</i>
1		5	5	10	6
2		3	6	12	5
3			1	10	15
4	1	5	1	8	11
5				3	23
6		2	5	10	9
7		1	1	5	19
8				7	19
9				4	22
10	2	10	6	2	6

This survey was administered to a total of 26 dental students at the end of four different focus group sessions that took place on 9/15, 9/21, 9/28 and 10/5/11. The breakdown is as follows: D1 – 6 students, D2 – 5 students, D3 – 7 students and D4 - 8 students. All questions were based on a sliding scale of answering 1 – strongly disagree; 2 - disagree; 3 – undecided;

4 – agree; 5 – strongly agree. I reviewed the percentage totals of the students based on positive versus negative attitudes concerning the Marquette University School of Dentistry, Dental Service-Learning Curriculum and Community Outreach programs. I have concluded that 79.3% of the total group had a positive attitude by agreeing or strongly agreeing with the survey questions, 9.6% are undecided about the program and 11.1% strongly disagree or disagree with statements in the survey concerning the program. (See Attachment F)

I then reviewed the totals in the different class levels to see if there was a variation between those who have had dental outreach experiences and those who have not. My results are as follows: D1 – 76.7% agree or strongly agree with the program; D2 – 76% agree or strongly agree. In the upper classes, for third and fourth year students, the students have experienced dental outreach programs. They have either assisted a dental provider or have done dental rotations in a community partner clinic. The D3 results showed that 82.8% agree or strongly agree with the program and the D4 was 80% agree or strongly agree with the program.

DISCUSSION

The four focus group sessions ranged in time from 39:36 minutes to 47:59 minutes with the last ten minutes of the hour used for administration of the Likert-type survey. The sessions were held over the noon hour so that students had an opportunity to relax and eat before they had to go back to class or to the clinic. Lunch was provided for them. The sessions were very informative and the students said that they would like to have more of this type of group discussion in the future. Nine questions (Attachments B & C) were asked of the students over the 50 minute session. The recorder was passed to each participant and they were able to answer the questions. I found that some of their responses were replicated in previous answers so I noted that on my transcriptions. The transcriptions were shared with my advisor, Dr. Sheila Stover, who is also the Co-PI on this project.

After reviewing my transcribed data I was able to pull out common themes from each class. The D1 Focus Group discussion focused on these points. They were of greatest concern and generated the most conversation.

- 1) I will know more if the service curriculum benefited me when I work with patients. I need more experience.
- 2) I have done volunteer work in the past but it wasn't dental.
- 3) I want to be professional and have good patient interaction. My relationship with my patients is very important to me.
- 4) I don't feel prepared at this point and it makes me anxious.
- 5) I am confident that the upper classmen will help me and I can be a help assisting them.

- 6) I am empathetic about the poor and underserved but I need to know more about the outreach programs.
- 7) Journaling my experiences is a great idea.

The D2 class all agreed (except one) * that the didactic classes in the Foundations Course which includes service-learning and dental public health were helpful and a good foundation for participating in community outreach programs. The common threads among their discussions included:

- 1) Interpersonal skills are very important and the Foundations class gave us the psychological aspect on how to relate to people from different backgrounds.
- 2) GKAS and the Head Start participation as a volunteer opened my eyes to the dental problems of children and how important early dental instruction is for both parents and children.
- 3) Public health issues concerning dental and how to code dental procedures should be brought into the program early.
- 4) It is important for each person to take ownership of their health needs but I can educate them for the long term.
- 5) I have seen growth in my ability to handle stress working with patients.
- 6) The long term benefits of journaling are good. It helps me to process what I did. It is a good debriefing session. If it is for an assignment, I only do what is required.

The D3 students have experienced some outreach at the North and South clinics as well as Head Start, MOM and GKAS Day. They discussed the importance of helping the poor.

- 1) Even though they felt the Foundations class gave them the basics that they need, they didn't feel prepared to see patients. The things we do at the Dental School are not the same as the outside clinics. The outside clinics give me more freedom.
- 2) When I am assisting a dentist I feel adequately prepared.
- 3) Working on patients with Medicaid or Badger Care is frustrating because a patient might need 8 sealants but 6 are denied by Medicaid.
- 4) In my practice I would limit the number of Medicaid patients or maybe I would just donate my time to a clinic where I don't have to do the paperwork.
- 5) I am always amazed at the number of people who have significant dental disease. I experienced this at MOM and North Division High School.
- 6) I have empathy for children and I try to understand the plight of the poor. We, as dentists, do as much as we are able to do.

* One dental student prefers more "hands-on" demonstrations rather than didactic.

The D4 students agreed that the accumulation of the Foundations classes is helpful but that it would never be complete without dental experience.

- 1) We would like more case scenarios and have the dentists share with us actual cases that they have experienced.

- 2) Eau Claire and Appleton clinics are excellent for Outreach programs.
They are like a private practice with excellent assistants and very good equipment.
- 3) We would prefer more focus group discussions rather than journaling.
Journaling for a grade is not as effective as if it is done for personal growth. We prefer discussions with smaller groups.
- 4) I would like to see the overall treatment plans for patients at the Outreach clinics and also spend time with the dentist/provider to understand what is expected of me.

SUMMARY

My study was focused on the current involvement of the students of all four dental classes in the Dental Service-Learning Curriculum and Community Dental Outreach programs. It was a qualitative study with participants being selected for a one hour focus group and survey. The first seven volunteers from each class of eighty that contacted me were part of the focus group from their class. This sampling was purpose, non-probability sampling.

My outcomes were predictable considering the dental experience of the D1 and D2 classes. The expectations of these students are based on their inexperience of the real practice of dentistry. As they become more experienced in clinic procedures and patient interaction their confidence increases and they understand their priorities both personally and professionally. My intention was to understand the students' perceptions of the program before they had done the clinical work.

My research question "Does the service-learning aspect of dental education enhance dental students' knowledge of the barriers to access for rural populations?" was answered honestly by the D3 and D4 students who serviced this dental population but still quite vague for the D1 and D2 students who have only had part of the Foundations classes and none of the clinical work. After completion of the four focus group discussions I believe that the D1 and D2 students were awed by the lack of dental care and education that the people in their community have. The D3 and D4 class believe they will do what they can to help the underserved people but that the community support of these programs is unsustainable.

RECOMMENDATION

The weakness of this study came into focus as I realized that the D1 and D2 students did not really even have a valid “perception” of what they would encounter in the Outreach Program. Further research would be warranted after they graduate. A comparative longitudinal study of D4 attitudes five and ten years out of the program might generate a more distinct comparison of ‘perception versus practice’ of dental outreach clinics and service to the poor and underserved. I also recommend more of a comprehensive study with both pretest and posttest applications to note the changes from year to year.

Since this study was limited to one small aspect of the whole Marquette Dental Outreach program it does not give a complete picture of the program. The research question asked “Does the service-learning aspect of dental education enhance dental students’ knowledge of the barriers to access for rural populations.” 76% or 3/4 of the D1 and D2 students interviewed agreed that it did. A slight increase of 80% or 4/5 the D3’s and D4’s agreed. The D1 and D2 students have not experienced the completed service learning curriculum nor have they been scheduled for outreach rotations so they could only discuss their perception of what the program entails.

The sample size of 5-8 students in each level, might have been short of the quorum that I needed to get more of an accurate picture of the outcomes. My selection of students was done as a purpose, non-probability sampling based on what the IRB proposed for this study. Originally, I had wanted to randomly select participants from each class but was advised by the IRB to advertise for candidates by placing posters in common areas of the Dental School and by sending out a general email to all four classes. In the D1 and D2 classes I received only the required number of replies. The range was 5-7 participants. In the D3 and D4 classes I received more

than I needed and accepted the first 5-7 that handed in their consent forms. The students that replied first are most likely the ones that felt the strongest about the subject.

CONCLUSION

The most important aspect of any dental outreach program depends not only on the dean, program director, and faculty of the dental school but all of society including government leaders, community leaders, and leaders of dental organizations. All persons involved in the dental health profession and community must make a concerted effort to take part of the ownership to sustain outreach programs. Financial support and physical involvement of both lay people and professionals bolster the success and maintain the longevity of the programs. The dental students take their responsibility seriously but need the support of others to carry out their mission to treat the poor and underserved dental patients. The students have the will to help others while in school as part of their service requirements. They can't always find a way to do the same service after graduation because of family, financial or relocation commitments. For the older students, the indelible experiences that they encountered in their outreach rotations while in school has impressed them enough to warrant an 80% positive confirmation of the program and curriculum. After completing their education many of them expressed an interest in continuing to have some part in helping the poor either through education programs, community outreach programs, or accepting subsidized patients in their practices.

ATTACHMENTS

Attachment A

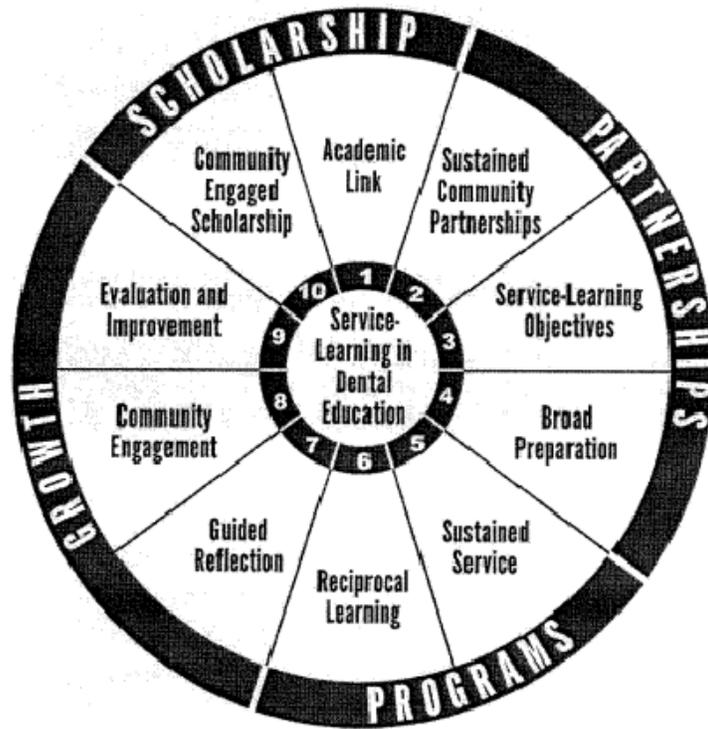


Figure 2. Framework for service-learning in dental education

Attachment B**Interview Questions for D3 and D4 Focus Groups.**

Practice vs. Perception

- 1) In addition to your dental professional skills do you, the dental students, perceive the service learning curriculum as a complete guide to proceed working on patients in dental outreach clinic?
- 2) Did you encounter unexpected issues in the outreach clinics that you were not prepared for while servicing these patients?
- 3) Was your perception of working in an outreach clinic different than the actual work?
- 4) If so, how might you have prepared differently if you knew then what you know now?
- 5) If you had the opportunity to add or delete to the current curriculum what might you change based on your experiences?
- 6) D3 and D4 Students - Please explain the benefits you encountered by working as a dental student with the poor and underserved dental populations in these rural communities.
- 7) D1 and D2 Students – What do you perceive to be the greatest benefit that you might achieve when you have the opportunity to work with the poor and underserved populations in these rural communities?
- 8) Does journaling your experiences show you the progress that you have achieved in your professional skills as a dentist?
- 9) Do you have other recommendations that might improve the service learning curriculum or prepare you better for working on patients in Dental Outreach Clinics

Attachment C**Interview Questions for D1 and D2 Focus Groups**

Perception vs. Practice

- 1) When you are proficient in your dental professional skills do you perceive that what you learn in your Foundations class will be adequate to work on patients in dental outreach clinics?
- 2) Have you done any volunteer dental work since you have started at the Dental School? Did you encounter any unexpected issues when you worked on patients in a volunteer capacity?
- 3) Was your perception of working on a patient different than what it turned out to be? If you haven't worked on patients yet what might cause you anxiety when you do start?
- 4) What type of work have you done with patients? Do you think you need more preparation to work on patients even as a dental assistant?
- 5) If you had a chance to add or delete to the current Foundations classes what would you do?
- 6) What benefits do you think you will derive from working on poor or underserved dental populations in the future? What would be the greatest benefit?
- 7) Have you been interested in helping the poor and underserved population in your undergrad work or didn't it seem important to you?
- 8) Have you done any journaling? If not how do you feel about journaling your experiences in outreach clinics. Do you think it would enhance your skills as a dentist?
- 9) Do you have any recommendations that might improve the service learning curriculum or better prepare you to work in outreach clinics?

Attachment D

MARQUETTE UNIVERSITY
AGREEMENT OF CONSENT FOR RESEARCH PARTICIPANTS
Dental Service Learning and Community Outreach Programs: Perception vs. Practice
Barbara Gaeth
College of Professional Studies-Marquette University

You have been invited to participate in this research study. Before you agree to participate, it is important that you read and understand the following information. Participation is completely voluntary. Please ask questions about anything you do not understand before deciding whether or not to participate. Whether or not you choose to participate in this study will not impact your grades or class standing with the Marquette University School of Dentistry.

PURPOSE: The purpose of this research study is to determine the impact the service learning curriculum has on actual dental practices of dental students in community programs. You will be one of five to seven participants in your Dental School class and one of approximately twenty students who participate in the research study.

PROCEDURES: You will be part of a five to seven person focus group. You will be audio taped so that the researcher may ensure accuracy; your name will not be recorded. This tape will not be shared with anyone else other than the researcher. You will also be asked to complete a brief anonymous survey after the focus group.

DURATION: Your participation will consist of a one hour session; a fifty-five minute focus group and a five minute survey given at the end of the session. This will take place during the lunch hour. Lunch will be provided.

RISKS: There are minimal risks associated with participation in this study. It is possible that you may be uncomfortable discussing certain topics, particularly if you had a negative experience with service learning. The researcher is interested in both positive and negative feedback and would highly value your comments; however, you do not have to answer any questions that make you uncomfortable. Due to the nature of focus groups there is also a small risk of breach of confidentiality. All focus group participants will be instructed to keep conversations confidential.

BENEFITS: There are no direct benefits to you for participating in this study. This study may eventually help Marquette's dental outreach program be more successful. If a paper is published

it might be a catalyst for future changes in Marquette's Service learning Curriculum and Outreach Program as well as benefiting other dental school programs that have similar programs.

CONFIDENTIALITY: All information you reveal in this study will be kept confidential. All your data will be assigned an arbitrary code number rather than using your name or other information that could identify you as an individual. If the results of the study are published, you will not be identified by name. All focus group participants are instructed to keep discussions

confidential. However, the researcher cannot guarantee that all focus group participants will respect everyone's confidentiality. The survey will be conducted anonymously and there will be no way to match your responses with your name. The data will be destroyed by shredding paper documents and deleting electronic files three years after the completion of the study. Your research records may be inspected by the Marquette University Institutional Review Board or its designees, and (as allowable by law) state and federal agencies.

COMPENSATION: A pizza lunch will be provided during the one hour focus group session.

VOLUNTARY NATURE OF PARTICIPATION: Participating in this study is completely voluntary and you may withdraw from the study and stop participating at any time without penalty or loss of benefits to which you are otherwise entitled. If you wish to withdraw during the focus group please inform the researcher. Any data collected prior to withdrawing will be used for research purposes. It will not be possible to withdraw from the study after participation as there will be no way to identify your individual data.

CONTACT INFORMATION: If you have any questions about this research project, you can contact Barbara Gaeth at (414) 288-7154 or barbara.gaeth@mu.edu. If you have any questions or concerns about your rights as a research participant you can contact Marquette University's Office of Research Compliance at (414) 288-7570 or orc@mu.edu.

I HAVE HAD THE OPPORTUNITY TO READ THIS CONSENT FORM, ASK QUESTIONS ABOUT THE RESEARCH PROJECT AND AM PREPARED TO PARTICIPATE IN THIS PROJECT.

 Participant's Signature

 Date

 Participant's Name

 Researcher's Signature

 Date

Attachment E

Email and Poster for Recruitment of Focus Group Participants

WHO: DENTAL STUDENTS – D1, D2, D3, D4
7 VOLUNTEERS ARE NEEDED FROM EACH CLASS FOR FOCUS GROUPS.

WHERE: DENTAL SCHOOL ROOM 390.

WHEN: SEPTEMBER 2011 12:00-1:00 – PIZZA LUNCH WILL BE SERVED.

WHAT: FOCUS GROUP DISCUSSIONS ON:
8) SERVICE LEARNING CURRICULUM.
9) DENTAL OUTREACH ROTATIONS.

WHY: RESEARCH PROJECT CONDUCTED BY BARB GAETH AS PART OF
CAPSTONE PROJECT FOR GRADUATE SCHOOL.

PLEASE CONTACT BARB GAETH AT 414-288-7154 FOR FURTHER INFORMATION

Attachment F – Survey Questions**Likert-Type Survey**

Instructions: Please fill in your assigned code number and your class ranking.

When completing the survey please use the scale 1-5.

1- you strongly disagree with the statement

5- you strongly agree with the statement.

Code number - _____

**Assigned after consent form is returned to PI*

Class Ranking D1, D2, D3, D4- _____

Please put an X by the number that you personally feel is most accurate.

1 – strongly disagree

2. – disagree

3. – undecided

4. – agree

5. –strongly agree

1) Your dental service curriculum prepared you adequately to do dental work on patients that are underinsured or do not have any insurance coverage either because of poverty or neglect.

1___ 2___ 3___ 4___ 5___

2) Your dental service curriculum prepared you adequately to work on patients of diverse ethnicity and background.

1___ 2___ 3___ 4___ 5___

3) As a professional you feel it is your obligation to give back to the community by doing dental service and community outreach work now.

1___ 2___ 3___ 4___ 5___

4) There might be barriers that stand in the way of this service work in your future.

1___ 2___ 3___ 4___ 5___

5) You can make a difference in the life of others because of your dental education.

1___ 2___ 3___ 4___ 5___

6) *You are willing to care for patients that are on Medicaid programs or uninsured after graduation.*

1___ 2___ 3___ 4___ 5___

7) *You believe that you can “be the difference” in the life of others because of your dental education.*

1___ 2___ 3___ 4___ 5___

8) *Proper dental care can be taught to patients as part of maintaining good health for the whole person.*

1___ 2___ 3___ 4___ 5___

9) *You are willing to teach others how to take care of their teeth by teaching them preventative dental care either as adults or children.*

1___ 2___ 3___ 4___ 5___

10) *Dental School was exactly what you envisioned when you were accepted and before you started the program.*

1___ 2___ 3___ 4___ 5___

***This survey is not graded or associated with grading in any way.**

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