

AAO Foundation Award Final Report

Principal Investigator	Carlos Nurko, DDS, MS
Co-Investigator	
Secondary Investigators	
Award Type	Orthodontic Faculty Development Fellowship Award (Michael Matlof Memorial Teaching Fellowship)
Project Title	Acceptability and Perceived Effectiveness of Web-based Self-instruction in Clinical Orthodontics.
Project Year	2002
Institution	University of North Carolina at Chapel Hill Department of Orthodontics
Summary/Abstract	<p><i>Background:</i> During the 21 st century, digital information technology would be the most influential force shaping the dental curriculum and changing profoundly its delivery to the dental student. Computer Assisted Learning (CAL), is defined as the learning procedures and environments facilitated through computers. The orthodontic curriculum and the clinical experience that the predoctoral student receives during their orthodontic course is designed to prepare a competent dentist capable of adequately evaluate and identify the orthodontic problems in the primary, mixed, and permanent dentition. (AADS, 1993) Learning to perform an orthodontic examination, to develop a problem list, diagnosis and treatment plan of an orthodontic patient is ideally learnt at the chair side but the crowded curriculum in which clinical time is limited. It is therefore common practice in orthodontic teaching to supplement this experience with simulated cases using records of selected patient as a basis for tutorial discussion. <i>Specific Aims:</i> The specific aims of this study are twofold: 1) To design and develop a computer assisted learning web based program that includes digital video images of a patient to be examined orthodontic ally, and 2) To evaluate the implementation of a self learning orthodontic computer course as an educational method as part course for dental students.</p> <p><i>Methodology:</i> The computer program "Meet your new young patient" (MYO) will be designed as an educational method to enhance the experience of dental students with the orthodontics needs of a growing patient. The program MYO will be judged for its acceptability easy access and educational effectiveness as part of a new self-learning orthodontic predoctoral course for junior students. Two groups of students created by simple random allocation will be created. One group will receive the web-site MYO and the other</p>

	<p>group will receive a traditional teaching method incorporating a Power Point Presentation (CLASS). Feedback from students will be obtained immediately after viewing the program. Questions will be focused on the reaction to the program. Analysis of Covariance (ANCOV A) will be used to determine whether there is significance between MYO and the traditional lecture format. The data obtained will be evaluated and will become the basis of two publishable manuscripts in a referred journal format.</p>
	<p>Percentage of activity devoted to</p> <ul style="list-style-type: none"> • Academics 20% • Research 20% • Direct Patient Care 50% • Teaching, University and Community Service 10% <p>1. Educational and Research Plan</p> <p><u>1.1 Didactic Curriculum:</u></p> <p>July- December 2002</p> <ul style="list-style-type: none"> • Applied Research Methods • Oral Pharyngeal Function • Current Topics in Orthodontics • Special Considerations in Orthodontics: Temporomandibular Dysfunction • Dentofacial Deformities Conference • Clinical Seminars • <p>January-July 2003</p> <ul style="list-style-type: none"> • Cleft Lip and Palate • Practice Management • Current Topics in Orthodontics • Enrichment Seminars • Dentofacial Deformities Conference • Clinical Seminars <p><u>1.2. Research Plan</u></p> <p>Research Project: “Acceptability and Perceived Effectiveness of Web-based Self-instruction in Clinical Orthodontics”, advisor Dr. William R. Proffit.</p> <p>Abstract</p> <p>For a predoctoral course in advanced clinical orthodontics, we</p>

evaluated the acceptability to students (how well did you like it?) and perceived effectiveness (how well did it help you learn?) of web-based self-instruction plus small group seminars. On a 10-point Likert scale, median scores for acceptability and effectiveness of the self-instructional modules and seminars were 9. Over half the students rated the modules as excellent, and two-thirds rated the seminars as excellent. No students rated either the modules or the seminars as poor. With the use of structured seminar outlines, there were no significant differences in seminar scores among the seminar leaders. Compared to their predecessors who had a traditional lecture course, students who had the new self-instructional course were less likely to report either the positive or negative extremes in confidence about their ability to recognize treatment alternatives for orthodontic problems. The results indicate that web-based self-instruction plus small group seminars coordinated by a course leader is at least as effective as traditional lectures. This approach offers a possible way to share faculty among orthodontic departments for both pre- and post-doctoral education, as a way to help overcome faculty shortages.

1.3 Research Support

Source: SAO
 Title: Graduate Student Research Award
 Period: 2003-2004
 Support: \$350

Source: AAOF
 Title: Second Year Resident Gift in Support of Orthodontic Education
 Period: 2002-2003
 Support: \$400

2. Honors and Awards:

June 2003	SAO Graduate Student Research Award
July 2002	2002-2003 Orthodontic Faculty Development Fellowship Award American Association of Orthodontists Foundation. Michael Matlof Memorial Teaching Fellowship Recipient

3. Development of Teaching Abilities, Clinical Skill and Patient are

<u>3.1 Teaching:</u>	
Lecture:	Course/Level/Time :
Cephalometric Tracing Technique and Landmark Identification	Graduate Orthodontics Orientation (First Year Residents Summer, 2002)
Going Digital: A bit of what you need...	Orthodontics UNC Mini-Residency (Fall, 2002)
Seminar	Course/Level/Time :
Early Stages of Development	Basic Growth and Development Level I. Sophmores (Summer 2002)
Psychosocial Growth and Development	Basic Growth and Development Level I. Sophmores (Summer 2002)
The Nature of Orthodontic Problems	Applied Growth and Development Level II Sophmores (Fall 2002)
Diagnostic Procedures	Applied Growth and Development Level II Sophmores (Fall 2002)
Clinical Introduction to the Child Patient	Applied Growth and Development Level II Sophmores (Fall 2002)
Cephalometric Tracing and Analysis	Applied Growth and Development Level II Sophmores (Fall 2002)
Adult Patient Mock Diagnosis and Treatment Planning	Biomechanics and Preclinical Orthodontics Level III Sophmores (Spring 2003)

	Laboratory Exercise	Course/Level/Time :
	C-Clasp, Springs to move teeth	Biomechanics and Preclinical Orthodontics Level III Sophmores (Spring 2003)
	Repair of a broken appliance	Biomechanics and Preclinical Orthodontics Level III Sophmores (Spring 2003)
	Components of a fixed appliance	Biomechanics and Preclinical Orthodontics Level III Sophmores (Spring 2003)
	W- Arch	Biomechanics and Preclinical Orthodontics Level III Sophmores (Spring 2003)
	Lingual Arch	Biomechanics and Preclinical Orthodontics Level III Sophmores (Spring 2003)
	T- Loop to extrude premolar	Biomechanics and Preclinical Orthodontics Level III Sophmores (Spring 2003)
	Clinical Teaching	Course/Level/Time :
	Teaching Assistant Undergraduate	Clinical Orthodontic Treatment
	Orthodontic Clinic	Juniors & Seniors (Summer 2003)
	<u>3.2 Publications</u>	

Manuscripts:

Nurko, C., Skur, O.P., Brown J: Caries prevalence of children in an infant oral health educational program at a WIC clinic. J Dent Child 70: 231-234, 2003

Manuscripts in preparation:

Nurko C, Proffit WR: Acceptability and perceived effectiveness of a web-based self instruction course in clinical orthodontics. (To be submitted to Angle Orthodontist)

NurkoC, Turvey T, Proffit WR: Surgical management of a pediatric patient with severe facial asymmetry and mandibular deficiency secondary to subcondylar fracture as an infant (To be submitted to AJO DO)

3.3 Translations

American Association of Orthodontists Video News Releases (consultant for proof of translations in to Spanish.)

Videos: Age 7 – A Year to Remember, “Braces are Cool—what’s up with that?”, How to avoid the tricks treats can play on braces, Orthodontic tips for trick-or-treaters, More adults than ever wearing braces

3.4 Table Clinics/Posters

Resident Case Displays: “Category # 8 Transverse Discrepancy” Brogden R, Nurko C. College of Diplomates of the American Board of Orthodontics AAO Annual Meeting. Honolulu, Hawaii May 3-7, 2003

Poster “Orthodontic treatment of a bilateral posterior open bite: A Case Report”. Nurko C, Proffit WR. Southern Association of Orthodontists Annual Meeting. Savannah. GA October 23-27 2002

3.5 Moderator

Orthodontics 2010: Breakout Sessions: Technology for Marketing and Developing/ Improving your website. Sponsored by The Department of Orthodontics Chapel Hill, NC. September 28,

2002

3.4. Direct Patient Care

Graduate Orthodontic Clinic (five half days a week)

- 152 active patients under the supervision of 5 full-time and 7 part-time clinical-faculty.
- 68 started cases in active treatment, 22 transferred active cases, 31 transferred retention cases, 13 Craniofacial Clinic active patients, and 18 active patients at Wake county health department dental clinic
- 20 cases treatment planned and started for incoming residents Summer 2002 & 2003
- 23cases treatment planned and presented in the Dentofacial Deformities Clinic
- Screening of prospective patients under supervision of the attending faculty
- Surgical Orthodontic assistance during orthognathic surgical cases
- Resident on-call for orthodontic emergencies (1 week every 5 weeks)

4. University and Community Service

4.1 University

- Member of the Advanced Dental Education Program Director's committee representing graduate students/ residents in the School of Dentistry 2001-2003
- Officer North Carolina Student Hispanic Dental Association. Community Outreach and Educational Programs Coordinator 2002-2004
- Member Scientific Program Committee for the Hispanic Dental Association Annual Meeting. Washington DC, October 2003

4.2 Community Service

Outreach Programs

- Participated at the Hispanic health fair, salud y comunidad coordinating, performing free dental screenings, and promoting oral health. Chapel Hill, NC. April 27, 2003
- Provided free dental treatment 1 day a week with the Student Health Action Coalition (SHAC) at the Orange County Health Department. Carrboro, NC. May, 2003
- Educated and oriented Spanish speaking mothers at: “Talk about our Oral Health in El Centro Hispano” Durham, NC March, 2003
- Coordinated student participation at Give Kids a Smile national ADA campaign. February, 2003 Chapel Hill, NC
- Participated at “Fiesta del Pueblo”l coordinating, performing free dental screenings, and promoting oral health. Chapel Hill, NC September, 2002

5. Continuing education courses:

- Interdisciplinary Problem Solving in Cranio-Maxillofacial Surgery. The University of North Carolina at Chapel Hill, NC. May 3, 2003
- American Association of Dental Research Annual Meeting. San Antonio, TX March 12-15, 2003
- The Moyers Symposium: “Growth & Treatment, A Meeting of the Minds” The University of Michigan. Ann Arbor, MI February 22-23, 2003
- SAO Southern Association of Orthodontists Annual Meeting. Savannah. GA October 23-27 2002
- Orthodontics 2010: A Critical Evaluation of Orthodontic Technology. Sponsored by The Department of Orthodontics. The University of North Carolina at Chapel Hill. September 27-28, 2002
- The 2002 Graduate Orthodontic Residents Program GORP. Ann Arbor MI, August 2-4, 2002