Preparation of Powerpoint material to enhance the educational experience for students of optometry studying optometric dispensing

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Preparation of Powerpoint material to enhance the educational experience for students of optometry studying optometric dispensing

Abstract
Pacific University College of Optometry is in the process of converting much of its educational material into electronic form. There was no electronically available version of the course material for Optometry 647 (Optometric Dispensing). The authors used a combination of sources including consultation with faculty, personal research, and professional knowledge to create Power Point®-based lectures and laboratory resources. A student evaluation of the new Power Point® material was conducted via survey in the fall of 2000. Students generally liked the new format; nearly 81 percent of those with no prior dispensing experience and 90 percent of dispensing experienced students rated helpfulness of the PowerPoint presentations from 5110 to 10/10. This project produced Power Point®-based lectures for Ophthalmic Dispensing students at Pacific. The authors learned how to write, edit and produce PowerPoint® lecture material for graduate-level education. These were well received, it is not known how well students assimilated the information presented.

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PREPARATION OF POWERPOINT® MATERIAL TO ENHANCE THE EDUCATIONAL EXPERIENCE FOR STUDENTS OF OPTOMETRY STUDYING OPTOMETRIC DISPENSING

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A thesis submitted to the faculty of the College of Optometry, Pacific University Forest Grove, Oregon May 2001

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ABSTRACT

Problem: Pacific University College of Optometry is in the process of converting much of its educational material into electronic form. There was no electronically available version of the course material for Optometry 647 (Optometric Dispensing).

Methods: The authors used a combination of sources including consultation with faculty, personal research, and professional knowledge to create PowerPoint®-based lectures and laboratory resources.

Results: A student evaluation of the new PowerPoint® material was conducted via survey in the fall of 2000. Students generally liked the new format; nearly 81 percent of those with no prior dispensing experience and 90 percent of dispensing experienced students rated helpfulness of the PowerPoint presentations from 5/10 to 10/10.

Conclusion This project produced PowerPoint®-based lectures for Ophthalmic Dispensing students at Pacific. The authors learned how to write, edit and produce PowerPoint® lecture material for graduate-level education. These were well received, it is not known how well students assimilated the information presented.

KEY WORDS

Ophthalmic dispensing, Optometry, Vision, Glasses.
BIOGRAPHIES

Joseph Max Kostecki

Max is originally from Little Canada, Minnesota. In 1997, he earned a Bachelor of Science degree in Biology from the University of Minnesota - Duluth. During college Max worked as an optician for two major optical corporations. This experience gave him the background for writing the thesis. In 1999, Max and his wife Jennifer became the proud parents of a son named Jakob. In addition to writing this thesis, Max has co-authored a new vision therapy lab manual with Dr. Paul Kohl. It is now the standard text for vision therapy at Pacific University. Max and his family plan to move back to Minnesota upon the completion of optometry school.

Ron M. Hampel

Ron was born in Saskatoon, Saskatchewan. He attended the University of Saskatchewan from 1982 to 1987 where he majored in physiology and biology, eventually attaining a Bachelor of Science (Advanced) degree. Later, he attended the University of Regina, graduating with a Bachelor of Arts in Journalism and Communications. He subsequently worked for the Canadian Broadcasting Corporation as a reporter and an Associate Producer. After nearly 8 years of Journalism, he returned to school to pursue a career in Optometry. Ron has been a member of A.O.S.A., Pacific University College of Optometry S.O.A. board member, and has been a member of the Beta Sigma Kappa optometric honors fraternity for each of the four years he has attended PUCO. Ron has been married for 12 years to Lauren Gail Hampel. They have two children, Eilish and Tristan. Ron and family plan to move to Western Canada upon the completion of optometry school.
INTRODUCTION

Optometry 647 (Ophthalmic Dispensing) is taken by all optometry students in the fall semester of their second year at Pacific University College of Optometry. Below is a formal description of the course.

Catalog Description for OPT 647:

Frame and lens terminology, frame styling, frame and lens parameter selection, frame materials properties; discussion of frame adjustment and alignment, lens mounting and insertion, and frame repair. The laboratory sessions supplement the lecture material and allow students actual practice utilizing ophthalmic materials.

Educational Goals and Philosophy:

The purpose of this class is to make students feel comfortable with the entire dispensing process. After a patient is examined, the process continues inside the dispensary. For most people, the eye exam really is not completed until a frame is selected, lenses are ordered, and eventually the final pair of glasses is fitted and adjusted. Pacific University has a long standing reputation as one of the leaders in optometric education, and this class is designed to graduate Pacific students with the finest dispensing experience available. When you finish this course you should have the necessary skills and knowledge required to have confidence in working at the Pacific University dispensary.

This project involves two main areas. The first component of the project involved producing PowerPoint® slide show lectures for in-classroom use. Pacific’s increasing focus on modern, computer-assisted, learning methods has led to didactic lecture material being converted and re-written in the form of PowerPoint® lectures. The growing use of Internet-ready computers by students at home and in the classroom provides the opportunity to place lecture material on the World Wide Web. The second element of the project consisted of placing the material on the Web for later use by students. This will allow students and faculty to use the material inside and outside the classroom.

For the past several years, Optometry 647 has been taught by Donald Schuman, O.D.
Upon his retirement in 1999, V. Lowell Galambos, A.B.O.C. became course instructor. A
The project was undertaken to update the course material to reflect recently developed ophthalmic dispensing procedures and materials.

The authors wrote and edited new course material and created a series of 13 PowerPoint® presentations covering the entire course material including lectures, labs and tests. These presentations were then placed on the internal Pacific computer server. This allowed students and faculty to use the material while on campus. In order to allow off-campus use, the authors also converted all the slides to HTML code and uploaded these pages to WebCT. This is a World Wide Web-based educational course-offering program that allows the creation and customization of material to include content, calendars, communication tools, etc. Also WebCT allows PowerPoint® presentations to be archived for use by anyone with Web access. These in-classroom and extra-classroom versions of the lecture material form the body of course material used in Optometry 647.

METHODS

The material presented in lectures and labs was designed to support the Ophthalmic Dispensing course outline. The project began with a review of all the lecture and lab materials previously used in this course as well as information from a textbook on opticianry. Then a list of topics to be covered in the course, along with details of the didactic material to be presented within each lecture was developed. This list included: frame and lens terminology, frame styling, frame and lens parameter selection, frame materials properties, discussion of frame adjustment and alignment, lens mounting and insertion, and frame repair. The laboratory sessions supplement the lecture material and allow students actual practice utilizing ophthalmic materials. The chart below details the contents of each lecture and lab in the new course material.
<table>
<thead>
<tr>
<th>Week</th>
<th>Lecture/Lab</th>
<th>Title</th>
<th>Contents</th>
</tr>
</thead>
</table>
| 1    | Lecture     | Introduction and Course Outline | Course catalog description  
|      |             |       | Educational Goals and Philosophy  
|      |             |       | Course outline  |
| 2    | Lecture and Lab | Frame Terminology | 1. Frame Front: eyewire, eyerim, endpiece, adjustable pad  
|      |             |       | 2. Bridges: keyhole, double, strap, saddle, adjustable saddle  
|      |             |       | 3. Hinges: mitre, butt, turnback, hidden, rivet, spring, screwless  
|      |             |       | 4. Temples: riding bow, skull, comfort cable, library  
|      |             |       | 5. Mountings: rimless, semi-rimless, Balgrip, nylon cord  |
| 3    | Lecture and Lab | Frame Styles | 1. Frame Styling for different face shapes  
|      |             |       | 2. Identify these materials: silicone, soft pvc, hard acetate  
|      |             |       | 3. Pad arm types: Box Joint/ Screw-on, Snap-in, B & L, Zeiss, AO Split Post, Prima  
|      |             |       | 4. Styles: D-shape, Round (button), Strap bridge  |
| 4    | Lecture and Lab | Measurements and Tools | Frame front measurements  
|      |             |       | 1. The Box system: A, B, DBL, Circumference, ED  
|      |             |       | 2. Other measurements  |
| 5    | Lecture and Lab | Frame Materials | Frame Material Properties  
|      |             |       | 1. Plastics  
|      |             |       | 2. Metals  
|      |             |       | 3. Plastic and Metal frame manufacturing methods  |
| 6    | Lecture Lab | Dispensing Quiz Order Form | Quiz in format of Class Participatory Contest  
|      |             |       | Specifications for ordering a frame  
|      |             |       | 1. Frame Manufacturer, Frame Style, Color/ (Color Number)  
|      |             |       | 2. Special Instructions/ Remarks  |
| 7    | Lecture Lab | Dispensary Tour | Retail Space  
|      |             |       | 1. Product lines  
|      |             |       | 2. Order forms, Price sheets, Route slips  
|      |             |       | 3. Using the Pupillometer  
|      |             |       | Back office  
|      |             |       | 1. Black trays: Jobs “on order”, White trays: “Notified”  
|      |             |       | 2. Repair area: home of nose pads, tools, etc.  
|      |             |       | 3. Lensometer and Verification area  |
| 8    | Lecture and Lab | General Adjustments 1 | 1. Fitting Triangle  
|      |             |       | 2. Adjusting Pantoscopic and Retrospective angles  
|      |             |       | 3. Temple adjustments  
|      |             |       | 4. Heating and bending procedures  |
| 9    | Lecture and Lab | General Adjustments 2 | 1. Setting Proper Setback, Head bend, Mastoidal Shape  
|      |             |       | 2. Nose pad Adjustments  |
RESULTS

The completed presentations were delivered to second year students in the 1999 fall semester. After conclusion of the course, a survey of the students was performed. The questions gave the authors feedback on how the students received and understood the new lecture and lab material format. Approximately 36 per cent of the students had dispensing experience prior to taking the course and their responses were analyzed separately.

Eighty-eight percent of those with no prior experience and 86 percent of those with dispensing experience said they were moderately to highly motivated with respect to studying dispensing before taking the course. Most students began the course with a good attitude toward ophthalmic dispensing.
Students were also asked to rate "How helpful did you think the PowerPoint lectures were?" They generally liked the format of lectures with nearly 81 percent of those with no prior dispensing experience and 90 percent of experienced students rated helpfulness of the PowerPoint® slide shows as five or more on the 10 point scale.

Ninety-four percent of those with no prior experience and 71 per cent of experienced students rated the quality of the PowerPoint presentations as five or more out of ten.
When asked: “Do you feel these notes could help you train a tech (optometric technician) in your future office about dispensing?” 78 percent of inexperienced and 71 percent of experienced students gave scores of five or more.

CONCLUSIONS

This thesis project provides students and faculty at Pacific with a valuable resource for teaching ophthalmic dispensing. In the course of the project, the authors learned how to develop computer-based course material suitable for graduate level students.
We hope that the results of this project will serve as an enduring contribution to the education of students at Pacific University College of Optometry. All materials produced as a part of this project are available on WebCT at: http://webct.pacificu.edu:8900.

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