Development & Usability of an Online Resource for Prospective Dental Hygiene Practitioners

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Learning Design & Technology
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Introduction

- Registered Dental Hygienist (RDH)
- 4 years of experience
- Aspiring dental hygiene educator
- Adjunct clinical lecturer
Audience Participation

How’s everyone doing so far?
Project

• Background

• Problem: Transitional Gap

• Solution: One-Stop Web Resource
Website Development

Platform:
- Wix.com
Website Development

Design Approach:

- Minimalist
- User-centered
Usability Study: Purpose Statement

“The purpose of the usability study was to evaluate the functionality and value of the website developed as a resource to support senior dental hygiene students from the University of Hawai‘i at Mānoa: School of Nursing and Dental Hygiene as they transition to become licensed professionals.”
Usability Study: Research Questions

International Organization of Standardization (ISO)

Definition of Usability:
“The extent to which a product can be used by specified users to achieve specified goals with effectiveness, efficiency and satisfaction in a specified context of use.”
Usability Study: *Research Questions*

1. How successful are the participants in effectively navigating the website to find information?
2. How fast does it take for the participants to efficiently perform tasks the first time they use the website?
3. How satisfied are the participants in the website’s design, content and performance?
Usability Study: *Participants*

**Types:**
- Heuristic Evaluation
- “Do-It-Yourself” Usability Testing
Usability Study: Heuristic Evaluators

Angela Gannon

Sylvia “Lei” Mata
Usability Study: Target Participants
Usability Study: Target Participants
Usability Study: Target Participants
Usability Study: Procedures

- Institutional Review Board Approval
- Access Letter
- Recruitment Email
- Confirmation Email
Usability Study: Procedures

Round 1

Round 2

Revise
Usability Study: *Location & Tool*

UHM Administrative Services Building 2

Laptop with QuickTime Player
Usability Study: Protocols

- Usability Script
- Concurrent Think Aloud
- Rapid Prototyping
Audience Participation

How’s everyone doing so far?
Usability Study: Discussion

- Heuristic Evaluation
- Round 1
- Round 2
Heuristic Evaluation

Categories:

• Statute/Rule Chapter
• Job Search
Heuristic Evaluation
Soon after becoming a licensed professional, you will encounter many uncertainties as you embark on your journey in the field of dentistry. The initial step in establishing yourself within this field is to find an employment. Sadly, not many dental hygiene programs prepare their students for job searching.

To guide you in your employment preparation, a few carefully chosen articles are provided below to help you construct your resume and prepare you for job interviews.

- 4 job hunting documents every dental hygienist should have
- Looking for a new dental hygiene job?
- Brushing Up for Your Interview
- How to interview for your first position as a dental hygienist

Articles about DH job search; external links ONLY
Heuristic Evaluation: Revisions

Iteration Cycle

Prototype → Review → Revise → Install → Maintain
Heuristic Evaluation: Revisions

formerlly “Statute/Rule Chapter”

external link to the original document

translucent State of Hawaii seal background
Heuristic Evaluation: Revisions
Results: *Round 1 VS. Round 2*

- Initial Perceptions
- Success Rates
- Speed in Task Completion
- Post-Study Interviews
Initial Perceptions

- 100% positive
- All identified purpose and target audience
- Professional
### Success Rates

**Research Question:**
How successful are the participants in effectively navigating the website to find information?

<table>
<thead>
<tr>
<th>PARTICIPANT</th>
<th>TASK 1</th>
<th>TASK 2</th>
<th>TASK 3</th>
<th>TASK 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Pass</td>
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**Round 1**

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**Round 2**
### Success Rates

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Average Success Rate: 81.25%

#### Round 2

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## Success Rates

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**81.25 %**

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**100 %**
**Round One: 18.75% Failure Rate**

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## Speed in Task Completion

**Research Question:** How fast does it take for the participants to efficiently perform tasks the first time they use the website?

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<tr>
<td>A</td>
<td>20 secs.</td>
<td>45 secs.</td>
<td>30 secs.</td>
<td>23 secs.</td>
<td>1 min. 58 secs.</td>
</tr>
<tr>
<td>B</td>
<td>46 secs.</td>
<td>15 secs.</td>
<td>1 min. 4 secs.</td>
<td>23 secs.</td>
<td>2 mins. 28 secs.</td>
</tr>
<tr>
<td>C</td>
<td>1 min. 11 secs.</td>
<td>2 mins. 19 secs.</td>
<td>49 secs.</td>
<td>21 secs.</td>
<td>4 mins. 40 secs.</td>
</tr>
<tr>
<td>D</td>
<td>1 min. 5 secs.</td>
<td>1 min. 24 secs.</td>
<td>28 secs.</td>
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### Round 1

**Note:** *Failed attempts*

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<td>1 min. 38 secs.</td>
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### Round 2
### Round Two: Speed in Task Completion

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**Task 1:** Using this website, where would you go to find information about license application?  

- General licensure application  
- License application form
Time Base Efficiency: The amount of time a user expends to complete a task.

Round 1
*using Prototype 2
Total Task Performed

Round 2
*using Prototype 3
Total Task Performed
Research Question:
*How satisfied are the participants in the website’s design, content and performance?*
Post-Study Interviews

Website Satisfaction

75%
Round One: Post-Study Interviews

“Make it easier to find the four regional clinical examinations.”

“Add testing requirements for different States.”
Round Two: *Post-Study Interviews*

“I would like to see more color/graphics.”

“Little improvements such as making the page stand out by staying away from a white background would help better the website.”
Prototype 2: Revisions

Prototyping → Review → Revise → Install → Maintain → Iteration Cycle
Prototype 2: Revisions

Dental Hygiene: Student to Professional Transition

Introduction

Welcome and congratulations!

You are on your way to becoming a Registered Dental Hygienist (RDH). As a newcomer in the field of dentistry you may have some interest and questions about what to expect in the working arena.

This website contains informational components that may not have been covered during your dental hygiene schooling. Such as the following:

- Licensure
- Association Membership
- Job Search
- CDT Codes
- Trends in Dentistry

Dropdown lists were removed from the horizontal navigation bar

Embedded links were kept

Changed website title
Prototype 2: Revisions

Prototype 3: Licensure Page 1

Removed "Licensure Page 2" drop down
Prototype 2: Revisions

**LOCAL ANESTHESIA CERTIFICATION**

Documentary proof of your certification in the administration of intra-oral infiltration local anesthesia and block anesthesia is required.

**NOTE**: A separate application, separate requirements and supporting documents and a fee are required to administer block anesthesia with your license.

**NATIONAL BOARD EXAMINATION**

Pass the National Board Dental Hygiene Examination. Forward the scorecard to the Board or attach an original score card with the license application.

Click here to continue

Clicking the link will bring users to “Licensure Page 2”

**Licensure**

License applicants are required to take and pass one of the following REQUIREMENT:

1. The Western Regional Examining Board (WREB);
2. The Central Regional Dental Testing Service, Inc. (CRDTS);
3. The Southern Regional Testing Agency, Inc. (SRTA); or
4. The Northern East Regional Board of Dental Examiners (NERB) (formerly known as Commission on Dental Competency Assessments or CDCA)

For additional information about clinical examinations accepted on other States please click on the link.

For your information, the examination in Hawaii is currently administered by the Central Regional Dental Testing Service, Inc. (“CRDTS”).
Audience Participation

How’s everyone doing so far?
Conclusion

- Functional
- Valuable
“Instead of searching Google and having to go through multiple links regarding Hawai‘i’s requirements to become a licensed DH, I am able to get all of the information I need in one website.”
Conclusion

✅ Functional

❓ Valuable

“Instead of searching Google and having to go through multiple links regarding Hawai‘i’s requirements to become a licensed DH, I am able to get all of the information I need in one website.”

“It’s nice to see all this relevant information in one place.”
Next Steps?
Next Steps?

- Website Refinement
- Usability Iteration Cycles
- Installation & Maintenance
- Mobile Accessibility
Thank You!
Questions?