MEASURING THE EFFICIENCY, EFFECTIVENESS, AND EXPERIENCE OF TEACHING-LEARNING FAMILY CONSTRUCTS FRAMEWORK

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Family Constructs:

- Focus on the family unit by providing a framework for family diagnoses.
- Facilitate communication between healthcare providers and the family.
- Build student confidence and ability to work within most family dynamics.
- Empower families to care for one another.
TECHNOLOGIES : SAFEHR

PURPOSE: Manage Electronic Health Record

Welcome,
Simulation Analytics Family-Focused Electronic Health Record (SAFEHR) is your instant access to medical and family information at the palm of your hands.

log in  sign up

Username
************
RESEARCH QUESTIONS

SAFEHR

• What is the perceived usability, user experience and attractiveness of SAFEHR’s genogram and family constructs functionality?

FAMILY CONSTRUCT NETWORK

• Evaluation of the effectiveness and efficiency of the main functions in the Family Constructs Network.
WHAT IS 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.” [ISO Definition (9241-11)]

“THE EASE WITH WHICH A USER CAN LEARN TO OPERATE, PREPARE INPUTS FOR, AND INTERPRET OUTPUTS OF A SYSTEM OR COMPONENT.” [IEEE Std.610.12-1990]
WHAT IS USER EXPERIENCE?

User experience (UX) focuses on having a deep understanding of users, what they need, what they value, their abilities, and also their limitations.

**Desirable aspects**
- helpful
- enjoyable
- motivating
- stimulating
- supporting

**Undesirable aspects**
- unpleasant
- annoying
- childish
- frustrating
- verbose
USABILITY AND LEARNING

• According to Sandars (2010) “...it is not the content that usually determines effective e-learning but how the content is delivered ...” (P. 6) “...there will be a slow learning curve towards achieving effectiveness unless the usability aspects are considered.” (P. 8)

• According to Granic and Cukusic (2011) "If the interface is not transparent and easy to use, the learners/students concentrate on interaction aspects and not on acquiring content” (P. 107)

• Borsci, Federici and Lauriola (2009) found a correlation between perceived usability and perceived learnability. (P. 196)
METHODOLOGIES – SAFEHR STUDY

- **Traditional Usability Test with 25 Participants (Juniors/Seniors; In-Progress)**
- Create a genogram; identify family constructs and nursing actions from evolving scenarios
- Participants complete a questionnaire similar to the one used by Groth and Haslwanter (2015)
- Questionnaire and observations from all phases are used to determine intuitiveness, attractiveness and usability of the application
METHODOLOGIES: FAMILY CONSTRUCT NETWORK STUDY

- **Five participants in a heuristics evaluation following the guidelines by Nielsen (1995)**
- To gather the expert opinion on the overall usability of the Web-application.
- **Heuristics include: visibility, consistency, error prevention, flexibility and aesthetic design**
PRELIMINARY RESULTS – SAFEHR STUDY

• **Some participants became quickly accustomed to the application, were visibly excited and relaxed, and had overwhelmingly positive comments after completing the study.**

• **Some participants found the application challenging but were still optimistic about it.**

• **All participants strongly agree they would like to use this system frequently.**

• **All participants scored between 8 and 10 that they would recommend the app to a friend (net promoter score).**

• **All participants have indicated a very strong desire to have access to the application for their coursework.**
43 usability problems were found

- Homepage was too wordy
- 'Submit a New Construct' button was small and not easily visible
- An example was needed for the users to base their Construct proposals on
- The forum labels were not explained properly
- Text boxes size in the forum was not appropriate
- Font size was not consistent
Welcome!
This forum is being constructed to develop and share knowledge related to families and nursing in the local, regional, and global arena.
The following video provides a brief introduction to the website.

MINNESOTA STATE UNIVERSITY
CONCLUSIONS

• **Usability/UX testing lead to potentially high learnability**
• **We studied two technologies to help students learn about family constructs**
• **Results from heuristic evaluation helped improved design and provide better experience for users of the family constructs network**
• **Preliminary positive results from SAFEHR usability/UX study**
FUTURE WORK

- PILOT SAFEHR APP IN THE CLASSROOM
- CORRELATE COURSE LEARNING OUTCOMES WITH SAFEHR USAGE
- STUDY AND ENHANCE OTHER SAFEHR APP FEATURES SUCH AS ECOMAPS AND SIMULATIONS
- STUDY STUDENT PERFORMANCE EFFICIENCY AS A RESULT OF USING SAFEHR
- STUDY FACULTY EVALUATION EFFICIENCY AS A RESULT OF USING SAFEHR


Sandars, J. (2010). The importance of usability testing to allow e-learning to reach its potential for medical education. Education for Primary Care, 21(1), 6-8.