

Investigating Skills and Knowledge Required to Develop Mobile Performance Support Systems (MPSS) in North American Companies



William Leonart and David Massengale and Yao Huang
College of Undergraduate Studies Florida State University



Abstract

Mobile Performance Support Systems (MPSS) are programs, devices, and resources implemented in companies and organizations to improve job performance. In this project, we conducted qualitative data analysis with five individual interviews with NVivo12. The five interviewees were: a training coordinator from the U.S. Coast Guard, an instructional designer from a large international medical software and devices company, the Senior Manager of Learning Innovation from a home improvement business, a senior eLearning developer and project manager from an international restaurant franchise, and an instructional manager from a pharmaceutical manufacturing company. We reviewed transcripts, generated codes, and grouped codes into themes. While coding, we followed the research question, “What skills and knowledge are needed to design and develop MPSS in North American companies and organizations?” We each coded independently and developed codebooks with code names, criteria, and examples. Then we compared the similarities and discussed the differences in the codes. Finally, we developed themes and identified the preliminary results about skills and knowledge needed to design and develop an MPSS.

Introduction

MPSS is a type of mobile technology that can be utilized by employees to improve workplace. This can range anywhere from the introduction of a tablet to a program that can be used as an aid (think Google Translate). When utilized correctly, MPSS can lead toward a significant increase in a corporation’s efficiency.

Methods

- The sample included five instructional designers or project managers who completed one-hour interviews via Zoom
- Qualitative methods with one-hour interviews.
- Thematic analysis is used in the data analysis (Creswell & Poth, 2018; Saldaña, 2013)
- Used Nvivo12 software to generate codes from the interview transcripts
- Analyzed data from codes individually and then discussed with partner

Visuals

Code Name	Description	When to Use	When Not to Use	Examples
Designing MPSS				
Focus of design	Discussing the key points of the design when creating the MPSS	When talking about the main focus of the design for their MPSS	When discussing broad details of the MPSS design	Paul Kizilos: I'd rather sit behind the counter and just scan products and not have to think about all that stuff, and so I started realizing that maybe there's a connection between that complexity and part of the recruiting and retention problem that the stores were experiencing so people were leaving.
Knowledge to make design	The knowledge required to help make the design for the MPSS	When interviewee is discussing the knowledge that was needed to create their MPSS design	When discussing the physical things required for the MPSS design	Paul Kizilos: I had an experience which caused me to recognize a need or a problem, something that wasn't working quite right and that was the complexity of the production process was more than was reasonable for a new employee to have to deal with.
Obstacles when designing	The challenges and rough patches gone through when designing MPSS	When participant is discussing the obstacles they dealt with when designing MPSS	When discussing methods that went smoothly in the MPSS design	Paul Kizilos: And then I realized that there's another problem that they may already be wearing a headset because a lot of times you want your production crew to have a headset that is listening to the drive through.

Name	Files	Referen
Knowledge of Instructional design and working experience i	5	41
Designing MPSS	0	0
Audience analysis	1	1
Functions and features	4	6
Need for MPSS	2	9
Obstacles when designing MPSS	2	6
Development of MPSS	0	0
Knowledge to develop MPSS	0	0
Testing and prototyping	2	7
Educational Background	3	9
Work experience	5	19
Initial Job	1	1
Job Experience	3	8
Jobs from different sector	1	2
Relating to MPSS development	1	3
Sector Specific Job	2	5
Technology and training skills	4	23
Deliver the content	1	1
Design training	2	5
Device Management	1	3
Instructional design	3	5
Learning technologies	1	1

Results

- Knowledge of Instructional design is crucial to the development of MPSS.
- Work experience in training or development is also favorable knowledge for the design and development of MPSS.
- The skills required to design and develop MPSS are technology and training skills.

Discussion

- Numerous studies delve into the various factors in MPSS design and development, including the description and function of MPSS. However, no study has examined the skills and knowledge needed to develop MPSS in North American organizations in an effort to solve performance problems and meet organizational goals.
- This study used self-reported data from interviews, meaning participants might have intentionally exposed or hidden data to maintain a respectable appearance.

Conclusion

- The preliminary findings from our research help bridge the gap between the aforementioned contemporary studies’ information and can assist in learning professionals’ career development.
- However, due to the small sample size, the study will need to be expanded in the future.
- Furthermore, this follow-up study should include more sample, as to include more resources to avoid the existing self-report bias stemming from the participants answers.

References

- Saldaña, Johnny. (2013). *The coding manual for qualitative researchers* (2nd ed.). SAGE.
- Creswell, J. W., & Poth, C. N. (2018). *Qualitative inquiry & research design: Choosing among five approaches* (H61.C73 2013 (FSU Remote Storage 2 Request); Fourth edition.). SAGE Publications, Inc.

Acknowledgements

We gratefully acknowledge our mentor Ms. Yao Huang Doctoral Candidate and Teaching Assistant in the Department of Educational Psychology & Learning Systems At Florida State University.