Knowledge Translation

worksheet

**RECR 461 Issues & Trends in TR**

This worksheet provides prompts in order for students to compile information gathered thus far into a knowledge translation plan. You will need the following documents: the PICO worksheet, the IRB application, the thematic analysis and the showcase application.

# Title

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| Project Title (no more than 15 words): | Using virtual assistant based programs to increase the quality of life in older adults. |
| Authors (first, middle initial, last with proper credential): | Mark D. Greenlaw RT Student, Dr. Kirstin L. Whitely DHA, CTRS |
| Program, Department, University: | Therapeutic Recreation  HARK  Longwood University |
| Date of Showcase: | 11/21/19 |
| PICO Statement: | To determine the effectiveness of virtual assistant based programs to increase the quality of life in older adults. |
| Search Terms: | Technology, Alexa, Isolation, Traditional programming |

# Introduction

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| State the Problem (Gap in Service- why did you choose this topic?, clinical scenario): | Do virtual assistant-based facilitations increase the quality of life in older adults more so than standard facilitations. |
| Available Knowledge (A summary of what is presently known about your topic): | There is a limited amount of knowledge in this area so far since it is such a new concept. However, over the past few years, there have been more studies about how virtual assistant-based activities have been beneficial to older adults. |
| Theoretical Framework (what are you testing, what is the basis of the solution): | For this assessment, I will be testing the overall satisfaction and quality of life of older adults while using virtual assistant(VA)-based therapy interventions. |
| Research Statement (this section will close with your prediction/PICO- how will you measure the results?): | For this project, I will be determining how virtual assistant-based activities affect the lives of older adults using data collected from an expert interview and data analysis. |

# Methods/Ethics/Analysis/Results

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| Describe the research methodology step by step: | First, a topic was chosen to research based on a problem found in my internship. Second, I had to find terms to help narrow my research and find articles that would pertain to my subject. Third, I had to look for the articles and assemble them into a bibliography. Fourth, I found an expert to interview on the subject. Fifth, formed questions and interviewed the expert while recording their answers to use later. Sixth, synthesized all of the data into a thematic analysis. Seventh, acquired my results and formed the knowledge translation plan. |
| Ethical Considerations: How were the participants recruited? How did you ensure informed consent?: | Participants section of the IRB application + procedures section |
| Ethical Considerations (what did you do to eliminate/reduce bias in the research): | To reduce bias in the research, I limited the search to specific types such as qualitative studies, case studies, etc. that have taken place within the last 5 years. + how we remained confidentiality |
| Analysis (Once collected, how was the data analyzed?): | The data was analyzed through a qualitative thematic analysis. |
| Results (What were the findings of your research [not literature]?): | The results found were that in most cases, the quality of life was increased in the participants, however, since the technology is still so new, there isn’t sufficient research to back up this claim. |

# Sythesis/Discussion (See Appendix A)

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| Using your research statement/predictions, identify the outcomes (consistencies between the expert and the literature). | There are mixed outcomes from the research (heavier on the positive side), however, the expert has only experienced positive outcomes from their findings. The consistencies on the positive side are that there is an increase in quality of life through increased experience with the devices, reduced boredom, and increased knowledge about the devises. On the negative side, the biggest that was found was that there is not a set assessment in place to ensure the facilitations are evidence-based. |
| Using your research statement/predictions, identify contrasting, inconclusive, or unexpected findings. | Some inconclusive findings that were found were that in some studies, there were positive results, and there were also results where the participants did not want a virtual assistant at all. In another study, it showed that some adults had many devices in their homes where as other had few. However, in all of the studies, there was not a lot of evidence at all since the facilitations/implementations have been performed so recently. |
| KTP-Translation to Practice (What is the step-by-step evidence-based process a CTRS should use in implementing your PICO? This must include the setting/population, intervention used, steps to implement the intervention, the expected outcomes- all supported by both expert and literature): | This kind of implementation is specifically geared towards older adults in any kind of setting with the assistance of a virtual assistant (such as an Amazon Alexa). The Amazon Alexa device has many activities such as Jeopardy or other categories of activities to choose from and the outcomes are slightly different, but all fall under the concept of increasing quality of life in older adults. According to both the expert and the literature, the activities will vary greatly depending on whether or not the participants are accepting of a virtual assistant, so the outcomes of the activities may vary significantly. |
| Limitations/Recommendations (What were the limitations of your study, the literature, and/or expertise of the participant? For each limitation, what is your recommendation or those made in the literature for future research?): | Out of the 10 articles researched, here is what each article lacked: **1**. Some limitations of this study are its use of outdated technology for example there was no mention of virtual assistants like Amazon Alexa or smartphone apps. Lack of substance and relevancy of today’s technology so the authors should have limited their research to the past 4 years. The authors can also advocate with senior organizations to get more research done for older adults and technology. (Kovari 2016) **2**. Some limitations to this research are it only lasted for 5 years so for the younger participants who were 65 this could have an entirely different effect on someone who is 80 because they’re more likely to experience negative life events since they’re closer to the end of their lives. A recommendation for this article would be incorporate leisure into their research and see if leisure using technology or leisure in face to face social groups would decrease loneliness and social isolation. (Peterson 2016) **3**. Some of the limitations are the outdatedness of the articles technology since ICT has significantly improved over the past 3 years and the lack of specificity of why some participants did not like to use ICT for example, do we know if they didn’t like it because they were taught how to use it incorrectly? Some recommendations are to expand the number of articles researched and implement a new variety of ICT with virtual assistants like Amazon Alexa. (Chen 2016) **4**. Some of the limitations of this study were the lack of other research with only 7 articles linked and the poor translation from Portuguese. Some recommendations are to create a longitudinal study of this to see if older adults still want to use them and get a better translator to English. (Barreso 2018) **5.** Some limitations were the vague definition of video game-based exercise (I was left to assume what particular systems they were referring to). A recommendation would be to examine how receptive older adults would be in terms of using these virtual exercise programs at home after dischargement from PT programs. (Valenzuela N/A) **6.** Some limitations to this study is that there were very few participants (10) and few of them investigated in-depth perspectives of the participants. Some recommendations to make this study better would be to do multiple rounds of the study so there are multiple groups which increase the participants and the quality of the study. (Wang 2017) **7**. The listed limitations of the study include a small sample size, a few sessions instead of using the robot over a period of time, and potential lack of social connection due to lack of human interaction. Some recommendations to this study is to have participants complete sessions over time with the robot so that there is enough time to notice mood/affect changes. (Chen 2017) **8**. Some limitations for this trial are that the bands must be worn at all times and it is based solely on the participants. Positive traits however, are that the devices are easy to set up and use and relatively cheap to implement. Some advice for future facilitations are that the research team updates their findings into the document and potentially doing trails over multiple years? (Hassoon 2018) **9.** Some limitations to the study show that there was a considerable amount of variation among the participant since the range of the data was 13 devices and that 71% of the participants lived alone, potentially giving the data set outliers. One recommendation for this study in the future is that the research team compiles two data pools for people who live with others and people who live alone so that the data will potentially be less skewed. (Peek 2016) **10**. Some limitations to this study were that it was a very small sample size and the study only lasted for four days which could very much have a reason for the data to be split as it is. One recommendation for the research team the next time they run this study is to make it longer so the participants can have a longer usage period with the devices. (Williams 2018) |

# COnclusion:

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| Restatement of the Research Statement (worded differently, succinctly): | For this project, I determined how virtual assistant-based activities affect the lives of older adults using data collected from an expert interview, data analysis, and thematic analysis to synthesize the data. |
| Summary of the project, results and findings. | Going into the project, my belief was that VA-based interventions would have a positive benefit on older adults by increasing the quality of their lives. After the hours of data collecting and analysis, I can say that there are definitely positive outcomes, however the results are a little mixed and sparse. Out of all the studies I analyzed, there was very little data and not many had more than one trial. Although the data is suggesting more positive outcomes than negative, the evidence is inconclusive since there is such a lack of it. |
| Implications for the field of RT/ Significant recommendations to advance the topic: | My biggest recommendation for this topic is to have more research and to **implement an assessment** into the trials to better observe the outcomes and to gather more data for years to come since this topic is so new. |

# References:

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| At Minimum should include 10 peer-reviewed articles. (Should have corresponding in-text citations): | Barreso, Joao, et al. “Using Intelligent Personal Assistants to Assist the Elderlies An Evaluation of Amazon Alexa, Google Assistant, Microsoft Cortana, and Apple Siri.” *2nd International Conference on Technology and Innovation in Sports, Health and Wellbeing*, 2018. *Researchgate*, doi:DOI: 10.1109/TISHW.2018.8559503.  Chen, T., Bhattacharjee, T., Beer, J., et al. (2017). *Older adults’ acceptance of a robot for partner dance-based exercise.* Retrieved from PLoS One: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC5646767/>  Chen, Yi-Ru. “The Effect of Information Communication Technology Interventions on Reducing Social Isolation in the Elderly: A Systematic Review.” *JMIR Publication*, vol. 18, no. 1, 28 Jan. 2016, <https://www.jmir.org/2016/1/e18/>.  Hassoon,A., Schrack, J., & Naiman, D. (2018) *Increasing physical activity amongst overweight and obese cancer survivors using an Alexa-based intelligent agent for patient coaching: Protocol for the physical activity by technology help (PATH) trail.* Retrieved from pubmed.gov: <http://www.ncbi.nlm.nih.gov/pubmed/29434016>  Kovari, Pouria, et al. “The Impact of Technology on Older Adults' Social Isolation.” *Computers in Human Behavior*, vol. 63, 2016, pp. 594–603., <https://eprints.qut.edu.au/95916//>.  Peek, S., Julijkx, K., & Rijnaard, M. (2016). *Older Adults’ Reasons for Using Technology while aging in place.* Retrieved from Gerentology: <http://www.karger.com/article/pdf/430949>  Petersen, J, et al. “Longitudinal Relationship Between Loneliness and Social Isolation in Older Adults: Results From the Cardiovascular Health Study.” *Aging Health,* vol. 28, no. 5, 28 Aug. 2016, pp. 775–795., doi:10.1177/0898264315611664.  Valenzuela, Trinidad, et al. “Adherence to Technology-Based Exercise Programs in Older Adults: A Systematic Review.” *Journal of Geriatric Physical Therapy*, vol. 41, no. 1, 1 Mar. 2018, pp. 41–69., doi: <https://doi.org/10.1519/JPT.0000000000000095>.  Wang, R., Sudhama, A., Begum, M., Hug, R., & Mihailidis, A. (2017). *Robots to assist daily activities: views of older adults with Alzheimer’s disease and their caregivers.* Retrieved from Pubmed.gov: <http://www.ncbi.nlm.gov/pubmed/27660047>  Williams, H. (2018). *Personification of the Amazon Alexa: BFF or a Mindless Companion*. Retrieved from ResearchGate: https://www.researchgate.net/publication/323504982\_Personification\_of\_the\_Amazon\_Alexa\_BFF\_or\_a\_Mindless\_Companion |

# Knowledge Translation plan (illustration)

**Draw a visual representation of your KTP.**