ACTION RESEARCH PLAN: METHODOLOGY AND METHODS

Knowledge Retention in High School Learners

A reflective research technique to find a quantifiable solution to a specific problem through analysis

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Knowledge retention in high school learners: An Action Research Plan

In general, most high schoolers attention spans have decreased due to issues surrounding the pandemic and require a variety of hands-on, engaging activities to maintain interest. It is without question that technology is also changing the pace and the way teens learn.

This action research is based around knowledge retention in high school learners. More specifically, as it relates to psychological status, many students suffer with anxiety/depression due to the impact of COVID. With their attention span being at an all-time low, excessive time spent of disciplinary actions digress from students' ability to retain. Overall, the engagement, retention and application of knowledge suffers when attention span is low.

Fundamental Research Question

This document provides an overview of the participants, methods, procedures, and techniques used to collect and analyze information to address the action research question. The fundamental question is, in an "distance learning setting", *what impact does ePortfolios have on knowledge retention in 12th grade students with a short attention span?*

Study Information

There are a variety of ways to accomplish a deeper understanding of effective strategies to strengthen knowledge retention in an online learning setting. The study will address 2 main components to include:

1. Compare effects of learning in an online setting to the learner's knowledge retention rate, and

2. Explore how online learning impact student engagement and ability to independently apply knowledge learned outside of the classroom.

Research Design. I will use a mixed method design method (triangulation) containing both qualitative and quantitative measures for this action research study.

Research Method. This study will utilize personality test, student interviews, polls, and student work. The types of measurement that will be used are interviews, surveys, observation notes and participation scales.

Data Collection and Analysis. Research participants consist of 10 volunteer high school students from 2 of the local high schools. Given a detailed literature review conducted on emerging ICT trends, the researcher found the Triangulation Mixed Method design to accomplish a deeper understanding of effective strategies to strengthen knowledge retention in the classroom. This design type allows for both quantitative and qualitative data comparisons to arrive at more confident and valid research findings. Specifically, the mixed method analysis addresses 2 main components to include:

1. Compare the effects of an online learning setting and high school setting to the learner's knowledge retention rate. The following quantitative attributes are taken into consideration:

   o Age of Students

   o Knowledge Retention Rate

   o Attendance and Gender

   o Behavior Record

2. Explore how online learning impact student engagement and ability to independently apply principles to life outside of the classroom. The following qualitative attributes are taken into consideration:

   o Maturity of Students

- o Character & Personality

- o Focus & Participation Rate

- o Incentives & Emotional Triggers

- o Motivational / Memorization techniques
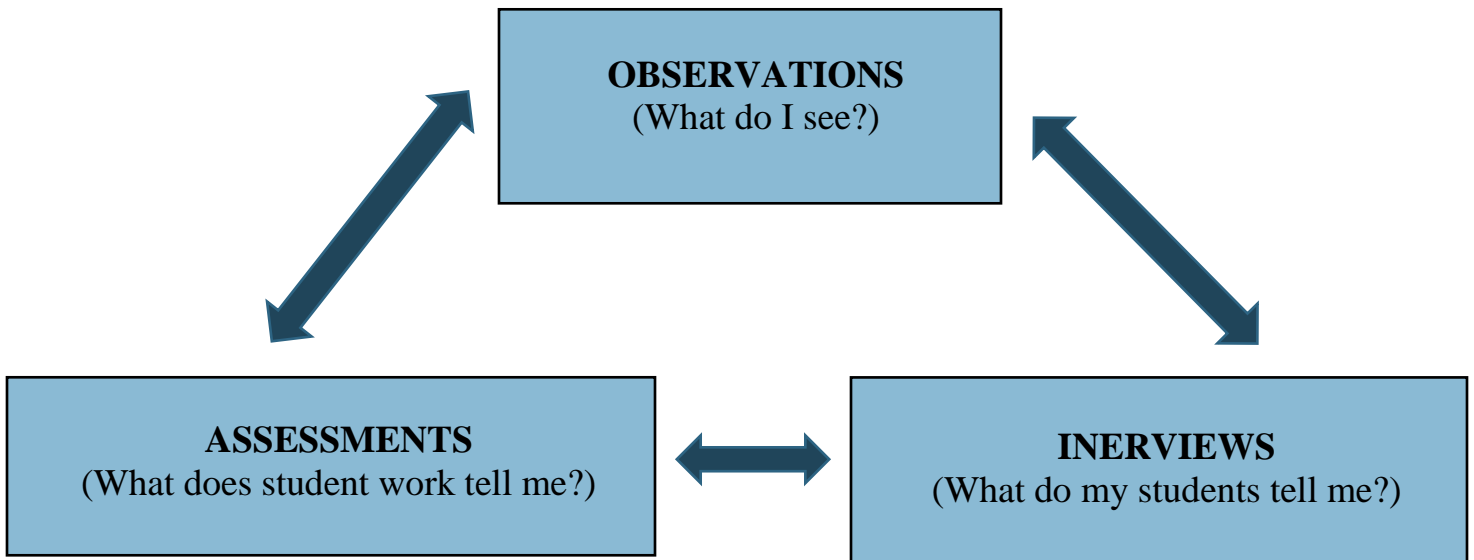
In using the Triangulation method, the researcher takes into consideration observations of what is seen from the student's participation and behavior, as well as assessments and interviews to make a quantifiable decision of changes to implement. This mixed data will provide important information regarding critical thinking skills and knowledge retention.

Timeline. Data collection and complete planning will begin June 2022 and end approximately the beginning of August 2022. In this, the implementation of ePortfolio's will flow easy for each senior participate without them feeling overwhelmed.

Summary of the Literature Review

      The literature review broadens my questions regarding the implementation of ePortfolios in a high school online learning setting. As in the evidence from research, ePortfolios can be a powerful tool for knowledge retention and capturing student learning. To be successful; administration, faculty, and students need to understand that this is not a "add-on" short-term effort but rather a long-term one.

Sharing and Communicating Results. Based on the results of the data collected, it will be shared with administration and colleagues in conveying my overall proposal of the importance of ePortfolio's being utilized in high school in preparation for college. Results will be a continued conversation.

Final Reflection. Results from this study will influence further studies on ePortfolio's in non-tradition classroom settings. The assessment of knowledge retention in high schoolers in an online learning environment will be an on-going study. Future efforts among participants will remain open to suggestions to ensure involvement.

References

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Appendix A

Data Collection (Artifact)	Measurement Instrument (Observation & Inquiry)	Procedures to Follow in Triangulation Method
• Hands on Projects • Pre-Review Assessment • End of Review Assessment (#1) • Post End of Review Assessment (#2)	A. Observation notes of a group containing 10 12th graders B. End of lesson assessment to document knowledge retention C. Interviews and self-reflection time with students to analyze achievement.	To see student engagement and knowledge retention the Researcher will: A. Observe the participants in each station rotation center for approximately 20 mins and record the observation in a shared google spreadsheet. B. Collect and record the end of lesson review sheet and sort bypass/needs more review. Conduct a 2nd review 45 days after the 1st review to determine student retention rate. C. Interview participants at the end of the lesson review and document responses in the shared google spreadsheet.
• Attendance Record Disciplinary Record • Mood Scale Assignment • Participation Scale Assignment	A. Observation notes of attitude/mood tracked on each student upon entrance and exit of classroom. B. End of lesson assessment compared to attendance/disciplinary record to determine impact of knowledge retention. C. Survey parents and teachers of participants to determine level of	To see student engagement and knowledge retention the Researcher will: A. Observe each participant and assign a mood score (scale 1-3) once the student enters the classroom and again 10 mins prior to class end. Record the observation on the attendance sheet. B. Collect, record and compare the end of

	improvement between school and home.	lesson participation grade to the number of disciplinary actions and attendance in class (monthly) to determine student retention rate. Record the observation on the attendance sheet. C. Survey each participant's parent and teacher at the end of the 12-week curriculum and upload responses to the shared google spreadsheet to discuss with focus group during the quarterly staff meeting.