The Impact of Station Rotations: An Action Research Plan

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Blended learning is often mistaken for simply putting a 1:1 device in the hands of students. According to Horn and Staker (2014), blended learning is any formal education program where the student learns partly online and has some control over time, place, and pace of their learning. There has been a significant amount of research conducted on the effectiveness of blended learning using a station rotation model. It is one of the most popular methods of blended learning that is most commonly used in elementary classrooms. It is a good fit because it builds upon the traditional classroom model of literacy centers or stations (Evans, 2012). Most elementary teachers have a basic knowledge of literacy stations, which makes blended learning with stations easier to implement. My research plan will focus specifically on how a station rotation model of blended learning impacts students' math achievement in a second-grade classroom.

Fundamental Research Question

The purpose of this study is to determine if blended learning using a station rotation model has a positive or negative impact on students' math achievement in the second-grade classroom when compared to students' achievement using a traditional method of math instruction. The purpose of my action research is to answer the question: How does a station rotation model of blended learning impact students' math achievement in a second-grade classroom?

Summary of the Literature Review

Blended learning is a combination of teacher-led instruction in a classroom and online learning that allows for teachers to deliver personalized instruction (Patrick, S. et al., 2013). Blended learning has several different models, but the most popular and accepted models are the Station Rotation, Lab Rotation, Flipped Classroom, and Flex model (Staker and Horn, 2012). There are several advantages to using the Station Rotation model in the elementary classroom. A primary

benefit is that it can be used for all students, at any age, and in any subject (Sands, 2017). The literature review has informed my action research project by giving me insight into looking at the students' perspectives toward blended learning and how it affects their attitude towards learning math content. The research shows that there are benefits to using a station rotation model, but student attitudes should be evaluated. By reviewing the research, I realize I will also need to look at the duration of the stations and whether the students are able to move through the stations at the pace determined by the teacher.

Study Information

The purpose of this study is to determine if blended learning using a station rotation model has a positive or negative impact on students' math achievement in the second-grade classroom when compared to students' achievement using a traditional method of math instruction. This will be a year-long analysis.

Research Design

My research design will be Mixed Methods. In Quantitative research design, validity and reliability are of the utmost importance. I will focus on collecting data that accurately answers my research question. Part of my collection will come from student scores and assessments using qualitative data, while the other Qualitative part of my collection will come from students' engagement and ability to orally explain what they are learning in math, as well as their preferences for blended learning stations when compared with a traditional model of instruction. This Mixed Method design is referred to as an explanatory sequential mixed methods design, where I will be conducting and gathering the quantitative research, analyzing the results and then build on those results by using detail through qualitative research (Cresswell, 2008)

Data Collection and Analysis

I will collect quantitative data using district formative assessments, summative assessments, as well as oral data from students when necessary to determine if they can explain their knowledge and mastery of the math skills acquired in a math blended learning station. I will collect this data at the end of every math unit (module). Due to the district's policies, the assessments will not be shared in the Appendices of this Action Research Plan.

The quantitative data will be assessed and compared to students who are completing the math curriculum in a classroom with a traditional mode of instruction. I will gather qualitative data by conferencing with the students three times during the school year to determine how they feel about going through the stations for each module. Since I am gathering this data from instructional purposes only, there is no need to request parent consent. The timeline will be as follows:

Fall Semester

- Students will be taught how to work in stations at the beginning of the school year and give their feedback about their experience (Appendices A).
- Students will work in blended learning stations to complete four math units and take district assessments at the end of each unit.
- At the end of the Fall Semester, students will complete a questionnaire to present feedback about their experience with the math station (Appendices A).

Spring Semester

- Students will work in blended learning stations to complete three math units and take district assessments at the end of each unit.
- At the end of the school year, students will complete a questionnaire to present their feedback about their experience with the math stations (Appendices A).

Sharing and Communicating Results

I plan to share my results with teachers in my district who are teaching the math curriculum using a traditional form of instruction. I will also share my data with our district elementary math specialist. I chose these people to share with so that teachers are district specialist can use data to determine the best mode of instruction for students in a second-grade math classroom.

Final Reflection

Depending on the data from district assessments, I will reflect on my Action Research by getting together with my administration, instructional coaches, district math specialists, and my second-grade team to discuss using blended learning in the classroom to teach math. If the data does not support using blended learning, I will reassess my Action Research plan by looking at the data from the classrooms where a traditional mode of instruction was used. I will revise my Action Research by determining if certain math concepts are taught better through blended learning or a traditional mode of instruction.

References

Creswell, J. W., & Creswell, J. D. (2023). *Research design: Qualitative, quantitative, and mixed methods approaches*. SAGE Publications, Inc.

Evans, M. (2012). A guide to Personalized Learning: Suggestions for the race to top-district competition. (C. C. Institute, Ed.) San Mateo, CA.

Horn, M. B., & Staker, H. (2014). *Blended: Using Disruptive Innovation to improve Schools.* San Francisco: Jossey-Bass.

Kimmons, R. (2022). Mixed Methods: How does one go about doing good mixed methods research? In R. Kimmons (Ed.), Education Research. EdTech Books. https://edtechbooks.org/education_research/mixed_methods

Mertler, C. A. (2019). *Action research: Improving schools and empowering educators* (6th ed.). SAGE Publications, Incorporated

Appendices A

Math Stations

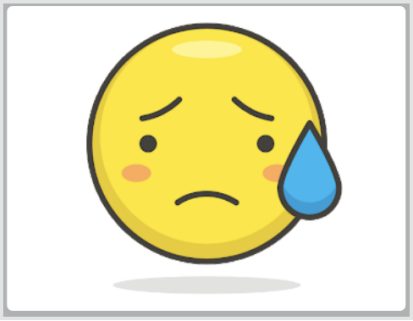
Tell your teacher how you like working in Math Stations

* Indicates required question

1. When I am in math stations I feel_____. *

Mark only one oval.

happy because I love math



confused because I do not understand the math

mad because do not have time to finish my work

2. Think about how you feel about math stations. Give math stations a grade from 1 to 5. *

Mark only one oval.

	1	2	3	4	5	
bad	◯	◯	◯	◯	◯	❤️ good

3. Do you have time to finish your work in stations? *

Mark only one oval.

- yes
- no
- sometimes

4. Do you like using technology in your stations? *

Mark only one oval.

- yes
- no
- sometimes

5. Do you feel frustrated working with others in stations? *

Mark only one oval.

- yes
- no
- sometimes