



An investigation into how software can help students at key stage 1 learn mathematics.

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Abstract

1

The role of online learning for teaching has always been a controversial topic, especially during the coronavirus pandemic where schools were shut under mandatory law. The purpose of this study was to:

- Analyze the effectiveness of software into helping students learn mathematics.
- Locate information on the current specification for key stage 1.
- Understand the learner styles being utilized in classrooms.
- Document the different teacher styles such as physical, auditory and kinesthetic
- Determine whether it could be transferred from physical means to software.

Primary testing was performed, where 50 students were chosen from key stage 1 to thoroughly test software designed to help them learn key stage 1 mathematics. The majority, over 70% of respondents agreed through feedback that the software helped their knowledge on mathematics, therefore proving software **can** be successful.

Introduction

2

This research question and topic are focused on the investigation on how software can help students currently at Key Stage 1 learn mathematics. The impact of the coronavirus pandemic or current COVID-19 is rife as figures from the Department of Education state that "currently, less than 2.5% of children are attending school, and it's unlikely that schools will be able to deliver a normal school day for these children."

Method

3

50 students from key stage 1 were chosen to participate in testing of a software system designed and tailored specifically to the current key stage 1 mathematics curriculum.

This software was then deployed and implemented on the student systems with their experience of the system being measured throughout the testing experience and their feedback documented using a questionnaire.

See figures 1 & 2 for system used in the study.

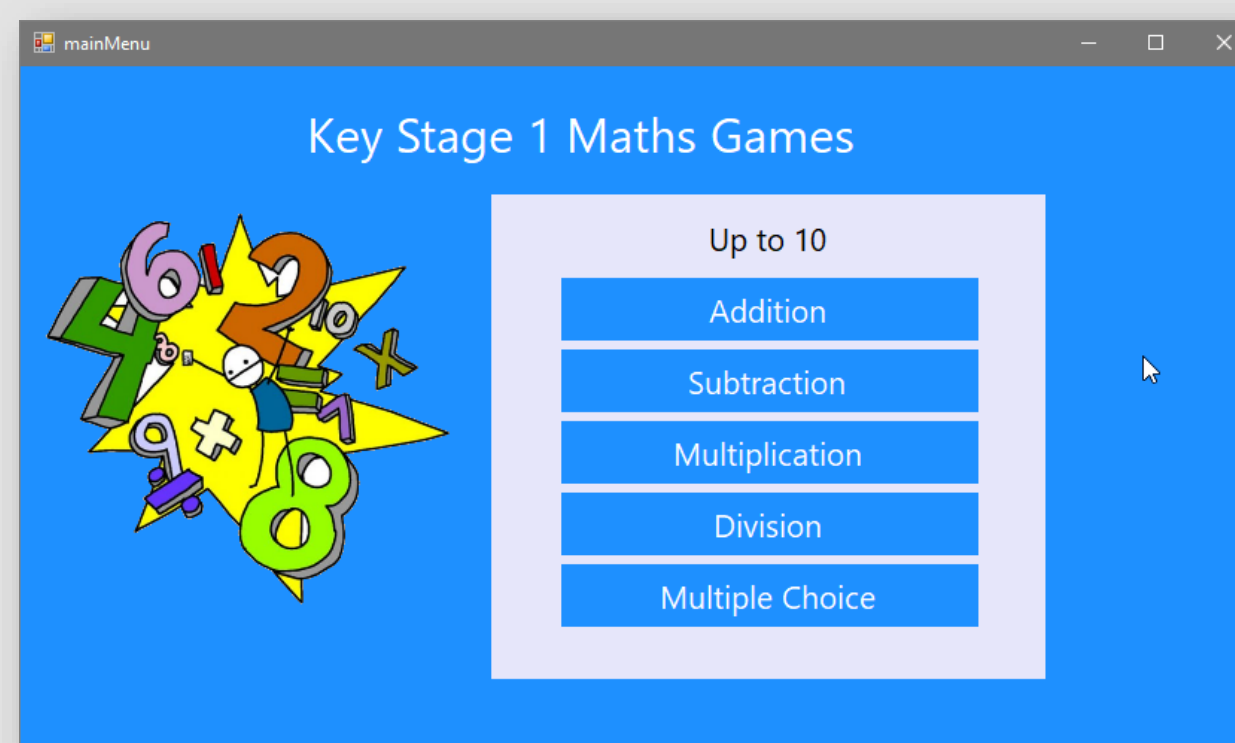


Figure 1 – A screenshot of the menu screen of the software developed

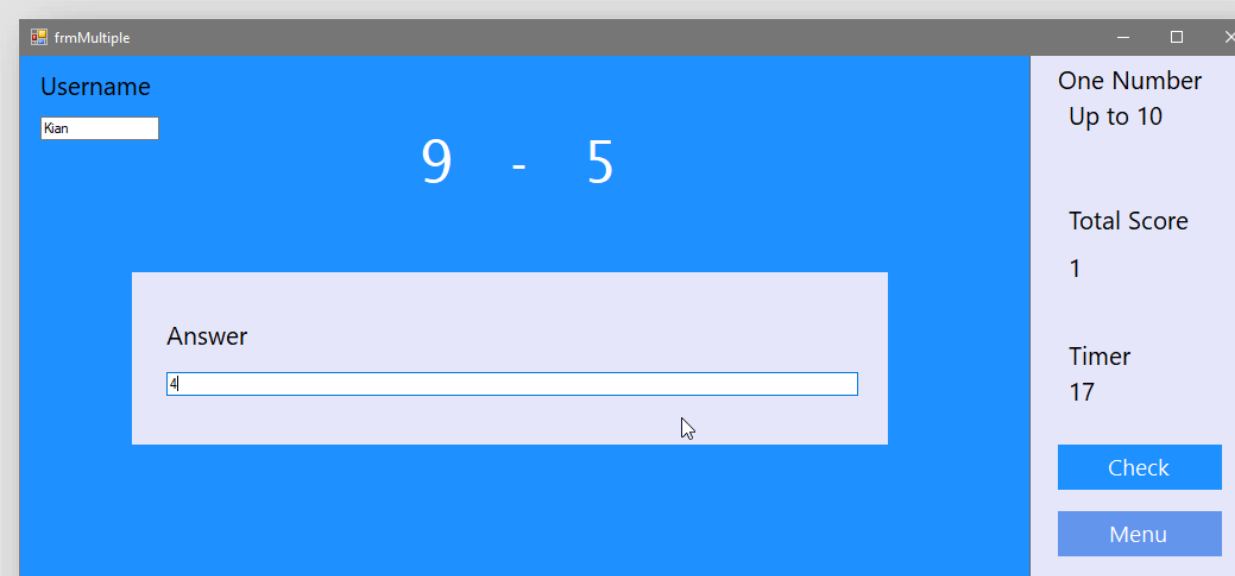


Figure 2 – A screenshot of the multiple-choice math's quiz game in demonstration.

Results

4

From the 50-respondent study:

- **40/50 or 80%** of them enjoyed participating in the games/utilizing the software.
- **50/50 or 100%** also found the software easy to use
- **35/50 or 70%** stated that using the software it allowed them to learn, or further their understanding of mathematics - therefore, showing its effectiveness.

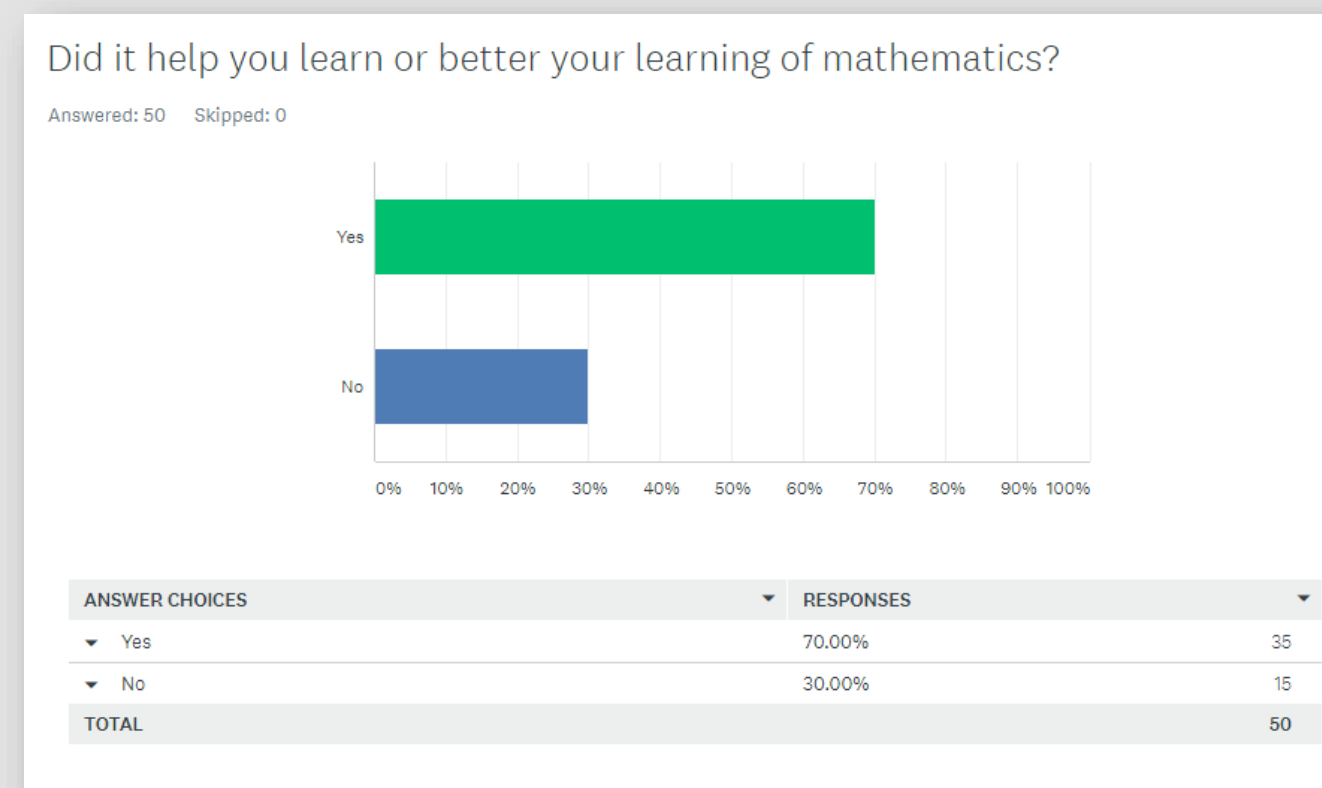


Figure 3 – A graph from the primary questionnaire to show effectiveness of software.

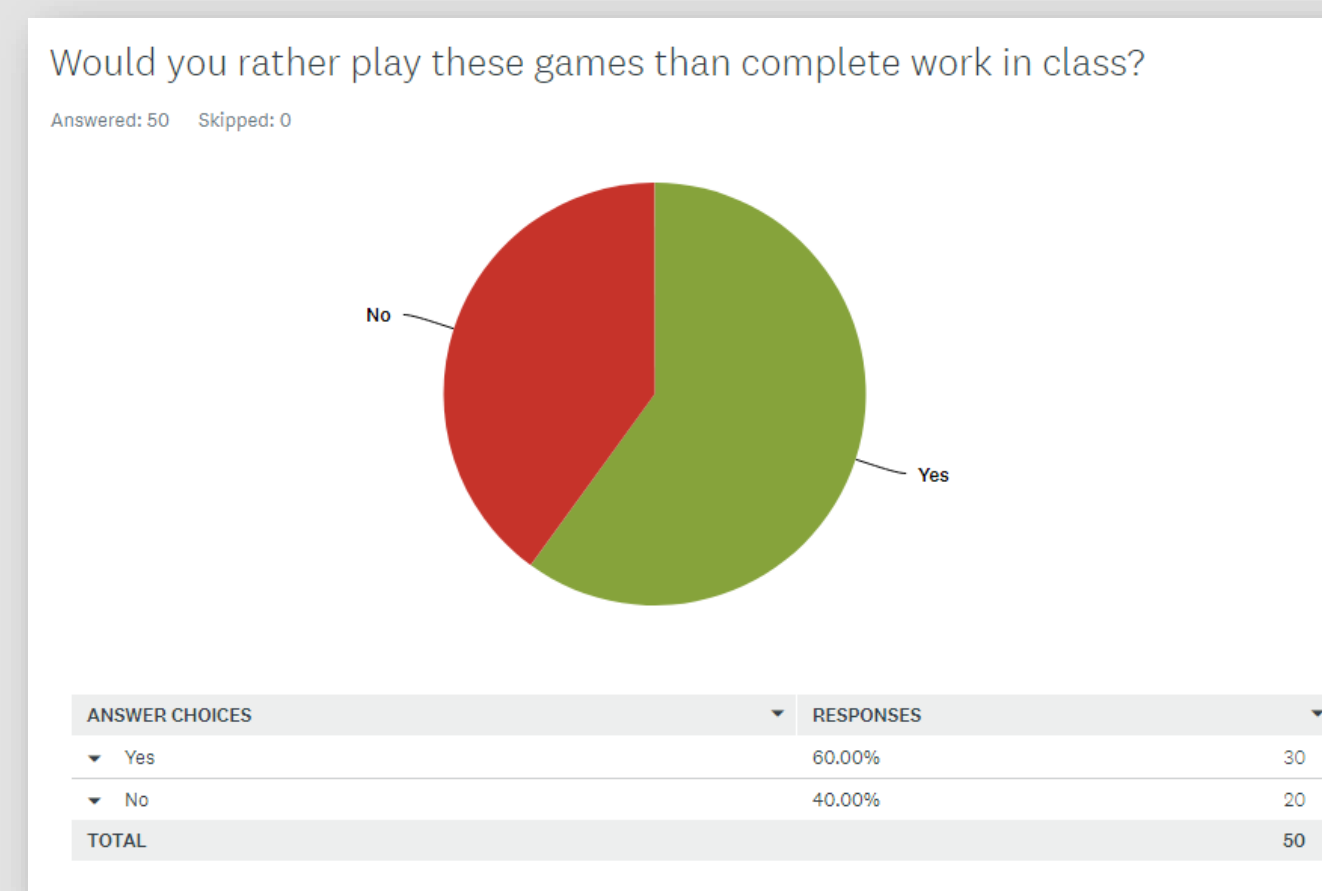


Figure 4 – A pie chart to show that children preferred the games and online software compared to learning in the classroom.

Conclusion

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To conclude, from the research conducted it is obvious that online learning can become beneficial and with the current coronavirus pandemic it is inevitable that online learning will become a major pathway in the future for children's learning with the uncertainty of schools reopening or closing

1. A variety of learning styles and methods should be implemented to ensure all students can learn equally
2. Online learning is beneficial if these variables are accounted for, and allows students to learn from their own home
3. There is already a large amount of literature available to support this, as well as key stage 1 resources online clearly showing its effectiveness

Recommendations

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Further avenue for research could be taken via implementing the system into a live environment to gain further data after an extended use of the system.

Comparisons between learning in a classroom and online software could be undergone by students. This would truly determine the effectiveness of software or potentially locate any major differences in the efficiency of learning through software.

This data could then be compared to see how students are advancing educationally in the classroom, versus students using software.

Materials

