

# Case Study 2

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## Riverside Primary School Glasgow City Council

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### Introduction

On the 9<sup>th</sup> of June 2016, Riverside Primary School in Glasgow was visited to investigate student and teacher experiences using Sumdog.

The school visit was undertaken by Andrew Gallacher who has eight years experience as Mathematics Education Coordinator at the University of Glasgow. He has much experience with all aspects of both primary and secondary education by involvement in Initial Teacher Education but also through policy development at a National Level with Education Scotland, Scottish Survey of Literacy and Numeracy and the Scottish Qualifications Authority.

The format of this visit was a structured one hour discussion with pupils. It was agreed with the class teacher during a telephone conversation that the discussion would involve all pupils in the class.

After the class discussion there was a 20 minute discussion with the class teacher, Ms. Meney, to gather her ideas and thoughts on the following pre-prepared themes:

- What experience do pupils have in using computers for learning?
- What is liked about Sumdog?
- Do pupils enjoy learning maths? Were attitudes changed?
- Do pupils use Sumdog outside the classroom? If so are there any issues?
- What could be improved?

## School Demographics

Riverside Primary School serves the area of Govan in Glasgow and has a pupil population of 216, with 14 full-time teachers. It was formed in 2010 as an amalgamation of two previous schools. The school is in a new building as part of a shared campus with a denominational primary school.

90-95% of students at the school live in the 20% most deprived datazones in Scotland and more than 20% of students are from minority ethnic groups (Scottish Index of Multiple Deprivation, 2012).

The class visited was a composite class which contained both Primary 4 and Primary 4 pupils.

## Experience of Learning with Computers

There were a small number of maths programs that pupils had tried before using Sumdog. Opinions varied on these programs and some pupils had liked using angle estimator. Other programs were mainly from BBC and GLOW websites and these mainly covered languages. Pupil experiences of these programs were not always positive as they didn't enjoy the games and often found the content had not been covered as yet in class.

School laptops were used fairly regularly when available through a booking process. For all curricular areas pupils were becoming confident in using online content. There were some issues at times with wi-fi connection.

The class teacher was keen for her pupils to develop ICT skills across the curriculum and this was reflected in pupil's confidence

using the laptops for different websites and programs.

The class teacher also thought that the pupils were positive in offering help to each other when then they encountered problems and liked to share experiences.

Pupils also discussed this idea of peer help a lot during our time and gave practical examples of where this had happened. Overall they were very positive about both giving and receiving advice and help from fellow pupils. It was also clear that some pupils had friends or siblings who had also used Sumdog and advice was also shared using this method.

## Training

There had been a training session for teachers at the start of the program which the class teacher had found very informative.

The class teacher had demonstrated Sumdog features to her class and then ensured that she was able to support logins and how to start answering questions. This was not thought to be difficult or time consuming.

After this introduction the pupils had been very comfortable progressing with Sumdog as they felt that the system was easy to use. When pupils encountered a problem they initially relied on the class teacher, but after a short period of time they tended to rely on classmates for this advice or help.

Pupils enjoyed this opportunity to help and support each other. This helped develop confidence in both Sumdog and computers in general.

## Sumdog Usage

Pupils accessed Sumdog in school using laptops and there were no classroom organisational issues that affected pupil usage apart from availability of these shared computers.

Coin rewards were a great incentive for the pupils. Pupils enjoyed decorating their on-screen house and developing their character through using the coins they earned to buy new items and outfits. Pupils would like to see more items added to the on-screen store to allow further personalisation.

The attitude of parents and carers was also very positive as pupils liked the chance to discuss progress and what they had learned after spending time on Sumdog.

Ms. Meney also said that several parents and even grandparents had approached her about Sumdog. The comments and discussions were extremely positive with the adults commenting that they were very keen to support the pupils in using computers as they were very aware of the pupil enthusiasm and progress with Sumdog.

Several pupils had been sceptical about using computers to learn maths, but now that they had engaged they were very enthusiastic.

## Attitude towards learning maths

Most pupils were keen to share that they had been positive about learning maths before using Sumdog. They also felt that on the whole they were good at maths.

Some of these responses were positively surprising to the class teacher who had not expected some of the pupils who

volunteered this information to think about maths in that positive way. A large majority of the class were of the opinion that maths was more fun now they used Sumdog.

Many pupils liked being able to track their progress. A handful of pupils also commented that they liked to have competition from classmates to see both who had successfully completed more questions and for the levels attained in each topic.

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*“A large majority of the class were of the opinion that maths was more fun now they used Sumdog”*

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## Sumdog use outwith the classroom

There were a small number of issues getting online outwith the classroom which was mainly due to home wifi connection. The second issue was with pupils using older technology at home.

It also came across very clearly from pupils that they felt able to help fellow pupils to rectify some of the access problems that were encountered outwith the classroom. This came about through usage in class and by organised discussion where pupils were able to share knowledge and experiences.

The class teacher also ensured that pupils knew they could have free access Sumdog, and the internet, both in the school library and in the local library.

The teacher indicated that they would like a greater number of laptops to share within the school. This would allow time to be dedicated to developing IT skills and ensuring online access.

She also indicated that the number of access issues amongst her pupils were relatively small and had diminished over time. She was confident that they had been overcome through peer help and her support.

### Suggestions for improvement

When asked how to make the Sumdog experience even better, pupils were very imaginative in their responses. As with pupils from other schools, they wanted to make the games more elaborate and possibly to include other games such as basketball.

Characterisation was also very important to pupils as was an expansion of the playing area to include larger flats of houses or even streets for the characters to move around.

Additional adventures were also heavily discussed although there was no clear consensus as to the form that these would take.

Having listened to the pupil comments their teacher, Ms. Meney, added that the existing games and format had become very popular with her pupils.

### References

Scottish Index of Multiple Deprivation, 2012, full dataset available here: <http://www.gov.scot/Topics/Statistics/Browse/School-Education/Datasets/contactdetails>

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## *“Attitudes towards learning mathematics have improved since pupils began using Sumdog”*

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### Summary

Pupils, parents and teachers had become very confident in using computers for learning due to the positive experiences of Sumdog.

Role playing was a strong reason for the pupil enjoyment, but the best part of using Sumdog for all pupils was the ease of use and the ability to see their progress.

Attitudes towards learning mathematics improved since pupils began using Sumdog. This was evidenced by pupils questionnaires and follow up discussions where the overall positivity had even surprised the class teacher.

Outwith the classroom many pupils used Sumdog regularly and in turn they were strongly supported by parents and carers. This was due to the adults becoming aware of pupil enthusiasm and the chance to discuss progress.