Self Organised Learning Environments

S.O.L.E classrooms

Kathy Moy-Low
Principal
Waiheke Primary School

Sabbatical Term Two 2016

Acknowledgements

Purpose

To gain a deeper understanding of the "School in the Cloud" and the collaborative approaches of SOLE (Self Organised Learning Environments) Classrooms around the world, based on the research of their founder Sugata Mitra Professor of Education Technology at the School of Education, Communication and Learning Sciences at Newcastle University, England.

Background

I became aware of and fascinated with SOLE after hearing Sugata Mitra present at the Schools of the Future Leaders Conference in Singapore in 2015. His research was based on the "Hole in the Wall" experiments where children in the slums of india were exposed to computers. These children not only taught themselves how to use the computer and how to read English in order to access information but were also able to answer advanced GSE science and mathematical problems. These children grouped and regrouped themselves in order to advance their learning and in order to work with students who could assist them to meet their learning needs. Following this research Sugata was awarded a $1 million Ted Foundation grant. He went on to set up SOLE classrooms in the UK and different parts of India. From these studies he found that students changed and regrouped to find their answers or follow a train of thought. Testing months later of these students and students who had been taught the information through more traditional methods, found that the students who had worked in the SOLE classroom retained the information and had gained a deeper understanding because they continued to interact together outside of with social media etc to continue their dialogue and interest in the topic.

One of the important aspects of a SOLE classroom is that the students use a large computer screen than a laptop or ipad, and classes usually have a ratio of 4-6 students to a computer. My interest has been in looking at how these students using a SOLE classroom worked cooperatively and co-constructed their learning with minimal teacher input. How has our introduction and embedding of e- learning devices in NZ schools impacted on cooperative learning and higher order thinking which comes from students interacting together? And further, has a move away from larger screen devices been, or will be, at the detriment of this interaction.

Methodology

A survey of New Zealand Principals using the Google Forms database to look at opinions on e-learning devices and cooperative learning.

Review of recent research from SOLE classrooms and "Schools in the Cloud".

Visit to SOLE classroom in Newcastle, England.

Findings

The NZ Communications Trust survey of schools in their 2014 Digital Technologies in NZ Schools Report into the types of devices being used found that 12% of schools surveyed estimated that 50% or more of their computing devices were tablets, while 39% of respondent schools reported that 50% or more of their computing devices were desktop devices.
A recent survey undertaken as part of this sabbatical study to all New Zealand School Principals had 580 respondents. Survey results indicate a move towards smaller screens e.g Chromebooks /iPads as learning devices for students. Responses to the question asking what the three main e'learning tools used in their school were:- iPads 74%, laptops 63% and chromebooks 63% .
51% of respondents felt strongly that students today were more independent in their learning as a result of being able to access information through e learning tools. 52% of respondents felt that students today worked more co-operatively together as a result of using e-learning tools. While 50% of respondents felt that students were becoming more insular as a result of working on e - learning devices. Refer to the end of the report for a full summary of the survey results.

Sugata and Crawley's research in 2014 using his SOLE approach with students in Gateshead in Newcastle, have had some interesting results as to student capability for accelerated learning when working with their peers on a computer and given a challenging question to research and report on to the whole class.
    "From these, small sample, studies, we conclude that groups of children, using the Internet, can answer test questions ahead of their time and obtain acceptable test scores. Moreover, the difficulty levels (ie, how far ahead of their time) they can obtain acceptable test scores when working in groups and using the Internet seems to be in excess of seven years. Children who have attempted such questions in groups, seem to retain the answers individually

for up to 3 months after the testing. A related and intriguing result is that children seem to be capable of reading and understanding text that is, at least, 4 years ahead of their individual reading capabilities, if they are allowed to read in groups."

I was fortunate to be able to spend a morning with Emma Crawley in Gateshead, whose diaried work on the SOLE approach has formed the basis of this and further research at Newcastle University. I was also able to visit and observe classes in a SOLE classroom, set up by Sugata following his Ted Foundation Grant, at George Stephenson High School in Killingworth Newcastle.

Crawley is a strong advocate for the SOLE approach. She cited a lesson on Vikings as part of Year 6 study on Vikings. She asked the class to find out about the belief systems of the Vikings. The students made their own groups, were left to research the questions and prepare to report back their findings. 40 minutes later she found that her students had made links between the beliefs of the Vikings and why the Vikings were such a warlike people. This part of the curriculum was for much older students. At Gateshead they have found that the students' research skills have improved and there was some evidence of accelerated progress in Reading.

Schools that do not have a designated SOLE classroom set up have successfully used the SOLE approach in the classrooms with smaller e-learning devices. I visited schools where staff had been trained using the SOLE classroom and schools where there was not a SOLE classroom but teachers had been trained also in this approach. Both schools reported that teachers who followed the approach and who were able to let the students lead their learning without teacher interference had reported continued success and that the students preferred working in a SOLE approach.

At George Stephenson High, Amy Dickinson's work with Sugata and Newcastle University is showing evidence which indicates that once SOLE practices are well established the balance of responsibility for learning changes from the teacher to the student.

What was evident from my observations was the need to stay true to the SOLE philosophy and let the students drive their own learning. The teacher's role becomes more evident when the student groups report back on their findings without the teacher having interacted with their research. I observed lessons where the teacher interfered with the work of the students in the group influencing the group towards outcomes the teacher wanted the students to find. The rich discussion and connections were then very limited.

SOLE approaches which operate at two schools in Melbourne have seen the students gain more independence and resilience. Principals of these schools report that growth in reading capability has been above expectation in classes who have used the SOLE approach " they seem to lose

the sense of the teacher having to fix things and move towards taking more control of their learning ... students also get an understanding that they can pursue areas of interest and follow their own inquiry really strong growth through this area that moves onto other times when not doing SOLE." Brett Millot, Principal, Aberfeldie Primary School, Melbourne.

Implications/ Benefits

"Tell me and I forget, teach me and I may remember, involve me and I learn." Benjamin Franklin

This wonderful quote was on the wall in the SOLE classroom that was set up at George Stephenson High School and Newcastle University as a result of the Ted Foundation grant to Sugata Mitra to further his research into self organised learning organisations. The involvement of students in a SOLE environment is perhaps the single most important finding for me in my research.

Undertaking a SOLE approach to Inquiry can only have positive outcomes for students, developing their skills of self directed learning, and indeed teachers developing the skills to allow students to be risk takers who are responsible for their learning.

The use of a specifically designated classroom has advantages as it allows a space where common approaches, routines and a sense of learning the SOLE way can be developed.

Sugata states that a SOLE classroom needs:
- Students to have at least one lesson of 90 minutes each week.
- Students work to answer the question set by the teacher in groups of 4-6
- The students choose their own groups, they can change groups , they can move around and discuss with other groups and walk around looking at other groups' work.
- About 30 minutes before the end of the lesson each group should produce a report to share where they describe what they have found. Later classes can expand on these.
- The teacher's role is minimal - to observe the students and stay out of the way.
- Lots of windows so that others can look in and see the learning.
- Large whiteboards for students to write questions and record their findings
- Large sheets of paper for students to take notes and help present their findings.

Structure of SOLE Lesson:
- Review protocols - students choose their groups of (number of students per group designated by teacher), students can change groups if they wish, need to report back in 40 minutes
- Set the " big" question
- Students choose their own groups and work on their Inquiry
- Review and feedback initiated by the teacher

Reference The SOLE Toolkit
https://s3-eu-west-1.amazonaws.com/school-in-the-cloud-production-assets/toolkit/SOLE_Toolkit_Web_2.6.pdf
The big questions can be linked to curriculum coverage or formed to stimulate Inquiry e.g How was music created? What will the future look like? What would happen if all the insects in the world disappeared?

The Schools in the Cloud enable SOLE educators in Global forums share their approaches, ideas and research on self directed learning.https://www.theschoolinthecloud.org/about . The continued growth and evidence of the School in the Cloud is evidence of the impact SOLE practices continue to have on student self-directed learning.

Conclusions

Using the Self Organised Learning Environment as researched by Sugata Mitra at the University of Newcastle has been shown to improve students' collaborative approaches to their learning. Improved research skills and accelerated reading levels among students who use the SOLE approach are now beginning to be documented. The use of a larger e-Learning device shared among 4-6 students engages the students in learning conversations that lead to higher order thinking and next steps learning from students. SOLE students report that they have used social media to carry on these conversations and further advance their thinking and learning on a subject and this has lead to a higher level of retention of a subject by these students.

As an educator I will endeavour now to introduce a SOLE approach at our school. I will encourage teachers to use an area in our Multi Purpose room and library which will be adapted for SOLE classes. Teachers in their classrooms will also be invited to use the SOLE approach to further embed our Curriculum Inquiries and embed student directed learning.

" Learning is a new skill imagination, creation and asking questions are at its core" Sugata Mitra SOLE Classroom, George Stephenson High School.

References

Mitra, S & Crawley E. Journal of Education and Human Development, Vol. 3(3), September 2014. **Effectiveness of Self-Organised Learning by Children: Gateshead Experiments**

Mitra, S."Lead & Redefine Future Schools", Intase Conference April 2015, Conference Notes

Mitra, S. (2015) "Beyond the Hole in the Wall" Ted books

Internet References
Schools in the Cloud https://www.theschoolinthecloud.org/about
SOLE Central https://blogs.ncl.ac.uk/education/category/sole/
SOLE Searching Questions http://www.ncl.ac.uk/hss/about/news/item/sole-searching