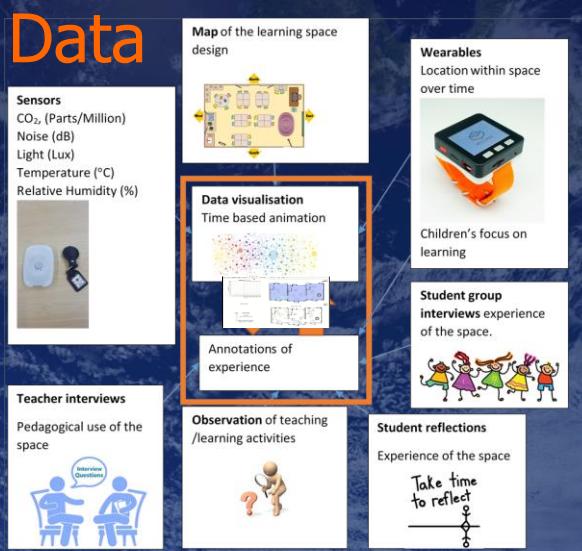


Flexible Learning Environment

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Classrooms in New Zealand are being built and redesigned in new and different ways. There is limited research to inform policy and practice on how children and young people experience the physical environment, particularly in contexts where they have agency in their decisions about their use of space. This research uses a socio-material approach to explore how children experience flexible learning environments.

The context: The dynamic interactions between the socio-material elements such as the environment and social aspects of a classroom can provide insight into learning environments (Daniels, Tse, Stables, & Cox, 2018). A cross-discipline research team with expertise from Education, Architecture and Computer Science is examining the research question: How do socio-material aspects of a learning environment influence the learning experience of children. The context of the study was a flexible learning environment in New Zealand of 90 students and three teachers. The children are aged 9-11 and use a mixture of internet connected devices and traditional materials for learning. The learning environment has a range of furniture including window seats, bean bags, cushions, ottomans, whiteboard tables at differing heights and 25 traditional desks with chairs.



Method: Case study methodology was applied to the research with multiple data sources gathered over one week at the end of December 2018 and one week in March 2019. A group of students were provided with wearable devices which enabled the capture of location data triangulated using the Internet of Things technology... Eleven sensors were placed around the learning environment to track the physical conditions, a researcher observed events within the classroom including the learning activities. The data were combined into a time sequenced data visualisation to enable analysis across socio-material elements.

Findings: The three teachers in the case study worked collaboratively to construct a weekly timetable of learning activities across each week. Within scheduled activities each teacher had a different teaching role, one may be teaching a small group of students, another may be working with individual students and a third may be leading a larger group activity. At any given time students were working independently, with other students or participating in a teacher led activity. Each student had a dedicated laptop although this was not used for all activities. Within this context, students demonstrated autonomy, making choices about their interactions with the socio-material elements of the learning environment which included teachers, resources, curriculum, environment and other students.



Sunny window seats for independent focused work.



Curriculum preferences

Student preferences



Students did not use computers on standard desks, they preferred low desks.



Whiteboard tables for mathematics



Soft furnishings around the edge of the room when feeling grumpy or whakama.



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