

## ***Lávvu* and mathematics**

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### **Introduction**

*Sápmi* is the Sámi term for the Sámi homeland and society, the land area extends from Central Norway, Sweden and Finland to the Kola Peninsula in Russia. In Norway, the Sámi as a population has status as an indigenous people, which means that the Sámi have the right to develop their own culture and language on their own premises. Traditionally the Sámi people has lived as hunters and gatherers and in connection with this, they lived a nomadic life. The *lávvu* is a temporary dwelling, and the design of it reflects the Sámi culture as a community. Families travel in small groups, and the *lávvu* is designed so that even one person could quickly set it up with little effort.

Teachers at a Sámi school in northern part of *Sápmi* in Norway have for several years developed teaching units for all grades in lower secondary school with *lávvu* as an overall theme. When students attend their last year at lower secondary school, they develop their own teaching unit in mathematics with the *lávvu*. This study builds on research by Fyhn et al. (2016), Fyhn, Meaney, Nystad, and Jannok Nutti (2017), and Jannok Nutti et al. (2015), where the Sámi culture founds basis for mathematics in school. The research question investigated here is: How do students use the *lávvu* in mathematics teaching?

### **Theoretical framework**

The Sámi pedagogy reflects the Sámi culture, and the culture has a holistic conception of knowledge (Balto, 2005; Keskitalo & Määttä, 2011; Siri & Hermansen, 2018). The holistic view is also central in the upbringing of the Sámi children. Culturally-responsive teaching is about teaching that founds basis in cultural knowledge and insight (Gay, 2013). It is essential that this teaching must not take cultural phenomena out of its context, because the student can experience that the teacher and the school simplify the students own culture (Fyhn et al., 2017).

### **Method**

The analysis of the data in this study can be characterized as abductive, and the data material has been analyzed towards Sámi pedagogy and culturally-responsive teaching. The data is based on observation, audio recordings of the teaching activity and conversation between authors. Ole Einar was the teaching students' supervisor in the development and performance of the teaching. Siv participated in the teaching as a participating observer following one group of learners.

## Findings

There were five *lávvu*s in the schoolyard. Each of them had different themes in which it was taught. These topics were cooking in the *lávvu*, building a traditional *lávvu*, storytelling and *luohti* (Sámi traditional song), the history of the *lávvu* and mathematics in *lávvu*. In addition, each lesson in the *lávvu* lasted for approximately 30 minutes. The students who were taught were divided into four groups, and each group of learners were visiting all *lávvu*s. In Sámi pedagogy the place where teaching happens does not necessarily need to be situated in the traditional classroom (Keskitalo & Määttä, 2011). This teaching is literally situated outside the classroom. It takes place in *lávvu*s in the schoolyard. The teaching combines the Sámi culture and the Norwegian upper primary school level curriculum. Four of the *lávvu*s addressed phenomena and activities in relation to the Sámi culture. The fifth *lávvu*, where mathematics was taught, stands out in such a way that it was based on *lávvu*, but it related to geometry. All the *lávvu*s had to be included in the teaching because this gave a holistic perspective and cultural-responsive teaching, even though the mathematics teaching could be characterized as deductive.

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