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Learning to swim in Finland: practices and experiences

Introduction

Finland is a Nordic country of thousands of lakes. We have 168,000 lakes with a minimum size of 500 m² (National Land Survey of Finland 2022). There is 215,000 km of lake shoreline, and added with the coastlines of sea, islands and rivers, there are all together 314,604 km of shoreline (Finnish Environment Institute 2002). The culture of summer cottages is strong with over half a million cottages (Statistics Finland 2021) and most of them are situated by the water and equipped mainly with smaller boats (Finnish Transport and Communications Agency 2022). Therefore, Finns spend a lot of time by the water and swimming, and water safety skills are essentially important in **drowning prevention** (▣ Fig. 1).

Swimming skills also has a **health promoting** relevance for everyone (Stallman et al. 2017). The ability to swim makes it possible to adapt **physically active lifestyle** allowing different physical activities in the water, also for people with special needs (i.e., limitations to move). Aquatics, especially in the swimming halls, suits very well for the elderly people and rehabilitation purposes. Swimming skills make it possible for everybody to participate in aquatics across their lifespan (D'Hondt et al. 2021; Langendorfer 2015).

The importance of aquatics realizes in the Finnish National Core Curriculum for basic education (NCC 2014). The learning objectives for swimming and lifesaving skills are the only specified skills that are mentioned. The curriculum underline teaching approach being through play and joy towards the water

competence. At the grades 1–2 (ages 7–8 y) the objectives are “to introduce the pupil to water sports and to ensure that the pupil masters initial swimming skills”, defined as 10 m swimming. At the grades 3–6 (ages 9–12 y) the objectives are “to teach swimming skills allowing the pupil to be active in the water and to learn water rescue skills” concretely meaning 50 m swimming with two different styles and 5 m distant dive. For older pupils (until 16 yrs) the objective is based on the specified Nordic definition: You are able to swim if you know how to a) jump into water so deep your feet can't reach the bottom b) you can subsequently swim for 200 meters c) of which 50 meters is swum backstroke (NCC 2014). So far, in the curriculum of early childhood education there is no objectives concerning swimming and lifesaving skills. However, municipal sport and leisure services (71%) organized swimming teaching for preschoolers (age 6 y) approximately 3 h (FSL 2022, p. 6).

Swimming teaching is mainly organized by some other agent than the school e.g. municipal sport and leisure services and swimming clubs (72%). In some cases, mainly in the smaller municipalities, the teaching is organized by the school's teacher (25%) (FSL 2022, p. 3) The teaching hours varies a lot (▣ Fig. 2). The Finnish Swimming Teaching and Lifesaving Federation (FSL) recommends at least six (6) hours of swimming teaching each year from the preschool to 6th grade (Turvallinen uimaopetus 2020) but only in 12% of municipalities the swimming teaching is organized as recommended. However, in 55% of municipalities approximately four hours of swimming teaching are

organized every year. If preschool is excluded in 18% of the municipalities the recommendation (6h) is fulfilled and 74% provides appr. four (4) hours swimming teaching (FSL 2022).

Methods

FSL has regularly studied factors related to children's swimming skills in Finland to follow the changes in pupils' and citizens aquatic skills. Previous studies have been carried out in 2000 (Kuusela 2000), 2004 (Kurki and Rajala 2004), 2006 (Hakamäki and Rajala 2006), 2011 (Rajala and Kankaanpää 2011) and 2016 (Hakamäki 2016). The themes of the research have varied in different years, but the main research questions have been what proportion of Finnish sixth graders can swim and how swimming lessons are organized in schools. In this article, we briefly present the latest study, which was carried out in the spring of 2022 (Uimataitotutkimus 2022). In addition to the main research questions, the study examined the effects of the Corona pandemic on sixth graders' swimming and school swimming lessons, as well as various factors that encourage or prevent sixth graders participation in school swimming lessons. Also, for the first time the aquatic skills of six-year-old preschoolers were explored.

Data collection

Study was conducted between March and May 2022 in six Finnish Regional State Administrative Agencies, covering the entire country apart from Åland. Data were obtained from the participants using the self-reported questionnaires.



Fig. 1 ▲ Finns spend a lot of time by the water and swimming, and water safety skills are essentially important in drowning prevention (symbolic picture). Picture: LSB NRW/Andrea Bowinkelmann

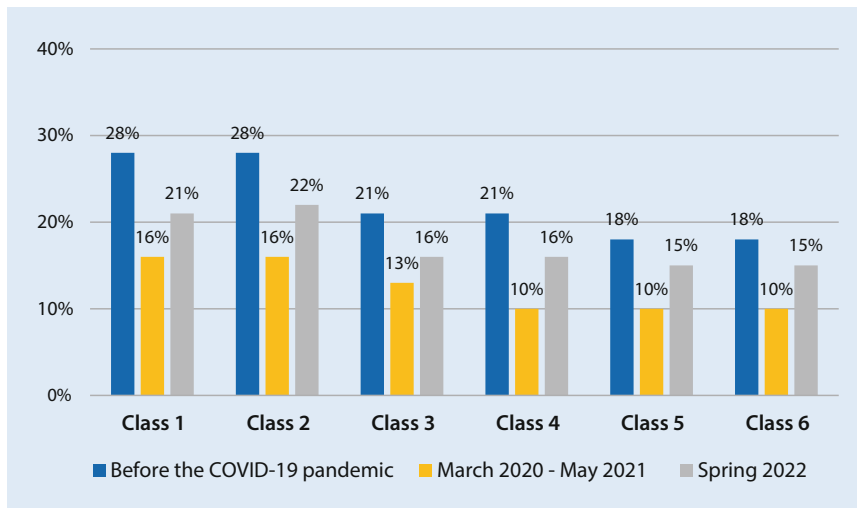


Fig. 2 ▲ The proportion of schools that achieved the FSL's swimming recommendation (6 h/academic year) by class level before the COVID-19 pandemic, during the COVID-19 restrictions and in the spring of 2022 (Uimataitutkimus 2022)

The study of sixth graders included separate electronic questionnaires for the school principal, sixth grade teachers and sixth graders. The teachers informed the guardians about the study using an electronic information sheet and ensured the guardian's consent to the children's participation. Pupils answered the questionnaire at school under the guidance of their teacher. The study of preschoolers included separate electronic questionnaires for preschoolers and their guardians, which they completed at home. The study had ethical approval by the Human Sciences Ethics Committee of the University of Jyväskylä.

Participants/Respondents

Sixth graders

Participants included 1798 sixth graders (12-13-years-old), 68 principals and 71 sixth grade teachers from a total of 53 municipalities and 114 schools. A research population consisted of Finnish

primary schools with a sixth grade, and the final sample was determined by a proportional quota. Participants were selected using a randomized sampling technique in which the size of regional subsamples were determined by their relative contribution to the size of the entire Finnish population. Regional State Administrative Agencies were used as the regional division, from which the municipalities and schools chosen for the study were randomly selected with a relative quota corresponding to the population of the region. The sample of sixth graders consisted of 856 girls (47.6%), 783 boys (43.5%) and 43 non-binary genders (2.4%). The rest of the children (5.7%) did not want to reveal their gender.

Preschoolers

In total, 222 6-year-old preschoolers and 384 of their parents/guardians completed the online survey. Preschoolers and their guardians were selected from the same municipalities as in the study of sixth graders. Responses were obtained from a total of 34 municipalities.

Survey questionnaires

Sixth graders

A questionnaire for sixth graders was developed based on the questionnaires of previous research rounds. Some of the questions were kept unchanged to enable comparisons over time. Respondents were asked about their swimming ability, the age at which they learnt to swim 200 meters, the place where they learned the elementary swimming skills (10 m) and the frequency of leisure swimming. In addition, the pupils were asked how often they participate in school swimming lessons, how the Covid pandemic affected their swimming and which factors encourage or prevent them from participating in school swimming lessons. The questionnaire aimed at sixth grade teachers investigated the practices of assessing pupils' swimming skills in schools. In addition, the questionnaire for school principals explored the number of organized swimming lessons by elementary school classes before, during and after the coronavirus restrictions.

Preschoolers

In a questionnaire aimed at preschoolers, children were asked to evaluate their own aquatic skills. The children answered a short questionnaire at home with the help of their guardian, using pictures adapted for this purpose from the international Pictorial Scale of Perceived Water Competence (Morgado et al. 2020). In the original scale, perceived water competence is measured through 17 aquatic skills, but in this study only the following nine aquatic skills were included: (1) Lying down in a prone position using hands on the bottom to move forward, (2) standing and submersion in the water, (3) catching an object under water, (4) floating on the back (back star), (5) floating on the front (front star), (6) pushing from the wall and gliding under water, (7) leg propulsion on the back, (8) water entry by jumping and (9) turning from the front to the back in an aligned position (i.e. longitudinal axis rotation). Each of the skills were presented by drawings and had the scale with three level progression, as follows: Level 1 = "not able to do the skill", Level 2 = "skill in progress", Level 3 = "able to do the skill". The guardians evaluated their children's aquatic skills in a separate questionnaire using the same drawings that the children used to evaluate their own skills.

Data analysis

Statistical Package for Social Sciences (SPSS) version 28 was used for the data analyses. Both a descriptive and a comparative approach were used to analyze the data. Differences between genders and regions were examined using cross-tabulation and Pearson's chi-square test, using the conventionally accepted significance level of 0.05 as the threshold of the statistical significance.

Results

Sixth graders

Approximately 55% of sixth graders reported they could swim at least 200 meters of which 50 meters is swum on the back. There were also differences be-

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Learning to swim in Finland: practices and experiences

Abstract

Aquatic skills have been defined as important life-saving skills in Finland, because of it's thousands of lakes. Finnish national core curriculum includes objectives for pupils' swimming skills and, therefore national survey is implemented regularly. The latest survey implemented in spring 2022 to measure 6th graders ($n = 1798$) and preschoolers ($n = 222$) perception of their swimming skills. The results revealed decline in 6th graders' skills. There were approximately 55% of 6th graders reporting to be able to swim 200 m, including 50 m swimming on the back. Moreover, the survey revealed gender differences showing that 60% of boys, 51% of girls and 40% of non-binary genders achieved the 200 m criteria. These gender differences have not found earlier. In 2022 survey included preschoolers (6 yrs) first time. The results showed that preschoolers have positive attitude towards water, and they perceive their aquatic competence positively. This starting point should be utilized in swimming lessons by including swimming already as part of preschool curriculum. The Covid pandemic reduced the amount of swimming lessons. Therefore, it can be assumed that a new generation of pupils with poor swimming skills is now growing. There is need to ensure water safety by compensating the lack of swimming skills. Practically it could mean starting annual swimming lessons from preschool.

Keywords

Swimming · Aquatic skills · Perceived competence · Children · Curriculum

tween genders; 60% of boys, 51% of girls and 40% of non-binary genders reported achieving the Nordic criteria of swimming skills. Depending on the gender, 2 to 6% of sixth graders were unable to swim 10 meters.

Compared to the previous study carried out in 2016, the amount of sixth graders able to swim according to the Nordic criteria has clearly decreased: 16 percentage points in boys and 25 percentage points in girls.

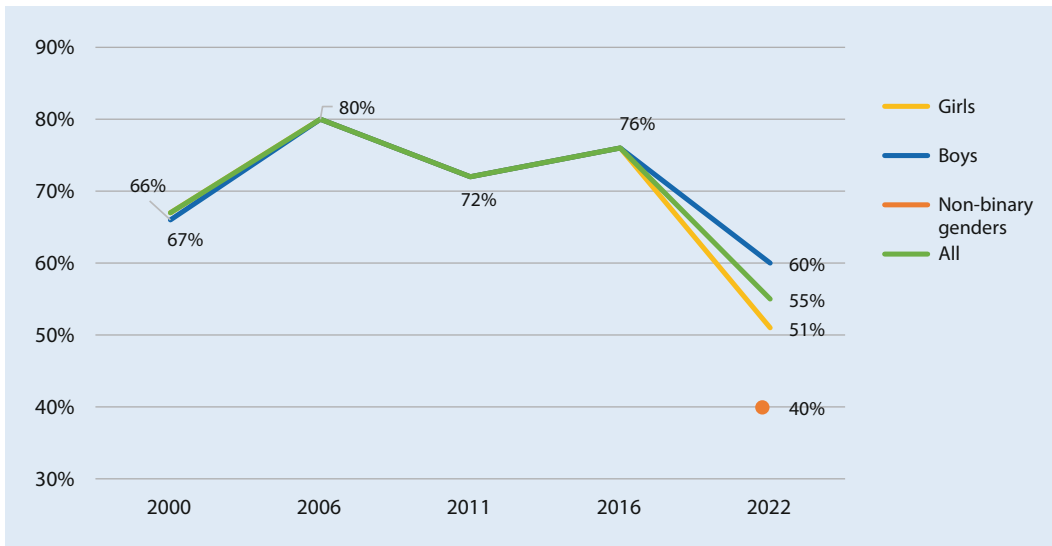


Fig. 3 ◀ Percentage of sixth graders who met the Nordic swimming skills criteria (200 m) in years 2000–2022 (Uimataitotutkimus 2022)

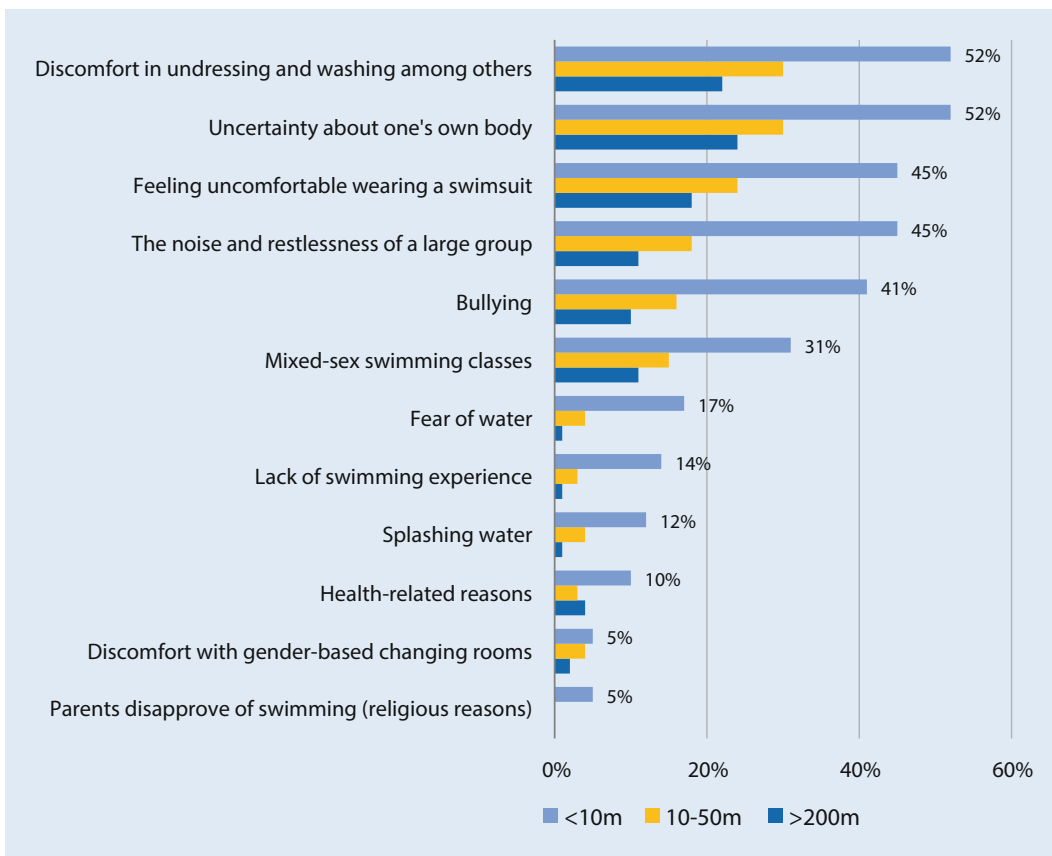


Fig. 4 ◀ Factors preventing participation in school swimming lessons and the development of swimming skills according to the swimming skills (m) of sixth graders (Uimataitotutkimus 2022)

The worldwide Covid-pandemic concretely affected school swimming and thereby the swimming skills of sixth graders (Fig. 3).

According to the students and teachers, over half of the schools did not provide any swimming lessons due to pandemic restrictions. Most of the school swimming lessons were organized for

first and second graders (approximately 3.8–4.2 h).

Sixth graders themselves reported that they were most encouraged to participate in school swimming lessons by their visits to the swimming hall in their free time (60%). It is noteworthy that these visits also decreased due to pandemic restrictions. Sixth graders reported that the

biggest barriers to participating in school swimming lessons are feelings of uncertainty about one's body and discomfort in undressing and washing among others. It is worth noting that the pupils with the weakest swimming skills (< 10 m) experienced different barriers more often than the pupils with better swimming skills (Fig. 4).

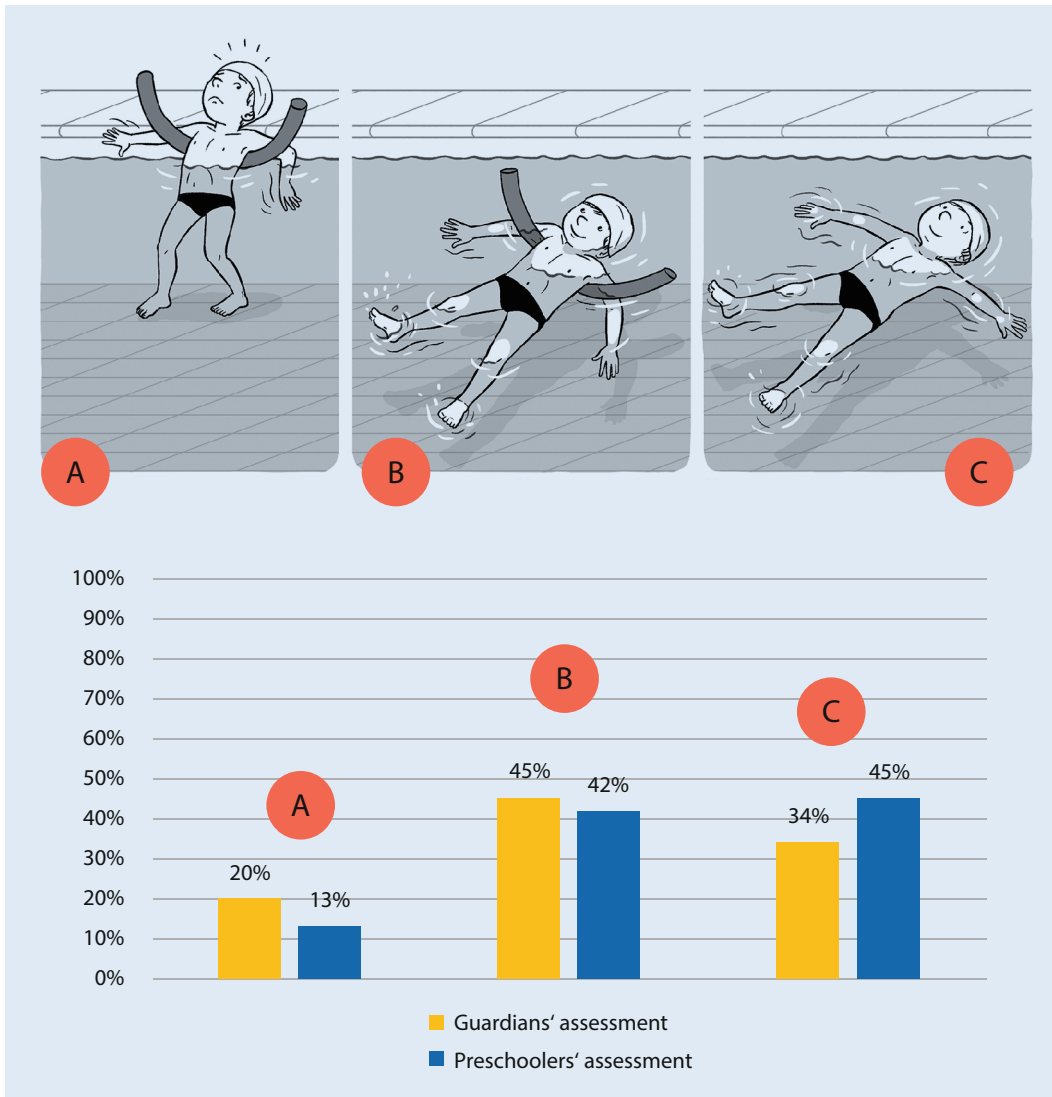


Fig. 5 ◀ Guardians' and preschoolers' assessments of the child's floating on the back (back star) aquatic skill. Drawing: Corinne Tarcelin in Jidovtseff et al. (2020), Uimataitotukimus (2022)

Preschoolers

Preschoolers had a positive view of their aquatic skills; 53% of participants reported to be very or rather good at swimming, whereas 15% considered themselves to be not that good at swimming. Those preschoolers who had participated in swimming school evaluated their aquatic skills to be better than preschoolers without swimming school experiences.

Preschoolers self-evaluated different aquatic skills which precede actual swimming skills. 40% of participants perceived themselves to master floating on the back (back star) and 43% on the front (front star). Further, 41% of the participants could glide under water and 55%

could enter water by jumping without equipment.

Preschoolers and guardians had similar views of children's ability to submerge into water, go into different depths of water, catch an object under water and jumping into water. All these skills are clearly observable and repeated when playing in water. The greatest differences between preschoolers' and guardians' evaluations were observed in floating on the back (Fig. 5) and front, gliding under water, leg propulsion on the back and turning from the front to the back in an aligned position. Preschoolers evaluated these skills more positively than guardians.

In summary, preschoolers' positive attitude towards water and swimming highlights the potential of organising swimming teaching in earlier years.

Preschoolers' self-evaluations of their water competence were somewhat more positive than those of guardians. This is important to notice from a water safety perspective. Adults have to pay attention to their children when they are in different water settings to prevent risky situations. Therefore, adults should have a more critical view of their children's water competence and swimming abilities and evaluate potential risks and dangers realistically.

Conclusions

Swimming skills of 6th graders in Finland has declined. This will challenge physical education teachers' work in secondary schools. The Covid restrictions did not only disturbed possibilities for

swimming teaching, but also declined amount of swimming lessons after restrictions. This phenomenon will be crucial for the future water activities because there may be new generation without appropriate water competence. Water competence refers to the combination of all personal aquatic movements that help prevent drowning as well as the associated water safety knowledge, attitudes, and behaviours that facilitate safety in, on and around water (Langendorfer 2015; Stallman et al. 2017; Morgado et al. 2023). Low water competence declines water safety and increase the risks for drowning.

It is important for national core curricula to include aquatics. It requires schools to invest time and money for swimming lessons, but that will be the only equal possibility for everyone to learn to swim. Based on preschoolers' positive perception and attitude about aquatics, it is recommended to start swimming lessons already during preschool. This could help also parents to perceive children's competence more realistic.

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