



Technology supporting learners with speech, language and communication needs

The context for the use of ICT for Inclusion

Our school is open-minded and innovative: all the staff members constantly receive new knowledge on ICT. We take part in idea markets, e-learning events, etc. Two of our teachers are subject experts (special educational needs and informatics), which means they attend different events, Tiger Leap Foundation work gatherings and other places where new ideas in this field are reflected. These are then brought to the everyday life of our school. The teachers in our school are lecturers at the University of Tartu and Tallinn University, where they give in-service training on teaching students with special educational needs (SEN). One of the topics they discuss is the use of ICT to support students with SEN.

All of this involves prior preparation, staying up-to-date with innovative ideas and testing those ideas in practical school life. In our school we have interactive whiteboards to make learning more diverse. We also use digital measuring tools and inventories for robotics, which help us make science subjects more interesting. It makes it possible to use contemporary technological tools and computer programs in everyday lessons. We have also prepared a project in order to initiate an ICT hobby class for 9th-grade children with hearing impairments. We hope to give them the necessary preparation to start their vocational education and training.

Every year we renew our stock of computers according to possibilities and needs. All classrooms have a computer terminal. There is a wireless internet connection throughout the school. New technology and programs in the school hall increase our ability to provide quality in-service training (projector, sound-system, and lighting).

The policy context

All students develop at their own speed and need different kinds of learning resources and materials in order to achieve and maintain their goals. Early and sufficient support guarantees better outcomes in learning both oral and written communication. Our experience shows that the use of technology in different subjects, especially Estonian language, helps more students reach the goals set for them. Using ICT and e-based learning materials makes it possible to customise the material, so that students learn more and get better results from their skills. While doing exercises on the computer they can listen to words and phrases repeatedly before continuing. Students develop self-regulatory skills because after answering each question they receive feedback on whether their answer was correct. Constant feedback is necessary, especially for the students themselves.

Teaching and learning is more effective if the teacher does not stress the importance of speed, but instead guides the students to make good use of all the ICT possibilities and in case of an incorrect answer prompts them to open the correct answer window and analyse their answer. Before answering the question, the child can avail of help from the drawings, listen to the words and phrases repeatedly, make pauses in writing the sentence and listen to the sentence word-by-word and then listen to the whole sentence again. The children are encouraged to use speech actively during learning. In small groups it is also possible for the teacher to check each child's progress.



The use of ICT

As our school is for students with hearing and speech impairments, learning is largely focused on the visual sense. Using ICT brings diversity into everyday learning and offers support for students with SEN. It opens up possibilities for visualisation, exploring subjects in depth and explaining complicated topics more simply. Using different ICT tools offers the following opportunities:

- differentiating work for each student, so each one progresses at their own pace;
- working on different difficulty levels within the same group at the same time;
- checking how well the material has been learnt before moving on;
- making material more meaningful for children;
- making it easier for students with communication problems to find information;
- getting quick feedback on students' skills;
- using multimedia possibilities that engage intact sense organs (visual and/or hearing);
- making it easier to use individual curriculums.

Using ICT is a normal process in learning. Our teachers and the Tiger Leap Foundation have developed a learning course, 'SEN and ICT', which aims to teach pedagogues how to use ICT in order to support students with SEN in learning. Our teachers prepare e-learning materials and teach other teachers how to create them.

Key outcomes and benefits

We view creating, maintaining and developing up-to-date and innovative resource banks of technology as the main result of using technology. This allows our school team to provide various forms of support to help students with hearing and speech impairments to develop in school, as well as to offer study counselling and rehabilitation systems.

Our priorities include:

- ensuring that our students have a safe, modern learning environment (specific technical tools that support different disabilities and provide help through different action and communication tools) and
- developing e-learning materials for students with SEN.

Main challenges and obstacles

Using ICT resources has helped in meeting the demands of national curricula (increasing learning motivation and offering greater possibilities for learning resources). Both students' and teachers' ICT skills have improved. Practically all of the teachers use ICT in their lessons. By the time they graduate, our students have a good grasp of using ICT tools. We receive positive feedback from the schools where our students go next. This gives our students a better position in the job market. Our teachers and students have successfully participated in ICT competitions. We measure teacher satisfaction through feedback analyses and interviews. The results are strongly connected to their competence in using ICT and their desire to use ICT in everyday work. Our teachers are mostly satisfied with our ICT services (stable Wi-Fi; all classes have their own computer; most classes have a data projector and printers). The biggest concern is that in several classes it is not possible to use sound. Students are satisfied with the amount of services and their



accessibility. There is some dissatisfaction with the quality of ICT services (speed, number of computers), ICT support and ICT security.

Additional information

Our school website: <http://hiie.tartu.ee>