

# ICALL in decentralized language education

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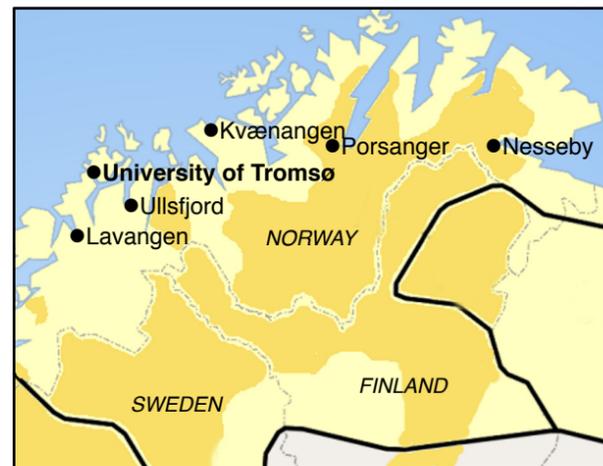
<http://giellatekno.uit.no/>



## INTRODUCTION

We have integrated an ICALL-program in web-based university courses for learning North Sami. Through cooperation with local teachers at language centres, it is possible to offer courses that give university credit points in multiple locations. The students live dispersed over a wide area, and not everyone has the opportunity to travel to the university. The final exams are both oral and written, the oral ones are held through the monitor.

## NORTH SAMI



North Sami is a Finno-Ugric language with a rich morphology. There are 17 000 speakers altogether, many of them lacking formal education in the language. In addition there are many Samis who have not learned the language from their parents. Dark yellow area shows municipalities where Sami has official status.

## COOPERATION

The University of Tromsø offers education in North Sami both on campus and in cooperation with 5 language centres in Sami local communities (cf. map). The centres are strengthening the use of the language in different ways, and the cooperation with UiT makes it possible to study Sami at university level also outside Tromsø. We also cooperate with the universities of Oulu and Helsinki in Finland.

## COURSE MATERIALS <http://kursa.oahpa.no/>

The course materials are on Internet, and consist of texts, dialogues, audio files and links to material on the web. The student is deep-linked into relevant parts of the ICALL program, where the program communicates with the student and comments upon her performance. The link may be quite accurate, e.g. offering the student practice in a certain tense form for a subset of the verbal stem types only. The student can choose Sami, Norwegian, Swedish or Finnish as metalanguage.

## ICALL PROGRAMS <http://oahpa.no/>

The ICALL programs play the role of the grammar teacher, and generate new tasks on demand, systematically covering the core parts of the grammar. The programs are based on NLP – the tasks are generated by means of lexicon, matrices and generators. There are 6 different programs, for learning words, numbers, morphology (2) and syntax (2).

## EXAMPLE: Learning accusative vs. nominative

Loga eanet [akkusatiivva birra](#).

Guldal [goarrut – jietnafiilla](#). Dat maid don goarut, galgá leat [akkusatiivvas](#). Gearddut cealkagiid. Substantiivvat leat:

gákti – gávtti  
buvssat – buvssaid  
čuvla – čuvlla



Hárjehala akkusatiivva: [Morfa C](#)

Loga Ánin Dánin s 14-17 ja oza substantiivvaid nominatiivvas ja akkusatiivvas.



Hárjehala akkusatiivva: [Vasta](#)

## THE STUDENTS ARE LOGGED

The student can follow her own progression, and the teacher can see how the students perform. The input, and how the users correct their input according to the system's feedback, is logged.

trond  
last login: 2012-04-29 23:34:16  
login count: 30

| exercise                                | average | minimum | maximum | game count |
|---|---------|---------|---------|------------|
| Contextual Morfa - A - PREDCOMP - 2syll | 4.2     | 3.0     | 5.0     | 5          |
| Contextual Morfa - Pron - P-REFL        | 4.0     | 0.0     | 5.0     | 5          |
| Morfa - A - ATTR - COMP - 2syll         | 3.75    | 0.0     | 5.0     | 8          |

Task based overview: →

Learner language corpus:

| Example              | Userinput    | Is correct | Correct      |
|----------------------|--------------|------------|--------------|
| čállingursa+N+Sg+Acc | čállingurssa | ✗          | čállingurssa |
| disdagat+N+Pl+Acc    | disdaga      | ✗          | disdagaid    |
| diimmut+N+Pl+Acc     | diibmut      | ✗          | diimmuid     |
| sálti+N+Sg+Acc       | sáltti       | ✓          | sáltti       |
| giissát+N+Pl+Acc     | giisát       | ✗          | giissáid     |

Morphology log: →

Syntax log: →

|   |                           |   |
|---|---------------------------|---|
| Mu eadni lea Čáhcesullos eret. Gos du eadni lea eret? | Mu eadni lea Romssas eret | ✓ |
| Mu eadni lea Čáhcesullos eret. Gos du eadni lea eret? | Mu eadni lea Romssa eret  | ✗ |

## ICALL PROGRAMS: Examples

### Always new tasks – generated from the database

Kasusa  
accusative  
Veahkkegiella  
English  
Odđa bargobihtát  
Grammar explanations

Maid mun boran? (čuovža)  
Don borat  ✗ Veahkki  
"čuovža" has bisyllabic stem and shall have weak grade. No suffix.

Maid mii sárgut? (gearpmaš)  
Dii sárgubehtet

### Feedback to the student's free input

Dássi  
Third level  
Odđa bargobihtát

Maid goaski niegada?  
 ✗  
Iskka vástádušaid  
You should consider whether nominative goes with a transitive verb.

Du čuoggát: 0/1

## STATUS QUO

- 2012: 5 language centres are offering university courses in addition to the courses on campus
- At present we offer 3 different courses (= 50 ETC)
- The course materials and interactive tasks are available for anyone who wants to learn North Sami
- Metalanguages are Sami, Norwegian, Finnish and Swedish
- The student input is logged, and forms a corpus for research on learner language
- The development of the system is for the period 2011-13 partly financed by *Norgesuniversitetet*.

## REFERENCES:

Antonsen, L., Huhmarniemi, S. and T. Trosterud 2009: Interactive pedagogical programs based on constraint grammar. Proceedings of the 17th Nordic Conference of Computational Linguistics. Nealt Proceedings Series 4.