LEARNING ADVANCED FINNISH: EXPLORATIONS FOR SECOND LANGUAGE ACQUISITION

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ABSTRACT

The Finnish government offers various educational programs to aid immigrants — currently 5.2 % of the population — in language acquisition and cultural assimilation, but the efficiency of these programs in improving high-skilled immigrants' job opportunities has been questioned. This study uncoveres what impedes the high-skilled immigrants' transition from intermediate level to advanced level language skills, and explores future instructional design solutions, with a qualitative study including textbook authors, instructors, and learners.

Findings report that current teaching materials with too heavy emphasis on grammar, and instructors' too strict teaching styles overrule what intermediate level learners need the most: comprehensible/communicative input optimal to the learner's current level, professional vocabulary, practical conversation skills, and cultural knowledge. For this, we suggest new approaches: teaching materials with low cognitive loads and effective visual design, adaptive-interactive text for personalized comprehension lessons, participatory storytelling platforms for personalized topics, and involving the whole community as a learning environment for more practice opportunities.

KEYWORDS: Second-language acquisition, instructional-design, visual-communication design, professional language improvement, design for social integration

INTRODUCTION

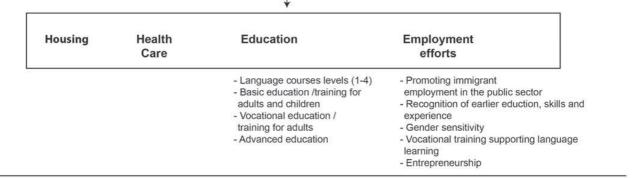
Immigration has been on the rise in Finland during the past two decades. As stated by Ikäläinen (2003, cited in Miettinen & Puurunen, 2007), upon their arrival, immigrants of all types (highly- and low-skilled) are expected to 'integrate themselves' into Finnish society. However, 'unemployment rate of immigrants is three times that of the majority population' (Ministry of Employment and Economy in Finland, 2012, p.1), and 'a high level of education does not protect foreign-background residents from unemployment as efficiently as it does the domestic population' (Statistics, 2013, p.24). The Finnish Act on the Integration of Immigrants and Reception of Asylum Seeker (Ministry of Employment and Economy in Finland, 1999-2009) aims to provide immigrants with protection and guaranteed participation in society, by bettering the chances for immigrants to find job opportunities and emotional wellbeing; these programs include Finnish language instruction.

Nevertheless, the language programs only comprise of basic level lessons, without covering Finnish for highly-skilled professional activities. Also, educated immigrants are expected to manage social codes proper to their fields, because 'It is more than just degree, language skills or social relationships. [...] mastering the social code, [...] where a person assimilates into the society and society's requisites *the right way*' (Kyhä, 2011, p.65). Assimilation courses, however, do not provide sufficient education on Finnish cultural and communication patterns either. The stages of government integration programs, and the immigrant's steps towards finding employment and bettering their language skills is illustrated in Figure 1.

As a result, ironically, more educated immigrants find it harder to find the right positions where they can fulfill their professional goals and be assimilated into Finnish society. In this study, high-skilled immigrants are defined as immigrants with Bachelor degrees, or higher levels of education, following Iredale's definition (2001, cited in Cerna, 2010). Recent media coverage has shown that unemployment rates are high among high-skilled immigrants (Yleisradio, 2010). Foreign health-care workers found that the language, among other factors, force them to leave (Yleisradio, 2013). The increasing number of jobless immigrants can cause social costs and unrest in the future.

1st Integration Phase

Government Integration Programme carried out through Ministries and employment organizations



Transition: Opportunity for design adaptive-interactive solutions where community involvement can yield positive results in the passage from basic to mid- or advance level of Finnish language use

2nd Integration Phase

- Government support to find employment through agencies and unemployment stipend

Education **Employment** opportunities - Few job opening in English

- No advanced language courses offered for any field by governmental agencies
- Vocational courses in Finnish language
- Medium and advanced education and training in Finnish or English (BA) (MA) (DA)
- for immigrants with degree
- Openings for Finnish speakers in open market
- Job opportunities through academic projects
- Through friends or acquaintances
- Entrepreneurship

Ministries:

- Ministry or the Interior
- Ministry of Employment and the Economy
- Ministry of Education and Culture
- Ministry of Social Affairs and Health

Employment organizations:

- Central Organisation of Finnish Trade Unions (Suomen Ammattiliittojen Keskusjärjestö, SAK)
- Finnish Confederation of Salaried Employees (Toimihenkilökeskusjärjestö, STTK)
- Confederation of Finnish Industries (Elinkeinoelämän keskusliitto, EK)
- Commission for Local Authority Employers (Kunnallinen työmarkkinalaitos, KT)
- Ministry of Employment and the Economy (Työ- ja elinkeinoministeriö, TEM)

Figure 1. Outline of integration program in stages and stakeholders

In light of the situation, this research explores efficacies of current Finnish language education methods and materials, and approaches future directions of instructional design interventions for intermediate level Finnish learners, in order for them to acquire the necessary linguistic skills for professional activities. Two research questions were posed:

Q1. What are the limitations of current language courses that prevent intermediate level Finnish learners from building more advanced, professional level language skills?

Q2. What makes current teaching methods/materials effective? From the lessons, which directions of design interventions are conceivable, to strengthen high-skilled immigrants' job competency?

In order to answer these questions, the team has looked into previous studies about the impact of emotions in learning (Gundogan & Erbug, 2006; Tung & Deng, 2004), and current theories of second language acquisition with an emphasis on effective language teaching/learning methods in the next

section, then details of our research activities in the Research Design and key findings in the Discussion section that follows, with future design implications in the Conclusions.

THEORIES OF ADULT SECOND LANGUAGE ACQUISITION

How can a second language be effectively learnt or taught? Krashen (1981; 1982) proposed five hypotheses on the subject. First, the acquisition and learning of a language differ in that acquisition is 'the way children develop ability in their first language', while 'using the language for communication' in implicit, informal, and natural ways. Language learning, on the other hand, is gaining 'conscious knowledge of a second language, knowing the rules' in the forms of 'formal knowledge' (Krashen, 1982, p.10). An adult learner can both acquire and learn a new language. Second, the monitor hypothesis (Krashen, 1982, pp.15-19) suggests that the use of Monitor (i.e., the formal knowledge of language) can be either overused or underused, but the optimal Monitor users use grammatical knowledge appropriately and it does not interfere with their communication.

Third, the natural order hypothesis maintains that 'the acquisition of grammatical structures proceeds in a predictable order' (pp.12-13), such as learning progressive verbs precedes learning regular past verbs and possessive forms. Then, how can a learner advance from one level to the next in language acquisition, as opposed to learning? With the fourth, input hypothesis, referring a learner's current developmental stage i, Krashen posits that 'the acquirer understands input that contains i + 1, [...] focus[ing] on the meaning and not the form of the message' (Krashen, 1982, pp.20-21). By relying on context, knowledge of the world, and other extra-linguistic information. a learner can understand a new sentence structure. Lastly, the affective filter hypothesis shows the learner as a person with affective variables, such as motivation, self-confidence, or anxiety that either encourage or discourage the learner to seek more acquisition opportunities (Krashen, 1982, p.31).

Based on the hypotheses, Krashen (1982, pp.63-76) recommends providing the following for effective language acquisition in either a formal or informal learning environment:

- Comprehensible input with simple codes simple and short sentences, articulated pronunciation, repetition of common vocabulary, etc. — which is a bit beyond the learner's current level (i + 1).
- · Non-linguistic means of comprehension such as showing objects and pictures, in order to take advantage of the student's knowledge of the world as part of the lesson.
- Meaningful communicative input where i (current level) + 1 is naturally supplied, not by mechanical grammatical drills, to make lessons practical.
- Lessons that do not put students on the defensive with too much error correction or forced production, so students remain open to input.

Input that is sufficient in quantity, to make sure i + 1 is repeatedly provided in diverse forms, and enough time for students to build competency before speaking.

We found that some of Krashen's recommendations were already put to use in the Finnish teachers' classes interviewed for this study, but different approaches/emphases were observed from their teaching methods and materials as well. In the next section, the findings from a qualitative study with Finnish teachers and learners continues.

RESEARCH DESIGN

In order to investigate the research questions — the limitations of current language courses for intermediate level learners, and the future directions of design interventions the research team carried out (i) email interviews with the authors of popular Finnish textbooks, (ii) interviews with three instructors, and (iii) interviews with five intermediate-level Finnish learners.

Task one: Email interviews with authors of Finnish teaching materials

Teaching/learning materials (textbooks, etc.) are most relevant to the learner's in- and out-of-class experiences. They provide both linguistic and non-linguistic information; visual features in the textbook, such as images depicting objects, enhance learning as linkages between the learner's knowledge of the world and language lessons (Krashen, 1982, pp.63-76).

For these reasons, in response to the two research questions, the kick-start of this study was a review of the eleven Finnish textbooks available in assimilation courses. In order to learn more about them, a brief email questionnaire was sent to the authors, with questions on the historical context of authoring, the author's teaching background, their perspectives on the language courses' role in foreigners' assimilation, and the author's opinions/involvement in the visual design process. The authors of Harjoituskirja Suomen Kielen Alkeisoppikirja [Workbook: Basics of Finnish Language], Kuulostaa Hyvältä [Sounds Good] and Sairaan Hyvää Suomea [Insanely good Finnish] responded.

All authors have years of teaching experience, and wrote their books for their own classes. They all acknowledged the importance of the visual design of textbooks in enhancing learning experience. Harjoituskirja Suomen Kielen Alkeisoppikirja [Workbook: Basics of Finnish Language], was written for university students in 1987, with heavy emphasis on grammar. It has been reprinted for decades, with only minor changes in content over time, to make it up-to-date (e.g., exchanging a record player for iPod, or a restaurant for a night club). Kuulostaa Hyvältä [Sounds Good] focuses on the conversational use of the language. From the authors of Hyvin Menee! [It's going good] and Suomen Mestari 1 [Finnish Master 1], we did not get any responses. Later, during interviews with teachers, we learned they were written in response to the National Core

Curriculum for Integration Training for Adult Immigrants announced in 2012. These two books were written for a broad range of learners, both skilled and unskilled immigrants, from K-12 to college level classes. In these books, a noticeably different design approach — color-coding, less saturated pages, and clear visual hierarchy - makes the content structure accessible for the learner. Unlike other books, Sairaan hyvää Suomea [Insanely good Finnish] was written specifically for foreign students in the field of nursery, to assist their professional language acquisition. A comparison of five much used books — Kieli Käyttöön-Suomen Kielen Alkeisoppikirja, Harjouituskirja Suomen Kielen Alkeisoppikirja, Hyvin Menee!, Suomen Mestari 1, and Sairaan Hyvää Suomea —is presented in Figure 2.

Task two: Instructor interviews

Secondly, in order to learn more about the effectiveness of current teaching methods and materials in language courses, we interviewed three Finnish teachers. The interviews lasted on average 45-50 minutes, and were conducted at the teachers' work places. For the anonymity of the participants, we refer to them as Male Teacher 1 (MT1), Female Teacher 1 (FT1), and Female Teacher 2 (FT2). MT1 and FT1 are native Finnish speakers,

while FT2 is a Peruvian Finnish speaker. MT1 and FT1 work with a wide range of learners, from university students to refugees. FT2 works with international and Finnish students in the field of health services and nursing. The instructors have teaching experiences that range between eight to fifteen years.

For our first research question, the interviews uncovered what prevents intermediate Finnish language learners from advancing. In relation to the second research question, we enquired about the teachers' opinions on the visual design and content of teaching materials, their ideas for the ideal teaching environment, and their methods and materials in order to get their suggestions for improvements.

Task three: Student interviews

We interviewed five intermediate level Spanish-speaking Finnish learners who have lived at least seven years in Finland, and have obtained post-graduate degrees from Finnish institutions; they were a sample of highly-skilled immigrants whose language needs this study intends to explore.

The student interviews lasted on average 45-50 minutes and were conducted on school grounds or work places. For anonymity, the participants were referred to as Female Student

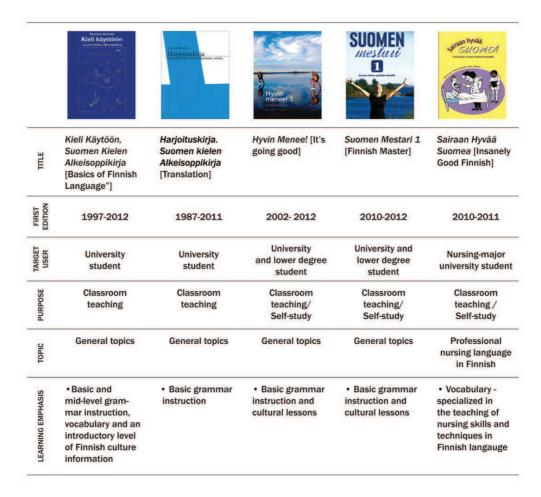


Figure 2. Most frequently used Finnish textbooks, compared in terms of publication year, target user, purpose, topic, and learning emphasis.

one (FS1), Female Student two (FS2), Male Student one (MS1), Male Student two (MS2) and Male Student three (MS3). They all belong to different fields and their work situations were somewhat variable: MS1 and MS2 hold academic positions but use English at work. MS3 has a position in an IT company where English is spoken. FS1 is self-employed, and FS2 is unemployed.

During the student interviews, their opinion on the courses, instructor competency, materials, and especially the visual design of textbooks were questioned. Students also made suggestions on how to improve language courses, along with their idea of an ideal learning environment. Details of their comments are analyzed in the next section.

DISCUSSION

In this section, insights gained from student and teacher interviews about language courses and use of teaching materials are discussed from two aspects: (i) the limitations of current instruction methods and the context/environment in which the learning takes place, in teaching advanced levels of Finnish specific to professional fields, and (ii) the efficacy of current teaching materials, that point to directions of feasible design proposals.

Challenges in current Finnish teaching methods and learning environment

The Finnish language, which belongs to Uralic language family, is not connected to Germanic or Latin linguistic groups, so the initial stages of Finnish learning can be very demanding, due to the amount of vocabulary and grammatical rules to acquire. According to a news article ('Finnish among most difficult', 2013, pp.2-7), it takes '44 weeks or 1100 hours' of active learning for an English speaker to achieve a level of written and oral skill sufficient to work with the language. Its fifteen grammatical cases or 'noun conjugations and prepositions of place can be a puzzler' to the learner ('Why Finnish can seem like', 2013, para. 4). In addition to that, the following problems were mentioned during the student interview.

Lack of comprehensible/communicative input in an immersive learning environment

Language learners in early stages need comprehensible input with simple codes of information a bit beyond the learner's current level, in order for him/her to access the next level of linguistic skills (Krashen, 1982, pp.63-76). Studying in an immersive environment allows the learner to be exposed to a large quantity of natural, meaningful input, with enough practicing opportunities. Learning Finnish in Helsinki, however, does not always provide such advantages, according to student interviewees in this study.

First, instructors do not provide meaningful comprehensible/ communicative input during the class, because they would rather use the limited time for repetitive grammar exercises

— from the instructor's point of view, the grammar drills are necessities. Instead, instructors encourage students to use the language in any given occasions outside the classroom. Nevertheless, students' real-world interactions with Finns are not necessarily helpful, comprehensive input. In such situations, the conversational skills needed are much higher than what the learners can handle, and they do not get proper feedback from Finns, so the same mistakes will be repeated. Many learners will walk away from the situations feeling confused and frustrated.

Second, less motivated learners tend to think that learning Finnish is not necessary, because Finns are fluent in English and are ready to speak if needed. It is the most popular foreign language in Finnish ground schools ('More Finnish kids opt to study English', 2013). Surrounded by them, some learners are not motivated to use Finnish as often as they should be, and they begin to overlook the need to be proficient.

In-class teaching methods and styles

The learner's first encounter with Finnish language is from language course instructors; their roles and the methods employed in the class are of high relevance to the learners' advancement. About their classroom experience, many participants commented on the teachers' unenergetic style of teaching or being too keen on correcting the student to the point of frustrating them.

We had turns to answer, and for me to say double tt's and double pp's is a hassle and so when we had exams or give answers I didn't pronounce well or didn't make the sentences perfect. She insisted to make sentences perfect, I was very frustrated because it was very difficult (MS4, from personal communication, October 4, 2013).

Student interviewees also commented on courses that are not structured with the right comprehensive level of input. Such classes can turn into negative experiences as the next example shows; a teacher set the pace for the most skilled in the classroom, and it was way beyond i + 1 input for other students who were left behind.

The teacher assumed that we were very fluent and I wasn't, but the people around me were, so she was speaking so fast everything in the class was 100 km/h for me and (...) it was a very embarrassing experience for me (MS4, from personal communication, October 4, 2013).

When teachers manage to create a good environment in the class, to engage students with diverse and interesting activities, providing the input proper to their level, then the learners' frustration and bad experiences can be prevented.

An analysis of teaching material

During the interview, students and teachers discussed both problematic and effective aspects of learning materials, around visual design, content, and images. Their comments provided useful insights on future design interventions for an improved learning experience.

Visual clarity

In this study, student interviewees understood visual clarity as design with less cognitive load, ease of use/read, and content relevance. The learner's cognitive load can be reduced with an optimal amount of content per page. The rhetorical clusters (Schriver, 1997) in the page layout make it easier to use/read the book. Lastly, graphic elements and typographic treatment can highlight a specific part of a text or a word in order to show key learning points to focus on.

Cognitive load In relation to the amount of content in each section/page, the discussion with teachers showed that they prefer a book with enough content for the student to study on his/her own, and also to leave some room for extra input from the teacher for a lively classroom experience. For this reason, they favored simple images, which make it easier to give further input and create discussions.

Effort on clarity, partly based on the fact that they give as little info as possible [...] is easier to add things to a description that is simplified, than to try to figure out things from the complicated description (FT2, from personal communication, October 11th, 2013).

Student participants also mentioned the information overload coming from visual saturation that hinders the formation of clear content clusters, and the learner's concentration on one topic at a time. They favored some textbooks with unsaturated layouts and supporting visual elements like images, color coding, and typographic variations that make key learning points prominent (Figure 3).

Ease of use Participants also mentioned how some visual features of the books allow them to recognize how the content is structured on each page, and over the entire length of the book. First, on each page, effective layouts create rhetorical clusters, i.e., 'a group of text elements designed to work together as a functional unit within a document [...] help the reader interpret the content in a certain way' (Schriver, 1997, p.343, cited in Gillenson, 2008), formed following Gestalt principles of organization, such as proximity grouping, and continuity (Koffka, 1935; Köhler, 1929).

Second, for the whole book, consistent visual styles for elements are perceived as visual references, and allow the learners to perceive the book as a structured whole. The chapter and section titles differentiated with typography styles help students recognize content hierarchy. The consistency of color-coding supports learners in information spotting. Graphic symbols indicating different types of content were also considered to enhance browsability and make it easier to remember where content is placed in the book (Figure 4).

That's what I meant with the reference, it is easy to mark and then to go back to it. The browsability is quite good because every page is different and not packed with text, it makes it easy to browse and find what you're looking for (SF2, from personal communication, 23 September, 2013).

Content relevance Lastly, interviewees commented on how visual design features support acquiring various key learning points. Graphic organizers, such as charts or tables, were favored because they provide summarized core information (Figure 3 and 5).

Many participants also mentioned key learning points emphasized with typographic treatments; for example, the grammar inflection section of Suomen Mestari 1 (Figure 5) was made digestible with variations in type and color on the word endings (vowels—' α ' change to ' α ', etc.).

You have the color [...] where you have the endings and when you have double letters so you really concentrate [...] If you write everything in the same color you don't have this understanding or you have to memorize [...] (FS1, from personal communication, September 20th, 2013).

In short, the visual clarity of teaching materials can enhance the learner's experience. Their cognitive load can be reduced with the optimal amount of content. Textbooks will be easier to use, with formation of rhetorical clusters and consistent use of color and type variations to make clear to the learner the content hierarchies. Finally, graphic organizers and visual treatments can help the learner by summarizing information of a chapter or highlighting key learning points. More suggestions for future design directions continue in the Conclusions section.

Content

During the interviews, the content of language books was discussed, with the purpose of learning how the current content scaffolds for acquisition advanced levels of professional language and cultural knowledge.

Most books turned out to be focusing on grammar and vocabulary building for basic and intermediate level courses (Figure 1). Some are targeted to university students and others to lower levels. Some are better fits for beginners and can be studied by the student alone, while others are for intermediate level students, designed to be used along with the teacher's guidance.

In regards to textbook content, instructors feel that the content is appropriate for beginners, regardless of the presentation (overall visual design) of the books. They feel that Finnish contemporary customs and cultural information is missing in them; the teacher should provide it as extra input in the class. Meanwhile, in regards to the same textbooks, students pointed out the lack of (i) relevance to their professional fields and required vocabulary, (ii) practicality, since many examples do not reflect the daily use of the language, and (iii) insights on contemporary customs and cultural information (e.g., Finn's idea of privacy or their communication styles) that they could not learn either from textbooks or from teachers, according to students' comments.

First, regarding the relevance of textbook topics to their professions, student interviewees commented that the books focus on generic use of language and none of them are targeted to their professional fields. In this study, all student interviewees hold postgraduate degrees in various fields, and some

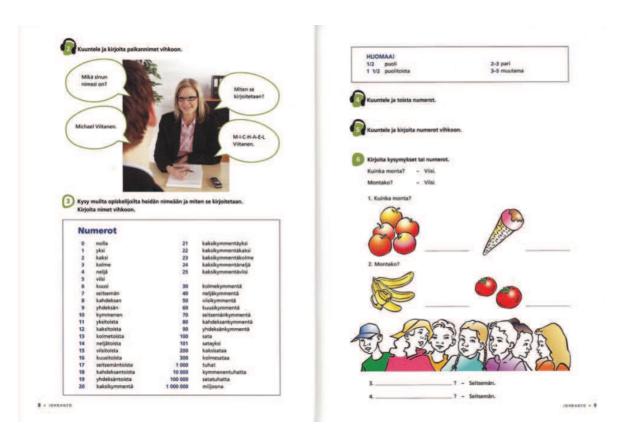


Figure 3. Example from Hyvin Menee! [It's going good!] of low cognitive load: adequate amount of content surrounded by sufficient white spaces; graphic elements that suggest type of exercise and type variations.

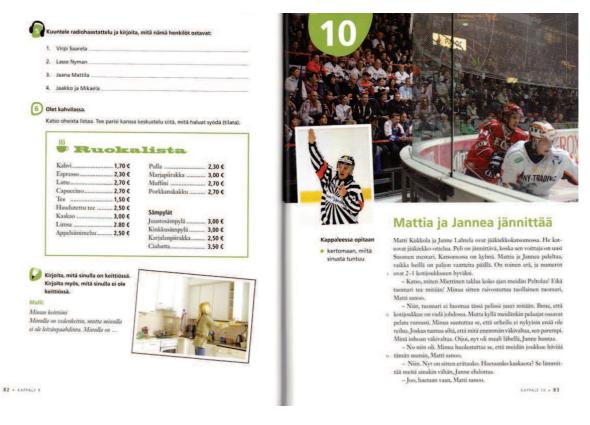


Figure 4. Use of visual elements—type variations and color management—enhances browsability and facilitates information spotting for each page and the whole book.

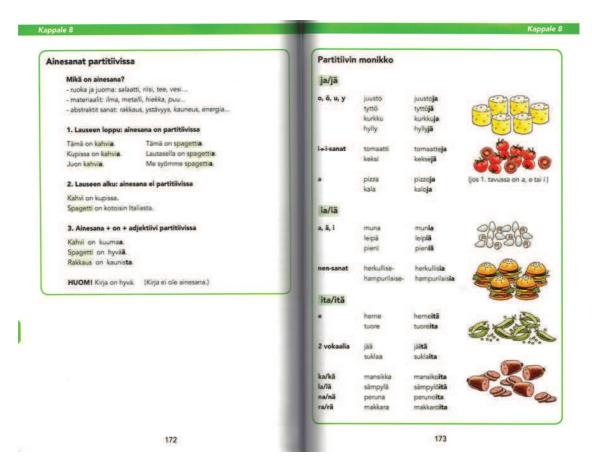


Figure 5. A spread from Suomen Mestari 1 [Finnish Master 1] with summary tables.

continue to work in the same fields using English language. All of them agreed that, even after achieving an intermediate level of Finnish, they still cannot access mainstream job opportunities due to their insufficient professional language skills in their own fields; they are forced to apply only to positions that accept English as a working language, which are few. One interviewee speculated that textbook authors might not know what the learner needs — 'they need to know what I want, my purposes, intentions, and my needs' (FS2, from personal communication, 23rd September, 2013).

The problem is recognized, and some advance level language and communication training opportunities are available in specific professional fields. The research team found learning materials specifically targeted to college level nursing and health-care degrees — Sairaan Hyvää Suomea [Insanely good Finnish] by Kela, Korpela and Lehtinen — where students are presented with vocabulary and transcripts of real conversations between nurses and patients. This book teaches, in addition to vocabulary specific to the field, protocols and procedures between workers and patients in Finland. The dialogues reflect the spoken use of the language.

Second, student interviewees wanted content with practicality, such as dialogues that reflect everyday use of the language — idioms, slang and more complex vocabulary — of proficient speakers, to be able to acquire them and feel culturally integrated at their workplaces. Regarding how students feel about current textbook content, we have selected some insightful quotes from our interviewees discussing the practicality of the material. The following quote points out what topics students may better relate to:

There are some examples of conversations, and they were very short and more close to how conversations are in reality, not this really imaginary situations like going to the bank... you don't go to the bank in Finland anymore (FS2, from personal communication, September 23rd, 2013).

The lack of practicality has been a common discussion among our interviewees: in the textbook, students could not see how the language molds and reshapes in use, which made it hard for them to become active speakers. The other side of this problem is the impracticality of current content. Students talked about the amount of vocabulary they memorized in the beginners level but never used in daily conversations. In some books, introduction of new vocabulary is done (often in large quantities) to represent Finnish culture in actions, objects, and places. Some of this content, however, is presented in a decontextualized manner, with poor visual representations.

Third, current teaching materials do not cover cultural and behavioral knowledge of Finnish culture, while the learners aim to understand Finnish cultural codes as a key part of workplace communication. Being able to understand unspoken forms of communication at workplaces, as well as overcoming

differences in communication styles - e.g., communicating in a direct manner, without extra politeness, is not the norm in Latin cultures where student interviewee are from in this study — is what foreign applicants are expected to know. Teachers, however, seem to be unaware of this need, because the cultural communication patterns might seem too obvious to them.

From the teacher's point of view, teaching the cultural aspect of linguistic communication in the classroom is challenging and ineffective. For example, a teacher from a nursing school regarded some colloquial dialogues in Sairaan Hyvää Suomea [Insanely good Finnish] inappropriate, since they could sound disrespectful, even though that is how native Finnish speakers say it. She maintained that the cultural aspect of the language should be taught only in practice, where the learner can observe and clarify the native speaker's language use in the context.

Elderly people don't like to be addressed in spoken colloquial Finnish and you have to ask permission to address them in familiar tone, if you teach nurses to address patients this way it violates the principles of nursery (FT3, from personal communication, October 21st, 2013).

We concluded that (i) there is a need for courses/materials designed to teach language specialized in high-skilled learner's professional fields, with up-to-date and relevant topics. (ii) Practicality is a concern among students since textbook examples are much different from the spoken Finnish. (iii) Cultural communication teaching is missing from textbooks, and not widely addressed by teachers in the class. Learners need this type of knowledge to holistically understand cultural differences that are reflected in the use of language. Our findings point to the need for design solutions that allow learners to construct their own teaching/learning materials. More suggestions for future design directions continue in the Conclusions section.

Images

Among the topics discussed with learners and teachers were the role of images in books and their importance for language learning. Learners pointed to the strengths and weaknesses of illustrations and photographs from books. Most comments about the photographs were positive since they visually describe what is being studied (accuracy/closeness), add complementary information (informational value), in addition to making the learning more engaging.

Accuracy/closeness Some observations were made on the photographs that clarify the meaning of the content at hand. For example, the inclusion of a photo of korvapuusti, a typical Finnish bread, was considered to enhance the understanding of the text (Figure 6, left). Many positive comments were made on images of the most common products available in supermarkets (Figure 6, right).

These are exactly the products that you see and I remember the first time I came to Finland and went to the supermarket, I was super lost and it was a pain because I didn't understand even if you see the product, you have to read and I didn't understand (FS2, from personal communication, September 23rd, 2013).

With images, learners became familiar with the products, and remembered the difficulties in understanding labels in the early stages of language learning. Photographs were favored over drawings, as complementary information on the subject was richer with photographs.

Informational value Images or other visual elements such as dialogue boxes can broaden the comprehension of what is being studied with additional information, while too simple or schematic ones lack such strength —they do not enhance nor provide enough additional input to the content. In the following example (Figure 6, left), a brief dialog box accompanied by one image depicts real use of language. It helped recollection of previous experiences and enhanced retention of lessons, in the learners' opinion.

Use of drawings and photographs assist learning difficult concepts, such as prepositions of place in the Finnish language. Figure 7 describes how prepositions (mihin, missä, mistä; where to, where you are, from where) inflect the endings of the following words, depending on whether it is an open or closed space; with the image, students can better relate their previous experiences to the learning points.

In addition to that, according to interviewees, some textbooks were actually fun to read, and they seemed lighter in content, thanks to the use of supporting images. Others were not received well; Kieli Käyttöön-Suomen Kielen Alkeisoppikirja [Language Use — Finnish language basic book] was considered un-engaging, due to its extensive use of text, monochromatic and monotonous style of drawings.

In short, regarding the value of images in textbooks, the learners appreciated that they can learn more from some images (mostly photographs) thanks to their accuracy and informational values, but if images are too simplistic, or just decorative — by repeating the same information already presented in the text — they were not considered functional.

CONCLUSIONS

The government integration programs for immigrants provide basics of Finnish language, but the programs do not cover Finnish for specialized professional activities. In consequence, high-skilled immigrants' employment opportunities are reduced, and a long-term unemployment hinders immigrants' assimilation process generating anxiety, stress and depression. This study aimed to uncover (i) why intermediate level Finnish language learners have difficulties in acquiring both specialized languages required for high-skilled professionals and cultural fluency, and (ii) which design solutions are conceivable, inspired by the effective features of current teaching methods/materials.

The findings from this study suggest room for improvement in current Finnish language lessons: lack of practice opportunities while classroom teaching is limited and focused on repetitive grammar drills, and a lack of content relevant to students' professional needs, practicality for daily use, and cultural



Figure 6. A page with photos and dialogue boxes enhances students' recollection and retention (left). On the opposite page, images of basic grocery items describe what is being studied (right).



Figure 7. Place prepositions from Kieli Käyttöön- suomen kielen alkeisoppikirja: visual images help the learner understand inflections in word endings, depending on whether the subject: is at-, coming from-, or going to- (the kiosk).

knowledge. The results also include the implications of effective (visual) features of current teaching methods/materials for future design proposals.

First, the whole Community can serve as a learning environment. One suggestion made by an instructor was helping students have more interactions with native speakers, by running daily errands in Finnish, and collecting study credits from it. This idea can be developed into the whole community as a learning environment where instructors, students, and Helsinki residents can collaborate in Finnish language education; for example, an intermediate level student can get work-related activities in her field done in Finnish, to collect stamps or grades on her language study passport from native speaker professionals.

Second, adaptive-interactive learning materials can be utilized. During the teacher interviews, one instructor showed a series of newspaper articles written in three different versions of complexity in vocabulary and comprehension levels (Figure 8). The articles were useful in teaching students with varied reading-comprehension skills; students can progressively acquire advanced levels of linguistic skills. This idea points to an adaptive language teaching system which generates/presents the same material in different versions of difficulties, to provide customized comprehensive input for learners.



Figure 8. An adaptive reading material for students with varied reading-comprehension skills, developed by a teacher

Lastly, an online, participatory storytelling platform can be used to collect up-to-date and personalized topics of text for the learner, in order to make language lessons more relevant to their interests and levels. During a student interview, the idea of studying with real-world events/activities, instead of practicing imaginary dialogues, as in current textbooks, emerged, which is not possible/feasible with printed textbooks. Online tools where instructors, the community of Finnish native speakers, and students can collaboratively compose customized teaching materials will meet the learners' diverse needs. Participants can share articles, build vocabulary, and utilize different types of media for a more engaging learning experience. This platform can also let Finns share their observations and reflections on various issues, to help foreigners understand Finnish culture in a holistic way.

The authors expect the solutions will address the learner's study progress, as well as their emotional benefits, because the solutions will reduce their stress and frustration with personalized materials and more interesting/useful content.

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