DESIGNING FOR SOCIAL INTEGRATION: AN ECOLOGICAL APPROACH TO LANGUAGE LEARNING

HAHN, YOUNG-AE

YONSEI UNIVERSITY

YAHAHN@YONSEI.AC.KR

RODRIGUEZ-KAARTO TANIA

AALTO UNIVERSITY

TANIA.RODRIGUEZ.GARCIA@AALTO.FI

ABSTRACT

Cultural knowledge and professional language are key for mid-level second language (L2) learners' progress and job competency, but in Finland, their needs are not fully met. This paper draws from cognitive and ecological theories for a new approach to L2 learning: activity-based curricula with personalized, multi-sensory materials and dialogical, collaborative tasks. A system with four learning modules (observation, writing, interaction, and speech) that holistically tackles different areas of language competency, while absorbing cultural knowledge, is suggested. The modules, combined with an online space for students, teachers, and participating Finnish citizens to collect and share multi-modal materials, will assist lessons customized to the learners' real linguistic needs, interests and progress.

Key words: second language acquisition, social integration, cultural knowledge, ecological learning, collaborative learning systems

INTRODUCTION

Design has been innovation catalyst for social integration, particularly for marginalized groups in the society (Hillgren et al 2011; Björgvinsson et al 2012; Bobeth et al 2013). In Finland, immigration has increased to 5.2% of the entire population. For their social integration through employment, Finnish language teaching has become the government's priority. Highly-educated immigrants, particularly, seek for advanced levels of training, including sufficient cultural knowledge and professional language in their fields, to be competent in the job market. The authors' previous study (Rodriguez-Kaarto and Hahn 2014) on Finnish learning experience among high-skilled immigrants, however, concluded that current language courses are limited to basic grammar and vocabulary lessons. Continuing from the previous study, this paper explores Finnish as a second language (L2, hereafter) learning for intermediate level students with new approaches, focusing on cultural knowledge building, to create spaces for non-native speakers' active discussions and deeper understanding of Finnish products and practices (Capello and Ortega 2005). Detailed research questions include:

- How highly-skilled Finnish learners feel about current courses and teaching materials—do they provide better understanding of Finnish society, sufficient levels of language skills, or cultural knowledge?
- What do current theories of L2 learning recommend?
- How do the L2 learning principles apply to particular features of future L2 learning systems?

The proposed features on future L2 learning tools are inspired by the analysis of interview data collected from the authors' previous study, where students and instructors made practical and original suggestions from their years of learning and teaching experiences. The features are also inspired from theories of language learning, especially van Lier (2000; 2004; 2010)'s view of language learning as a dialogical, semiotic activity; the theory encouraged the authors to look deeper into the importance of cultural knowledge as a fundamental part of learning.

CURRENT FINNISH LEARNING FOR HIGHLY-SKILLED IMMIGRANTS

Finnish is an exceptional case, a Uralic language with no connection to most known language groups. This section analyses the limitations of current Finnish education for highly-skilled immigrants. In order for them to achieve verbally and culturally effective communication skills, they need to know professional language in their fields and have insights on practice, products and perspectives of the target culture (National Standards 2006); however, the authors' previous study (Rodriguez-Kaarto and Hahn 2014) reports that current courses do not supply either of them; participants said they cannot access mainstream job opportunities due to their insufficient professional Finnish, even after achieving an intermediate level of language skill. They are forced to apply only to English-speaking positions, which are few.

DIFFICULTIES IN GENERAL LANGUAGE ACQUISITION

Adult L2 learners need to progressively acquire the language, by interacting with more fluent speakers, on a difficulty level of just little bit higher that the current one (Krashen 1982, pp. 63-76). Such interactions were not provided for students. Most teachers struggle with just laying down the foundations for grammar with repetitive drills during the class. To compensate for this, teachers encourage students to speak Finnish outside the classroom whenever possible, but in Helsinki, English is widely spoken, so Finnish speaking opportunities are not always available. Besides, interacting with native speakers does not automatically lead to learning, if they speak what the learner cannot understand, without correcting the learner's mistakes. Lastly, often students feel helpless, in courses that are too easy or too difficult for them.

LACK OF PROFESSIONAL LANGUAGE LESSONS

Current textbooks and lessons are not designed to scaffold for professional language acquisition. Most textbooks lack (i) relevance to their professional fields, and (ii) practicality as many examples do not reflect the daily use of the language. The problem is recognized, so advanced level language and communication training is available in specific professional fields, such as *Sairaan Hyvää Suomea* [Sick good Finnish] by Kela, Korpela and Lehtinen. It is a learning material specifically targeted to college level nursing and health-care degrees. With this book, students are presented with vocabulary, protocols, and procedures exemplified with transcripts of real conversations between nurses and patients.

LIMITATIONS IN PROMOTING CULTURAL COMPETENCY

Lastly, mid-level learners are in need of cultural knowledge as a guidance for proper Finnish communication patterns and activities in various social contexts. Cultural knowledge in this study is defined as practice (behavioral patterns recognized by a society), product (all of what a society creates as manifestation of its paradigms and knowledge, i.e., music, literature, art) and perspective (principles, values, philosophical points of view on its practices and production) (National Standards 2006, p.51). Teaching cultural knowledge is known to improve L2 learner's listening comprehension (Hayati 2009) and reading comprehension (Roller 1990), while "understanding the target culture helps learners read with interest, which might increase their motivation in L2 reading." (Erler and Finkbeiner 2007, pp.197-200). Knowledge about the target culture promotes the learner's reflection and understanding of the cultural differences she experiences.

The challenges are, however, limited class sessions, lack of proper teaching materials, and the teacher's lack of awareness. Most widely-used Finnish teaching materials focus on grammar drills and vocabulary with somewhat vague and too schematic representations of Finnish culture. Some teachers recognize the problem, so they bring Finnish contemporary customs to the classroom with extra materials that sample dialogues between Finns and foreigners, as a way to deal with some cultural tones in the language. From students' viewpoints, however, most tutors are still blind to this issue: "Finnish teachers are Finns so they only see their culture through their cultural lenses" (anonymous, cited in Rodriguez-Kaarto and Hahn 2014). Byrd et al (2011) also concluded that being a native speaker or being part of the culture does not assure the knowledge of how to teach about that culture.

COGNITIVE AND ECOLOGICAL APPROACHES FOR L2 LEARNING:

Improving Finnish learning experience may require fundamental rethinking on how people learn. In this section, the authors will review two major approaches of L2 learning, cognitive and ecological. The two approaches are contrasted in Järvinen (2009): while the cognitive approach perceives learning as a product that precedes in the linear, fixed, coherent, and analytic manner based on linguistic inputs the learner receives, in the ecological approach, learning is a process that unfolds in the non-linear, dynamic, complex manner, occurs with linguistic affordances coming as reactions to the learner's interactions with semiotic environment.

With the cognitive approach, Krashen (1982, pp.10-31) hypothesized that adult L2 learning involves formally studying grammatical structures and rules, and the learners can be over-users, under-users or optimal-users of the formal knowledge (monitor hypothesis). He also thought that language is acquired in a predictable order, (i.e., first nouns and verbs, simple structures then progressively advance towards more complex

tenses, conjugations and structures). The learner's advancement happens with comprehensible input just above her linguistic competence (input hypothesis, or *i*+1). She learns by concentrating on meanings of the new sentences, not the forms. Lastly, the learner's emotional side is an important component of learning, as right motivation in an anxiety-free, perhaps immersive, environment encourages the use the language (affective filter hypothesis).

In summary, Krashen's key recommendations include less grammatical drills, more meaningful, comprehensible input one step beyond the learner's current level (*i* + 1), and learning in an immersive environment as it may provide plenty of inputs and motivate the learner. He also recommended teaching in paralinguistic and non-linguistic modes (using images, e.g.) to exploit the learner's knowledge of the world.

Krashen's ideas of *i*+1, comprehensible input and immersive learning environment are discussed from a different perspective in van Lier's ecological approach (2000; 2004; 2010). Unlike the Piagetian view of learning as a cognitive process in the brain, van Lier's ecological approach is influenced by Vygotsky and Cole (1978)'s social constructivism where social interaction with More Knowledgeable Others (MKO, hereafter) is believed to precede cognitive development for a learner to advance to the Zone of Proximal Development (ZPD, hereafter), and Bakhtin (1986)'s dialogic view of human utterances as interrelated responses with meanings inextricably linked to the culture. Under this approach, L2 learning environment is characterized as relations, possibility, opportunity, immediacy, and interaction (van Lier 2000, p.246; van Lier 2004, pp. 91-95) that the learner faces: the learner takes actions towards the world, i.e., an environment full of potential meanings, and her perception-interpretation of resulting responses form a cycle of mutual reinforcement where meaning emerges. This approach is ecological in that the learner's attempt to look for interaction opportunities is understood as affordance (Gibson 1977), how living organisms perceive and adapt to their environment for survival. L2 learners' language affordances let them see actions available for them in the given environment, and project-predict the consequences of their utterances (Forrester, cited in van Lier 2004, p. 91).

From this perspective, van Lier (2004, pp. 82-90) argues against "hard-nosed, grammar-grind, test-cramming" language curriculum, to advocate more critical, challenging, and democratic L2 learning & teaching. The learning ecology is laid out with the learner's multi-sensory perception of direct (written and spoken language, e.g.) and indirect (gestures, socio-cultural norms, e.g.) aspects of language use, and the perceiving of self in relation to the environment. Through the learner's activities, she picks up necessary information for interaction and collaboration with others to achieve intended goals; the learning experience can be more or less effective in providing democratic and quality learning, depending on how control and power are distributed among participating individuals.

DESIGN IMPLICATION

Despite their different philosophical grounds, the two theories bear ostensible similarities in their recommendations for L2 learning. This study proposes key principles drawn from the literature and extends them as L2 learning system features (Figure 1).

- **L2 Learning in action and interaction**: as human utterances are social acts made in response to previous ones, not just any sound emitted in isolation (Bakhtin 1986), L2 learning in dialogic interaction, or comprehensible input (Krashen 1982), provides meaningful knowledge for the learner. With interaction, the polysemy of language is appropriately contextualized and negotiated for the learner (van Lier 2000, p.247).
- **Lessons that challenge the learner:** *i* + 1 (Krashen 1982) and ZPD (Vygotsky and Cole, 1978) suggest how progresses are made in L2 learning with tasks somewhat challenging to the learner.
- **Interaction with MKO:** scaffolding from MKO, i.e., any person or system more knowledgeable in the target language (Vygotsky and Cole 1978), facilitates such progresses.
- **Direct-indirect perception and language affordances (van Lier 2004, pp. 87-90):** the learner's perception of the world comes from both direct observations and through her lens of socio-cultural (thus, indirect) knowledge. The learner also picks up both directly observable language affordance (e.g., prosodic features, facial expressions) and indirect ones (e.g., social practices, cultural artefacts).
- **Multimodal, multisensory perception:** most human utterances are made in relation to, or with reference to, the physical world (including other humans), thus meaning is communicated and perceived in a combination of difference senses (van Lier 2004, pp. 88-89), rather than just language in the narrow sense. Krashen (1981; 1982) recommends using images and other non-linguistic methods to exploit the learners own experiences and knowledge of the world for L2 learning.
- **Learner's self-concept (van Lier 2004, p. 95):** how the learner perceives herself (self-concept) becomes the agency that brings forward "autonomy, motivation, and investment" (van Lier 2010, pp. 4-5) as drivers for focused learning. A related concept is affective filter hypothesis (Krashen 1982).

Based on above mentioned principles, the authors envision a future L2 learning system designed to provide the following features:

- **Activity-based curriculum:** L2 curriculum designed with activities, as opposed to repetitive grammar drills, that involve the learner's perception of semiotic environment with rich language affordance.
- **Complex, collaborative tasks, with more knowledgeable others:** challenging L2 tasks with dialogic interactions with MKO for the learner's development.
- **Engaging contents with cultural-professional knowledge:** contents the learner is interested and can relate to, including the cultural and professional knowledge they need for employment, or to resolve the ambiguity of language.
- **Personalized, contextualized lessons:** providing personalized contents challenging and engaging for individual learners in the right context.
- **Learning in various media, places, and formats:** experiencing L2 language spoken and heard (1) in the realistic context of multimodal, multi-sensory interaction, and (2) in various socio-cultural aspects, such as dialects or a historical drama.
- **Democratic, participatory classroom atmosphere and lessons:** encouraging the learner's active participation in collaborative interactions with MKO, as opposed to passive reception of lessons.
- **Environment high in semiotic budget (van Lier 2000, p.252):** an environment rich in interaction opportunities, perhaps an immersion situation (Krashen 1982, p.170) such as living in a foreign country.

INSIGHTS FOR FUTURE L2 SOLUTIONS: FOUR LEARNING MODULES

From the review of theories and interviews, the authors conclude that future learning systems for Finnish
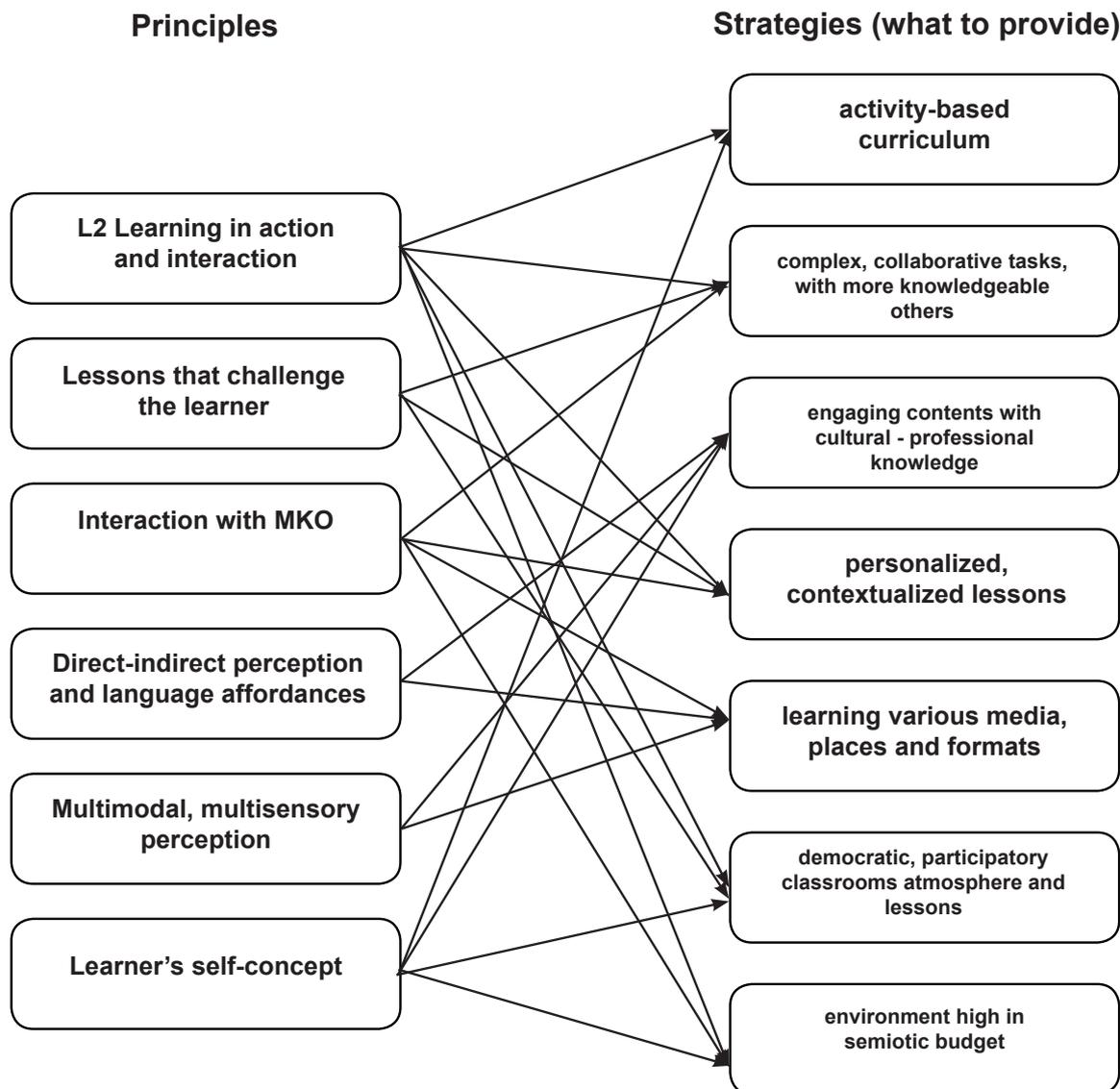

Figure 1. L2 learning principles and relevant system features

as L2 need to provide a collaboration space where students collect and upload materials they are interested (thus, personalized and contextualized), and teachers give lessons designed around the materials. While collecting materials, students explore their surrounding environment, question what they see, and interact with more fluent speakers; the collected data show what is relevant to their life and career, or any problems/difficulties they experience from different cultural perspectives. With the materials, teachers recognize the learner's current linguistic skills, areas of interests and improvements.

The authors envision that such a system consists of four learning modules:

1. Observation-based learning module: Learners will observe, reflect and interpret —individually and in groups—cultural products and practices around them. They collect data in video, image or text, and upload them on this system for personal and in-class analysis (Figure 2). Learning points include:

- Observation skills
- Appreciation of cultural products and practices as spaces with high semiotic values and interaction opportunities.
- Interaction with MKOs to resolve the ambiguity of meanings.

- Interaction opportunities among learners in planning, collecting, sharing and selecting data.

2. Writing-based learning module: It reinforces learners' writing skills with tasks in Finnish. Tasks can vary from personal diary writing, scholarly presentations, or recording anecdotes. The degrees of complexity should always be one step beyond the learner's linguistic competency. Students' assignments are uploaded on this system, shared, and commented during the class. Learning points include:

- Vocabulary building
- Writing skills (spelling, grammar, style, etc.)
- Combined with the observation data, this module fosters critical reflection about cultural perspectives.

3. Interaction-based learning module: In this module, learners are encouraged to carry out personal, academic or professional tasks in the target language (shopping, bank transaction online, academic presentations, etc.). The locals they interact with will rate the students' performance by giving feedback, in either print or digital channels (stamp-collecting passport, mobile app, etc.). Learning points include:

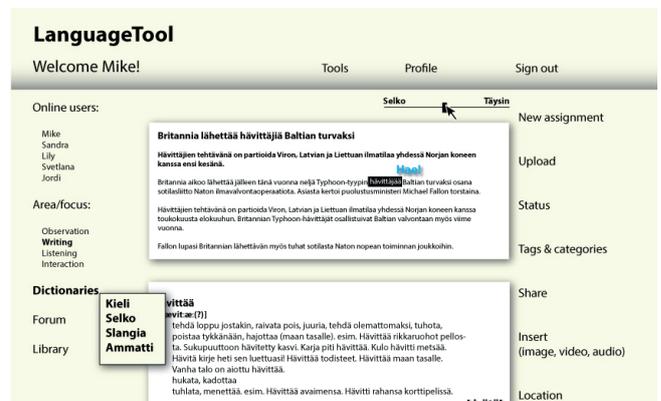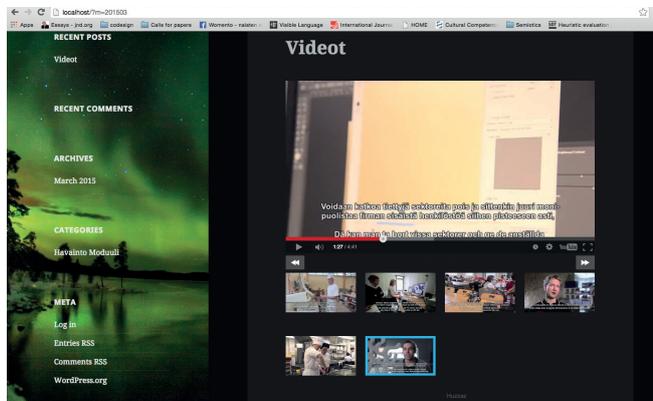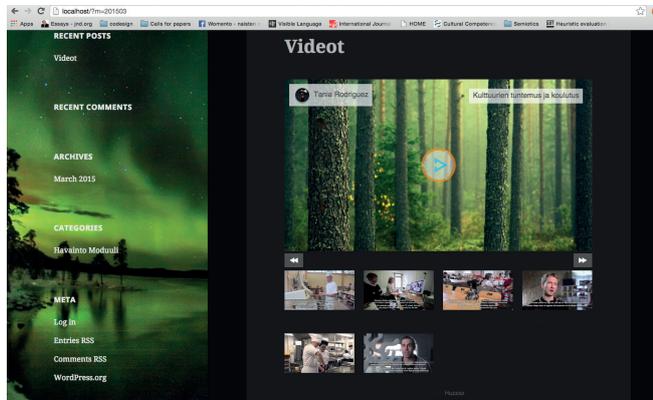- Promotes interaction with MKOs and advances learners in ZPD

Figure 2. Observation-based learning module (left) is a video gallery that archives learners' self-made and chosen video material to watch, discuss and eventually caption. Writing-based learning module (right) is meant for learners to advance their skills by writing texts of interest, discussion forums, expanding and adding vocabulary to their dictionaries by defining words relevant to their fields of professional or personal interest. All materials are shared with peers for collaboration.

Figure 3. Speech-based module and Interaction-based module can compliment each other. Video clips can be produced from students' interactions with MKOs; later, the clips can be captioned as part of their learning activities. The system displays two sets of scripts, one by the learner and the other by the teacher, with grammar and spelling corrections.

- Promotes learning in various social and cultural contexts as high semiotic environments
- Fosters speaking, listening and observation skills in real-world contexts

4. Speech-based learning module: In this module, learners are encouraged to focus on listening and speaking and activities for vocabulary building and cultural knowledge acquisition. The system provides spaces where video clips of various contents (Finnish TV program, e.g.) are posted, and students learn by transcribing, annotating, discussing, and dramatizing based on the clips. During the class, students' scripts are discussed with tutors and peers. If the instructor can upload multiple versions of scripts, with varied difficulty, the learning material is adaptive to the learner's progress (Figure 3). Not only listening, but dramatization of situations makes the lessons more practical. Learning points are:

- Listening skills, vocabulary acquisition and reading comprehension (Garza 1991, pp. 243-246).
- Simultaneous linguistic and cultural development (Danan 2004; Montero et al 2003, p.123).
- Speech skills: stress, pronunciation, accent, dialect and intonation.
- Learning in multi-modal and multi-sensorial tasks

(drama, poem, song, etc.), unifying students' perception, speech and action.
- Participatory activities foster students' independent and voluntary practice of the language in their areas of interests.

CONCLUSIONS

In this paper, highly-skilled, intermediate level Finnish learners' opinions on current culture and professional language training are reported, and recommendations from major L2 learning theories are reviewed. Based on the findings, the authors suggested design principles and features for future Finnish as L2 learning systems.

Our findings suggest that effective L2 learning relies on interactions with others in the semiotic environment, with activities that will challenge and advance learners to the next level of competency. Interaction with more fluent speakers are possible thanks to learners' capabilities to perceive signs, include perception of gestures and expressions, making sense of what she hears or feels. With the activities, the learners construct 'self', as the key for learning: the learners' engagement and motivation to advance. It is through the self-concept that the learners feel the needs to understand language holistically. They are empowered to search for opportunities that are personally, professionally and culturally interesting.

To sensitize students with learning opportunities and maximize their working space, we proposed four modules that holistically tackle different areas of language competency, while absorbing cultural knowledge. The observation-based module is for learners to consciously look at cultural products and practices in a critical way by collecting videos, text or images for reflection. The writing-based module aims to improve writing skills in Finnish through composition of text in formal and informal styles. The interaction-based module urges the learner to actively use the language in various occasions with native speakers who will grade their use of language. The speech-based module aims to improve listening and speaking skills while learners transcribe video material or dramatize the subject.

We expect the modules to provide learners with the means to improve their observation skills in situ, writing skills with various styles, the ability to interact with native and non-native speakers in Finnish, and improved listening comprehension and speech skills. The modules, combined with an online working space where learners post materials, will assist the teachers to recognize students' real linguistic needs, interests and progress.

Future lines of this research are ideation workshops with Finnish teachers and students for more specific system features, design and implementation of the modules, and testing them in collaboration with the teachers and students for their qualitative-quantitative evaluations.

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