

Designing Language Learning for Migrant Workers' Workplace Integration

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Abstract

The number of migrant workers in South Korea is on the rise, but their inadequate Korean language skills prevent them from being promoted at work, or fairly treated as respected members of the society. In this study, in collaboration with a government-authorized language educational facility for immigrants, the authors investigated (a) challenges in migrant workers' Korean as a second language learning, and (b) design principles of lessons and learning materials specifically targeted to their needs. Student and teacher interview data confirmed that the workers' limited time for study, weak motivation, Korean colleagues' indifferent attitude, and limited teaching resources at educational facilities are major barriers to achieving higher levels of linguistic skills. From the data, the authors identified four design principles: personalized content, community participation, portability of materials, and micro learning modules. Informal lessons via Facebook, factory safety signs, and portable writing drill booklets are designed as on-going experimentations of the principles.

Keywords: social integration, second language learning, migrant workers, participatory design

According to 2015 statistics (Park, Hwang, & Song, 2016), immigrants in South Korea account for approximately 3.4% of the whole population. In G province where the authors reside, 22.9% of all immigrants are E-9 (non-professional employment) visa holders from China and other Southeast Asian countries; they are taking over manufacturing and agricultural jobs that Koreans do not prefer. Despite the Korean Fair Labor Standard Act (2008), labor exploitation cases are often reported. Lee (2016)'s study with 752 migrant workers in K province concludes that they work 62 hours per week on average, which leaves virtually no time for language learning.

Inadequate language skills entail major problems for the workers. Firstly, their job competency is undermined: workers who do not understand terminology spoken in their professional fields, and details of the entire production process cannot be promoted to managerial positions. They can only be assigned to simple, repetitive manual tasks. Secondly, migrant workers are not accepted as valued members of a society, if they do not have "insights on practice, products and perspectives of the target culture" (National Standards, 2006, as cited in Hahn & Rodriguez-Kaarto, 2015). In short, the workers need focused trainings on occupational terms, and cultural knowledge to actively participate in local communities. Are they, indeed, studying Korean language they need?

In collaboration with an educational facility located in G province (hereafter, N center) where free government-funded Korean weekend classes are provided for immigrants, the authors investigated:

1. Challenges in migrant workers' Korean as second language (L2, hereafter) learning.
2. Design principles of lessons and learning materials specifically targeted to the

workers' needs and circumstances.

Before reporting specifics of research design, the authors would like to review unique characteristics of Korean language first, to exemplify a beginner Korean learner's frustrations.

Theoretical Backgrounds

Why Korean Language Is Difficult to Learn?

Korean is an agglutinative language that belongs to the Altaic language family. Various affixes are added to change meanings and implications of sentences. Shin, Kiaer, and Cha (2013) describe the difficulties of learning Korean: while *Hangeul*, the phonetic alphabet of Korean, is easy to learn with its scientific design, Sino-Korean lexicon (i.e., words written in logographic Chinese letters) that make up about 60% of the vocabulary generates numerous homonyms that sound and look alike in Korean. This implies that learners will frequently face words that can be interpreted in many ways. Native Korean speakers manage to interpret them in context, but beginners cannot do so.

Another difficulty arises from affixes that conjugate according to the preceding nouns: what part of speech they belong to, how they are pronounced, or what the whole sentence means. For instance, learners need to attach the right adnominal suffixes to verb stems among - ㄴ/은, -는, -ㄹ/을, depending on the tense (past, present, or future). Learners find it difficult, so often they compose incomplete sentences by removing all affixes and simply arrange nouns and verbs, making listeners guess what they mean.

Lastly, learners will observe seven levels of speech forms that "indicate the level of formality" ("Korean speech levels", n. d.), or honorifics that reveal the speaker's relation to the audience. This trait reflects the Confucian tradition in Korean culture where respect and filial piety matter in social relationships. For an immigrant worker, speaking on the right level of formality is critical in maintaining good relationships with superiors and colleagues, but it is also challenging for most learners, so they learn to speak on a moderate level of respect to all, to be safe.

In short, Korean learning requires significant number of hours to be familiar with vocabulary, affixes, and speech formality. Migrant workers, however, are expected to learn the language within a short period of time and be able to carry out given tasks at work. Then to expedite the learning process, how the design of lessons and learning materials can be? The authors turned to literature on contemporary theories of L2 learning for insights.

Cognitive, Ecological, and Task-Based Approaches in L2 Learning

The cognitive and ecological approaches are contrasted in Järvinen (2009, as cited in Hahn & Rodriguez-Kaarto, 2015): the cognitive approach (Krashen, 1982) perceives learning as a product that precedes in a linear, fixed, coherent, and analytic manner based on linguistic inputs the learner receive. In the ecological approach (van Lier 2000; 2004), learning unfolds in a non-linear, dynamic, complex manner in the learner's interactions towards or reactions from the semiotic environment.

Despite their different philosophical grounds, the two approaches bear ostensible

similarities in their recommendations. In previous studies, the authors have proposed six principles of L2 learning system design (Rodriguez-Kaarto & Hahn, 2014) from the two approaches: learning in action and interaction, lessons that challenge the learner, interaction with More Knowledgeable Others or MKO (Vygotsky & Cole, 1978), direct-indirect perception and language affordance, multimodal-multisensory perception, and the learner's self-concept. In essence, the principles require hours of exposure to the target language-culture, and natural interactions with native speakers in a democratic learning environment.

The principles, however, are hardly applicable to migrant workers' Korean learning due to their quite unique, challenging circumstances. The authors' preliminary study revealed that migrant workers spend most of their time working on manual tasks that do not require strong linguistic abilities. Due to excessive working hours, they do not have time to visit various places other than work and home. Their colleagues are native Korean speakers, but not all of them are willing to accept the workers as their equals or help them learn Korean language. The workers are not motivated to achieve higher levels of language skills because perceived social mobility is low for them.

As an alternative, the authors hypothesized that if the workers see the practical values of speaking Korean language, they will be motivated to study on a regular basis. With another approach, Task-Based Language Teaching (TBLT, hereafter), the authors set up a short-term learning goal of mastering occupational terminology for migrant workers. Ellis (2009, as cited in Bygate, 2015) defines *task* as an activity where the learner can find pragmatic meanings and clear goals to achieve by using the language. The learner carries out the task by filling up gaps left for her (collecting necessary information, e.g.), with her own resources. With the TBLT approach, students are speakers, not learners, of the language (Van den Branden, 2006). Planning a TBLT syllabus requires a thorough learner needs analysis with real-world examples, to ensure "the learner's genuine uses of language" both in class and in practice (Bygate, 2015).

What follows in the next section is a description of design of research activities conducted to investigate specifics of migrant workers' learning and living circumstances, and to explore how Korean lessons and materials should be designed to meet their needs.

Research Design

In total, over 21 weeks of time, the authors worked with 26 students at N center for class observation, in-depth interviews with students and teachers, and online data collection via Facebook.

Classroom Observation

The research team participated in all levels of N center classes for observation. The 31 hours of time was also critical in building rapport with them. As a participating organization of Korean Immigration and Integration Program (KIIP, hereafter), N center provides Korean courses every Sunday on four proficiency levels (beginner, intermediate, advanced, and social integration). The program is government-funded; instructors strictly follow authorized syllabi and textbooks.

26 students are enrolled (21 migrant workers and five marriage migrants) to the program at the time of this research. On each day, students can attend three 90-minute class sessions

(4.5 hours); it takes 200 hours of attendance to pass the beginner and intermediate levels respectively, and 70 hours for the advanced level before getting certified. The KIIP certificate gives various advantages in naturalization or visa extension process, so students who intend to work in South Korea for a longer period of time regularly attend classes. Their behaviors, language proficiency, reactions to lessons, interactions with the instructor, questions and learning strategies are observed along with what instruction methods are used.

Table 1. Description of student participants

Code	Proficiency level	Residency	Nationality	Sex	Age	Workplace
SP 01	Beginner	1 year	Cambodia	M	37	Concrete factory
SP 02	Beginner	2 years	Cambodia	M	20s	Auto parts factory
SP 03	Beginner	2 years	Vietnam	F	29	Office worker
SP 04	Intermediate	3 years	Vietnam	F	37	Kimchi factory
SP 05	Intermediate	2 years	Cambodia	M	25	Auto parts factory
SP 06	Intermediate	3 years	Vietnam	M	37	Plastic container factory
SP 07	Intermediate	3 years	Vietnam	F	28	Office worker
SP 09	Advanced	4+ years	Vietnam	F	43	Office worker
SP 08	Advanced	4+ years	China	F	38	Office worker

In-Depth Interviews with Students

Among the 26 students, nine participants sat for in-depth interviews (Table 1). Their language proficiency levels span from beginner to advanced. Five groups of questions are discussed:

1. Demographic information: age, education, and residency in Korea.
2. Workplace as a learning environment: current and past occupations, weekly working hours, Korean coworkers' attitudes towards them, job satisfaction, occupational language specific to the job, if they have received sufficient safety training, and cases of occupational accidents in the past. Such information is relevant to designing learning contents targeted to each workplace, including accident prevention safety signs.
3. Private life and topics of interests: current and future hobbies, places they visit frequently, activities they enjoy other than Korean learning, and their experience of socializing with Koreans. Such information is relevant to personalized learning contents.
4. Experience with Korean learning: the most challenging part in learning Korean, and personal learning strategy to cope with it.
5. Experience with N center: how they found the N center program, and among various activities at N center, which they prefer? This question asks what motivates migrant workers to gather at N center every week, because the center provides other activities besides Korean classes.

Code	Workplace	Teaching experience	Class level in charge	Number of student perclass	Age
TP 01	N center	14 years	Advanced	8~10	40s
TP 02	N center	2 years	Intermediate	5~6	30s
TP 03	N center	5 years	Beginner	8~11	40s
TP 04	N center	1 year	Beginner	10	40s
TP 05	N center	4 years **	Intermediate	8~10	30s
TP 06	K center	N/A **	N/A	170*	30s

* Total number of students registered to and actively attending K Center classes (in 2016 Winter).

** Center administrator.

Table 2. Description of expert participants

In-Depth Interviews with Experts

With teacher participants, five areas of questions are discussed:

1. General information: work experience in years, and organizations they work for.
2. Teaching expertise and experience: what level of classes they teach, and who their students are (nationality, occupation, gender, age, and Korean proficiency).
3. Teaching strategy: teaching methods they recommend for migrant workers.
4. Observations: what personalities and backgrounds are relevant to a student's learning progress, what motivates them to advance to higher levels, what causes early learning plateau for them, and how to overcome it.
5. Opinions on alternative approaches: for instance, trying different contents such as Korean cultural products (drama, K-pop) as learning material/activity, advanced Korean learner's role as MKO, or task-based learning.

In total, five teachers working for N center, and the K center administrator participated (Table 2). The authors contacted administrators as well, to learn from their years of statistical observations (e.g., yearly dropout rates, or trends in the students' nationalities).

Online Data Collection via a Facebook Group

To collaborate with N center students during weekdays, as well as to provide them informal learning materials on cultural knowledge, the authors set up a Facebook group (<https://goo.gl/EzXQde>) where all members can freely upload photos/videos. Facebook is chosen as a platform because all students were already using Facebook mobile app to get in touch with their family members at home. The authors' intention of running the group is posted in six languages (Korean, English, Vietnamese, Cambodian, Russian, and Nepali) for beginner Korean learners. The group started with 19 students and a teacher at N center as members, and it has been in operation for 16 weeks. Now 62 members either voluntarily post questions and contents, or react to the authors' postings of news articles, cultural contents, and supplementary Korean learning materials.

Discussion of Findings

Challenges in Immigrant Workers' Korean Learning

The authors' interviews with teachers and students at N center revealed that the learner's limited time for study, and their weak motivation prevent them from developing Korean linguistic competencies further. Moreover, due to limited teaching resources, providing personalized lessons on occupational terminology is difficult.

Limited time for studying and socialization: Often immigrant workers' abovementioned long working hours prevent them from (a) regularly attending free government-funded education programs, and (b) engaging in social occasions with native Korean speakers. Concerning working hours, seven out of nine student participants reported that they are either required or voluntarily (because, on weekends, hourly pay is higher) to work on weekends until 5 pm or later. A teacher states:

“The majority of students at J center work for 6 days per week. They only have one day to rest, but still they come to study here. They did not even have time to visit Seoul yet. They just commute to work and K center.” (TP 06, from personal communication, February 3rd, 2017, Translated from Korean transcription)

The teacher also pointed out that the employer's perception and attitude towards migrant workers affect their learning progress. Some employers encourage Korean language learning on Sundays because they expect the workers to translate for newly-hired colleagues; others discourage it because their perception of the workers is *uneducated, low-paid labor who are only capable of repetitive tasks*. Many workers at N center could not name the machine they operate at work, revealing that they have been working without proper terminology training.

Tough work schedules lead to limited interaction opportunities with native Korean speakers. Time shortage and/or lack of linguistic competency prevent workers from making new Korean friends outside the work, so their knowledge of Korean society and culture is confined to workplace and colleagues. A student (SP 05) commented that the majority of his colleagues are “too old to be friends with him”, which might discourage him from proactively engaging in their conversations. It is a detrimental learning environment on many levels. Not only the workers need to practice Korean more during weekdays, they need to be exposed to Korean speakers other than their colleagues, to develop a broader understanding of the society, and have meaningful conversations on the topics of their interests. The workers' colleagues at factories may be native Korean speakers, but the authors suspect their attitude towards migrant workers are not always supportive; a student reported that one of the frequently spoken sentences at work is “한국말 못알아들어요? (Can't you understand Korean?)” Besides, some Korean factory workers are not ideal conversation partners for beginner learners; according to the authors' private observations, the language they speak often includes dialects and vulgarism not suitable for beginner learners.

In summary, due to busy work schedules, N center students cannot develop linguistic abilities further and their social interaction opportunities are limited. This phenomenon may adversely affect their future careers: Sung, Kang, and Kang (2015) concludes that a migrant worker's Korean ability, and the number of their Korean and immigrant friends are factors positively correlated to wage levels, because with higher linguistic abilities and wider personal network, the worker's access to better-paid job position improves.

Learner's weak agency and early learning plateau: Some learners do not wish to

continue after acquiring essential Korean to get by, because their work do not require higher linguistic competence. The majority of participants said body language worked just fine, implying that tasks at factories are close to manual labor, not intellectual assignments. SP 04 who is working for a kimchi factory said “여기에서 하는 일 그렇게 어렵지 않아요 (what I do at this factory is not that complicated).”

Simultaneously, the workers are not motivated because they do not expect to move higher up the ladder of success in South Korea. In response to an interview question (“Do you know anyone from your home country who have successfully settled in Korean society?”), seven out of nine participants could not name one. In fact, Korean broadcasting media frequently portray success stories of highly-educated westerners and happily married migrant women, while regarding migrant workers, cases of exploitation (e.g., non-fulfilment of work contracts) are mostly highlighted. Regarding this phenomena, a teacher participant at J center commented:

“Because [the workers] came here for money, [...] they do not want to learn Korean further if they can take care of basic necessities [...] To motivate them, you need to show [...] success cases of migrant workers [...] and what is possible if you are fluent in Korean. You need to show that.” (TP 06, from personal communication, February 3rd, 2017, Translated from Korean transcription)

One problem incurring with the early learning plateau is migrant workers’ weak writing skills. The authors oftentimes found misspelled words in their writing, a typical phenomenon among L2 learners whose learning activities are centered around listening and speaking, not reading and writing; they only remember phonetic patterns of words that are sometimes different from how they are spelled. Learners who hit early learning plateau will stop reading and lose opportunities to see correct spellings of words, or sentences with complex structure. Cumulatively, this leads to weak reading and writing skills.

Limited teaching resources: Abovementioned weak writing skills is linked to what is expected from students at work. A teacher mentioned:

“For them, [because they are expected to begin working at factories upon arrival] teaching survival Korean is a priority, so we spend more time listening and speaking than writing.” (TP 01, from personal communication, February 7th, 2017, Translated from Korean transcription)

For this reason, current government-designed Korean curriculum for immigrants emphasizes speaking and listening, even on advanced levels. If students want to study further beyond conversational Korean, they are left on their own.

Another challenge incurs with the characteristics of Korean occupational terminology: what tools and processes exist at each workplace. Learning the terms is a priority for migrant workers, but it is difficult in reality because language teachers do not feel comfortable teaching them. A teacher participant mentioned:

“...so when [the workers] say *press*, they know what it means and what process is involved with it because they have used it at work. But teachers like us, we just know it is some kind of machine that puts pressure on something, but we do not know exactly how it works.” (TP 06, from personal communication, February 3rd,

2017, Translated from Korean transcription)

A significant portion of terms spoken at factories are loanwords with foreign-origins, pronounced with Japanese and Korean accents. It is a unique phenomenon due to the Japanese Colonial Period in South Korean history.

“We do not feel comfortable with teaching some terms spoken at construction site, they are remnants of Japanese Colonial Period. [Korean teachers] do not understand them, [...] so cannot teach them.” (TP 06, from personal communication, February 3rd, 2017, Translated from Korean transcription)

Providing occupational terminology lessons is difficult at educational facilities because teachers are not familiar with it. Moreover, it is not practical to expect teachers visit all workplaces and learn their unique terminologies. Teachers are supposed to follow government-authorized language programs and prepare students to pass TOPIK (Test of Proficiency in Korean) exams.

In conclusion, the migrant workers' limited time for study, weak motivation, and limited teaching resources are major challenges. Such circumstances call for different learning approaches and materials customized to their needs.

Future directions of lessons and learning material design for migrant workers
From the interview data, the authors found tentative principles for syllabus and material design: personalized contents, community participation, portability of materials, and microlearning modules.

Personalized contents: Beyond grammar lessons, migrant workers need occupational terminology, knowledge on Korean social infrastructure systems, and cultural knowledge to be integrated in local communities. As each person speaks on different proficiency and is interested in various topics, the lessons for advanced learners can be personalized, with topics chosen considering her work environment and cultural interests: where the learners work, what tasks they do, what they do on holidays, and what aspects of Korean culture they are concerned about. Currently the N center runs small classes of less than 7-8 persons per group. Teachers are well aware of each student's living and working circumstances, and that knowledge is easily reflected on examples teachers use during the class to prompt students' voluntary responses.

Community participation: Topics such as workplace jargons are better taught in situ, not in the classroom. Also, the best teachers of the subjects are the workers' supervisors and colleagues. Designing learning materials for occupational terminology requires the workplace community's participation: employers' deep involvement in the planning stage, and the colleagues' contribution to tutoring activities. While Park and Kim (2014) pointed out that a migrant worker's satisfaction at work and the quality of relationship with colleagues positively correlate to how fast this person can be integrated to the society, findings from student interviews indicates that Korean colleagues at most factories are not enthusiastic in offering helps. New concepts of syllabus and learning materials are called for, to induce Korean colleagues' voluntary-involuntary tutoring.

Portability of materials: The learner's living pattern—working 6 days per week—might not leave them time and energy to study for extended periods of time during weekdays. The authors explored portable designs of learning materials they can carry around and use

during short breaks between shifts. A portable learning material with task-based lessons also opens up opportunities to acquire genuine and practical cultural knowledge while interacting with other Koreans in the community they live in. Kim and Kim (2013, as cited in Park and Kim, 2014) conclude that immigrants are refraining from being active members of the local community because of language barrier, cultural differences, and discriminatory acts they may experience. While it is true that some Koreans show hostile and prejudiced attitude towards them, immigrants should be encouraged to be proactive in making acquaintance with Koreans to build up linguistic abilities and break wrong cultural stereotypes.

Microlearning modules: Contents of the portable learning materials can be also designed considering the short periods of time the learners can afford to study. Microlearning engages the learner in brief, focused sessions to avoid information overload. Such an approach let “[t]he learners [be] in control of what and when they’re learning”, by delivering short contents written with one learning objective in a straightforward manner (Eades, 2014). Micro learning modules typically last between 3 to 6 minutes, and suitable for “quick revision” or “[building] upon previous content”; microlearning contents are suitable for being played on mobile platforms (Andriotis, 2016). With such an approach, the authors intend to train migrant workers to build the habit of practicing 1-2 new expressions they learned at N center every day, composing sentences they need at work and in the community they live.

Design Explorations

In this section, the authors will describe how insights gained from research activities are applied to learning activities and material design. The foci of all materials are teaching occupational Korean terms. Topic ideas are collected from the students’ participatory inputs. Some lessons are designed in the format of short writing drills, and delivered in portable formats.

Occupational Terminology Lessons

The research team is currently providing personalized lessons on occupational terminology via Facebook. To find out what terms workers do not understand at work, the authors conducted in-person interviews, and set up a Facebook group where N center students are invited to post their questions with photos. ICT technology such as Facebook groups was particularly effective in reducing the knowledge gap between participants and researchers, and grasp each learner’s personalized needs. Students who are active on Facebook shared their personal and professional interests.

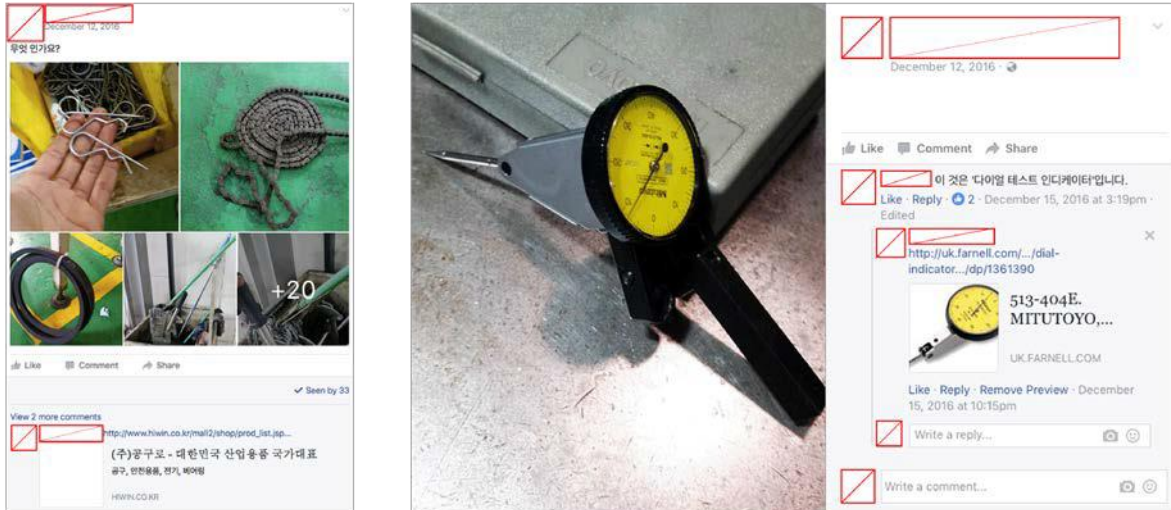


Figure 1. A participant posted pictures to inquire about names of various tools used at work.

A participant (SP 05) working at an auto parts factory posted 24 pictures of tools he has been using daily, without knowing their names (Figure 1). It was somewhat surprising that he did not try to ask his colleagues, and no one at the factory attempted to teach him what the tools are called either. Even though the authors have not worked in this industry, resolving his questions was not impossible. In reference to the brand logos and serial numbers printed on each tool, both the tools' English and Korean names, and where to find/buy them online were found. Later, for SP 05, the authors designed one-page summary of all tool names with pictures, which SP 05 brought back to the work and asked his colleagues' confirmation. Later at N center, other students working in similar lines of work also wanted to get personal copies of the list.

This activity was an experimentation of a learning material where content is personalized with the learner's participatory inputs, and where a community of native Korean speakers (such as SP 05's colleagues) participated in a tutoring role, even though their contribution is minimal at this moment.

CNC Machine Safety Label Redesign

One type of the occupational terms students need is safety signs at work, especially signs with complicated concepts that are not sufficiently understood with pictograms. Safety sign example data are collected via Facebook. SP 05 also posted signs that are specifically designed for a CNC machine, about a part called *bar feeder*. The authors closely worked with him to find out how the machine works and what he understood as potential sources of danger. Captions attached to the sign warn specifically about accidents caused by bars protruding out from the machine (Figure 2, #2), while SP 05 was more concerned about strong wind suddenly coming out from a tube out of his experience.



Figure 2. CNC machine safety sign, redesigned in collaboration with a participant: (1) a participant (SP 05) posted pictures. (2) current safety sign and captions. (3) the participant sketched what he wants to see to prevent accidents caused by strong wind. (4) a final sign warning against touching rubber tube and letting out strong wind. (5) a final sign warning about accidents caused by rotating bar end.

The authors redesigned two separate warning signs for his factory, one for the accidents caused by a rotating bar end, and the other for the accidents caused by strong wind. In Figure 2, #4 is the final warning sign against touching the tube on the left side, and #5 warns about accidents caused by rotating bar end. During the several iterations, SP 05 made a sketch of how a drainage tube is connected from the bar feeder inside the machine in detail (Figure 2, #3) to assist the authors. In this activity, SP 05's participation brought up a potential source of danger in operating CNC machine that no one has noticed before.

Portable Korean Writing Drill Booklets

After classroom participation and interviews, the authors became well-acquainted with students over 21 weeks of time: their occupations, personal interests, and where they need more work for Korean learning. With such information, every week the authors design microlearning modules of vocabulary, expressions, composition and writing drills (Figure 3).

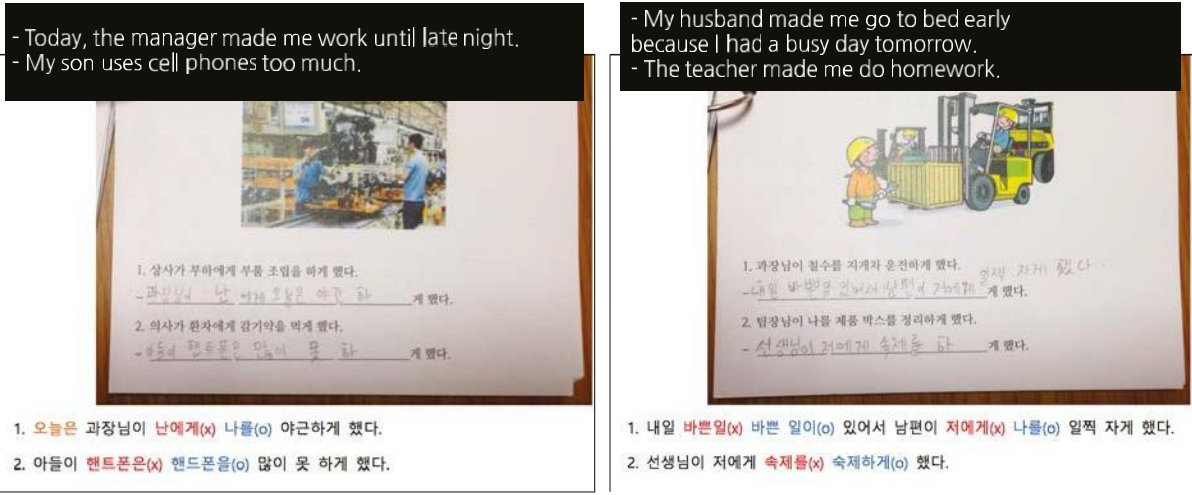


Figure 3. Portable Korean writing drill booklet pages designed with personalized contents.

Topics and example sentences reflect students’ current occupations and personal interests. For example, SP 05 frequently posts video clips of him playing guitar on Facebook, so the authors designed a grammar drill page with relevant content for him. Some pages are designed around artifacts, tasks, and events that are relevant to manufacturing processes at factories. Other pages show Korean cultural, climate, or daily events students can relate to. In Figure 3, on the left, a student composed new sentences: “The manager made me work until late night” and “My son uses cellphone too much”, revealing what is happening in her work and private life. Every week, the authors collect completed pages from students and post corrections of their answers via Facebook (Figure 3): red parts are corrected to better expressions written in blue.

The booklets are distributed in two formats: copies of printed booklets are delivered to N center every week, and PDF files of the booklet are freely distributed to all members of the Facebook group. Printed copies are favored by some students because they are small enough to carry around in pockets, sentences are printed in large font, and pages are large enough to write on. PDF files are favored by some Facebook group members who do not come to N center but still want to practice Korean.

Conclusions

In this study, the authors investigated (a) challenges in migrant workers’ Korean as a second language learning, and (b) design principles of lessons and learning materials specifically targeted to their needs. Student and teacher interview data confirmed that the workers’ limited time for study, weak motivation, Korean colleagues’ indifferent attitude, and limited teaching resources at educational facilities are major barriers to achieving higher levels of linguistic skills. Interview findings provided insights on design principles for learning materials — personalization of contents, community participation, portability of materials, and microlearning modules— following which safety signs and writing drill booklets are designed for the workers. Design experimentations on the principles are on-going with workplace manuals for migrant workers. The manuals are co-designed with advanced learners for each factory, to borrow from their experience of what they wish they had known as new foreign employees.

The findings in this study are limited in that currently all research activities are designed to gain insights on occupational terminology lessons, so the other area of cultural knowledge needs to be addressed in separate future studies. The findings are also limited in that not all student participants are fluent enough to partake in task-based learning activities with native Korean speakers at the moment. With a long-term plan, the authors are providing lessons to enable them to carry out more conceptual and complicated assignments.

In future studies, experimentations of design principles will be expanded. For instance, community participation that calls for Korean factory workers' in situ tutoring is a promising concept in teaching occupational terms, but how to get them involved, and how to motivate workers to be proactive at work in asking help are two big behavioral design goals of future studies.

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