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Variation and variability in L2 learning trajectories: Learning the Finnish existential construction

RESEARCH

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ABSTRACT

Taking an onomasiological approach and a dynamic usage-based perspective, this study explores how four beginning L2 learners of Finnish develop in expressing existentiality ('there is something somewhere') before and after instruction. Data were collected weekly over a period of nine months and examined for conventionalized and non-conventionalized constructions that express existentiality. As expected from a dynamic usage-based perspective, both inter-individual variation and intra-individual variability were identified. The initial repertoires of two of the learners were quite variable, as they used several different non-conventionalized constructions before settling on more conventionalized ones. In contrast, the two other learners did not independently try out different ways of expressing the targeted meaning but started to use the conventionalized Finnish existential construction only after pedagogical intervention. As one would expect from a usage-based perspective, some learners' initial repertoires included some item-based constructions that were similar to each other. As far as instruction is concerned, for all learners there was an increase in the use of the conventionalized construction after an explicit intervention, but the use was not morphologically accurate. The findings confirm two commonly held hypotheses in dynamic systems approaches: Learners own their own learning trajectories and initial trajectories are sometimes characterized by high degrees of variability because learners need to try out different strategies before they can adapt to the requirements of the new situation.

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1. INTRODUCTION

Adult second-language (L2) learners who are living in the target-language speaking community may have a need for fairly complex linguistic structures at the very beginning of their L2 learning process. In Finnish, for example, existentiality (there is something somewhere) is such a case. It is conventionally expressed with the Finnish existential construction (FEC; e.g., *Suomessa on paljon järviä* 'There are many lakes in Finland'), which is peculiar in many ways (e.g., Huumo, 2003; Ivaska, 2010; Kajander, 2013). Therefore, it is often considered to be a difficult structure (Ivaska, 2010) and not taught in beginner-level L2 Finnish courses. However, before any pedagogical intervention, learners may want to express this meaning, and so they need to rely on creative linguistic solutions that may not be conventionalized in the target-language speaking community. In this study, we aim to identify the creative learner language constructions that deviate from conventional language forms but do not cause a breakdown in communication (see Waara, 2004, for definition for learner language construction). Therefore, we adopt an onomasiological approach, meaning we start our investigation from the meaning and explore what constructions learners use to express it (Fernández-Domínguez, 2019; Grzega, 2012). We trace the development of the ways four L2 Finnish learners' express existentiality during a nine-month period that included two pedagogical interventions focusing on the FEC. We focus on the individual developmental processes by taking a dynamic usage-based (DUB) approach and investigate the effect of teaching FECs. Most studies that look at the effect of instruction do so with pre- and post-tests to see how the treatment has affected the L2 development of groups of learners (see Norris & Ortega, 2000; Spada & Tomita, 2010 for meta-analyses). Although such group studies can give an excellent indication of general trends, they cannot shed light on the actual developmental process (Lowie & Verspoor, 2019). In a longitudinal study setting, such as the current study, it is possible to study both variability (diversity in personal repertoires) and variation (learners' individual trajectories) in L2 development (Lowie & Verspoor, 2015).

2. BACKGROUND

2.1. INVESTIGATING L2 LEARNERS' LINGUISTIC MEANS: THE ONOMASIOLOGICAL APPROACH

Language is used in social interaction to achieve certain communicative goals that vary from general intentions such as requesting help or sharing emotions to more specific goals (Schmid, 2020), such as getting across the idea that there are many lakes in Finland. Proficient speakers may choose among different kinds of conventionalized linguistic solutions in the speech community to achieve a certain communicative goal (e.g., Fernández-Domínguez, 2019; Lesonen et al., 2021; Schmid, 2020). Conventionalized links between communicative goals and linguistic forms are usually referred to as constructions (e.g., Goldberg, 2006). For example, if a proficient speaker wants to convey the meaning that there are many lakes in Finland, the likely form is the FEC (VISK [Comprehensive Finnish Grammar Online] § 893, 894): *Suomessa on paljon järviä* 'There are many lakes in Finland'. However, a beginning L2 Finnish learner may not yet have noticed or acquired the form of this construction and may therefore use creative linguistic solutions to express a similar meaning (e.g., **Se on paljon järviä Suomessa* '*It is many lakes in Finland'). To investigate such learner language constructions, it is useful to take an onomasiological approach.

In an onomasiological approach, the investigation starts with the meaning and the aim is to investigate what kinds of linguistic solutions are used to express it (Fernández-Domínguez, 2019; Grzega, 2012). This approach makes it possible to investigate L2 learners' make-do solutions that reflect their history, goals, and abilities at that time (Larsen-Freeman, 2013). Using this approach, we view learners' L2 as its own, valuable linguistic variety, which in the end may or may not resemble the target variety.

2.2. TRACING L2 LEARNERS' LANGUAGE CONSTRUCTIONS: A DUB APPROACH

A DUB approach, a combination of Complex Dynamic Systems Theory (CDST) and a usage-based perspective, sees language learning as an individual, dynamic process in which L2 constructions emerge non-linearly and become entrenched in usage events in which an L2 learner uses the L2 for the purposes of interaction (e.g., Verspoor & Behrens, 2011; Verspoor et al., 2012; Lesonen, 2020). Because all learners and their usage events are unique, L2 learning

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trajectories are expected to be fairly different from one individual to another (inter-individual variation; Lowie & Verspoor, 2015). To gain insights into these individual developmental processes, a longitudinal, case-study approach is an appropriate methodology (Larsen-Freeman & Cameron, 2008). It has been shown in longitudinal study settings that individual learners' trajectories vary to a great extent in the development of syntactic complexity (e.g., Chan et al., 2015; Lowie & Verspoor, 2019). Much less is known about how individuals vary in their abilities to express a certain meaning. This study aims to fill this gap by investigating what kind of individual trajectories four L2 Finnish learners show when developing their linguistic resources to express the meaning that is conventionally expressed with the FEC.

In addition to inter-individual variation, there is intra-individual variability because conventionalized and non-conventionalized constructions may alternate in the L2 learners' production. Variability[1] thus refers to diversity within the learner's personal repertoire. In the context of CDST, it has been suggested that emerging L2 constructions show considerable variability, especially at the beginning of the learning process because learners are trying out different ways of making meaning (Ellis, 1994; Thelen & Smith, 1994; van Dijk et al., 2011). As pointed out by van Geert and van Dijk (2002, p. 341), variability "can be an essential factor in promoting development". It is assumed that free exploration leads to variability in performance, which can be seen as a prerequisite for development (van Dijk et al., 2011). For L2 learners, diversity in construction use is important because it provides material for selection: The most effective expressions can be selected for later use. Such development was observed in Cancino et al.'s (1978) data, which van Dijk et al. (2011) re-analyzed later from a CDST perspective. In this longitudinal study, at the beginning of the learning process, the learner used different kinds of constructions, some targetlike and others non-targetlike, to express negation. In recent years, many researchers have adopted a CDST/DUB approach to study the role of variability in L2 development. It has been shown that a learner's performance fluctuates when measured with both specific and holistic measures (Spoelman & Verspoor, 2010; Tilma, 2014; Verspoor et al., 2008; Verspoor et al., 2017). Research has also demonstrated that learners whose language exhibits substantial variability may be more successful than their less-variable peers (Chan et al., 2015; Huang et al., 2021; Lowie & Verspoor, 2019).

Whereas CDST emphasizes variability in learning trajectories over time, usage-based linguists argue that in first-language (L1) acquisition, constructions are initially relatively fixed and tied to specific lexical items (i.e., item-based constructions) and therefore show very little variability early on. It is assumed that these initial constructions are rote-learned expressions. Only after open slots within constructions have been discovered does the amount of variability increase in young children's language production. (Dąbrowska & Lieven, 2005; Tomasello, 2003.) In L2 learning, however, findings have been mixed. In some cases, learners use item-based constructions initially (Eskildsen, 2009; Eskildsen & Cadierno, 2007; Mellow, 2006); in other cases, there is more variability in the early constructions (Lesonen et al., 2017; Lesonen et al., 2020; Roehr-Brackin, 2014). The differences between L1 and L2 may be explained by the fact that L2 learners are already conversant with slot-finding and need less time to discover them. L2 learners can use their L1 when producing L2 expressions (e.g., Cadierno, 2004; Jarvis & Pavlenko, 2008). Angelis and Selinker (2001) point out that multilingual learners may transfer from languages other than the L1. Interlanguage transfer (transfer to the L2 from other languages than the L1) has been explained by a cognitive mode of "foreign language talk": The use of a language other than the L1 may be preferred because it sounds more foreign than the L1 (de Angelis & Selinker, 2001).

2.3. INSTRUCTION AS AN EXTERNAL FORCE IN DYNAMIC L2 DEVELOPMENT

An L2 classroom offers opportunities for meaningful interactions, as well as the chance to develop strategies to make use of affordances outside the class and to answer learners' questions on how the L2 works. In CDST and DUB, instruction may be seen as an external force that may play a role in L2 learners' development (e.g., Larsen-Freeman, 1997; Larsen-Freeman & Cameron, 2008; Nicolescu & Petrescu, 2013). Because in a complex dynamic system "all parts are connected to all other parts" (de Bot & Larsen-Freeman, 2011, p. 10), predicting linear cause and effect relationships may be very difficult. However, it should be noted that in a dynamic system, not all connections are equally strong (de Bot & Larsen-Freeman, 2011). Existing research suggests that the connection between instruction and L2 development is

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relatively strong: It has been shown that learners develop their L2 resources when they learn languages in instructional settings (e.g., Norris & Ortega, 2000; Spada & Tomita, 2010). Studies on the effect of instruction have mainly focused on groups and the effect of different teaching approaches. Some studies have found that at the group level, explicit instruction is more beneficial than implicit instruction (Norris & Ortega, 2000; Spada & Tomita, 2010), while others show that a predominantly implicit program is more effective than an explicit program (Rousse-Malpat, 2019). In one longitudinal case study from a DUB perspective, Tilma (2014) found that the learner who received instruction that emphasized form did better initially on complexity and accuracy measures than the learner who received instruction that emphasized meaning, but these differences diminished over time, with no significant differences after a year.

In the current study, we focus on the instruction of the FEC. Traditionally, the FEC is neither introduced nor taught early on because it is considered a difficult structure for L2 learners, as it is peculiar in many ways (Ivaska, 2010). The verb (most often the verb *olla* 'to be') does not agree with the subject, and the subject comes after the verb. The most difficult aspect is the form of the subject because it can be in the partitive case (Ivaska 2010; Kajander 2013; For FEC, see VISK § 893.) Although L2 learners may find the FEC tricky, they still might have a communicative need for this construction early on. As pointed out by Aalto et al. (2009), it is rather the communicative need of the learner than the complexity of the structure that makes learning easy or difficult: Learning a complex construction may be easy if the learner needs the construction frequently. By selecting the constructions for the analysis with an onomasiological approach, we can trace the learners' need for FECs because use of non-conventionalized constructions can be seen as an indicator for the learners' communicative need.

In the current longitudinal study, we examine the role of two pedagogical interventions on four individual learners' trajectories. The specific focus is on how instruction affects variability in individual learning trajectories. Variability is investigated in two ways. First, an individual learner's language use is investigated with respect to the frequency of conventionalized FECs and non-conventionalized constructions that are used to express existentiality. A large repertoire of different kinds of existential constructions (both FECs and non-conventionalized constructions) was considered a high degree of variability. Second, the FECs are investigated with respect to accuracy. Alternation of targetlike and non-targetlike forms within the FECs is considered a high degree of variability. We assume that this kind of variability in learner language is reduced after the pedagogical event because instruction may help the learners to find the conventionalized linguistic means to express existentiality. Knowing the conventionalized construction reduces free exploration that leads to variability in performance (van Dijk et al. 2011).

2.4. TARGETED L2 CONSTRUCTION

The conventional FEC expresses the fact that someone or something exists or is in a particular place (VISK § 893,894). Examples 1 and 2 show two prototypical examples of the existential construction (see Appendix A for the glossing).

(1) *Kerrokse-ssa* *on* *vain* *yksi* *keittiö*
Floor-INE be(3SG) only one kitchen
There is only one kitchen on each floor.

(2) *Tamperee-lla* *on* *paljon* *järv-i-*ä
Tampere-ADE be(3SG) many lake-PL.PAR
There are many lakes in Tampere.

As shown in Examples 1 and 2, the noun phrase (NP) referring to the place is topicalized: The existential construction tells something about this NP (VISK § 894). This NP is most often in the inessive case (ending -ssA, typically expressing that something is in or inside something, VISK § 1238) or in the adessive case (ending -llA, typically expressing that something is on something, VISK § 1238). Other cases can be used as well (with cities, the choice of -ssA and -llA -ending is not limited by this in/on distinction). The most frequent verb in existential constructions is *olla* 'to be', but other verbs can also be used. In a prototypical existential construction, there is no congruence between the predicate and the subject: The predicate is always in the third-person-singular form. The subject (often) refers to something that has not been mentioned before in

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the discourse. It can be in the partitive case if it is in the plural (example 2; except with nouns that only have a plural form), if it refers to an uncountable/mass noun (example 3), or if the verb is negated (example 4; VISK § 893, 894).

(3) *Kupi-ssa* *on* *kahvi-a*
Cup-INE be(3SG) coffee-PAR
There is coffee in the cup

(4) *Erfurti-ssa* *ei* *ole* *islanni-n* *kurssi-a*
Erfurt-INE NEG be Icelandic-GEN course-PAR
There is no Icelandic course in Erfurt.

3. THE CURRENT STUDY

This study traces the developmental trajectories of constructions expressing existentiality in four L2 learners of Finnish. The data collection lasted nine months, starting before and finishing after two instructional interventions. The aim was to answer the two research questions presented below.

1. What learning trajectories do the four learners show when expressing the meaning that is conventionally expressed with the existential construction in Finnish?
   a. To what extent is there variation between the learners' trajectories (i.e., Do the learners use similar or different kinds of linguistic solutions to express existentiality?)?
   b. To what extent does each learner show variability in the constructions they use to express existentiality?
2. What impact do pedagogical interventions have on the four learners' trajectories?
   a. How do the interventions affect the frequencies of FECs?
   b. How do the interventions affect the accuracy of forms within the FECs?

4. METHOD

4.1. PARTICIPANTS

The participants, four adult L2 learners of Finnish, were enrolled in different English-medium programs and were taking the same Finnish courses at the same Finnish university at the time of the study (see section 4.4.). Background information on the participants is presented in ***Table 1***.

PARTICIPANT	AGE	L1	OTHER LANGUAGES	TIME OF RESIDENCE BEFORE THE STUDY	EXPLICIT INSTRUCTION BEFORE THE STUDY
Lena	23	German	English[a,b], French[a], Icelandic[a,b]	0	0
Jungo	22	Chinese (Hunanese)	Mandarin Chinese[a], English[a]	2 years	1 Finnish course of 5 ECTS[c], 20 hours of self study
Alvaro	30	Spanish	English[a], French[a,b], Russian[a]	0	0
Khadiza	31	Bangla	English[a] Hindi, Urdu	4 years	0

Table 1 Background information on the participants.
[a]Learned in an instructional setting. [b] Learned in the target-language community. [c] European Credit Transfer System.

To ensure that the participants' data were comparable in terms of Finnish language proficiency at the beginning of the study, three experienced raters evaluated the learners' writing proficiency at the beginning of the study (see Appendix B). The ratings show that at the very beginning of the study, in weeks 1 and 3 (written texts 1 and 2), Jungo's and Khadiza's writing proficiency was evaluated as slightly higher than Lena's and Alvaro's, presumably because they had already been in Finland for some time. However, by week 5 (written text 3), Lena and Alvaro had caught up with their peers. The participants' overall proficiency development over

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the nine-month period is evident of their successful completion of a B1 level Finnish course at the end of the period of observation.

4.2. DATA COLLECTION

The data were collected from the four university students weekly, written and spoken data alternating, over a period of 9 months. Both types of data were collected because it was desirable that the data collection reflected actual usage-events that learners take part in in real life. Although written and spoken variants can be quite different in the Finnish language, the existential construction is not substantially different in these different modes. In other words, it was not expected that the learners would use different constructions to express this meaning in one mode versus the other. On these grounds, the decision was made to create one corpus consisting of written and spoken samples. The number of data points is shown in ***Table 2***.

PARTICIPANT	WRITTEN DATA	SPOKEN DATA	TOTAL
Lena	17	18	35
Jungo	18	17	35
Alvaro	16	17	33
Khadiza	16	12	28

Table 2 Number of data points.

The data are free response data. The participants were asked to talk or write about topics like summer plans or their hometown. The topics were usually familiar to the participants because they were selected in accordance with course content. The written data were handwritten and the writing samples were on average 99 words long (*range*: 40–176 words; *SD* = 33). The spoken data were recorded in a language studio, usually with a recorder (Roland R-05) but once with a smartphone. The spoken data consisted of monologues and dialogues. The other person in a dialogue was either another L2 speaker from the same class or an L1 speaker of Finnish (mostly the first author of the paper). The speaking samples were on average 260 words long (*range*: 63–629 words; *SD* = 128). In the first half of the data collection, the data were collected during the lessons of the participants' language course. There was a time limit of approximately 20 minutes. In the second half, the data were collected outside the class and there was no time limit.

4.3. DATA SELECTION AND ANALYTIC PROCEDURES

We adopted an onomasiological approach: We searched for the formal verbalizations of a given concept (Grzega, 2012), in our case, existentiality. The first author selected all constructions that contained the meaning conventionally expressed with the FEC. In this study, Goldberg's (2006) definition of a construction (a conventionalized pairing of form and function) has been broadened to include the L2 learners' emergent form-meaning mappings, which might not yet seem conventional from the point of view of proficient language users (see Waara, 2004). Two categories were formed. One is conventionalized FECs (e.g., *Saksassa ei ole saunoja* 'There are no saunas in Germany'). The second category is non-conventionalized constructions (e.g., **Se on kolme opiskelijaa samassa huoneessa* '*It is three students in the same room'; **Jyväskylä on kaupunki paljon siltan kanssa* '*Jyväskylä is a city with many bridges'). Although the non-conventionalized constructions might sometimes look quite different from the conventionalized construction, selecting them for the analysis was not problematic; the link between the targeted meaning and the form was clear in virtually all cases. As for FECs, we included those that contained all the necessary elements in the right places, even if they contained inaccuracies (e.g., using the nominative case instead of the partitive case for a subject).

After the manual selection of the constructions, the frequencies of the constructions were normalized because of the differences in text length. In the process of normalization, the frequencies were calculated per 100 words. To answer our first research question (what learning trajectories the four learners showed), line graphs were created to visualize the frequency development of conventionalized FECs and non-conventionalized constructions. FECs were also analyzed in terms of their accuracy, with the results presented in bar graphs. To answer our second research question (what impact pedagogical interventions had on the four learners'

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trajectories), the instructional setting was analyzed first. Because the first author was present at every lesson (either as a teacher for the first five months or an observer during the last four months), we have precise information about what was taught during the classes and the kinds of learning material and activities that were used. After analyzing the instruction of the existential construction in the participants' courses, changes in the learners' developmental paths were compared with the timing of the pedagogical interventions.

4.4. INSTRUCTIONAL SETTING

The four students were taking the same three L2 Finnish courses at a Finnish university. The three courses were at Common European Framework of Reference for Languages (CEFR) levels A1, A2 and B1. Each course consisted of 70 contact hours plus additional independent work. All three courses were taught by a qualified language teacher who was an L1 speaker of Finnish, the first two courses by the first author and the third one by a colleague. The three courses aimed to develop learners' skills in four different functions: Social interaction, telling and describing, understanding and searching for information, and developing as a language learner. The teaching approach was primarily meaning-focused, with some explicit attention to linguistic forms.

During the period of observation, in total 55 different FECs were introduced in the learning material and on the board. FECs were specifically dealt with twice during the period of observation. In weeks 15 and 16, students' awareness of the FEC was raised for the first time. In these lessons, the focus was not so much on the existential construction, but on the use of the partitive case. The existential construction was presented as one context in which the partitive case is used. In week 15, students' attention was drawn to the FEC and it was pointed out that this construction corresponds to the English *there is/there are*. In week 16, the students did a written exercise that included 13 different existential constructions. In this exercise, the students needed to form the correct partitive form of the subject within each FEC. The partitive form was the targeted form, and no other case would have been targetlike. In weeks 28 and 29, the main pedagogical intervention took place. The existential construction was explicitly taught, its elements were pointed out, and the form of the subject was discussed during the class. There were also speaking and writing exercises focused on the FEC. ***Figure 1*** shows the timing of the interventions. The first author was the teacher in the first pedagogical intervention in weeks 15 and 16. The main pedagogical intervention in weeks 28 and 29 was taught by a colleague.

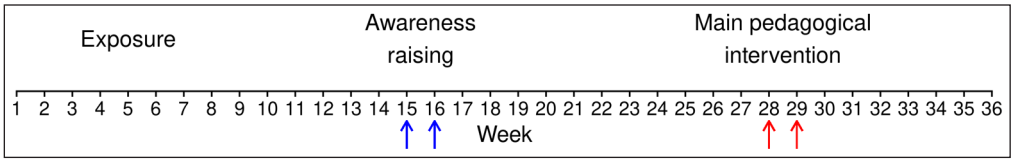

Figure 1 Timing of the pedagogical interventions.

5. RESULTS

Table 3 shows the number of constructions used to express existentiality during the period of observation for each participant.

PARTICIPANT	NUMBER OF CONSTRUCTIONS	NUMBER OF CONSTRUCTIONS PER 100 WORDS	NUMBER OF FECS PER 100 WORDS	NUMBER OF NON-CONVENTIONALIZED CONSTRUCTIONS PER 100 WORDS
Lena	39	15.7	8.7	7.0
Jungo	54	33.9	16.7	17.2
Alvaro	30	9.3	7.9	1.4
Khadiza	22	11.2	10.5	0.7

Table 3 Number of constructions used to express existentiality.

Next, the results for each individual learner are presented separately. Two figures for each learner are provided. The first figure illustrates the learning trajectories (research question 1) and shows the normalized frequencies of both conventionalized FECs (Thick, grey line) and

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non-conventionalized constructions that were used to express existentiality (other lines). The second figure illustrates the impact of pedagogical interventions (research question 2). It shows the frequency of FECs with a non-targetlike subject (red bars), FECs with the targetlike subject (green bars), and non-conventionalized constructions that were used to express existentiality (grey bars). The timing of instruction is indicated with arrows. The blue arrows indicate the first pedagogical intervention and the red arrows indicate the timing of the main pedagogical intervention. For each learner, accuracy pertains to the subject form only. Accuracy was relatively high for the topicalized NP and for the predicate (84–100%). It should be noted that there is not always a one-to-one correspondence between the frequencies of existential constructions and their subjects in the figures because sometimes there was more than one subject in different forms within one construction or non-Finnish words were used whose accuracy could not be evaluated.

5.1. LENA

As the figures show, Lena tried out many different kinds of constructions to express the meaning that is conventionally expressed with the FEC. The non-conventionalized constructions used more than once included the following types: *kanssa* 'with' (example 5), *se on* 'it is' (example 6), and *on olemassa* 'exist' (example 7).

(5) The first example from week 10

Jyväskylä	*on*	*kaupunki*	**paljon*	**silta-n*	*kanssa*
Jyväskylä	be(3SG)	city	*many	*bridge-GEN	with

Jyväskylä is a city with many bridges

(6) The first example from week 11

Talvella	*se*	*ei*	*ole*	*aurinko*	*Suome-ssa*	*päivä-llä.*
Winter-ADE	it	NEG	be	sun	Finland-INE	day-ADE

In the winter, it is not sun in Finland during the day (In the winter, there is no sun in Finland during the day)

(7) The first example from week 20

**ole*	*ole-ma-ssa*	**monta*	**sukke-ja*
*be	be-3.INF-INE	*many	*sock-PL.PAR

exists many socks

In some weeks Lena used both the conventionalized FEC and non-conventionalized constructions to express existentiality. This kind of non-linearity in her development was evident, for example, in week 16, when Lena used the conventionalized FEC (example 8) and the possessive construction to express existentiality (example 9).

(8) The first example from week 16

Berliini-ssä	*on*	*elokuvateatteri*
Berlin-INE	be(3SG)	movie.theatre

There is a movie theater in Berlin

(9) The second example from week 16

**tee-llä*	*ei*	**on*	**kofeiini*
*tea-ADE	NEG	*be(3SG)	*caffeine

Tea has not caffeine (There is no caffeine in tea)

There seemed to be a general tendency in Lena's trajectory for the conventionalized FECs to take over from non-conventionalized constructions over time (***Figure 2***). After the main pedagogical intervention, the use and proportion of the FEC increased. However, inaccurate forms of the subject also lingered after the main pedagogical intervention in which the form of the subject was explicitly emphasized (see ***Figure 3***).

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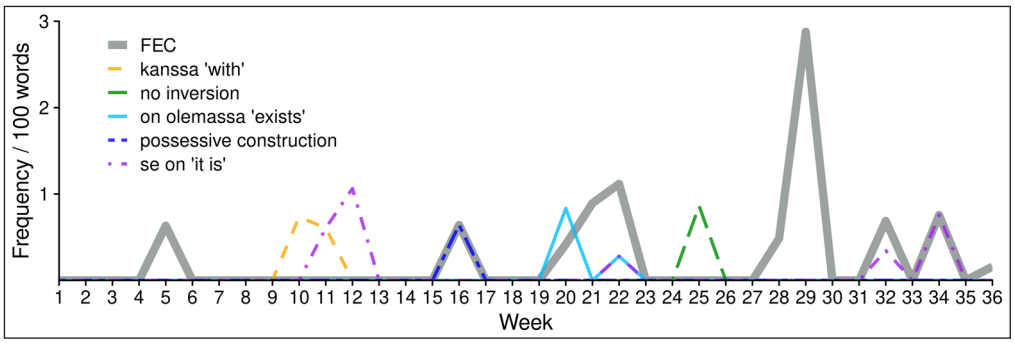

Figure 2 FECs and other constructions: Lena.

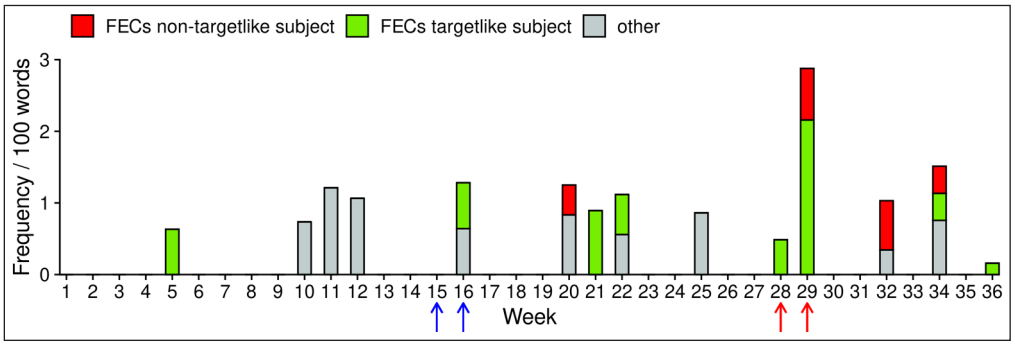

Figure 3 Constructions expressing existentiality with targetlike and non-targetlike subjects: Lena.

5.2. JUNGO

Like Lena, Jungo tried out different ways of expressing the meaning that was conventionally expressed with the FEC (***Figure 4***). The *siellä on* x + place and place + *siellä on* x constructions (weeks 11, 14, 22, and 25) are similar to the conventionalized FEC *siellä on* x 'there is x', which does not specify the place but uses the deictic *siellä* 'there' instead. Jungo, however, expressed the specific place with an NP either at the end (Example 10) or at the beginning (example 11) of the construction, making the use of *siellä* 'there' redundant. Like Lena, Jungo used the *se on* 'it is' construction (example 12) and the possessive construction (example 13) to express existentiality.

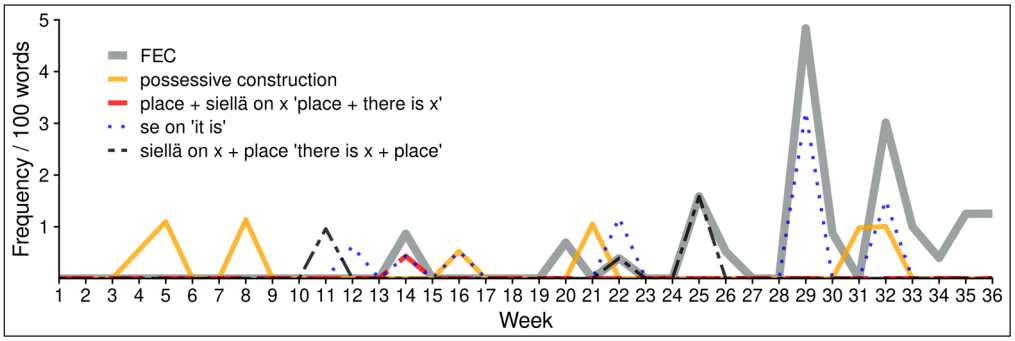

Figure 4 FECs and other constructions: Jungo.

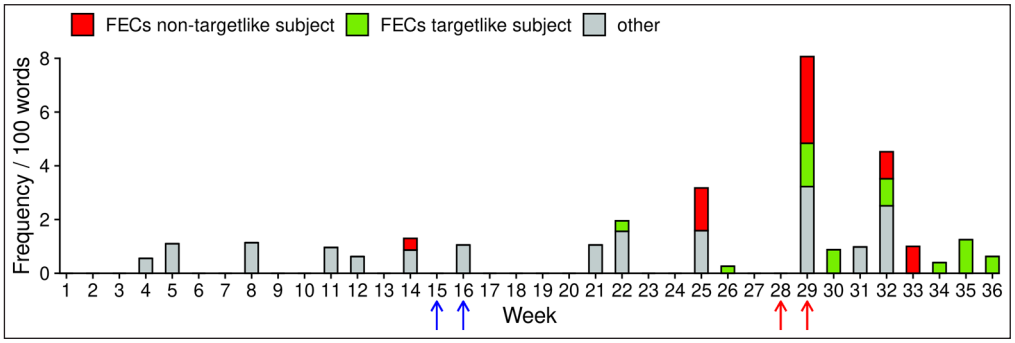

Figure 5 Constructions expressing existentiality with targetlike and non-targetlike subjects: Jungo.

(10) The first example from week 11

Koska	*siellä*	*ei*	*ole*	*mustikka-a*	*kiina-ssa*
Because	there	NEG	be	bilberry-PAR	china-INE

Because there is not bilberry in China

(11) The first example from week 14
mun **kaupunki-ssa,* *täällä,* *siellä* *ei* *ole* **luimi*
my *town-INE, here, there NEG be *snow
In my city, here, there is no snow

(12) The first example from week 22[2]
se *ei* *ole* *kylmä*
it NEG be cold
It is not cold

(13) The first example from week 16
Metsä-llä *ei* *ole* **mansikka*
Forest-ADE NEG be *strawberry
There is no strawberry in forest

From week 29 on, there was an increase in the use of the FEC. This increase happened after the main pedagogical intervention in weeks 28 and 29 (see ***Figures 4*** and ***5***). However, also after this intervention, Jungo kept producing the *se on* 'it is' and the possessive constructions to express existentiality. The form of the subject also showed variability in the last weeks. Regardless of the pedagogical intervention with the focus on the form of the subject, Jungo often used an inaccurate case for the subject (examples 14 and 15).

(14) The first example from week 32
Kaupungi-ssa *on* *paljon* **ravintola*
City-INE be(3SG) many *restaurant (NOM)
There are many restaurants in the city

(15) The second example from week 32
Siellä *on* *paljon* **ammattikolkeakoulu-a*
There be(3SG) many *polytechnic-PAR
There are many polytechnics

5.3. ALVARO

Alvaro's first attempts to convey the meaning of the existential construction happened in weeks 14, 16, and 22 in dialogues with an L1 Finnish speaker. He did not produce the existential constructions independently but, with the help of his speaking partner, the meaning of an existential construction emerged in the dialogue. Apart from this co-construction, Alvaro did not try out many different constructions (see ***Figure 6***) and his first examples were very similar. In week 22, Alvaro used the expression *siellä oli* 'there was' (example 16), and in week 26 (example 17), he produced *siellä on* 'there is' at the beginning of the construction. Even the form of the subject remained the same: The subject was in the nominative form, which was either targetlike (example 16) or non-targetlike (example 17) depending on the context.

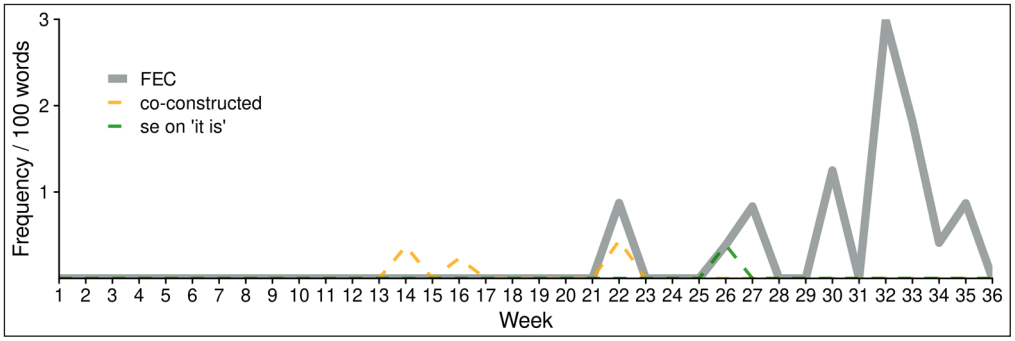

Figure 6 FECs and other constructions: Alvaro.

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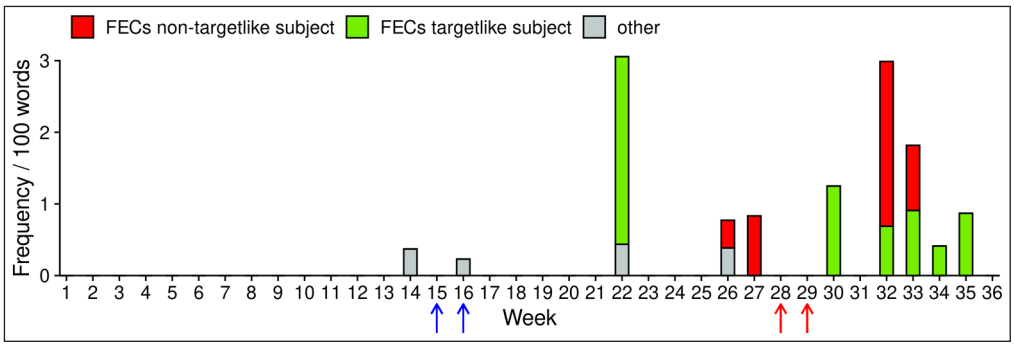

Figure 7 Constructions expressing existentiality with targetlike and non-targetlike subjects: Alvaro.

(16) The first example from week 22
siellä *ol-i* *konsertti* *ja* *fireworks*
there be-PST(3SG) concert and fireworks
There was a concert and fireworks

(17) The first example from week 26
koska *siellä* *on* **dottorit* *ja* *research*
because there be(3SG) *doctor-PL and research
because there are doctors and research

Over time, Alvaro used more conventionalized FECs and they became more varied. Besides using the deictic *siellä* 'there', he also used other NPs at the beginning of the construction. It seems that the pedagogical intervention helped Alvaro to produce the conventionalized way of expressing existentiality in Finnish. However, the pedagogical intervention led to the use of the general FEC pattern, but not to morphological accuracy (see ***Figure 7***). Both targetlike and non-targetlike forms of the subject were produced. Week 32 is a good example of this kind of variability in Alvaro's L2: All the examples called for the plural partitive form of the subject but Alvaro used it in a targetlike way only once (examples 18–21).

(18) The first example from week 32
Siellä *on* *paljon* *ihmis-iä*
There be(3SG) many person-PL.PAR
There are many people

(19) The second example from week 32
Siellä *on* *paljon* **opiskelija*
There be(3SG) many *student(NOM)
There are many students

(20) The third example from week 32
Siellä *on* *paljon* **yksityinen* **yliopistot*
There be(3SG) many *private(NOM) *university-PL(NOM)
There are many private universities

(21) The fourth example from week 32
Siellä *on* *paljon* **rantat,* **rante-ja,* **ranne-ja*[3]
There be(3SG) many *beach-PL *beach-PL.PAR *beach-PL.PAR
There are many beaches

5.4. KHADIZA

Khadiza's first existential constructions in weeks 5, 7, and 8 were *mun harrastuksiini kuuluu* 'my hobbies include' and *mun perheeseen kuuluu* 'my family includes', which seem to be rote-

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learned expressions because they were presented in the learning material in week 3 exactly in the same form as in Khadiza's production. Khadiza's learning trajectory resembled Alvaro's: It did not show much variability (see ***Figure 8***). In addition to the FECs, only one possessive construction was used to express existentiality. Like Alvaro, she starts to use the existential construction (see ***Figure 9***) after the pedagogical intervention. Khadiza used mainly the nominative form of the subject which is sometimes non-targetlike (example 22) and sometimes targetlike (example 23).

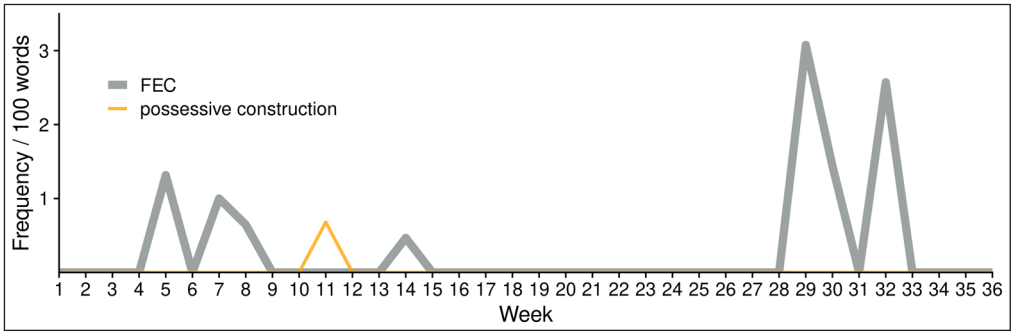

Figure 8 FECs and other constructions: Khadiza.

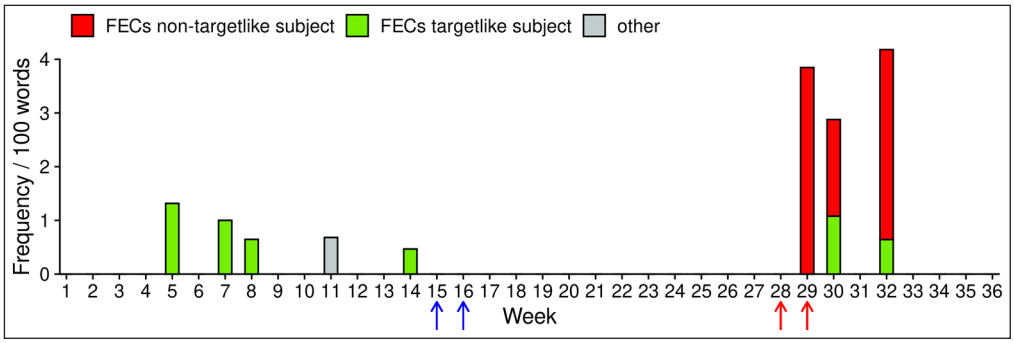

Figure 9 Constructions expressing existentiality with targetlike and non-targetlike subjects: Khadiza.

(22) The first example from week 32
Bangladeshi-ssa *on* *paljon* **ihmise-t*
Bangladesh-INE be(3SG) much *person-PL.NOM
There are many people in Bangladesh.

(23) The second example from week 32
Siellä *on* *joki*
There be(3SG) river
There is a river

6. DISCUSSION

We set out to investigate how four beginner learners of Finnish develop their ability to express the meaning that is conventionally expressed with the FEC (research question 1). As expected from a DUB perspective, we found variation between the learners: Different kinds of creative solutions were found to express the meaning that is conventionally expressed with the FEC (research question 1a.). Both Lena's and Jungo's initial repertoires were characterized by high degrees of variability because they used several different non-conventionalized constructions to expressing the targeted meaning, whereas Alvaro and Khadiza showed fewer creative solutions and their constructions exhibited a lower degree of variability (research question 1b.). In CDST, it is argued that variability is necessary for development and that high degrees of variability can be observed especially in the early stages of development (e.g., Lowie & Verspoor, 2015; Thelen & Smith, 1994; van Dijk et al., 2011). In the current study, Lena's and Jungo's trajectories are examples of this kind of development. Some stable elements were also identified in the data of this study: Both Alvaro and Jungo used the item-based *siellä* 'there' constructions. Item-based constructions are used repetitively with exactly same lexical items and they are not varied but they are used for the same purposes of interaction. From

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a usage-based perspective it is assumed that language learning starts off with the use of item-based constructions (Dąbrowska, 2001; Tomasello, 2003). This study therefore confirms two important assumptions of CDST and usage-based views on language development. On the one hand, L2 may be characterized by a high degree of variability initially because different linguistic solutions are tried out, and on the other hand, some stable elements can be detected because some learners rely first on item-based constructions.

The creative constructions that learners use may not be targetlike constructions, but we assume that some L2 learners still use templates, either from their L1 or from another L2, to create different kinds of non-conventionalized constructions to express the desired meaning (de Angelis & Selinker, 2001). For example, Lena's construction *Jyväskylä on kaupunki paljon siltan kanssa* 'Jyväskylä is a city with many bridges' is related to German or English constructions (possibly *Jyväskylä ist eine Stadt mit vielen Brücken/Jyväskylä is a city with many bridges*). Moreover, in Lena's construction *Talvella se ei ole aurinko Suomessa päivällä* 'It is no the sun in Finland in the winter', the English construction (*It is not sunny in Finland in the winter*) may have worked as a template. Also, Jungo's *Koska siellä ei ole mustikkaa Kiinassa* 'Because there is no bilberry in China' resembles an English template.

As far as the role of instruction is concerned, we asked two questions: How do the interventions affect the frequencies of FECs (research question 2a.) and how do the interventions affect the accuracy of forms within the FECs (research question 2b.)? The data show that the first pedagogical intervention, in which the FEC was clearly mentioned but used mainly as an example to explain the partitive case, seemed to have only a slight effect on the learners' trajectories. However, the second intervention, in which the FEC was dealt with explicitly in terms of both meaning and form, clearly helped the learners. After the main pedagogical intervention, there was an increase in the use of the FEC and a decrease in the use of non-conventionalized constructions for both Lena and Jungo. For Alvaro and Khadiza, instruction seemed to be needed to launch their use of the FEC. For Alvaro, instruction apparently helped him to notice the open slots within the construction because they became more variable and helped him move toward a more productive existential construction.

When the FEC was explained during the main pedagogical intervention in weeks 28 and 29, the whole constructional pattern was presented, but the main aim of the intervention was to explain the use of different cases in the subject. The choice of what case to use for the subject is determined (mainly) by semantics (i.e., whether the partitive or the nominative case is used depends on the countability of the matter to which the subject refers, VISK § 893). After the main pedagogical intervention, accurate and inaccurate forms alternated in all learners' production, even within one text. The fairly high inaccuracy of the subject within the FEC for learners at this level is in line with Kajander (2013), who found that the accuracy of the subject is rather low at A2 and B1 levels. Our findings suggest that when the choice of case is determined by semantics, explicitly focusing on morphological form might not be an effective way of developing accuracy. Presumably, for these participants, more practice or exposure was needed to achieve morphological accuracy in the FEC. Therefore, we may conclude that the impact of the intended pedagogical intervention was useful in helping learners recognize the patterns, but not immediately in achieving morphological accuracy.

The findings of this study show that Lena and Jungo had a communicative need to use the FEC before it was taught in class. Various non-conventionalized constructions were detected in the data. It has been argued that a pedagogical intervention is especially effective when there is a lot of variability in the L2. At that time, the learner's language system is more responsive to external forces and undergoes changes more easily than during more stable periods (Larsen-Freeman & Cameron, 2008). Although the data of the current study were admittedly restricted in this respect, it could be suggested that for some L2 learners, presenting the FEC and its functions earlier would be useful.

This study has several limitations. Following individual learners longitudinally gives us important insights at the micro level into the learning process, but the findings cannot be generalized to others. Generalizations from individual to group or vice versa cannot be made "unless the group is an ergodic ensemble" (Lowie & Verspoor, 2019: 185), which human populations are not. Human populations are heterogenous and the data are not stable. For example, the mean and variance vary from one individual to another when repeated measurements are carried out

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(Lowie & Verspoor, 2019). Within the growing body of CDST studies, however, there are a couple of principles that might be generalized. First, no two learners are the same, and secondly, all learners show variable behavior, especially at the beginning of the learning process (trying out different ways of expressing a certain meaning) and non-linear development (e.g., the alternation of targetlike and non-targetlike forms of the subject).

Another limitation is that task effects may have played a role in the data. Some tasks might have triggered the need to express existentiality more than other tasks (e.g., the tasks used in week 29, 'What is different between Finland and your home country?' and in week 32, 'Talk about your home city'). Both of these tasks were used after the main pedagogical intervention, and especially for Khadiza, it is difficult to say whether it was the impact of instruction or a task effect that gave rise to an increased use of the (targetlike) existential construction in those weeks.

7. CONCLUSION

The aim of this study was to investigate what linguistic means four beginning-level learners of Finnish used to express the meaning that is conventionally expressed with an existential construction in Finnish. We wanted to investigate how these constructions develop over time and what kind of impact teaching has on learners' developmental paths. Adopting an onomasiological approach, we have shown that the learners' trajectories were quite different and were characterized by different degrees of variability. While some learners used several different constructions to express the meaning that is expressed with one conventionalized construction in Finnish, the repertoire of other learners was much more restricted and hence less variable. These learners with less-variable trajectories seemed to need the explicit instruction to point out the targetlike construction: They started to express existentiality much more frequently after the main pedagogical intervention. The findings also showed that the repertoire of some learners included some stable elements (i.e., item-based constructions, as assumed in usage-based perspectives), but that instruction can help these learners to produce more variable constructions. In the current study, teaching seemed to help the learners find the pattern of the conventionalized construction to express existentiality, but the teaching was much less effective in improving accuracy within the constructions.

NOTES

1. In line with Lowie & Verspoor 2015, the term *variability* is used for intra-learner variability and the term *variation* is used for inter-learner differences.
2. See VISK § 901 for the similarities between tilalause and eksistentiaalilause.
3. The targeted form is *rantoja* 'beaches'.

APPENDIX A: GLOSSING

ADE adessive ('at, on')

GEN genitive (possession)

INE inessive ('in')

NEG negation (an auxiliary verb in Finnish)

NOM nominative

PAR partitive (partitiveness)

PL plural

PST past tense

SG singular

3.INF 3rd infinitive (ma infinitive)

APPENDIX B. THE PARTICIPANTS' WRITING PROFICIENCY AT THE BEGINNING OF THE STUDY

Note. The range and median come from the ratings of three evaluators. The criteria of the Finnish National Certificates of Language Proficiency testing were used. These criteria are provided by the Center for Applied Language Studies and the Finnish National Agency for Education, (University of Jyväskylä, 2019). The scale is from 1 to 6, 1 being the lowest and 6 the highest level, corresponding to levels A1-C2 in the Common European Framework of Reference for Languages (CEFR) (Council of Europe, 2001). The length of the texts ranged between 40 and 159 words (M = 91; SD = 41).

	TEXT 1		TEXT 2		TEXT 3		TEXTS 1–3 TOGETHER	
	RANGE	MEDIAN	RANGE	MEDIAN	RANGE	MEDIAN	RANGE	MEDIAN
Lena	1	1	1	1	2–3	3	1–3	1
Jungo	1–2	2	1–2	2	2–3	2	1–3	2
Alvaro	1	1	1–2	1	2–3	3	1–3	1
Khadiza	1–2	2	1–2	2	2–3	2	1–3	2

Participants' L2 writing proficiency at the beginning of the study.

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