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Published in:
Pragmatics & Cognition

DOI:
[10.1075/pc.17016.les](https://doi.org/10.1075/pc.17016.les)

IMPORTANT NOTE: You are advised to consult the publisher's version (publisher's PDF) if you wish to cite from it. Please check the document version below.

Document Version
Final author's version (accepted by publisher, after peer review)

Publication date:
2017

[Link to publication in University of Groningen/UMCG research database](#)

Citation for published version (APA):
Lesonen, S., Suni, M., Steinkrauss, R., & Verspoor, M. (2017). From conceptualization to constructions in Finnish as an L2: a case study. *Pragmatics & Cognition*, 24(2), 212-262.
<https://doi.org/10.1075/pc.17016.les>

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From conceptualization to constructions in Finnish as an L2: a case study

Sirkku Lesonen, Minna Suni, Rasmus Steinkrauss, Marjolijn Verspoor

1 Introduction

The current study traces one learner of Finnish over the course of one academic year to see how her L2 develops in terms of the constructions she uses to express a form of evaluation, i.e. whether she likes something or not, or whether she finds something good or not or desirable or undesirable. We will take an onomasiological approach to identify the formal verbalizations the learner uses to express the given extralinguistic concept (Grzega 2012: 271), in this case, the concept of evaluation. This is in line with the assumption that communication and the expression of meaning are central to linguistic development (e.g. Langacker 2009: 628). We assume the learner is likely to rely on simple constructions (Martin, Mustonen, Reiman & Seilonen 2010) or fixed formulas (Eskildsen 2008; Tomasello 2003) at first, but to diversify her production and use more flexible and sophisticated constructions later on (Martin et al. 2010). These general expectations are rather obvious, but the aim of this paper is to explore such development in detail.

Taking a dynamic usage-based perspective (Langacker 2009; Verspoor & Behrens 2011; Verspoor, Schmid & Xu 2012), we expect a bottom-up process of development proceeding piecemeal from fixed formulas to more abstract constructions (e.g. Ellis 2002; Tomasello 2003), and we expect this development to be non-linear in that different constructions will show different kinds of developmental trajectories (van Dijk, Verspoor & Lowie 2011) and different types of interactions between constructions along the way (Verspoor & van Dijk 2011). For example, one construction may be used at the expense of another and show signs of overuse before the second construction develops. After defining the extralinguistic concept of 'positive and negative evaluation' as used in the current paper and how the construct can be operationalized in Finnish, we discuss what we mean by a dynamic usage-based approach and trajectories the literature leads us to expect. Then we will describe in detail how an absolute beginner developed her ways of expressing evaluation in Finnish as L2.

2 The language of evaluation in Finnish

When we first examined our data to see which extralinguistic concepts were used frequently enough to be analyzed in detail, we found that our learner expressed what she liked or did not like and found something good or bad or desirable or undesirable quite frequently. The extralinguistic concept of evaluation is probably a very basic fundamental aspect of human cognition and may be expected to emerge soon in a beginner's language even though his/her linguistic resources may be quite limited. J.R. Martin and P.R.R. White (2005: 45) point out that attitude can be expressed linguistically in various grammatical structures. However, the most likely ones in most languages are either with a lexical verb (e.g. *like*, *love*, *hate*) or in an adjective construction (something is *good*, *bad*, *desirable*, *undesirable*). Usually, these constructions are mutually exclusive, so the evaluation is expressed by either the lexical verb or the adjective construction.

In Finnish, too, evaluation can be expressed by lexical verbs. Verbs of emotion (including those expressing evaluations), which have been studied by Mari Siironen (2001), can be grouped into four semantic classes: inchoative, activity, stative, and causative verbs. Our participant used mainly stative and

causative evaluative verbs. Stative emotive verbs express an emotional state in which the experiencer controls the emotion (Example 1) and the emotional state is rather stable. In such constructions, the experiencer is the grammatical subject of the verb.

- (1) *Me rakasta-mme sinu-a.*
 We love-1PL you-PAR
 ‘We love you.’

Causative verbs, in contrast, express an emotional state in which the experiencer does not control the emotion (Example 2). In such constructions, the experiencer is the syntactical object of the phrase.

- (2) *Minu-a ärsyttä-ä.*
 I-PAR annoy-3SG
 ‘I’m annoyed.’

Finnish being an agglutinative language (Dahl 2008: 545), these verbs, just like other verbs, show a rich inflection, for both tense (present, past, perfect, and pluperfect) (Virtuaalinen iso suomen kielioppi (Comprehensive Finnish Grammar Online) [VISK] § 1523) and mood (four moods, VISK § 111)). Also, there is congruence between verb and subject (see Examples 3 and 7) (VISK § 1267). In addition, the complements of the verbs take case endings to express government (VISK §1225). Government is relevant because many verbs expressing evaluation govern one of the 15 cases in Finnish (VISK § 81). For example, the nominal complement of the verb *tykätä* ‘like₁’ is always in the elative case (see Examples 3–7). *Pitää* ‘like₂’ requires the elative case, too. On the other hand, *rakastaa* ‘love’ and *vihata* ‘hate’ require the object to be in the partitive case.

Examples 3–6 illustrate the four tenses of the Finnish language using the verb *tykätä* ‘to like’ in the first person singular with the complement in the elative case, and Example 7 shows a second person singular use of the verb.

- (3) *Minä tykkää-n opiskelu-sta.*
 I like-1SG studying-ELA
 ‘I like studying.’
- (4) *Minä tykkä-si-n opiskelu-sta.*
 I like-PST-1SG studying-ELA
 ‘I liked studying.’
- (5) *Minä ole-n tykän-nyt opiskelu-sta.*
 I be-1SG like-PPC studying-ELA
 ‘I have liked studying.’
- (6) *Minä ol-i-n tykän-nyt opiskelu-sta.*
 I be-PST-1SG like-PPC studying-ELA
 ‘I had liked studying.’
- (7) *Sinä tykkää-t opiskelu-sta.*
 You like-2SG studying-ELA
 ‘You like studying.’

Another typical means of expressing evaluation in Finnish is by using an adjective construction, often in a comment clause (VISK § 1212). Adjectives are used to characterize and describe things and events (VISK § 603). A comment clause is a declarative sentence in which the speaker expresses his or her evaluation of, or attitude towards something. The typical comment clause is a copula clause (VISK §

1212) e.g. *Hän on tosi kiva* ‘He is really nice’. However, other sentence types can also be evaluative: the crucial point is that there is an evaluative or affective element (normally an adjective) in the phrase (VISK § 1212).

In our study, adjectives expressing evaluation were found in several sentence types and used both predicatively and attributively. A predicative use was attested in a copula sentence (*Se oli hyvä* ‘It was good’), a type of comment clause (VISK § 1212), while attributive uses were found in transitive sentences (*Söimme hyvää ruokaa* ‘We ate good food’), possessive sentences (*Minulla ei *oli *hyvää *ideoja* ‘I didn’t have any good ideas’) and in existential sentences (*Ruotsissa on hyvä *maaster* ‘There is a good masters program in Sweden’) (see VISK § 891 for sentence types). A comparative, expressed by the suffix *-mpi* (Karlsson 2015) like in the phrase *kotona on *kivampi* ‘It’s nicer at home’ was found as well. Regarding adverbs, only one adverb was found to express evaluation, *hyvin* ‘well’.

Finally, all expressions of evaluation may occur in different syntactic environments (in simple, compound, complex and compound-complex sentences as defined by Verspoor & Sauter 2000), and their form may depend on register. Prime examples are the short colloquial forms of personal pronouns, which differ from the longer standard language forms (*minä* vs. *mä* ‘I’; *minun* vs. *mun* ‘my’; *minulla on* vs. *mulla on* ‘I have’). There are also lexical differences, e.g., *tykätä* and *pitää* both translate as ‘like’, but *tykätä* occurs more in spoken, colloquial language and *pitää* is strongly preferred in the standard language (Kielitoimiston sanakirja: New Dictionary of Modern Finnish).

In the next section, we will discuss the sort of development that may be expected from a usage-based perspective when learning linguistic constructions such as those expressing evaluation in a second language (L2).

3 L2 development from a usage-based perspective

In usage-based approaches, linguistic knowledge is described as a structured collection of symbolic units (Langacker 1987: 57). The term *construction* is used to refer to these units (form-meaning pairings), which vary in size (from single morphemes to longer expressions and sentences) and level of abstraction (from lexically specific units such as words or fixed phrases to more abstract structures like syntactic patterns) (Langacker 1987, 1999). Adele Goldberg (2006: 3) defines constructions as “conventionalized pairings of form and function”. In the current study, we adopt this definition but extend the meaning of the term *construction* to include the emergent form-meaning mappings used by the participant that might not (yet) seem conventional from the point of view of proficient speakers of Finnish.

In usage-based linguistics, language is seen as part of general human cognition, and it is stressed that its constitutive function is to convey meanings in social situations (Langacker 2009: 628). Accordingly, language learning is seen as learning constructions in social interaction (e.g. Tomasello 2003; Ellis & Cadierno 2009: 112). Both first and second language constructions are assumed to emerge from natural language use, and language development is therefore driven by usage-events (L1: Lieven, Salomo & Tomasello 2009; Tomasello 2003; L2: Eskildsen 2008, 2012). According to usage-based linguistic assumptions, the learning of constructions starts from a few exemplars. The learner acquires the first constructions as fixed formulas tied to specific usage events. These first constructions show very little variation in meaning and form and are dependent on the personal linguistic history of the learner. It is in this sense that language learning is referred to as usage-based – the constructions are rooted in the learner’s specific usage events.

The first fixed constructions then serve as the starting point to gradually develop more schematic, abstract constructions. When a learner encounters the same and other, similar linguistic expressions again in new usage events, slight differences between the expressions will lead to the learner developing knowledge about the functions of different parts of the construction and which parts of the construction might be varied. This process is guided by the socio-interactional objectives of the learner: the slots into which new lexical material can be inserted become open only if there is a reason to break down the

construction (see needs-only analysis: Wray 2007). As the learner is gradually exposed to a growing number of various instantiations of the same linguistic pattern, the initially fixed construction develops into an increasingly, and possibly entirely, generalizable schema containing only little, if any, specific lexical material. This is why in usage-based approaches, language learning is generally viewed as a bottom-up process that is ultimately grounded in specific linguistic exemplars. Frequency plays a crucial role in this development: the high token frequency of a specific construction typically leads to its being stored holistically as a fixed expression, while a high type frequency, i.e. with many different instantiations of a linguistic pattern, leads instead to schematization. Importantly, the initially fixed, lexically specific formulas will not necessarily be replaced by (partly) schematic constructions but may coexist with these in a learner's linguistic inventory (Langacker 2009).

This view of a bottom-up, exemplar-based process of linguistic development grounded in lexically specific constructions was first formulated for first language development (Peters 1983; Tomasello 2003) and it has been attested in many empirical studies (e.g. Dąbrowska & Lieven 2005; Lieven et al. 2009). It has also been proposed as a "default" guideline (Ellis 2002: 170) for researching second language development and has been confirmed in some L2 studies. In a longitudinal case study, J. Dean Mellow (2006) showed that Ana, a 12-year-old L2 English learner, acquired embedded clauses in an exemplar-based process. Ana first used the clauses with specific lexical items and later expanded the usage to other lexical items as well. In another longitudinal study, Søren Eskildsen and Teresa Cadierno (2007) found that the *do*-negation of an adult Mexican L2 English learner developed in an item-based fashion, since *do*-negation was initially used only in the form *I don't know*. Later the construction became more varied as other verbs and pronouns were used with that pattern. Similarly, Eskildsen (2008) reported on an adult Spanish-speaking L2 English learner whose multi-word expression *I can write* was a basis for the auxiliary use of *can*. Eskildsen's (2012) longitudinal case study on the development of L2 negation supports the exemplar-based learning route as well. Valerio, an adult L2 English learner, initially relied strongly on the multiword expression *I don't know* when using negation constructions in a target-like way.

Several L2 developmental studies have thus shown the role of item-based expressions in learning, in which learners schematize constructions only after they have mastered specific ones first. Ronald Langacker, however, argues that abstract schematic constructions may also be formed even if "no specific lexical sequence is repeated" (2009: 633), and stored as a constructional unit. He illustrates this process with verbs of caused motion: a learner may encounter different expressions with various verbs such as *throw it away*, *pick it up*, *put it down*, *turn it around* and form the schematic pattern [verb object directional] which is immanent in its different instantiating specific expressions (Langacker 2009: 633.) In other words, a schematic construction "can in principle be abstracted from countless instantiating expressions, none of which is necessarily learned individually" (Langacker, 2009: 630).

Langacker's alternative learning trajectory is still based on the encountering of specific expressions in many different usage events, but it departs from the idea that linguistic development can only start with the learning of fixed formulas, which are subsequently broken up. Especially in L2 development, this kind of trajectory may be relevant as the learner is already familiar with schematization in the L1 and may have access to instruction and explicit knowledge about the L2. Precisely this mechanism of learning constructions without starting from lexically specific items has been demonstrated in an empirical L2 study by Karen Roehr-Brackin (2014). She showed that an L2 German learner developed two similar constructions, the German Perfekt of *fahren* and *gehen*, in different ways. The development of *fahren* began with the use of a few item-based constructions and continued with the use of more, and more abstract, constructions. In contrast, the initial use of *gehen* constructions was not item-specific but abstract. Roehr-Brackin reasons that explicit knowledge may have played a role in the development of the *gehen* construction, as the learner also showed more errors and self-corrections when using this construction. Similarly, Eskildsen (2012) found that some of the negation constructions of his two L2 learners of English were not exemplar based, but flexible from the very beginning. In his learners, the more schematic construction was a non-target-like negation pattern that served as a default structure and did not depend on recurring expressions. Eskildsen (2015) also shows in another study of an adult L2

English learner that the initial use of declarative copula questions is more productive than that of interrogative copula questions.

It thus seems that in L2 learning, there might be a departure from the frequently attested developmental trajectory from lexically specific formulas to abstract constructions. Some reasons may be that the L2 learner already has an established L1 and L1 schemas available. For example, Brian MacWhinney argues in his unified model (2004: 21) that the L2 is parasitic on the L1 because so much is transferred. Especially beginner learners tend to rely on L1 constructions when expressing ideas (Cadierno 2008: 259) and may use their knowledge of their L1 when filling in the open slots in L2 constructions (Smiskova-Gustafsson 2013: 128). Another factor for different trajectories than in the L1 is instruction, as it may facilitate the process of registering the differences between L1 and L2 constructions and help to overcome the learner's attentional bias (Ellis & Cadierno 2009: 125). Also explicit knowledge may help the learner to notice certain aspects of language and speed up the process of making analogies and generalizations and hence affect the learning trajectory (Ivaska 2015: 35).

To sum up, usage-based linguistics generally argues for a 'starting big' approach in language acquisition, which begins with the use of fixed expressions, i.e. unanalyzed units. The development then continues with analysis of the fixed forms as the learner breaks phrases down into their smaller components. In breaking the bigger elements into smaller components, the learner analyzes the forms and gets more creative over time as abstract linguistic knowledge develops. This usage-based learning path has been confirmed in both L1 and L2 learning studies. However, in L2 learning the roles of the L1 and instruction have to be taken into account. The question thus arises whether a developmental trajectory that starts with less specific schematic patterns as found in the three usage-based studies mentioned above may be attested in L2 Finnish learning.

4 L2 development from a dynamic usage-based perspective

As in usage-based linguistics, a complex dynamic systems theory perspective assumes that language learning is a bottom-up process in which iteration (the repetition of similar and/or different usage events) drives the learning system. In addition, a complex dynamic system approach holds that learning is non-linear. Complex dynamic systems, such as the learner's language, consist of many different subsystems at many different levels (e.g. phonology, morphology, and syntax or complexity, accuracy, and fluency) that interact and affect each other continually. It is through the interaction of these subsystems that new forms may emerge in a non-linear fashion (de Bot, Lowie & Verspoor 2007; Larsen-Freeman & Cameron, 2013; Verspoor & Behrens 2011). Within a framework that combines usage-based linguistics and a complex dynamic systems theory, which we call a dynamic usage-based approach for short, the aim is to describe the process of development.

In such dynamic usage-based inspired studies, individual learning paths are traced to see when and how different aspects of linguistic use may change and interact over time (Larsen-Freeman & Cameron 2013). Even though learners might overall develop in similar ways on a more general level, every learner is exposed to L2 differently and explores the recurrent patterns in L2 in his or her own way (Verspoor et al. 2012: 240–241). Moreover, differences in initial conditions such as L1, age of acquisition, aptitude, motivation or amount and type of L2 exposure can all influence the direction of development dramatically (de Bot et al. 2007). Therefore even if learners in general may show similarities at a global level, they develop differently when studied at a more fine-grained level (Larsen-Freeman 2006). This means that learning cannot be separated from the learner (Larsen-Freeman & Cameron 2013: 10), and dynamic usage-based studies focus on individual learning trajectories to reveal "the actual process of language acquisition" (de Bot et al. 2007: 19).

In the process of language development, there may be various types of relationships among subsystems that may change over time (van Geert 2008: 192–195). In a conditional relationship, some subsystems may have to be in place before others can develop; for example, Tal Caspi (2010) showed that

in advanced learners of English, the lexicon developed before the syntax did and complexity was a precursor for accuracy. Another commonly found relationship is a competitive one, where the learner uses one construction at the expense of another. For example, if a new construction is learned it may be overused and hence temporarily prevent the use and development of another construction. This process is observed both in L1 (Abbot-Smith & Behrens 2006; Steinkrauss 2017) and L2 (van Dijk et al. 2011) development. In a supportive relationship, on the other hand, sub-systems develop together because they support each other's growth (Verspoor & van Dijk 2011: 86). This kind of supportive relationship has been observed in L1 development by Kirsten Abbot-Smith and Heike Behrens (2006) and in L2 development. Marianne Spoelman and Marjolijn Verspoor (2010) showed that an L2 Finnish learner showed competition in some complexity measures, whilst in others there was a supportive relationship. Surprisingly, no meaningful relation was found between complexity and accuracy measures. Wouter Penris and Marjolijn Verspoor (2017) showed that two different complexity measures, average sentence length and average noun length, developed rather synchronously throughout the study.

Dynamic usage-based studies also look at degrees of variability in one subsystem as it is assumed that a period of high variability precedes a change in the system through self-organization. In general, an emerging subsystem tends to show a higher degree of variability, often accompanied by a peak, before it settles in a more stable state (van Dijk et al. 2011). Several studies have shown such developmental jumps. Van Dijk et al. (2011) showed a significant developmental jump in the use of *don't* constructions in a 12-year-old Spanish learner of English. In L2 Finnish, Spoelman and Verspoor (2010) found that the use of noun phrases consisting of three or more words showed a clear developmental jump. In another L2 Finnish study, Corinne Tilma (2014) traced two small groups, of four learners each, in different instructional contexts (one more explicit and the other more implicit) and showed different degrees of variability in each learner and different interactions between different variables. The developmental trajectories of the two focal learners suggested similar kinds of relationships between complexity measures. However, the explicitly taught learner showed developmental peaks in the use of cases but the implicitly taught learner did not. Moreover, the explicitly taught learner was more accurate than the implicitly taught learner early on, but both showed significant drops in the number of errors at about the same time and were not very different towards the end. Tilma's study seems to suggest that the type of instruction may affect the developmental paths learners follow. In sum, dynamic usage-based-inspired studies suggest that L2 development is not linear, that variability is an intrinsic property of a developing dynamic system, that different sub-systems may interact with each other, and that the interaction may change over time.

Findings from cross-sectional studies, too, suggest that L2 development is not linear in that different sub-systems may develop at different stages of proficiency. Verspoor et al. (2012) showed that L2 learners of English seem to first develop most in the lexicon, then in the syntactic system and finally again in the lexical system, specifically in the use of multi-word expressions such as phrasal verbs and collocations. Studies on adult Finnish L2 development also suggest that different sub-systems develop at different stages of proficiency. For example, we know from cross-sectional studies on the development of constructions in adult L2 Finnish learners (see Cefling and Topling projects, University of Jyväskylä) that the frequencies of certain constructions - those that cannot be avoided at any stage of development, i.e. negation and local cases - remain rather stable across proficiency stages. However, greater proficiency can be characterized by a higher level of accuracy, as is the case with negation (Martin et al. 2010). Sometimes development is manifested by a more abstract use of a construction, as is the case with local cases (Mustonen 2015: 311). Other types of constructions are acquired only at later stages of development. For example, the use of passive constructions peaks between advanced levels B and C in the Common European Framework of References for Languages (CEFR) (Seilonen 2013: 202). A transitive construction is also used relatively more at later stages of development (Reiman 2011a: 150). Higher proficiency can also be characterized by increased variation within a given construction, e.g. the existential sentence (Kajander 2013: 226), or by the use of the construction in more diverse environments, like transitive constructions (Reiman, 2011b: 28).

5 The study

Within a dynamic usage-based approach, it is assumed that a language user primarily wants to convey some meaning. However, so far L2 usage-based studies have focused mainly on how specific language forms develop over time, e.g. the transitive construction (Reiman 2011a), the existential sentence (Kajander 2013), the passive (Seilonen 2013), relative clauses (Mellow 2006), *do* negation (Eskildsen & Cadierno 2007), *can* constructions (Eskildsen 2008) and negation constructions (Eskildsen 2012). The current study will start from the other side of a form-meaning mapping, with meaning. Taking the extralinguistic concept of evaluation as a starting point, an onomasiological approach is adopted (see Grzega 2012: 271). Since evaluation (feelings and assessment) can be expressed through various grammatical structures, as pointed out by Martin and White (2005), we may expect different types of constructions to be used by the learner. The most likely ones are either the use of a lexical verb or an adjectival phrase. These two ways of expressing evaluation are in formal competition to encode the same content, so the learner must choose one or the other. In Finnish, the two main types of elements that may be used to express evaluation are emotive verbs (see Siirainen 2001) or adjectives (and some other evaluative or affective elements) (VISK § 1212). If an evaluative verb is used, an adjectival phrase is not normally used (e.g. *Rakastan sinua* 'I love you'). On the other hand, comment clauses with an adjectival phrase normally contain the verb *olla* 'to be', not an evaluative verb (e.g. *Hän on kiva* 'He is nice'). The current study traces the development of each type of construction to see if there are different degrees of variability and developmental jumps, and it investigates the interaction (conditional, competitive or supportive) of the different types of constructions. In addition, we explore how the learner's constructions seem to diversify over time, as suggested by cross-sectional studies. Finally, by comparing the development of the two most frequently used verbal constructions (with the verbs *haluta* 'want' and *tykätä* 'like₁'), we explore the usage-based claim that most constructions develop from lexically specific formulas to abstract constructions.

In sum, our three main research questions are:

1. What constructions does the learner use to express evaluation, how do they develop over time and what type of interactions can be observed between the constructions?
2. How does the learner diversify her constructions as she becomes more proficient?
3. Does the development of constructions go mainly from lexically specific items to more schematic, abstract constructions?

Based on the literature reviewed above, we expect the use of both verbal and adjectival/adverbial evaluation constructions to show changing relationships and variability over time. Diversification will occur in the types of constructions, in the types of verbs and adjectives used, and in the types of contexts in which the construction is used. Finally, based on e.g. Mellow (2006), Eskildsen and Cadierno (2007) and Eskildsen (2008, 2012), we expect that initially the constructions will be mainly lexically specific. However, based on e.g. Roehr-Brackin (2014) and Eskildsen (2015), in addition some more abstract schematic constructions might be used from early on, perhaps because the learner is able to transfer the constructions from their L1 or because they are aware of them through instruction.

6 Method

The study traces the development of constructions expressing evaluation in one learner of Finnish as an L2 over the course of 9 months.

6.1 Participant

The participant is Lena (pseudonym), an exchange student at a Finnish university. Lena was 23 years old at the time of the study and her L1 is German. Lena had just arrived in Finland and did not know any Finnish before the study started.

During the study Lena took three Finnish language courses. The first course was a 4-week intensive language course at level A1 in the European Framework of Reference for Languages (Common European Framework of Reference for Languages, Council of Europe, 2001). The second course, at level A2, was held from September to December, and the third course, at level B1, was held from January until April. All of the courses were worth 5 ECTS and comprised 70 contact hours and additional independent study. The first two courses were taught by the first author, a native speaker of Finnish. The third course was taught by another experienced instructor, also a native speaker of Finnish.

6.2 Data collection

The data were collected weekly, spoken data one week and written data the other week. The participant was asked to write or talk about a certain topic, so all the data elicited can be considered free response data. The tasks include topics like “Tell about yourself”, “What did you do in the Christmas holiday?” and “Tell me about your hometown” (See Appendix 3 for a full list). The topics were selected in accordance with both the learner’s language proficiency and the course contents: the topics were familiar to the participant but not practiced in the classroom. The spoken data include both monologues and dialogues. The other person in the dialogue was either another L2 learner or a native Finnish speaker, usually the first author of this article but sometimes a research assistant or another Finnish instructor. The participant was encouraged to write or speak as much as she could without the use of support materials.

The spoken data were recorded in various ways: in a language studio, with an iPad, or with a recorder (Roland R-05). In the first half of the study, the data collection was done during the lessons; in the second half, outside the lessons. The length of the speaking samples was on average 10.5 minutes (ranging from around 5 minutes to around 19 minutes). The written data were handwritten. During the lessons there was a time limit of approximately 20 minutes for the writing tasks. In the data collection sessions in the participant’s free time there was no time limit, but the writing sessions were approximately 15 to 20 minutes long.

6.3 Data selection

Both the spoken and written data were first transcribed in Word following CHAT format (MacWhinney, 2000) to the extent that it was relevant for the analysis of this study (e.g. overlaps were not transcribed) and first explored to see what kinds of extralinguistic concepts were expressed frequently. It was found that expressions of evaluation (finding a thing or an event good/desirable or bad/not desirable) occurred rather frequently and this extralinguistic concept was chosen for further investigation.

The constructions were defined as follows. A verbal evaluative construction encompasses the evaluative verb, all the complements of that verb (subject, object, and adverbial) and optional qualifiers (see Example 8).

- (8) *Minä tykkä-si-n* **kaikki ruoa-sta.*
I like-PST-1SG **all* food-ELA
'I liked all the food.'

As for an adjectival/adverbial construction, the main word of the evaluative phrase, i.e. the word that makes the phrase evaluative, is an adjective or an adverb. There is normally also a verb, but this verb is usually *olla* ‘to be’, and not an evaluative verb. The adjectival/adverbial construction hence encompasses the adjective or the adverb, which is in most of the cases the predicative of the sentence. In some sentence types, the adjective is a complement of a noun phrase which is either a subject or the object of the sentence. The other components of these constructions are the non-evaluative verb, the subject and optional qualifiers. (See Example 9 for an example of a copula sentence.)

- (9) *ja* **kasvastudeiden* *o-n* *tosi* *hyvä*
 and *education be-3SG very good
 ‘and the education is very good’

There was one construction that was difficult to classify. *Lempi* ‘favorite’ is a fuzzy part of speech as there is no clear consensus on whether it is a noun or an adjective. Unlike adjectives, *lempi* is not declined, and together with its main word it constitutes a compound word (Kielitoimiston sanakirja: New Dictionary of Modern Finnish). Its semantic function is similar to that of adjectives since its meaning is descriptive/attributive, so it has been grouped with adjective constructions for the purpose of the current study.

The first author of this article scrutinized the data for all expressions of evaluation. In other words, it was the meaning of the construction as a whole that determined its selection. The selection of constructions was based on our onomasiological approach: meaning, rather than form, determined the inclusion of a construction in the analysis. It was only for categorization of the chosen constructions into verbal or adjectival/adverbial that the form of the construction became relevant. The constructions finally selected from the written texts were presented in their original context to a panel of three other speakers of Finnish, who were asked whether the expressions expressed positive or negative evaluation. Differences in judgment were resolved by mutual agreement, but when consensus could not be reached, the utterance was removed from the analysis. In general, the panel agreed on most judgments and only a few expressions had to be removed. Extrapolating from the panel judgments on the written data, the spoken data were scrutinized again by the first author. In cases of doubt, she consulted the panel members and removed any potentially problematic utterances.

The spoken and written data were compared. It appeared that the types of constructions used in these two modes were similar both in form (see Appendices 1 and 2 for the forms of *haluta* ‘want’ and *tykätä* ‘like’) and frequency (see Appendix 5). This may be explained by the fact that the participant was an absolute beginner with limited input, for whom it was difficult to make any distinction between spoken and written forms throughout the study. For example, even at the last data points there is no clear distinction between the written and spoken forms of the personal pronouns *minä* vs. *mä* ‘I’ (see Section 2). Because of the similarity of the spoken and written data, the decision was made to create one corpus.

A total of 228 constructions were included in the final analysis. As expected, virtually all of the constructions expressing evaluation turned out to be constructions involving either verb phrases (with the lexical verb expressing like or dislike), or adjectival or adverbial phrases expressing good or bad. Only three expressions could not be categorized into one or other of these two categories. In the first exception, the noun ‘adventure’ expresses a positive attitude towards an event, and in the second and third one, a series of negative forms of nouns (‘no snow, no sun, no sleeping’ and ‘no cold, no snow, nothing’) express a negative evaluation (*Se oli seikkailu minulle mennä ... *tunteimatton *maahin ja oppia tuntematon kieli* ‘It was an adventure for me to go to a new country and learn a new language’; *Joo, se on Suomessa: ei lunta, ei aurinko, ei *nukkuma* ‘Yep, that’s Finland: no snow, no sun, no sleeping’; *Mutta nyt *on vain sataa ja ei kylmä, ei *luma ... ei mitään* ‘But now it’s only rain and no cold, no snow ... nothing’). Because of the sporadic use of these constructions, they were not analyzed in more detail.

6.4 Normalizing

Because texts of various lengths were produced, the data were normalized for text length. The frequencies of verb and adjectival/adverbial phrases were calculated per 100 words.

6.5 Analysis

In line with the three research questions, the development of constructions was analyzed in three consecutive steps. First, the use of types of constructions expressing evaluations was explored quantitatively. To inspect for peaks and dips in the data, various visualization methods and analysis techniques, such as min–max graphs, were employed. Min–max graphs (van Geert & van Dijk 2002) are graphs that visualize the minimal and maximal values of a variable in a specific period of time. They are calculated for a moving window of a preset number of data points. For example, for a min graph with a window of 5 data points, the first minimal value of a variable would be calculated from the first five data points (points 1–5), the second minimal value would be calculated for the second five data points (2–6), and so on. In our study, we used a moving window of 5 data points for the min–max graph. The distance between the min and the max graphs gives insight into the bandwidth of the scores between which the variable in question varies, i.e. it illustrates the amount of variability.

To explore the relationships between variables longitudinally, the variables were first smoothed using locally estimated scatterplot smoothing (LOESS), a type of local regression (see Peltier 2009). In our data, we based the regression on a window of 10 data points ($\alpha=0.303$).

After exploring non-linear trajectories and dynamic interactions, the data were investigated qualitatively to see how and when diversification of the constructions occurred. Finally, the development of the two most frequently used verbal constructions was explored to assess whether their development was exemplar based or not.

7 Results

In this section, first of all both the frequency development of verbal and adjectival/adverbial constructions and their interaction are described.¹ Then the results of the qualitative analysis are presented and finally we will zoom in on the development in complexity and sophistication of the two most frequent verbal constructions.

7.1 The dynamics of evaluation constructions over time

A look at the type and token frequencies of Lena's constructions to express evaluation (see Figures 1 and 2) reveals three general phases. In phase 1, Lena uses almost exclusively verbal constructions. In phase 2, this pattern flips and Lena uses mostly adjectival constructions, which are more diversified than the verbal constructions in phase 1. In phase 3, Lena mixes the two types of constructions more.

¹For reasons of readability, the term 'adjectival constructions' will be used in the remainder of this study to refer to the group of adjectival and adverbial expressions of evaluation.

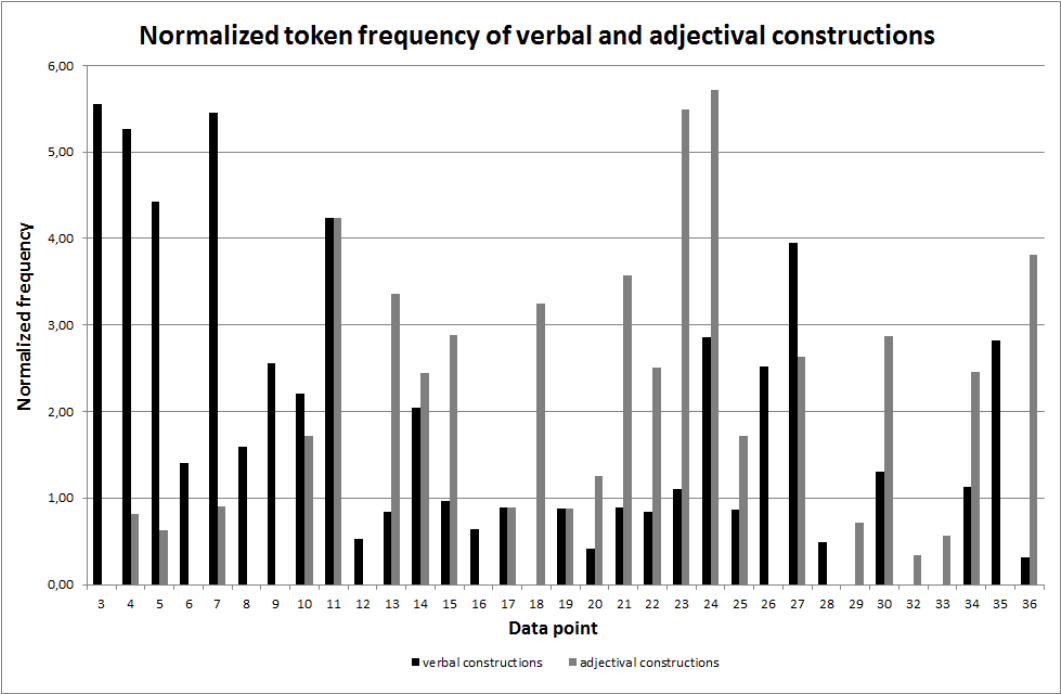


Figure 1. Normalized token frequency of verbal and adjectival constructions (per 100 words).

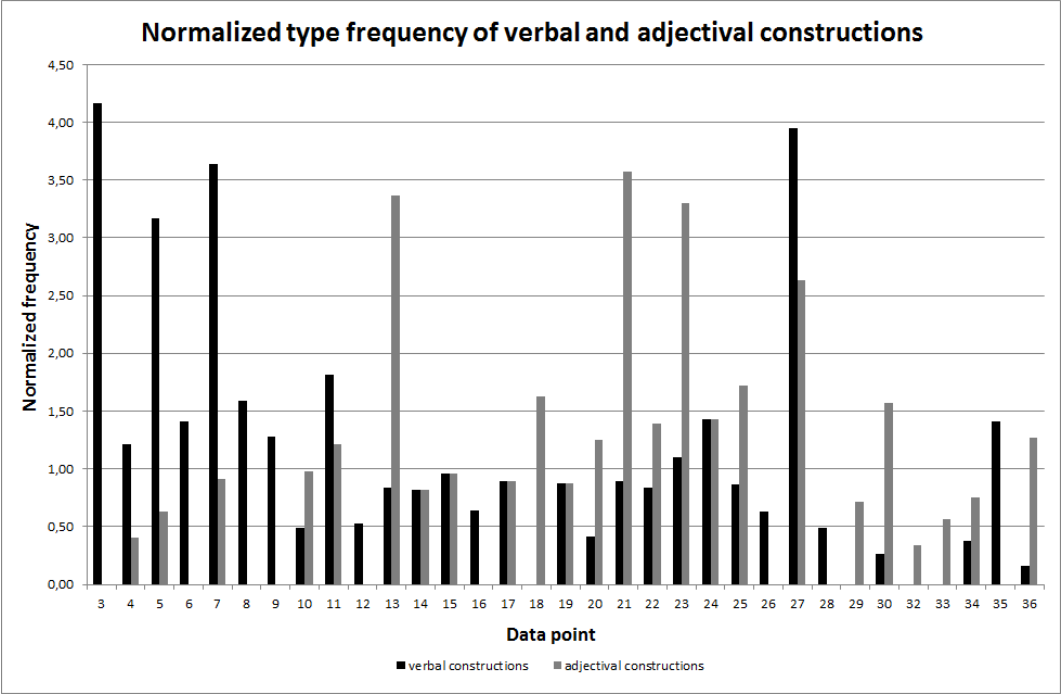


Figure 2. Normalized type frequency of verbal and adjectival constructions (per 100 words).

The first phase, when the token frequency of verbal constructions is higher than that of adjectival constructions (see Figure 1), roughly spans weeks 3–9. In this phase there are on average 3.75 verbal and 0.34 adjectival expressions of evaluation per 100 words. The average type frequency of verbal constructions is also higher (2.35 per 100 words for verbal vs. 0.28 per 100 words for adjectival constructions), indicating that Lena uses more different verbal than adjectival constructions.

The second phase starts around week 10 and lasts until about week 25. In this phase, Lena begins to explore adjectival constructions more intensely. In this phase the token frequency of adjectival constructions is mostly higher than or as high as the token frequency of verbal constructions (on average 1.26 verbal constructions vs. 2.50 adjectival constructions per 100 words). The type frequency of adjectival constructions is also higher than that of verbs (on average 0.84 for verbal and 1.46 for adjectival constructions).

The third phase starts in about week 26 and lasts until the end of the study, in week 36. In this phase, Lena’s use of expressions of evaluation shows a more mixed pattern: in some texts Lena prefers verbal constructions over adjectival constructions, in some texts it is the contrary. It seems that in general one construction type is not used at the expense of the other. The average token and type frequencies for this period are 1.25 and 0.73 for verbal and 1.34 and 0.79 for adjectival constructions, respectively.

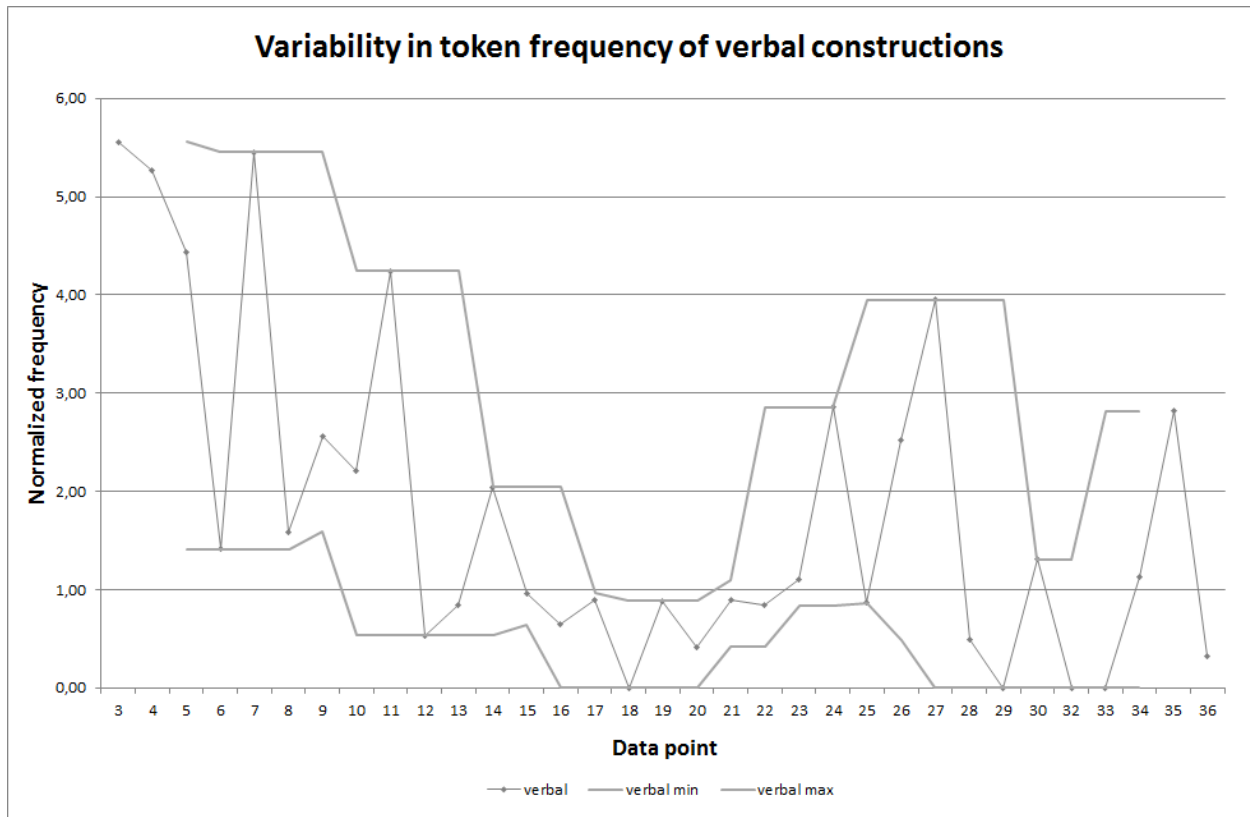


Figure 3. Moving min–max graph showing the variability in the token frequencies of verbal constructions.

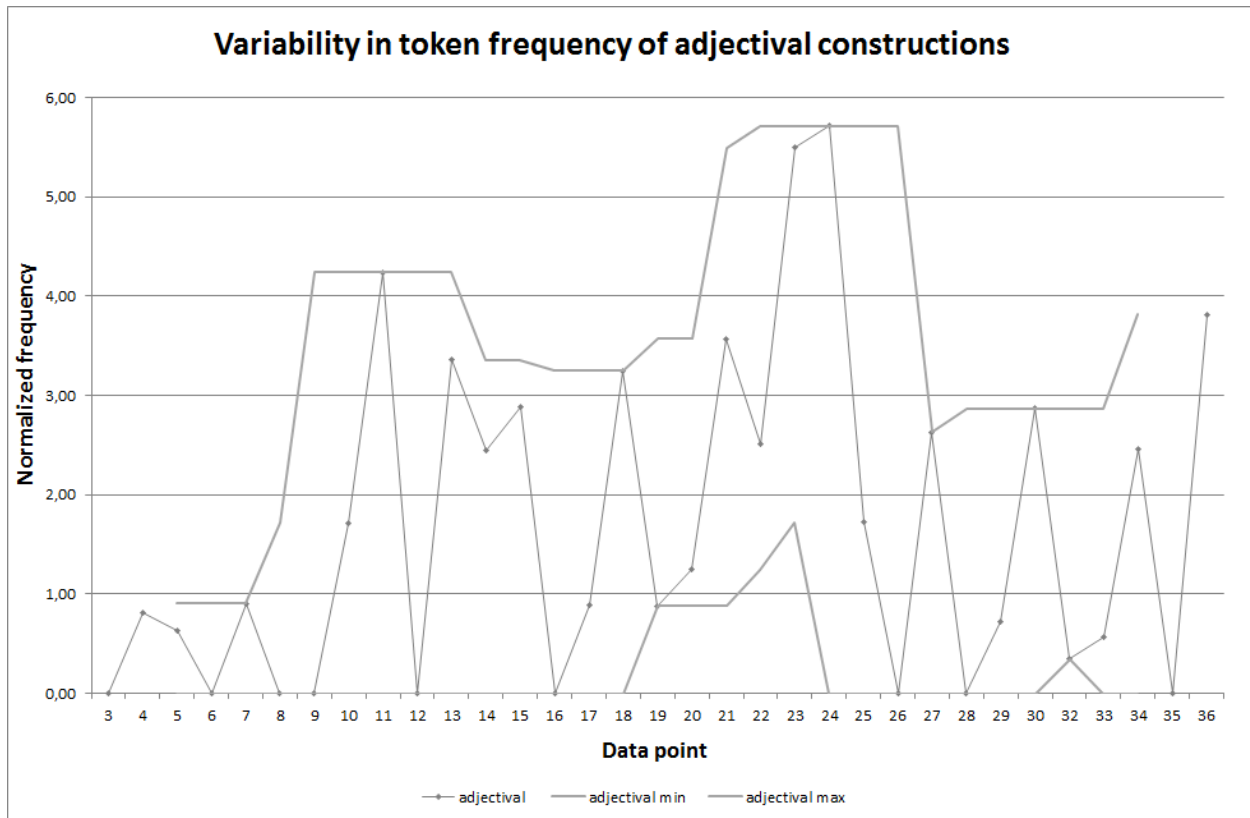


Figure 4. Moving min–max graph showing the variability in the token frequencies of adjectival/adverbial constructions.

The division into three phases of development is also visible in the min–max graphs as they show different degrees of variability in the token frequency of verbal and adjectival constructions (See Figures 3 and 4). In phase 1, the variability in the use of verbal constructions is much greater than that of adjectival constructions, as illustrated by the larger and smaller distance between the min and max graphs respectively. In phase 2, this pattern is reversed as there is very little evidence of variability in the use of verbal constructions. In phase 3, the pattern is more mixed, but exhibits overall less variability than in the previous phases of high variability. It is important to note that the amount of variability does not intrinsically depend on the token frequencies of the constructions: a relatively low average use of constructions might go along with a relatively high amount of variability (as in the last weeks for adjectival constructions), and the opposite is equally possible.

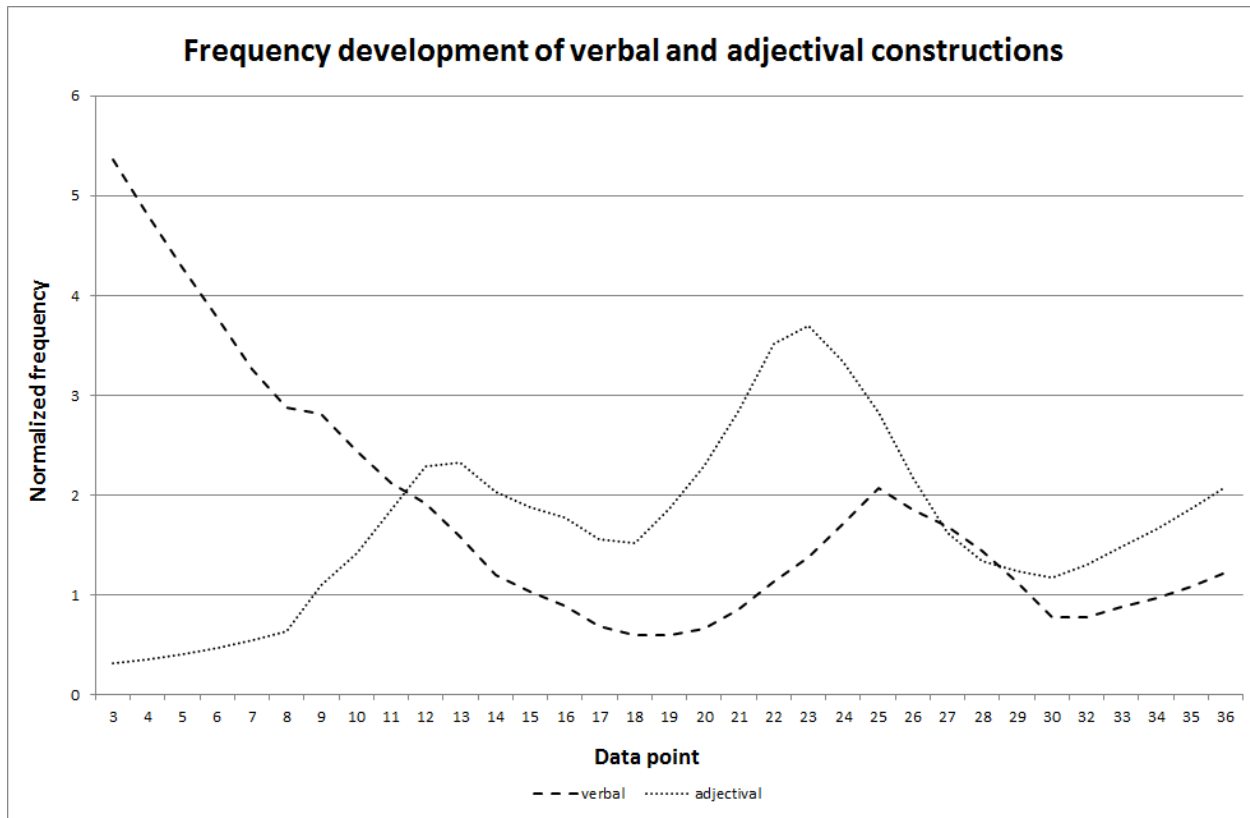


Figure 5. Smoothed normalized token frequencies of verbal and adjectival constructions.

To explore the changing interactions between verbal and adjectival constructions in more detail, the token frequencies have been smoothed with a LOESS-function. Figure 5 shows a rather strong competitive relation in phase 1, where verbal constructions are used almost exclusively. In phase 2, adjectival constructions show a weak competitive relation with verbal constructions. Towards the end of the study, the constructions seem to synchronize in their development and stabilize at a similar level.

7.2 Diversification

To enable a qualitative look at the construction development, the different types of constructions used to express evaluation are shown in Figures 6 and 7. The English equivalents of verbal constructions are shown in Table 1 and of adjectival constructions beneath Figure 7.

Table 1 shows all the evaluative verbal constructions that Lena used during the data collection period together with their characteristics in standard Finnish. The first column shows the Finnish verbs. The table lists two verbs that correspond to ‘like’ in English: *tykätä* ‘like₁’ and *pitää* ‘like₂’. While *tykätä* is colloquial (Kielitoimiston sanakirja: New Dictionary of Modern Finnish), *pitää*, just like all other verbs, is rather general and not marked for a specific register. ‘Linguistic characteristics’, the second column, shows the role of the subject and the different types of complements the verb may have, as suggested by the New Dictionary of Modern Finnish (Kielitoimiston sanakirja) and the Guideline Database of the Finnish Language Office (Kielitoimiston ohjepankki). Causative verbs are shown separately at the bottom because of their different grammatical structure: the experiencer is expressed as a syntactical object rather than the subject of the construction (Siironen, 2001). In the third column, NP stands for noun phrase, with government expressed in parentheses, and NFC stands for a non-finite clause. The fourth column indicates the nearest equivalent in English. The fifth column gives the

normalized frequency of the constructions in the corpus of this study. The last column indicates the week the construction was either explicitly taught or presented, which means that the construction occurred in the learning material without being particularly emphasized.

Table 1.

Verbal constructions in the corpus of this study.

<u>Verb in Finnish</u>	<u>Linguistic characteristics</u>	<u>Verb in English</u>	<u>Normalized freq. in corpus</u>	<u>Teaching</u>	
	<u>Subject</u>	<u>Complement</u>			
<i>tykätä</i>	'experiencer'	NP (elat.), NFC	like ₁	15.92	explicit: week 3
<i>pitää</i>	"	NP (elat.)	like ₂	4.80	explicit: week 3
<i>haluta</i>	"	NP, NFC	want	24.61	explicit: week 3
<i>vihata</i>	"	NP (part.), NFC*	hate	1.72	explicit: week 3
<i>rakastaa</i>	"	NP (part.), NFC*	love	3.34	explicit: week 3
<i>odottaa</i>	"	NP	look forward to	0.42	presented
<i>nauttia</i>	"	NP (elat.)	enjoy	0.70	presented
<i>maksaa paljon</i>			cost a lot	0.25	presented
causative verbs					
<i>kiinnostaa</i>	absent or 'instigator'	object: 'experiencer' in the partitive case	interest	0.63	explicit: week 12
<i>auttaa</i>	"	"	sth helps sb	2.03	presented
<i>piristää</i>	"	"	cheer up	1.32	explicit: week 12
<i>ärsyttää</i>	"	"	annoy	2.18	explicit: week 12
<i>naurattaa</i>	"	"	make sb laugh	1.08	explicit: week 12

* While non-finite clauses may be used with *rakastaa* 'love' as well as *vihata* 'hate', this is a borderline case (The Guideline Database of the Finnish Language Office, Kielitoimiston ohjepankki)

In Table 1, the verbs *odottaa* 'look forward to', *maksaa paljon* 'cost a lot', and *auttaa* 'something helps somebody' cannot be categorized directly as evaluative verbs but the way the participant in the study used them in the particular context was evaluative. These phrases are presented in Examples 10, 11 and 12.

- (10) *Hän odottaa *lomalla, koska *lomassa Minni menee *isolle.*
'She (mother) looks forward to a holiday because on holiday Minni (daughter) will go to father's place.'
- (11) **Suomii on &myö what's@s expensive@s, kaikki maksaa paljon *raha, joo.*
'Finland is &also what's@s expensive@s, everything costs a lot of money, yes.'

- (12) *Se *autta *minulle laittaa *ruoka, *syöda *suklata ja leipoa, kun olen masentunut.
 ‘It helps me to cook, eat chocolate and bake when I’m depressed.’

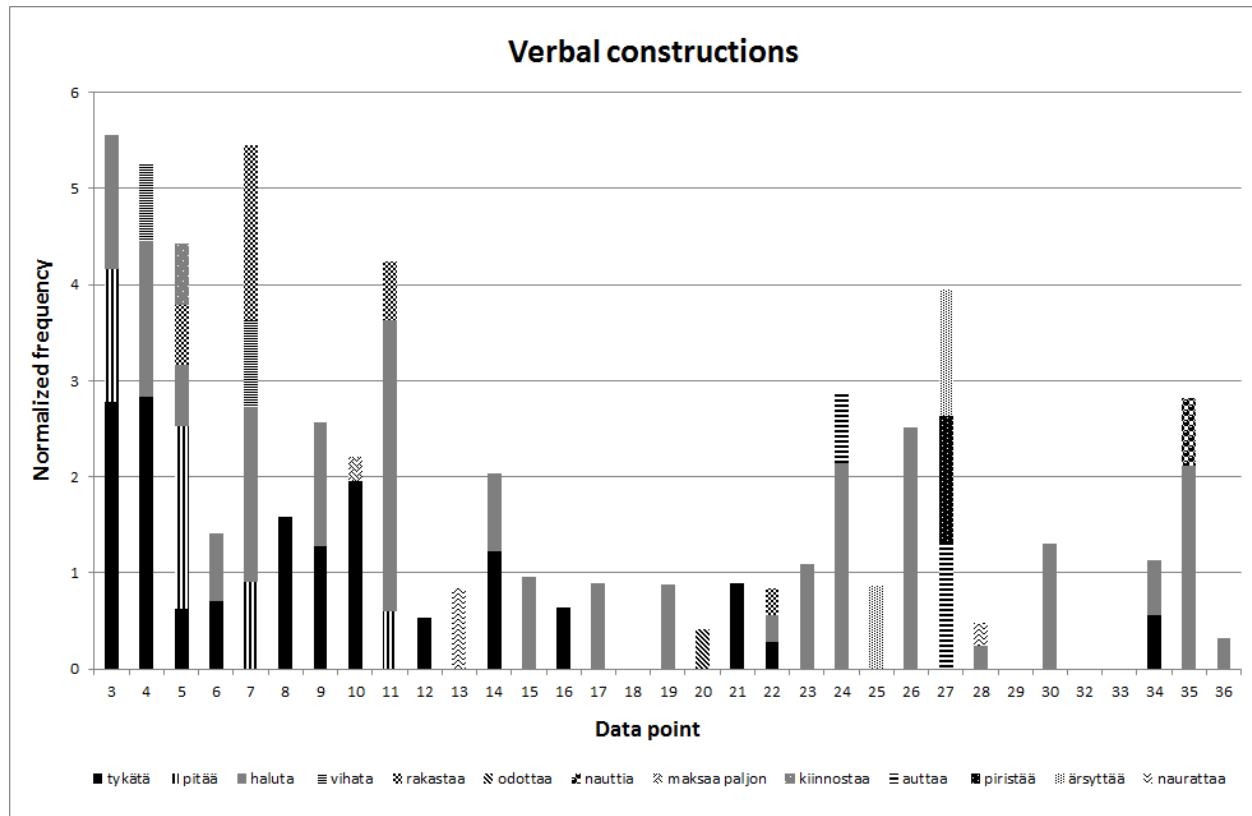


Figure 6. Bar chart showing the different types of verbal constructions.

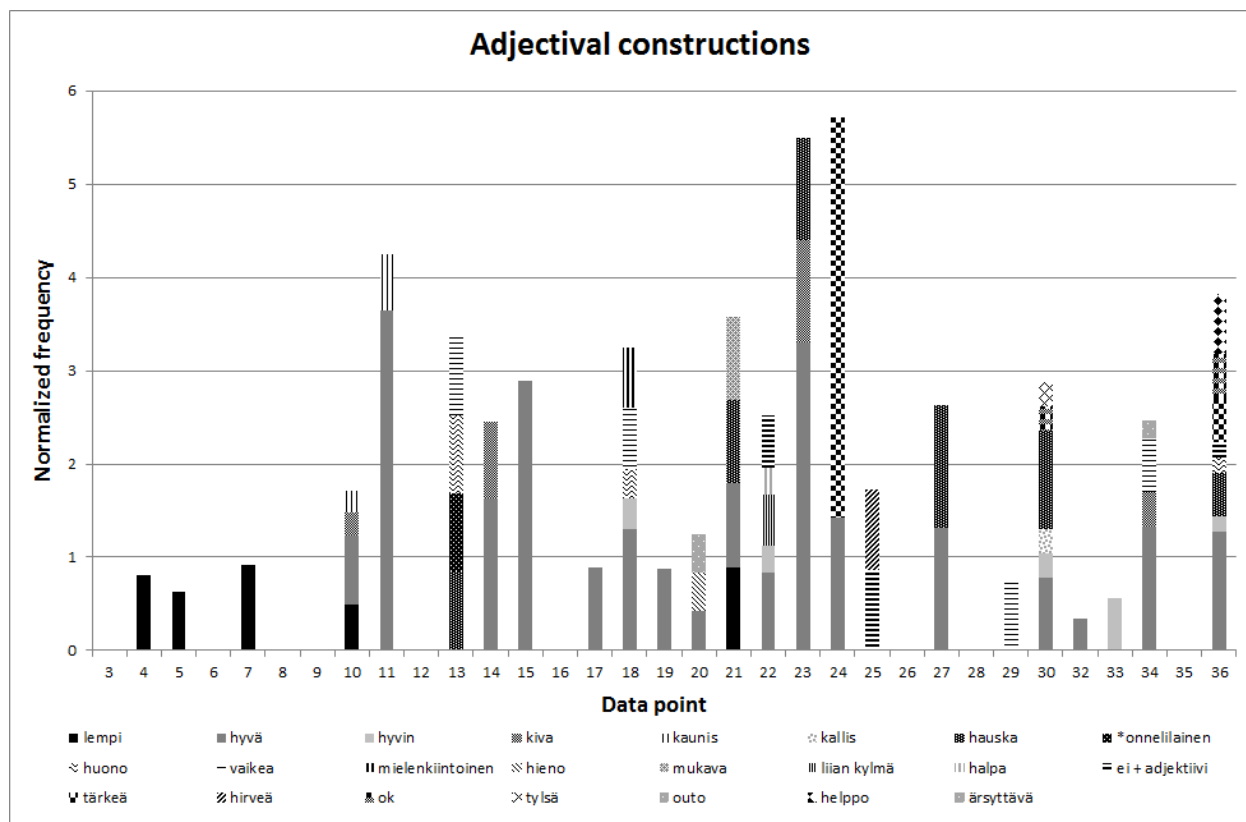


Figure 7. Bar chart showing the different types of adjectival and adverbial constructions.

lempi ‘favorite’; *hyvä* ‘good’; *hyvin* ‘well’; *kiva* ‘nice₁’; *kaunis* ‘beautiful’; *kallis* ‘expensive’; *hauska* ‘fun’; **onnelilainen* ‘happy’; *huono* ‘bad’; *vaikea* ‘difficult’; *mielenkiintoinen* ‘interesting’; *hieno* ‘great’; *mukava* ‘nice₂’; *liian kylmä* ‘too cold’; *halpa* ‘cheap’; *ei + adjektiivi* ‘no + adjective’;² *tärkeä* ‘important’; *hirveä* ‘awful’; *ok* ‘okay’; *tylsä* ‘boring’

Figures 6 and 7 show that both the verbal and the adjectival constructions develop into more complex and sophisticated constructions over time. In the first phase (weeks 3–9), Lena uses 6 different verbal constructions but only 1 adjective-like construction - *lempi* ‘favorite’ (e.g. *lempiruoka* ‘favorite food’) - to express evaluations. The verbal constructions Lena uses are *tykätä* ‘like₁’, *pitää* ‘like₂’, *haluta* ‘want’, *rakastaa* ‘love’, *vihata* ‘hate’ and the negative form of *kiinnostaa* ‘interest’. Except for *kiinnostaa* ‘interest’, the verbal constructions are relatively simple constructions in which the subject is the experiencer. They were presented and practiced in the classroom in week 3. *Kiinnostaa* ‘interest’ is categorized as a causative emotive verb and was also presented in some course material in week 3. As time passes (phases 2 and 3), Lena uses verbal constructions that are either syntactically more sophisticated (the causative emotive verbal constructions *ärsyttää* ‘annoy’, *piristää* ‘cheer up’, *auttaa* ‘something helps somebody’, and *naurattaa* ‘something makes somebody laugh’) or more creative and less fixed (*hän odottaa lomalla* ‘she is looking forward to a holiday’). The simple constructions she was relying on initially (*tykätä* ‘like₁’, *pitää* ‘like₂’, *rakastaa* ‘love’, *vihata* ‘hate’) disappear from her use.

² *Ei + adjektiivi* ‘no + adjective’ forms its own category because these expressions are non-target like, learner language forms used to express evaluation. This category includes the expressions: *ei siisti* ‘no clean’; *ei hauska* ‘no fun’; *ei kaunis* ‘no beautiful’; *ei tosi hyvä* ‘no very good’.

From week 10 on, Lena starts to explore adjectival constructions. In text 10, Lena uses three new adjectival constructions: *hyvä* ‘good’, *kiva* ‘nice’, and *kaunis* ‘beautiful’. In this second phase (weeks 10–25), few verbs are used. Lena uses mainly the *tykätä* ‘like₁’ construction, which had been the most frequent one in previous weeks, and the *haluta* ‘want’ construction. However, the use of these constructions becomes more advanced (see Appendices 1 and 2 for the development of the *haluta* and *tykätä* constructions). In phase 2, Lena’s adjectival construction repertoire expands and the use of these constructions becomes more advanced, too. The *hyvä* ‘good’ construction emerges in its adverbial form *hyvin* ‘well’ for the first time in text 18. The first comparative forms also appear: **kivampi* ‘nicer’, with a slightly inaccurate spelling, and *parempi* ‘better’ are used in text 14. The *hyvä* ‘good’ construction is the adjectival construction that Lena uses most frequently and it is the one that becomes most complex and diversified (see Example 13).

- (13) *Mutta paras men-nä nukku-ma-an.*
 But best go-INF sleep-3.INF-ILL
 ‘But it is best to go to sleep.’

7.3 Development of the *haluta* and *tykätä* constructions: item-based construction growth

The quantitative and qualitative results have shown that Lena initially relies mainly on constructions based on the verbs *haluta* ‘want’ and *tykätä* ‘like₁’. They are the most frequent and also the ones Lena keeps producing in phase 2, when she uses mostly adjectival constructions. The following section therefore focuses on these two item-based constructions and discusses their developmental trajectories. As shown by the detailed analysis below, the *haluta* ‘want’ construction seems to develop from a rather fixed formula which later gets analyzed, while the *tykätä* ‘like₁’ construction is variable right from the start and therefore develops from a more schematic construction than the *haluta* ‘want’ construction.

7.3.1 *The haluta construction.*

All uses of the *haluta* ‘want’ construction are shown in Appendix 1. At first, Lena’s *haluta* ‘want’ constructions are chunk-like, relatively fixed expressions. In weeks 3, 4 and 5 she uses *haluta* ‘want’ only in the conditional form and only with one verb: *matkustaa* ‘travel’ (see Table 2). The expressions are not entirely fixed because there is some variation in the adverbials within the non-finite clauses (4.1: *Jyväskylästä Saksaan* ‘from Jyväskylä to Germany’, 4.2: *lentokoneella* ‘by plane’, Appendix 1) and besides the first person singular form Lena uses *haluta* in a second person singular form (4.4) and in 4.3 she omits the verb *matkustaa* in the complement. However, even without that verb, the context makes clear that the utterance as a whole still expresses the wish to travel. This suggests that the *haluta* ‘want’ construction is initially tied to a specific meaning and a specific context and is relatively fixed.

Table 2.

The verb haluta: verb forms, type of different complements, and the clausal contexts

<u>Text</u>	<u>Verb</u>				<u>Complements</u>		<u>Subordinate clause</u>	<u>Number of Utterances</u>
	<u>Person</u>	<u>Tense</u>	<u>Mood</u>	<u>Negation</u>	<u>NP</u>	<u>NFC verbs</u>		
3–5	1SG, 2SG	PRS	COND	No	0	1	no	6
6–9	1SG, 3SG	PRS	COND, IND	No	1	4	no	5
11–14	1SG, 3PL	PRS	COND, IND	No	1	5	no	7
15–24	1 SG	PRS, PST	COND, IND	Yes	0	7	yes	8
26–36	1SG, 2SG, 3SG, 1PL, 3PL	PRS, PST	COND, IND	Yes	1	9	yes	15

Over time, in phases 2 and 3, Lena's *haluta* 'want' construction becomes more diverse as both the complements and forms of *haluta* become more varied (see Table 2). Regarding complements, in weeks 6 and 7, Lena uses the verb *haluta* with other verbs than *matkustaa* 'travel' for the first time (6.1: *haluaisin sanoa* 'I would like to say' and 7.1: *Marja haluaisi oppia* 'Marja would like to learn'). After that, Lena's verb repertoire of non-finite clauses develops further (see Table 2 and Appendix 1) and she also uses some non-frequent verbs within the *haluta* 'want' construction, such as *juhliä* 'celebrate' (23.1) (see a frequency dictionary of Finnish: Saukkonen, Haipus, Niemikorpi, Sulkala 1979). The *ma*-infinitive form is also used in the construction (30.1 and 30.2). Apart from the main verb, also the noun phrases in the non-finite clauses become more varied and elaborate. This can be seen for example when comparing phrases 3.1 and 17.1 (see Appendix 1). In 3.1, the noun phrase in the non-finite clause consists of co-ordinate elements. In contrast, the noun phrase in 17.1 consists of dependent elements. The use of the modifiers **ennemään* 'more' and *suomen* Finland-GEN 'Finnish' makes the noun phrase more elaborate.

The grammatical variation of the *haluta* 'want' construction also increases in phases 2 and 3, as we can see in Table 2. Lena conjugates the verb *haluta* in various forms. In the first person singular, it is used in the affirmative in the conditional (4.1: *haluaisin*), the present (indicative) (9.2: *haluan*) and the past (15.1: *halusin*), and in the negative in the present (22.1: *en halua*) and the past (30.4: *en halunnut*). In the second person singular, *haluta* is used only in the conditional (4.4: *haluaisit*). In the third person singular, *haluta* is used in the conditional (7.1: *haluaisi*) and the present (indicative) (7.2: *haluaa*). The plural forms are the third person in the conditional (11.5: *haluaisivat*) and the first and third persons in the present (30.2: *haluamme* and 35.1: **haluvat*). In addition, the clausal context in which the construction emerges becomes more varied. Questions are used already from the start but in phase 3 Lena also uses the constructions in subordinate clauses as well as in main or co-ordinate clauses (26.2, 30.3, 35.1).

In general, the complexity of Lena's *haluta* expressions increases over time. Importantly, development is not always demonstrated by increased complexity. Sometimes, the learner's increasing analysis of the construction may lead to simpler forms, which can be seen when comparing the phrase 14.2 to Lena's expressions in weeks 3–5, e.g. phrase 4.1. Phrase 14.2 conveys the same meaning as the fixed phrase 'I would like to travel' in Lena's early production, but instead of relying on that fixed formula Lena is now able to use less complex forms that are based on a more schematic construction: *haluta* is used in the present tense (indicative), and *mennä* 'go' and *käydä* 'visit' in a non-finite clause are generally more frequent than *matkustaa* 'travel'.

Phrase 35.1, produced in the penultimate data point, is a good example of the increased

complexity of the *haluta* construction. *Haluta* is conjugated in the third person plural and the construction is used in a subordinate clause. The object of *haluta* is a transitive verb, *tietää* ‘know’. The object of *tietää* is a subordinate clause which is an indirect question. In the phrase there is also another *haluta* construction. This co-ordinate clause is also relatively complex because it is a non-finite clause of five words including correctly used plural partitive forms.

In summary, the *haluta* construction develops from a relatively fixed chunk into a highly variable, schematic construction. This variable construction, rooted in an originally fixed pattern, is based on the development of more abstract knowledge.

7.3.2 The *tykätä* construction.

All uses of the *tykätä* ‘like₁’ construction are shown in Appendix 2. This construction is the second most frequently used construction among Lena’s verbal expressions of evaluation. Lena uses it frequently in the first phase (weeks 3–10) but then its frequency decreases (see Appendix 2). Lena’s use of this construction does not begin with lexically fixed phrases, as was the case with the *haluta* construction, but is variable right from the start. Over time it develops even more in terms of sophistication and complexity. The construction becomes more complex when Lena conjugates the verb *tykätä* ‘like₁’, adds new lexical items (both noun phrases and non-finite clauses) to the construction and uses it in more diverse syntactic environments.

In weeks 3–5, Lena uses 15 different noun phrases and 3 different verbs in non-finite clauses within the *tykätä* construction (see Table 3). In the same period, the *tykätä* verb itself is conjugated in three different forms (1SG affirmative, 1SG negative, 2SG affirmative question). Hence, Lena’s learning of this construction does not begin with the use of a fixed formula but the construction exhibits a greater number of different instantiations than the *haluta* construction, pointing to a more schematic construction.

Table 3.

The verb tykätä: verb forms, type of different complements, and the clausal contexts

Text	Verb					Complements		Subordinate clause	Number of utterances
	Person	Tense	Mood	Negation	NP	NFC verbs			
3–5	1SG, 2SG	PRS	IND	Yes	15	3	No	10	
6–9	1SG, 3SG	PRS	IND	No	1	4	No	4	
10–14	1SG, 2SG	PRS	IND	No	3	9	Yes	9	
21–34	1SG	PRS, PST	IND	No	1	1	Yes	5	

In week 5, a non-finite clause is used in the *tykätä* construction for the first time. From that week on, Lena starts to use more different verbs within the construction (see Table 3). Also, the noun phrases and non-finite clauses within the construction become more sophisticated and less general as development proceeds. For example, phrases 4.3 and 4.5 are much broader and more general evaluations than the evaluation expressed in phrase 10.1 (see Appendix 2). Diversification of the non-finite clauses also occurs over time. A fixed chunk, *laittaa ruokaa* ‘cook (food)’, is used in the first two instances (5.1 and 8.1). The clauses become more varied later on (e.g. 9.1: *laulaa kuorossa*, ‘sing in a choir’; 10.5: *oppia kieliä* ‘learn languages’; 14.1: *katsoa elokuvaa* ‘watch a movie’) and the *ma* infinitive is used (10.6). The construction also gets more flexible when Lena varies the construction syntactically. Like the *haluta* ‘want’ construction, the *tykätä* ‘like’ construction occurs in more varied clausal contexts, as it is used in subordinate clauses (14.2, 22.1, and 34.1). In addition, the form of *tykätä* becomes more flexible. After four different forms of the present tense in weeks 3–6, the verb is used in the past form (21.1) in week 21.

To summarize, Lena's use of the *tykätä* 'like₁' construction starts with lexically variable instantiations of a more schematic construction. Relatively simple and broad evaluations with *tykätä* 'like₁' gradually develop into more sophisticated expressions with increased variation both in the constructions (new lexical items in both noun phrases and non-finite clauses) and in her use of the past tense, all occurring in more diverse environments.

8 Discussion

Taking an onomasiological approach and a dynamic usage-based perspective, we explored how an absolute beginner of Finnish would express evaluation, that is, whether she liked something or not. We followed Lena week by week with either an oral interview or an informal writing task over a 9-month period in which she took three different courses in Finnish. There were three main areas of interest: (1) Did the constructions she used show interactions between different types of constructions or dynamic patterns of variability - of peaks or dips - as expected from the complex dynamic systems theory literature? (2) Did the constructions she used show signs of diversification, as predicted by cross-sectional studies? And finally, (3) were the constructions she used initially lexically specific fixed formulas as traditionally assumed by the usage-based literature?

To express evaluation there are two main types of constructions available, those with a lexical verb expressing that something is liked or not and those with an adjective expressing that something is good or bad. As a speaker has to make a choice between these two types of construction, the two are in formal competition for encoding the same content. In our data, we indeed found that the speaker expressed evaluation either by means of a lexical verb (such as *like*) or an adjective (such as *good*). After categorizing the expressions for types, we clearly saw non-linear developmental patterns both in the interactions among the constructions and in patterns of variability.

In the interaction between the constructions, we found three broad phases. In phase 1, verbal constructions were used almost exclusively. In phase 2, the use of verbal constructions decreased drastically and adjective constructions were used more frequently than verbal ones, and in phase 3, the use of the two types of constructions leveled off and there were no longer any big differences between the use of the constructions. In complex dynamic systems terms, this means the constructions were competitive in phase 1, competitive in phase 2, and supportive in phase 3. Such clear non-linear developmental patterns have been found earlier, especially among beginners. Van Dijk et al. (2011) showed such wave-like patterns with strong competition and strong peaks of overuse early on in the development of negative verbal expressions. Tilma (2014) showed strong competition between the use of the nominative and other cases early on, and Spoelman & Verspoor (2010) showed especially competition between simple sentences and other types early on. According to van Geert (2008), and in line with views held in information processing theory (e.g. DeKeyser 2007; Robinson 2005; Skehan 2003), these wave-like patterns are attributable to the learner's limited resources, for example, in what the learner can pay attention to. Other internal resources may be related to aptitude and motivation while external resources are related to the amount of meaningful input and the frequencies with which constructions are heard. In Lena's case, she was in an instructional context in an L2 environment. We do not know whether explicit instruction, which was given on verbs early on, or just the fact that a verbal expression is simpler to use, influenced her strong preference for verbal constructions to express evaluation in the early stages of her learning.

The competitive relationship between the two types of construction due to the learner's limited resources is also seen in the number of different constructions Lena uses to express evaluation. In phase 1, verbal constructions are not only used more frequently than adjectival constructions, but also in a more variable way. In phase 2, when the frequency of adjectival constructions begins to increase, verbal constructions are used less and in a less diverse manner. Once Lena starts to explore adjectival

constructions in phase 2, she falls back on using the one most entrenched verbal construction from earlier use. These findings support a view of a developing language as a complex system: when one component of a system changes, other components of the system are also affected. The different aspects of linguistic use do not develop in isolation but they interact with each other (Verspoor & Behrens 2011).

The data also showed dynamic patterns of variability. In phase 1, the high degree of variability of token frequency in Lena's verbal constructions may indicate that she focuses on them first. A narrowing moving min-max window of verbal constructions in the middle of the period of observation (Figure 3), i.e. in phase 2, shows decreased variability in Lena's use of verbal constructions and suggests that Lena is not trying out the verbal system as intensely as initially. Once Lena found the most effective strategy she settled with it and discarded some of the simpler verbal constructions she had been using. In complex dynamic systems theory, variability is seen as functional in that makes it possible for the learner to choose the best constructions for his or her communicative needs (van Dijk et al. 2011). A widened moving min-max window of adjectival constructions after the initial phase shows that the variability in adjectival constructions remains relatively large throughout the observation period. This suggests that after the initial phase, Lena explores adjectival constructions.

As mentioned earlier, one possible explanation for the more frequent and variable use of verbal constructions initially is teaching. The verbal constructions Lena uses at the beginning, *tykätä* 'like₁', *pitää* 'like₂', *rakastaa* 'love', *vihata* 'hate', *haluta* 'want' and *kiinnostaa* 'interest' were practiced in the classroom in week 3. Moreover, verbal constructions in general were emphasized in teaching and therefore they might have been more salient. However, some adjectives were covered in week 4, when students were encouraged to collect adjectives from both their exposure outside the classroom and from the learning materials, but still adjectives do not emerge until later. Despite their introduction, adjectives were not in fact practiced as much as verbal expressions, though.

As far as the diversification of constructions is concerned, we noted a clear development over time: Lena's repertoire of evaluative constructions is not only considerably greater but also more diversified at the end of the period of observation. Moreover, the constructions develop in terms of complexity and sophistication.

The third question in this study was whether the development of constructions goes from lexically specific items to more schematic, abstract constructions. We found that the two most frequent verbal constructions did both develop in terms of complexity and sophistication over time but one developed from a rather fixed formula while the other exhibited a greater number of variable instantiations already initially.

The development from lexically specific items to more abstract schemas of the *haluta* 'want' construction is in line with previous research, including Mellow (2006) and Eskildsen (2008, 2012). Initially, Lena uses *haluta* 'want' with only one verb, *matkustaa* 'travel', as the complement. This semi-fixed expression is used exclusively in the conditional and only in the first and second person singular forms. In weeks 3–6 *matkustaa* 'travel' continues to be the only complement verb even though she uses other verbs and types of complements in other constructions with for example *tykätä* 'like₁' and *rakastaa* 'love'. It seems that there are no open slots in the *haluta* 'want' construction, so we may assume that she first learned it as a lexically specific, un-analyzed whole. This is not surprising, as Lena most likely picked the construction up from a classroom activity in week 3 in which students had to tell each other where they would like to travel in Finland. Later, from week 6 on, Lena seems to analyze parts of the construction when she uses new verbs in the non-finite complement clause.

One interesting observation is that development is not always from simple to more complex constructions. The conditional form that Lena uses initially can be considered more complex than the present (indicative) form from a formal point of view because it contains more morphemes (conditional: *halua-isi-n*, present (indicative: *halua-n*). In the development of this fixed construction, Lena first uses the conditional and only later the indicative form.

Other constructions she learned are more variable from the beginning. Verbs like *tykätä* 'like₁', *pitää* 'like₂', *rakastaa* 'love' and *vihata* 'hate' are used more variably in the first and second person

singular and in affirmative and negative forms. Also non-evaluative verbs such as *olla* ‘be’, *syntyä* ‘be born’ and *asua* ‘live’ are used in various grammatical forms. We traced the *tykätä* ‘like₁’ construction in detail. Already from the beginning Lena uses different noun phrases and later non-finite clauses of different kinds in the construction, which leads us to the conclusion that this construction is more freely productive already initially. This finding is in agreement with the development of the *gehen* construction obtained by Roehr-Brackin (2014) and the development of some non-target-like negation constructions obtained by Eskildsen (2012) and of a declarative copula question obtained by Eskildsen (2015).

As Roehr-Brackin (2014) suggests, explicit instruction may play a role in construction development. The *tykätä* ‘like’ construction was taught in the classroom as a way to express evaluations and it was practiced extensively. The instruction aimed to help the learner notice the different types of *tykätä* construction as well as the communicative functions of the construction’s components. That is why it might have been easier for Lena to abstract a more general slot after *tykätä* compared to *haluta*, which was not analyzed or used to the same extent as the *tykätä* construction. However, the *haluta* construction was also presented in various forms in the learning material. The different learning trajectories of *tykätä* and *haluta* are in line with the assumption in usage-based linguistics that type and token frequencies play different roles in learning constructions. However, this is only speculative as no information on input frequencies is available from outside of the classroom and the information on input frequencies in the classroom is limited to the learning material and the first author’s notes (e.g. no video or audio material is available). Also, no information about Lena’s explicit knowledge of the constructions is available. Further research on this particular area is thus needed.

9 Conclusion

The current study traced the individual learning trajectories of an adult beginner L2 Finnish learner. This investigation of the changes in a longitudinal setting enhances our understanding of both quantitative and qualitative aspects of Finnish L2 development. Our results provide further support for the view of learner language as a dynamic system in which patterns wax and wane and in which a change in one component has the potential to affect the whole system.

This study has clearly shown that there are dynamic patterns of competition among the types of construction that a learner chooses to use to express the extralinguistic concept of evaluation. In this particular case, there was a strong preference to use lexical verbs first, and then adjectives. The study has also shown that variability plays a role. When the verbal construction was preferred, it showed a high degree of variability in token frequency and in the number of types of verbs that were used. When the adjective construction was preferred, not only did the number of verb constructions decrease, but so too did the number of different types. Moreover, in this phase, there was a reliance on a verbal construction already familiar to the learner. This study has therefore shown that investigating the development and interaction between constructions used to express a certain notion can shed light on L2 development. The results also show that development and learning are not solely manifested in increasing complexity or the use of more infrequent lexical items to fill the slots in constructions, but also in an advanced analysis of constructions on the part of the learner, leading to the use of structures that seem simpler on the surface but at a deeper level are based on greater understanding.

We also aimed to investigate whether L2 constructions develop from lexically specific items to more schematic, abstract constructions. The study has confirmed that the learning of L2 constructions is in some cases item based (see Mellow 2006; Eskildsen 2008). However, another highly frequent and superficially similar verbal construction in our data did not develop from a fixed formula. The role of instruction and the learner’s explicit knowledge (see Roehr-Brackin 2014) as well as possibly input frequencies may have played a role in the different developmental trajectories.

This study traced the development of one single learner and her specific path of development

cannot be generalized to others. However, if other learners in a similar context show the same general patterns of verbal constructions before adjectival ones then our onomasiological approach may have enabled us to gain a new insight into L2 development.

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Appendix 1. Development of the *haluta* ‘want’ construction.

phrase	co-ordinate clause/main clause	Want	NFC: verb	NFC: NP / NP	other argument	co-ordinate / subordinate clause
3.1		<i>*Haillo-ia-ni</i> <i>*Want-COND-1SG</i> intended meaning: <i>Halua-isi-n</i> <i>Want-COND-1SG*</i>	<i>*matkest-a</i> <i>*travel-INF</i>	<i>Lappi-in,</i> <i>*Hankasalmie-lle ja Oulu-un.</i> <i>Lapland-ILL, *Hankasalmi-ALL and Oulu-ILL</i>		
4.1		<i>Halua-isi-n</i> <i>Want-COND-1SG</i>	<i>matkusta-a</i> <i>travel-INF</i>	<i>Jyväskylä-stä Saksa-an.</i> <i>Jyväskylä-ELA Germany-ILL</i>		
4.2		<i>Ja halua-isi-n</i> <i>And want-COND-1SG</i>	<i>matkusta-a</i> <i>travel-INF</i>	<i>lentokonee-lla.</i> <i>plane-ADE</i>		
4.3		<i>Halua-isi-n</i> <i>Want-COND-1SG</i>		<i>Saksa-an ja myös Lappi-in ja Tamperee-lle.</i> <i>Germany-ILL and also Lapland-ILL and Tampere-ALL</i>		
4.4		<i>Mih-in halua-isi-t</i> <i>Where-ILL want-COND-2SG</i>	<i>matkusta-a?</i> <i>travel-INF</i>			
5.1		<i>Halua-isi-n</i> <i>Want-COND-1SG</i>	<i>*matkakust-a</i> <i>*travel-INF</i>	<i>*venäjjä-än, ja Suome-ssa Lappi-in, Hankasalmie-lle,</i> <i>*Oulu ja *Helsinki-in.</i> <i>*Russia-ILL, and Finland-INE Lapland-ILL, Hankasalmi-ALL, *Oulu and *Helsinki-ILL</i>		
6.1		<i>Halua-isi-n,</i> <i>Want-COND-1SG</i>	<i>sano-a,</i> <i>say-INF,</i>		<i>e-n tule syntymäpäivä.</i> <i>NEG-1SG come birthday</i>	
7.1	<i>Eli puhu-vat äiti ja isä paljon kiel-i-ä</i> <i>So speak-3PL mother and father lots language-PL-PAR</i> <i>ja Marja halua-isi</i> <i>and Marja want-COND(3SG)</i>		<i>oppi-a</i> <i>learn-INF</i>	<i>englanni-n *kieli.</i> <i>English-GEN *language</i>		
7.2	<i>Menee *kaupa-an ja haluaa</i> <i>Go(3SG) *shop-ILL and want(3SG)</i>		<i>*osa-ta</i> <i>*know-INF</i>	<i>jäätelö-t.</i> <i>ice.cream-PL</i>		
9.1		<i>Halua-isi-n</i> <i>Want-COND-1SG</i>		<i>marjo-j-a</i> <i>berry-PL-PAR</i>	<i>mutta *tarvitse ol-la</i> <i>but *need be-INF</i> <i>*hyvä-ä ilma.</i> <i>*good-PAR weather</i>	
9.2		<i>Halua-n myös</i> <i>Want-1SG also</i>	<i>kirjoitta-a</i> <i>write-INF</i>	<i>blogi-ssa,</i> <i>blog-INE,</i>	<i>koska mä e-n *ole-n</i> <i>because I NEG-1SG *be-1SG</i> <i>*kirjoit-tut viime viiko-lla.</i> <i>*write-PPC last week-ADE</i>	
11.1		<i>Halua-isi-n</i> <i>Want-COND-1SG</i>	<i>men-nä</i> <i>go-INF</i>	<i>*Suomii-in</i> <i>*Finland-ILL</i>	<i>kun mul-la o-n lapse-t.</i> <i>when I-ADE be-3SG child-PL</i>	
11.2		<i>Ole-n *käy-n *Tampere-llä, *Helsinki-ssa,</i> <i>Be-1SG *visit-PPC *Tampere-ADE, *Helsinki-INE,</i> <i>Kuopio-ssa, ja Petäjävede-llä,</i> <i>Kuopio-INE and Petäjävesi-ADE,</i> <i>mutta halua-isi-n</i> <i>but want-COND-1SG</i>		<i>*paljon *kaupungi-t *muu-ta.</i> <i>*lots *city-PL *other-PAR</i>		

11.3		<i>Halua-si-n</i> Want-COND-1SG			<i>*kulma</i> <i>*cold</i>	<i>mutta se o-n</i> <i>*kylmä</i> but it be-3SG <i>*cold</i> <i>Saksa-ssa,</i> <i>Islanni-ssa,</i> Germany-INE, Iceland-INE, <i>mutta ei</i> <i>Suome-ssa.</i> but NEG(3SG) Finland-INE
11.4		<i>Halua-isi-n</i> Want-COND-1SG	<i>*katso-a</i> <i>*watch-INF</i>	<i>*hirvi.</i> <i>*elk</i>		
11.5	<i>Ystävä-t Saksa-ssa</i> <i>*ova-i-t</i> <i>Suome-ssa viime</i> Friend-PL Germany-INE <i>*be-PST-3PL</i> Finland-INE last <i>viiko-lla</i> week-ADE	<i>halua-isi-vat</i> want-COND-3PL	<i>*katso-a</i> <i>*watch-INF</i>	<i>revontule-t</i> <i>myös.</i> northern.light-PL also		
14.1		<i>Joo halua-n</i> Yes want-1SG	<i>*loppu-a.</i> <i>*finish-INF</i>			
14.2		<i>Joo, halua-n</i> Yes, want-1SG	<i>men-nä</i> go-INF <i>ja käy-dä</i> and visit-INF	<i>*Lapi-in</i> <i>*Lapland-ILL</i> <i>Lapi-ssa.</i> Lapland-INE		
15.1		<i>Ei, mä halus-i-n</i> No, I want-PST-1SG	<i>kirjoitta-a</i> write-INF	<i>*teksti</i> <i>*text</i>	<i>mutta mä e-n</i> <i>*voin-nut</i> but I NEG-1SG <i>*can-PPC</i> <i>kirjoitta-a koska minu-lla</i> write-INF because I-ADE <i>ei</i> <i>*ol-i</i> NEG(3SG) <i>*be-PST(3SG)</i> <i>*hyvä-ä</i> <i>*ideo-j-a.</i> <i>*good-PAR</i> <i>*idea-PL-PAR</i>	
17.1		<i>Mutta halua-isi-n</i> But want-COND-1SG	<i>oppi-a</i> learn-INF	<i>*ennemään suome-n</i> <i>*more</i> Finland-GEN <i>sano-j-a</i> <i>ja</i> <i>*kielioppi</i> word-PL-PAR and <i>*grammar</i>	<i>ennen mene-n</i> <i>Saksa-an</i> before go-1SG Germany-ILL <i>kesä-llä.</i> summer-ADE	
19.1	<i>Tiedä-n, että se o-n</i> <i>liian paljon</i> <i>*tuntei-j-a</i> Know-1SG, that it be-3SG too much <i>*lesson-PL-PAR</i> <i>minä e-n</i> <i>*o-n</i> <i>tää-llä,</i> I NEG-1SG <i>*be-3SG</i> here, <i>mutta halua-isi-n</i> but want-COND-1SG		<i>teh-dä</i> do-INF	<i>*kurssi vielä.</i> <i>*course still</i>		
22.1	<i>Se o-n keittiö, joo, e-n halua.</i> It be-3SG kitchen, yes, NEG-1SG want					

23.1	<i>Mu-lla ol-i syntymäpäivä toinen *kesäku-ssa</i> I-ADE be-PST(3SG) birthday second *June-INE <i>ja halua-n</i> and want-1SG		<i>juhli-a</i> celebrate-INF	<i>ensi viikonloppu-na.</i> next weekend-ESS
24.1	<i>Opiskelu o-n myös tosi tärkeä-ä,</i> Studying is-3SG also very important-PAR <i>koska halua-n</i> because want-1SG		<i>opp-ia</i> learn-INF <i>aloitta-a</i> begin-INF	<i>paljon ja</i> lots and <i>*työ soon@s.</i> <i>*work soon@s</i>
24.2		<i>Halua-n</i> Want-1SG	<i>*vaihtu-a</i> *change-INF	<i>jotain *saksas koulu-ssa.</i> something *German school-INE
24.3		<i>Halua-n</i> Want-1SG	<i>autta-a</i> help-INF	<i>*las-ta.</i> *child-PAR
26.1		<i>Mutta halua-n</i> But want-1SG	<i>yrittä-ä</i> try-INF	<i>hiihto-a.</i> skiing-PAR
26.2	<i>Koto-na,</i> Home-ESS,	<i>koska e-n halua</i> because NEG-1SG want	<i>kävel-lä</i> walk-INF	<i>*yliopisto-on.</i> *university-ILL
26.3		<i>Milloin *halua-isi-t-ko</i> When *want-COND-2SG-Q	<i>tul-la?</i> come-INF	
28.1		<i>Mutta hän halua-a</i> But she want-3SG	<i>kerto-a</i> tell-INF	<i>jotakin,</i> something <i>mutta hän o-n yksin.</i> but she be-3SG alone
30.1		<i>Mutta mä halus-i-n</i> But I want-PST-1SG <i>halua-a</i> want-3SG	<i>men-nä nukku-ma-an</i> go-INF sleep-3.INF-ILL <i>men-nä *nukku-a</i> go-INF *sleep-INF	<i>*mökki-ssä,</i> *cottage-INE, <i>keskusta-ssa ja Airbnb.</i> *center-INE and Airbnb
30.2		<i>*Neljä-n päivä-nä</i> *Four-GEN day-ESS <i>me halua-mme</i> we want-1PL	<i>men-nä</i> go-INF <i>katso-ma-an</i> watch-3.INF-ILL	<i>Kemi-in ja</i> Kemi-ILL and <i>*lumlinna.</i> *snow.castle
30.3	<i>Luule-n, että se ol-i kakssata-a</i> Think-1SG, that it be-PST two.hundred-PAR <i>ja neljäkymmen-tä ja yks,</i> and forty-PAR and one, <i>koska mä halua-n</i> because I want-1SG			<i>insurance@s.</i> insurance@s
30.4	<i>Mutta ennen kuin messu alko-i,</i> But before that fair begin-PST, <i>mä en halun-nut.</i> I NEG-1SG want-PPC			
34.1		<i>Mutta mä halua-n</i> But I want-1SG	<i>puhu-a</i> speak-INF	<i>islanti-a.</i> Icelandic-PAR

34.2		<i>Joo, mutta e-n halua</i> Yes, but NEG-1SG want	<i>unohta-a</i> forget-INF	<i>suome-a.</i> Finnish-PAR	
34.3		<i>Ja mä halua-n ehkä</i> And I want-1SG maybe	<i>men-nä</i> go-INF	<i>suomi-kurssi-lle.</i> Finnish.course-ILL	
35.1	<i>Sitten, mun isoäiti ja isoisä tule-vat</i> Then, my grandmother and grandfather come-3PL <i>Suome-en ja *matke-taan kaksi *viiko-a</i> Finland-ILL and *travel-PASS two *week-PAR <i>Suome-ssa koska he *halu-vat</i> Finland-INE because they *want-3PL <i>ja mä halua-n myös</i> and I want-1SG also	<i>*tie-dä</i> *know-INF <i>näh-dä</i> see-INF	<i>uus-ia paikko-ja</i> new-PL-PAR place-PL-PAR <i>Suome-ssa.</i> Finland-INE	<i>missä mä *o-n ol-lut</i> where I *be-1SG be-PPC	
35.2		<i>Mä halus-i-n</i> I want-PST-1SG <i>jo *pitkä *aika</i> already *long *time	<i>men-nä</i> go-INF	<i>*to-hon.</i> *there-ILL	
36.1		<i>En *halus-i-n.</i> NEG-1SG *want-PST-1SG.			
36.2		<i>Joo en halun-nut,</i> Yes NEG-1SG want-PPC		<i>mutta mä katso-i-n.</i> but I watch-PST-1SG	

* The form used by Lena (*hailloiani matkesta*) is inaccurate but the contextual factors as well as morphological and phonological features of the phrase reveal the intended meaning.

Appendix 2. Development of the *tykkätä* ‘like’ construction.

phrase	main clause	tykkätä, like	NP	NFC, verb	NFC, NP	main clause
3.1		* <i>Tykkää-n</i> *Like-1SG	* <i>matkeska-st</i> , * <i>sanoa-st</i> , * <i>oota-st</i> , * <i>syöda-st</i> ja * <i>juoma-st</i> . *travelling-ELA, *saying-ELA, *unclear-ELA, *eating-ELA and *drinking-ELA			
3.2		* <i>Ei</i> * <i>tykka</i> *NEG(3SG) *like intended meaning: <i>E-n tykkää</i> NEG-1SG like	* <i>kahvi-a-st</i> ja * <i>sauna-st</i> . *coffee-PAR-ELA and *sauna-ELA			
4.1		<i>Tykkää-t-kö</i> Like-2SG-Q	* <i>liha?</i> *meat			
4.2		<i>Tykkää-t-kö</i> Like-2SG-Q	<i>pitsa-sta?</i> pizza-ELA			
4.3		<i>Tykkää-n</i> Like-1SG	<i>tomaati-sta</i> . tomato-ELA			
4.4		<i>Tykkää-n</i> Like-1SG	* <i>kasvi-sta</i> . *plant-ELA			
4.5		<i>E-n</i> * <i>tykkää-n</i> NEG-1SG *like-1SG	* <i>musika-sta</i> . *music-ELA			
4.6		<i>E-n tykkää</i> . NEG-1SG like				
4.7		< <i>e-n tykkää</i> > <NEG-1SG like> [/] <i>e-n</i> * <i>tykkää-t</i> [/] NEG-1SG *like-2SG	* <i>lahe-sta</i> , * <i>kala-sta</i> , * <i>kurkku-sta</i> . *salmon-ELA, fish-ELA, *cucumber-ELA			
5.1		<i>Tykkää-n</i> Like-1SG		<i>laitta-a</i> make-INF <i>syö-dä</i> ja <i>leipo-a</i> . eat-INF and bake-INF	<i>ruoka-a</i> food-PAR	
6.1		<i>Hän tykkää</i> He like(3SG)	* <i>kahvi</i> . *coffee			
8.1		<i>Tykkää-n</i> Like-1SG		<i>laitta-a</i> make-INF ja <i>matkusta-a</i> . and travel-INF	<i>ruoka-a</i> food-PAR	
9.1		* <i>Tykkä-n</i> *Like-1SG		<i>laula-a</i> sing-INF	<i>kuoro-ssa</i> . choir-INE	
9.2		<i>Tykkää-n</i> Like-1SG		<i>kuunne-lla</i> listen-INF	* <i>life-musiikki</i> . *live-music	
10.1		<i>Mä tykkää-n</i> I like-1SG		* <i>laihta-a</i> *make-INF <i>matkusta-a</i> , <i>neulo-a</i> ja <i>luke-a</i> . travel-INF, knit-INF and read-INF	<i>ruoka-a</i> , food-PAR,	

10.2		<i>Tykkää-n</i> Like-1SG		<i>to pick@s</i> to pick@s <i>ja sitten laihta-a</i> and then make-INF	<i>marjo-j-a</i> berry-PL-PAR <i>ruoka-a marjo-j-a.</i> food-PAR berry-PL-PAR
10.3		<i>Sä tykkää-t</i> You like-2SG	<i>*tee-tä?</i> <i>*tea-PAR</i>		
10.4		<i>Tykkää-t-kö</i> Like-2SG-Q	<i>*Katriina?</i> <i>*Katriina</i>		
10.5		<i>Ja tykkää-n myös</i> And like-1SG also		<i>oppi-a</i> learn-INF	<i>kiel-i-ä.</i> language-PL-PAR
10.6		<i>Ja tykkää-n myös</i> And like-1SG also		<i>men-nä *shoppaile-ma-ssa</i> go-INF shopping-3.INF-INE <i>ja kirjoitta-a</i> and write-INF	<i>*bloggi-ssa.</i> <i>*blog-INE</i>
10.7		<i>*Mi-tä sä tykkää-t?</i> <i>*What-PAR you like-2SG</i>			
14.1		<i>Mutta tykkää-n</i> But like-1SG		<i>katso-a</i> watch-INF	<i>elokuva.</i> movie
14.2		<i>Mutta *jota mä tykkää-n</i> But *that I like-1SG	<i>*kuuma *sää,</i> <i>*hot *weather,</i>		<i>matkusta-n aina *skandinaavia-an.</i> travel-1SG always *Scandinavia-ILL
21.1		<i>Mä tykkä-si-n</i> I like-PST-1SG	<i>*kaikki ruua-sta.</i> <i>*all food-ELA</i>		
22.1		<i>Tul-i-n Suome-en,</i> Come-PST-1SG Finland-ILL <i>koska tykkää-n.</i> because like-1SG			
34.1		<i>Mutta mun miele-stä se o-n tosi hyvä ol-la</i> But my opinion-ELA it be-3SG very good be-INF <i>*matka-ma-ssa,</i> <i>koska mä tykkää-n</i> because I like-1SG		<i>ol-la</i> be-INF	<i>*juna-lla ja lentokentä-llä.</i> <i>*train-ADE and airport-ADE</i>
34.2		<i>Joo mutta mä tykkää-n</i> Yes but I like-1SG		<i>ol-la</i> be-INF	
34.3		<i>Mä tykkään</i> I like-1SG	<i>*tä-n.</i> <i>*this-GEN</i>		

Appendix 3. Glossing.

ADE adessive ('at, on')

ALL allative ('to')

COND conditional

ELA elative ('out of')

ESS essive ('as')

GEN genitive (possession)

ILL illative ('into')

INE inessive ('in')

INF infinitive

NEG negation (an auxiliary verb in Finnish)

PAR partitive (partitiveness)

PL plural

PST past tense

PPC past participle

Q interrogative

SG singular

1 1st person ending

2 2nd person ending

3 3rd person ending

3.INF 3rd infinitive (ma infinitive)

Appendix 4. Tasks used in data collection.

week	Type of data	Task	expressions of evaluation per 100 words
1	w	Write about yourself	0
2	s, dialogue	Interview your partner and tell about yourself	0
3	w	Introduction to your blog (write about yourself)	5.56
4	s, dialogue	Talk with your partner. Pictures of various kinds used as inspiration.	6.07
5	w	Write about yourself.	5.06
6	s, monologue	Look at the cartoon strip and talk about Martti's day.	1.41
7	w	Write a story of a person in a picture.	6.36
8	s, monologue	Describe yourself to your partner.	1.59
9	w	What are you going to do this week?	2.56
10	s, dialogue	Talk about Jyväskylä with your partner.	3.92
11	w	Write a text about Finland.	8.48
12	s, monologue	Look at the cartoon strip and talk about Martti's day.	0.53
13	w	What did you do last weekend?	4.20
14	s, dialogue	Which one do you prefer ...? Various pairs: car or train, holiday in Lapland or in a warm place, laptop or iPad.	4.49
15	w	What did you do whenever (last week, last weekend, last summer)?	3.85
16	s, group conversation	Which one do you prefer ...? Various pairs: car or train, holiday in Lapland or in a warm place, laptop or iPad.	0.64

17	w	Write an email to your teacher.	1.79
18	s, dialogue	How was your autumn term in Finland?	3.25
19	w	Write an email to your teacher.	1.75
20	s, dialogue	Tell us about people in the pictures.	1.67
21	w	What did you do in the Christmas holiday?	4.46
22	s, dialogue	How was your holiday?	3.35
23	w	Write an invitation to your birthday party.	6.59
24*	s, monologue	What is important for you in your life?	8.57
25	w	You wake up because you hear some awful noise, what do you do?	2.59
26	s, dialogue	Reaction exercises. Questions Lena was asked: Could I borrow your bike? Do you have a skiing holiday?	2.52
27*	w	What do you do if you are tired or depressed?	6.58
28	s, monologue	Look at the cartoon strip and talk about Martti's day.	0.49
29	w	What is different between Finland and your home country?	0.72
30	s, dialogue	Talk about your 'a trip in Finland' project	4.18
31	-	-	-
32	s, group conversation	Talk about your home city.	0.34
33	w	What did you do in the Easter holiday?	0.56
34	s, dialogue	What would you do if you had 5000 euros?	3.59
35	w	What are you going to do next summer?	2.82
36	s, dialogue	Reflect on your Finnish learning	4.13

* possibly a stronger task effect

Appendix 5. Normalized frequencies of the most frequent constructions in written and spoken data in frequency order.

Written data	construction	Frequency	Spoken data	construction	frequency
	haluta	14.10		haluta	10.51
	hyvä	13.80		tykätä	10.33
	tykätä	5.59		hyvä	9.73
	pitää*	4.80		tärkeä**	4.76
	hauska	4.15		hauska	1.52
	rakastaa	3.06		kiva	1.44
	lempi	2.43		lempi	1.30
	ärsyttää	2.18		vaikea	1.22
	vaikea	1.56		hyvin	1.02

*pitää 'like₂' is preferred in the written register

**tärkeä is among the most frequent constructions in the spoken data mainly because of one speaking task in week 24, 'What is important for you in your life?'