Development of written L2 French: a longitudinal study of learners in the Norwegian school context

Anne-Kathrine Woldsnes

University of Oslo

Abstract

This paper presents a longitudinal multiple case study that focused on the development of the written interlanguage of four learners over their three years of learning French as a second language (L2) in upper secondary school in Norway. The development of macro-level syntactic complexity and the development of micro-level measures of accuracy in morpho-syntactic features specific to written French were examined. In order to trace development of syntactic complexity, we used two well-established measures in the SLA literature: T-unit length and the number of dependent clauses per T-unit (Wolfe-Quintero et al., 1998; Verspoor et al., 2017), whereas the morpho-syntactic features representing the basis for our analysis of accuracy were gender and number in the noun phrase in French. The results illustrated that the written French of all four learners clearly became more syntactically complex over the three years of the study. As regards the development at the morpho-syntactic level, progress was less straight forward in the individual learners, and the developmental tendencies varied according to the nature of the features studied.

Introduction

When learners are trying to master a second language (L2), they are engaging in a dynamic process that is practiced and mastered *over time* (Verspoor et al., 2017). Thus, the present paper presents a longitudinal multiple case study that focused on the interlanguage development of L2 learners of French over three years in the Norwegian school context[1]. While many studies have analysed developmental patterns in L2 French in different groups of learners based on the *spoken* language (Bartning, 2000; Dewaele & Véronique, 2001; Granfeldt, 2003; Bartning & Schlyter, 2004; Kupish et al., 2013), this paper focuses on the development of *written* L2 French. To our

---

[1] In the Norwegian school system, English is the first L2, taught from primary school onwards. Students can choose French among other foreign languages – mainly Spanish and German – from their first year of lower secondary school, at the age of 12-13 years. Thus, French is the third language (L3) taught in the Norwegian school system. However, in this paper, it will continue to be referred to as L2, as a general term that includes all languages learned after L1.

knowledge, no previous studies have examined interlanguage development in either spoken or written language in instructed L2 learners in Norway, giving rise to the rationale for the present longitudinal study.

In order to become a proficient second language user, the learner develops his or her interlanguage at different levels, which may be captured in the constructs of complexity, accuracy and fluency (Wolfe-Quintero et al., 1998; Housen et al., 2012). In this study, the development of macro-level measures of syntactic complexity, as well as micro-level measures of morpho-syntactic accuracy in written French: number and gender in the noun phrase (NP), was examined over a period of three years. The overall aim of the study was to contribute to a better understanding of the acquisition of written L2 French and to enrich our knowledge about the written L2 French interlanguage development of instructed learners in Norway.

The following section introduces the constructs of complexity and accuracy before elaborating on the morpho-syntactic characteristics specific to the noun phrase in written French.

Theoretical background

The constructs of *complexity*, *accuracy* and *fluency* (CAF) represent research variables commonly used in SLA research as valid descriptors of L2 learners' performance, proficiency level and learning development and progress (Wolfe-Quintero et al., 1998; Housen & Kuiken, 2009; Verspoor et al., 2017). Given the design of our study, which is descriptive and not experimental, we examined the development of complexity and accuracy in learners' written interlanguage. Thus, we focused on L2 learners' interlanguage development on two different levels: macro-level general measures of syntactic complexity, which is not language-specific, and micro-level morpho-syntactic features, which is specific to written French. We start by elaborating on the notions of complexity and accuracy before describing the morpho-syntactic features representing the basis for our empirical analysis of accuracy in four Norwegian learners of L2 French over a period of three years.

Complexity and accuracy in L2 development

Whereas *complexity* is potentially an ambiguous and multifaceted concept, *accuracy* is arguably more transparent, consistent and straightforward (Wolfe-Quintero et al., 1998; Housen & Kuiken, 2009). Complexity can be considered 'the scope of expanding or restructured second language knowledge' and is based on the linguistic properties of the L2 (Housen & Kuiken, 2009; Housen et al., 2012). According to Bulté & Housen (2014) and Verspoor et al. (2017), complexity is a

quantitative property of language units. In this perspective, the more components a construction has and the more levels of embedding it contains, the more complex it is (Verspoor et al., 2017).

General and well-established production units used to measure syntactic complexity in SLA research are related to properties of clauses, T-units and sentences, a T-unit being defined as an independent clause plus any dependent clauses (Wolfe-Quintero et al., 1998: 70). An analysis of complexity in interlanguages focuses on how sophisticated these production units are. In fact, the average T-unit length or sentence length has proven to be one of the most robust complexity measures to trace development over time across all stages of development (Wolfe-Quintero et al., 1998; Gunnarsson, 2006; Bulté & Housen, 2014; Verspoor et al., 2017). As these measures do not target a specific construction but average out over a large number of instances, they are likely to show fewer extreme peaks and dips than measures that target specific constructions (Verspoor et al., 2017).

Increasing the length of T-units or sentences is not achieved by progressing from simple to compound sentences, joining two independent clauses, but rather to either complex sentences containing an independent clause and one or more dependent clauses or simple sentences with longer non-finite constructions (Verspoor et al., 2017). Learners' use of dependent clauses per T-unit demonstrates internal complexity and has proven to be a good indicator of complexity and development at many levels of proficiency (Wolfe-Quintero et al., 1998; Verspoor et al., 2017). However, different levels of proficiency may demand different linguistic measures in order to accurately measure development: highly advanced stages and academic writing styles are characterised by the opposite tendency, namely that particular constructions, such as more nominalizations, are at the expense of dependent clauses (Verspoor et al., 2017).

T-unit length and the use of dependent clauses were used in the present study to trace the development of syntactic complexity over time. These are linguistic characteristics of writing that do not seem to be under a typical learner's conscious control, but may be indicators of language development as reflected in writing (Wolfe-Quintero et al., 1998).

Accuracy, on the other hand, is defined as 'the conformity of second language knowledge to target language norms' (Wolfe-Quintero et al., 1998) or as the ability to produce error-free language (Housen & Kuiken, 2009). In this perspective, deviations from the target language norm are traditionally labelled *errors* (Housen et al., 2012). This approach has the clear advantage that it can easily be applied by teachers in the L2 classroom, who can notice the presence of an error, which is less time-consuming and more straightforward than studying progress related to increasing complexity at the sentence level. Pallotti (2010) underlines, however, the importance

of distinguishing 'accuracy growth', in particular, from interlanguage development in general, which also includes other linguistic aspects of the text, such as syntactic complexity.

From a developmental perspective, Gunnarsson (2006) has examined complexity (both lexical and syntactic), fluency and accuracy, particularly in morpho-syntactic contexts: finiteness, subject-verb agreement and past tense in the written L2 French of five Swedish learners. Syntactic complexity was measured by T-unit length and the number of clauses per T-unit. The results of her 30-month longitudinal study showed increasing syntactic complexity, although there were important inter-individual differences. Using thinking-aloud protocols, she found that some learners seemed to favour the linguistic dimension of the task, which implied an important use of their explicit knowledge and a less fluent production, whereas other learners seemed to prioritise the communicative dimension of the task, which indicated a reduced use of explicit knowledge and more fluent production. As she hypothesised, the written production of the more fluent group was less accurate in terms of finiteness and subject-verb agreement than that of the less fluent group.

The present longitudinal study on written interlanguage focused on the development of general measures of L2 syntactic complexity, as well as on the development of specific measures of morpho-syntactic accuracy in the noun phrase, which is very relevant to written French. The features representing the basis of our empirical analysis of accuracy are number and gender agreement in the noun phrase and described in more detail in the following section. These morpho-syntactic features are challenging to L2 learners and call for conscious use of explicit knowledge before automatisation can be reached (Ågren, 2008).

Written and spoken French: gender and number in the noun phrase

In the L2 classroom, spoken and written French is taught simultaneously with the objective of achieving *communicative competence* in both forms of language (*the Common European Framework of Reference for Languages,* European Council, 2001). The teaching of explicit grammar knowledge plays an important role in the classroom and is particularly important for written French, which deviates from its spoken form. Indeed, French is well known for its opaque relation between the spoken and written language and for its 'silent morphology', expressing grammatical distinctions such as gender and number (Fayol, 2003; Ågren, 2008). According to Schlyter (1995), we can speak of two different systems of language: "*As for morphology… the difference between written and spoken French is so important that we can speak of two typologically distinct, even opposite, systems*". This section describes the characteristics of

gender and number marking and agreement in the noun phrase and introduces some of the main differences between spoken and written French.

Most of the written markers of gender and number in the noun phrase are not pronounced in the spoken language, with the exception of determiners (*le/la* (singular)/*les* (plural) – 'the'). In written French, grammatical morphemes are realised as suffixes to the right of the lexeme, as illustrated in examples (1) to (3):

(1)   Le   joli   pull
          The-MASC-SG pretty-MASC-SG sweater-MASC-SG
          'the pretty sweater'
(2)   La   joli**e**   robe
          The-FEM-SG pretty-FEM-SG dress-FEM-SG
          'the pretty dress'
(3)   Les   joli**es**   robe**s**
          The-PL pretty-FEM-PL dress-FEM-PL
          'the pretty dresses'

French distinguishes between two grammatical genders representing an invariable lexical property of the noun assigned in the lexicon: the masculine and the feminine gender, illustrated in example (1) versus (2). The two genders are slightly unequally distributed: about 60% of all French nouns are masculine and 40% are feminine (Granfeldt, 2018; Kupish et al., 2013).

With regard to number marking on the noun, which is specific to the written form of the language, the majority of countable nouns have a number feature [+/- SG], generally marked morphologically by $Ø$ in singular and with the morpheme -*s* in plural, illustrated in examples (1), (2) versus (3). There are, however, some exceptions to this very regular rule. For instance, a certain number of nouns ending by -*al* in the singular, are marked by -*aux* in the plural, such as *journal* – 'newspaper', *journaux* – 'newspapers', making this plural marking audible. We underline that the plural morpheme -*s* is used in 98% of plural contexts (Riegel et al., 2009).

Gender and number also represent morpho-syntactic features triggering agreement with other elements in the extended noun phrase. In spoken French, the determiner is the only element in the noun phrase that systematically presents the opposition between singular and plural, placed to the left of the head noun, as illustrated in examples (1) to (3). However, determiners are gender neutral in plural and communicate gender only in singular contexts. Moreover, gender

information in determiners is lost when the following noun starts with a vowel or an *h muet* and are subject to *élision*: *l'oiseau* – 'the bird'. See Table 1 below for an overview of determiners in gender and number.

Table 1

French determiners in gender and number

	Indefinite		Definite		Demonstrative		Partitive		Possessive	
Gender	**Masc**	**Fem**	**Masc**	**Fem**	**Masc**	**Fem**	**Masc**	**Fem**	**Masc**	**Fem**
SG	Un	Une	Le	La	Ce/Cet	Cette	Du	De la	Mon/ton/son, etc.	Ma/ta/sa, etc.
PL	Des		Les		Ces		-		Mes/tes/ses, etc.	

In addition to the determiners in Table 1, quantifiers represent lexical markers of plural without gender specification at all, including all numbers (*cinq* – 'five', *cent* – 'hundred'), as well as lexical units: *beaucoup de* – 'many', *plusieurs* – 'several', etc.

Adjectives agree in gender and number with the head noun, as illustrated in example (2): the *-e* on the adjective *joli* – 'pretty' marks agreement with the feminine noun *robe* – 'dress', and in the plural version in example (3), the morpheme *-s* on the adjective marks plural agreement with the noun[2]. These suffixes communicating gender and number are most often not realised in the spoken language. In fact, gender opposition is 'silent' in two-thirds of adjectives (Dewaele & Véronique, 2001; Helland, 2006; Kupisch et al., 2013).

The attributive adjective can be placed either to the left of the head noun (in anteposition): *le petit garçon* – 'the little boy', or to the right of the head noun (in postposition): *un film intéressant* – 'an interesting movie'. Only a small number of short and frequent adjectives are regularly placed in anteposition. The predicative adjective is placed in the verb phrase, linked to the noun by a copulative verb, marking agreement across constituents: *elle est intelligente* – 'she is intelligent'.

These characteristics of written French morphology are challenging for both L1 and L2 learners of French and call for important metalinguistic awareness (Ågren, 2008; Fayol & Jaffré,

---

[2] Even though there are exceptions to the regular morpheme *s* to mark plural, 98% of French nouns and adjectives are to be used with this morpheme in plural contexts (Riegel et al., 2009).

2016). French children learning their L1 are explicitly taught a system of morphemes that is exclusively intended for the written form of language and, in fact, takes a long time for them to master and automatise in written production (Fayol, 2003; Fayol & Jaffré, 2016). In instructional L1 and L2 settings, explicit teaching of the number and gender systems of the written language therefore starts early on and continues throughout the school years.

Acquisition of gender and number agreement in the noun phrase in L2 French
Contrary to the gender attribution of nouns, the lexical aspect of gender, the agreement of adjectives is a morpho-syntactic feature, implying that the learner needs to know and to understand the grammatical rules underlying the agreement of adjectives – explicitly and/or implicitly – to perform accurately. Studies of *spoken* L2 French show that the gender agreement of adjectives, with audible gender distinction, is challenging and mastered late (Bartning, 2000; Bartning & Schlyter, 2004; Dewaele & Véronique, 2001; Granfeldt, 2003). Moreover, Bril's (2018) study of *written* production indicates that the gender agreement of adjectives remains challenging for L1 learners and for advanced L2 learners of French. Bartning & Schlyter (2004) found gradual development in learners from initial to advanced levels of L2 French, reaching up to 85% accuracy rates. However, in this respect, it is important to take into account that learners, especially at initial levels, produce very few adjectives (Bartning, 2000; Granfeldt, 2003; Bartning & Schlyter, 2004; Ågren, 2008). As to gender error patterns, Granfeldt (2003) found that L2 learners at initial and intermediate stages tend to overuse feminine forms of adjectives in relation to the masculine forms of determiners.[3] Bartning (2000) showed that advanced learners, on the other hand, tend to overgeneralise the masculine form of adjectives.

Since the number marking of the noun and number agreement in the noun phrase are largely silent in spoken French, the acquisition of such marking and agreement is a domain of research less studied in L2 French (we refer to an overview in Véronique et al., 2009). However, focusing on *written* L2 French, Ågren (2008) examined the development of number morphology in the noun phrase and verb phrase of instructed Swedish learners from an initial to a lower advanced level. She found that the plural marking and agreement in the simple noun phrase were

---

[3] Since Granfeldt's (2003) study concerns spoken French, the erroneous use of the feminine form of the adjective *could* be of phonological nature rather than morpho-syntactic. For instance, the example 'un homme intelligent' pronounced with the final 't' might give rise to the impression that the learner was using the feminine form 'intelligente'.

mastered to a high degree already at initial levels. There are several factors that facilitate the acquisition of the number marking of the noun. The morpheme -*s* in plural contexts communicates important semantic content: the difference between one and many, which is essential for the comprehension of the learner's message. Swedish learners did not seem to be negatively influenced by the fact that the morpheme -*s* is silent in spoken French, which may be related to large amounts of written input in the classroom. In fact, whereas French children learning their L1 have the challenge of writing morphemes that they cannot hear in their spoken language, L2 learners in school context may have the opposite challenge in learning not to pronounce the morphemes that they are used to writing and reading (Ågren, 2008). However, possessive determiners in plural contexts were mastered later than the other determiners and appear to be challenging to L2 learners, which is also shown in other studies (Granfeldt, 2003; Helland, 2017, 2018).

By contrast, the number agreement of adjectives was acquired last in the written L2 French of Swedish learners, even after the plural agreement of verbs. Compared to the semantically motivated plural marking of the noun, the number agreement of adjectives is redundant for comprehension: its only function is to mark the cohesion of the phrase. Nevertheless, the learners showed a gradual morphological development of plural agreement on adjectives with up to 81% accuracy, proportionate to an increasing number of adjectives produced at the more advanced levels (Ågren, 2008).

Research questions and predictions

The aim of the multiple case study presented in this paper was to examine the development of the written L2 French of four learners in the Norwegian school context during their three years of upper secondary school by tracing their interlanguage at both the syntactic and morphological levels. Our primary purpose was to examine written language development, not language proficiency per se: we were not interested in measuring the ability to 'write well' in L2 French, but in measuring L2 French development as it is manifest in the written modality (cf. Wolfe-Quintero et al., 1998).

Firstly, we established the learners' development of syntactic complexity based on general measures well established in the SLA research literature, including T-unit length and dependent clauses per T-unit:

1) How does syntactic complexity develop over three years in the written production of L2 French learners in the Norwegian school context?

We hypothesized that the learners' written production would demonstrate more complex language over time, illustrating progress as their language use develops, but that we would see individual differences in their learning paths, in line with previous studies (i.e., Gunnarsson, 2006).

The second research question focuses on the learners' development of morpho-syntactic accuracy in the noun phrase in written L2 French:

2) How does accuracy in number and gender agreement develop over three years in the written production of L2 French learners in the Norwegian school context?

With regard to the development of number agreement between determiner and noun, we expected to see high levels of accuracy already at the beginning of the longitudinal study, considering the fact that the learners are not beginners (Ågren, 2008). In terms of the agreement of adjectives in gender and number, we assumed that this is also challenging for Norwegian learners of L2 French, but that we would observe progress during the three years of the longitudinal study (cf. Bartning & Schlyter, 2004; Ågren, 2008).

Method

The present paper presents a multiple case study with a longitudinal design based on the analysis of an authentic digital corpus of texts in L2 French written by four learners in the same French class in upper secondary school in Norway.

It is important to underline that the corpus of learner texts represents naturalistic data from the Norwegian school context: it is based on authentic L2 high stake texts produced in the classroom, commented on and graded by the L2 French teacher. We did not control the data collection process, text format or specific topics of the texts. The authentic classroom context also implies that the students had access to support materials, such as dictionaries and grammar books[4], but they were not allowed to communicate with other students or use the internet when writing. The texts were written on the computer in Word, but the automatic spelling check feature was not activated.

Participants and context

---

[4] The fact that the learners had access to dictionaries could affect the accuracy rates for gender assignment, which is why we only focused on the morpho-syntactic operation of gender agreement in written L2 French.

In the present study, we followed four learners in the L2 French classroom from their first to third and final year of upper secondary school. The participants were in the same class of L2 French at an upper secondary school in Oslo and are presented in Table 2 below. There were two girls and two boys ages 14-15 years when the data collection started and 17-18 years when the study was completed. They had the same L2 French teacher during all three years of the study. All four had studied French for three years in lower secondary school before the data collection started.

Learners in upper secondary school have four weekly L2 French lessons during their first and second year and five during their third year. In general, they are exposed to very little input outside the L2 French classroom (Heimark, 2013; Simensen, 2007).

Table 2

Presentation of participants[5]

Learner[6]	L1	L2(s) other than French	Language of schooling	Number of years learning French
Heidi	Norwegian	English	Norwegian	3
Daniel	Norwegian/Greek	English	Norwegian	3
Sigrid	Norwegian	English	Norwegian	3
Peter	Bulgarian	Norwegian, English, Serbian	Norwegian	3

As indicated in Table 2, there are a number of similarities and differences between the learners. They are all the same age and are exposed to a very similar quantity and quality of input in French during an ordinary school week in the same L2 French classroom. However, there are some differences concerning their linguistic backgrounds: Daniel is a Greek/Norwegian bilingual who has grown up in Norway. Peter, on the other hand, has Bulgarian parents and learned Bulgarian as his first language. However, like the other three participants, he is educated in Norway. We underline that a variety of linguistic backgrounds is characteristic to the authentic classroom context in Norway. Moreover, previous research has shown a similar general L2 development in learners from different L1s (cf. the ESF project, Perdue, 1993). We wish to underline that all learners are educated in the Norwegian school system, speak Norwegian fluently and have learned French from their first year of secondary school (ages 11-12).

---

[5] The information about L1s and L2s is based on self-reported data.
[6] Student names are fictive but indicative of correct gender.

Corpus of learner texts

The corpus, consisting of four texts from each learner and 16 texts altogether[7], was collected by the author during the three school years 2016-2019 and added to the *TRAWL* corpus[8]. An overview of the data collection timeline, as well as general information about the corpus is presented in Table 3. All texts represent authentic high-stake tests, written in the classroom and important for the learners' grade in French. The corpus consists of different task types and different text topics. However, all texts were communicative tasks, as opposed to written form-focused exercises (cf. Wolfe-Quintero et al., 1998).

Table 3

Timeline and general presentation of learner corpus

Text	Date	Time constraints	Text subject	Type of text
1	Sept. 2016	90 minutes	Everyday life of a 16-year-old	Blog – narrative text
2	Dec. 2017	5 hours	1) Letter of complaint concerning a hotel room and 2) description of a trip in Bretagne with a focus on the *Tour de France*	1) Formal letter and 2) Narrative and informative text
3	April 2018	5 hours	1) The importance of children's rights and 2) The Red Cross' work in Syria from the perspective of a fictional volunteer worker	1) Argumentative essay and 2) Narrative and informative text
4	April 2019	5 hours	1) The earth as seen from space: destruction of the environment and 2) Solutions for resolving the climate and environmental crisis in the future	1)Informative/descriptive text and 2) Argumentative essay

[7] For the first test (2016), Sigrid was absent. Therefore, we selected a text that she had written two and a half months later in January 2017. This text was written under the same conditions and time constraints as the one written in October 2016. However, this text had different topic, namely a trip to Paris.
[8] *TRAWL – Tracking Written Learner Language* is a vast corpus of authentic learner texts in L2 English, L2 German, L2 French and L2 Spanish from the Norwegian school context.

It is important to note that texts number 2, 3 and 4 were written within a time constraint of five hours as a whole day examination, whereas the first text was written during an ordinary class, by which the students had 90 minutes at their disposal. These varying time constraints obviously resulted in different text lengths in one and the same learner. However, it is important to stress that the empirical analyses presented in this study focus on complexity and accuracy measures within the sentence and do not depend on text length per se.

Analysis method

With regard to macro-level syntactic complexity measures, the texts were manually coded for T-units and dependent clauses. Words per T-unit and dependent clauses per T-unit were calculated. As for the micro-level measures of morpho-syntax in the noun phrase, occurrences of simple noun phrases consisting of a determiner and noun only, complex noun phrases consisting of a determiner, noun and adjective, as well as adjectives in the predicative position in each of the learner's texts, were identified, coded and manually analysed in Excel.

We considered the learners' choice of masculine or feminine forms of determiners as indicators of gender assignment and gender marking of adjectives as incidents of agreement, in accordance with Kupish et al., 2013, among others. As determiners are gender neutral in plural, gender agreement was only analysed in singular contexts. All determiners and nouns were included in the analysis except for proper nouns. As it is impossible to judge whether definite articles preceding a noun starting with a vowel have the correct gender specification, occurrences with elision were excluded from the analysis of gender marking and agreement: *l'été* – 'the summer'.

Regarding the gender agreement of adjectives in complex NPs as well as in predicative structures[9], gender neutral adjectives were excluded: *rouge* – 'red', *calme* – 'calm'. With regard to adjectives in predicative position, structures consisting of *c'est/c'était* + adjective, representing 'chunks', were excluded: *c'est intéressant* – 'it is interesting'.

Number agreement, on the other hand, was examined only in plural contexts, as there is no morphological number marking on nouns in singular contexts. However, nouns ending with *-s*

---

[9] In the initial stage of analyses, adjectives in attributive and predicative positions were systematized separately in order to reveal potential differences in agreement between attributive and predicative structures. However, since adjectives are few in the corpus and since we could not see any difference due to the position of the adjective, we will present these data together.

in the singular were excluded, since they share the same form in singular and plural contexts: *une souris – des souris* – 'the mouse' – 'the mice'. As to the analysis of the number marking of adjectives in plural contexts, adjectives ending with *-s*: *français* – 'French' were excluded because they share the same ending in singular and plural contexts.

Results

In this section, we present the results of our longitudinal study of the written productions of four learners during their three years of upper secondary school. The aim was to trace their development at the syntactic level, as well as the morpho-syntactic level, in order to obtain a better understanding of their written interlanguage development.

Development of syntactic complexity

In this section, the results for the development of general measures of syntactic complexity are presented: average T-unit length and average number of dependent clauses per T-unit.

Development of T-unit length

Figure 1 below illustrates that T-unit length clearly increased over time in all four learners, from an average of 6.98-10.10 words per T-unit in the first texts in 2016 to 12.34-14.93 words per T-unit in the last text in 2019.

Figure 1

Development of T-unit length
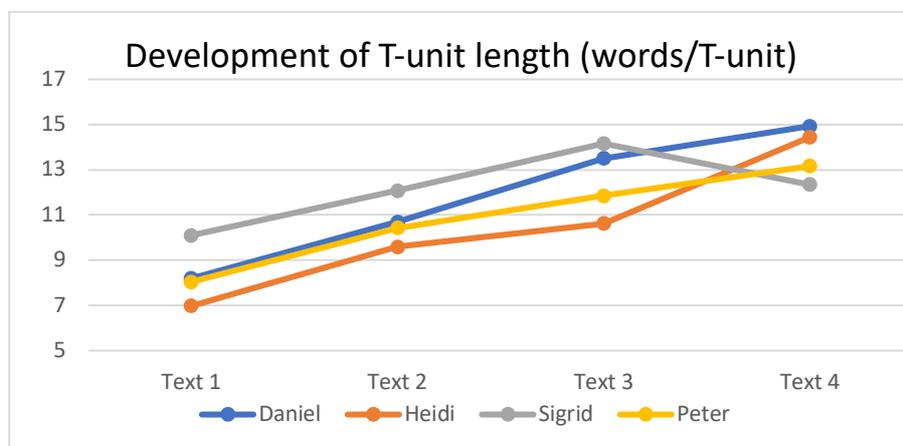
All four learners demonstrated clear progress. Heidi, Daniel and Peter demonstrated linear progress from their first to fourth text without exception. Heidi increased her T-unit length by

almost four words from 10.63 words in 2018 to 14.45 words in 2019, resulting in the steepest developmental curve of all four learners from the first to last text. Sigrid produced the longest T-units of all learners until 2018, but then her graph decreased from 14.16 words per T-unit in 2018 down to 12.34 in 2019.

In the first text written by all learners, most T-units represent simple sentences, as illustrated in Daniel's example (4) below, consisting of a subject and verb, preceded by an adverbial. We also observed compound sentences, consisting of two simple T-units, as in Heidi's example (5):

(4)   *A midi je dejeune.*
             'At noon, I eat lunch'

(5)   *J'ai un lapin et il est très mignon.*
             'I have a rabbit and he is very sweet'

Figure 1 illustrates that the T-unit length gradually increased over the three-year observation period. By contrast to the simple T-units presented in (4) and (5), example (6) from Heidi's last text illustrates a long and complex T-unit:

(6)   *Compte tenu la génération de la jeunesse, qui sait quelle l'importance l'environnement a pour notre avenir grâce à des personnes comme Greta Thunberg, je trouve qu'ils veulent faire meilleur que leurs parents.*[10]
             'Considering the young generation, who knows how important the environment is to   our future thanks to people like Greta Thunberg, I think that they will do better than their parents.'

In fact, example (6) illustrates syntactic complexity as a quantitative property of language units in that the more components the T-unit has and the more levels of embedding it contains, the more complex it is (cf. Verspoor et al., 2017). We observed that an increased length of T-units is achieved by including dependent clauses and/or non-finite constructions, as in example (6). The following section elaborates on the learners' use of dependent clauses in particular.

---

[10] This example is difficult to translate properly.

Dependent clauses per T-unit

With regard to the use of dependent clauses, Figure 2 demonstrates the same developmental tendencies as for the development of T-unit length: clear progress and linear trend lines, suggesting that, over time, all four students produced more elaborate and internally complex T-units, which is in line with our hypothesis.

Figure 2

Development of learners' use of dependent clauses
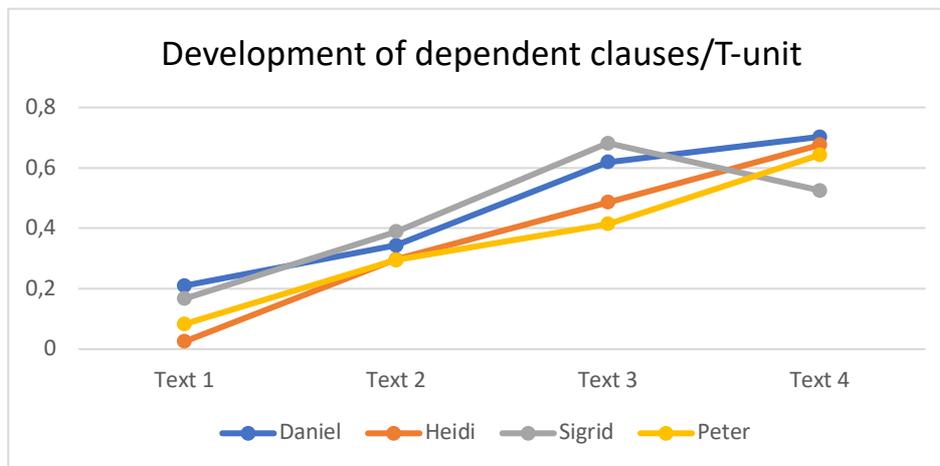
Heidi displayed a steep and steady curve over her three years, demonstrating yet again the strongest progress of the four learners, progressing from 0.03 in 2016 to 0.68 dependent clauses per T-unit in 2019. Peter produced somewhat less complex T-units than the others, but demonstrated clear and linear progress throughout his learning path. Sigrid produced the most complex T-units of all learners in her second and third text. However, again, we observe a decrease in Sigrid's progress from her third to fourth text from 0.68 dependent clauses per T-unit in her third text down to 0.53 in her last text.

When analysing the dependent clauses qualitatively, we see that, among the very few dependent clauses in the first texts from 2016, relative clauses introduced by *qui* – 'who' and causal clauses introduced by *parce que* – 'because' dominate. Only Daniel demonstrated other types of dependent clauses at this point. The following example presents the only dependent clause in Heidi's first text:

(7)   *C'est très amusement parce que je joue tennis avec mon amie Silje.*
             'It is very fun because I play tennis with my friend Silje'.

However, as dependent clauses became more frequent in texts 2 and 3, we observed the use of relative clauses, nominal clauses, temporal clauses, causal clauses and a few conditional clauses in the texts, as illustrated in Peter (8) and Daniel's (9) examples from their second and third text, respectively:

(8) *Les deux cyclistes qui sont dans la deux premiers postions sont égal.*[11]
'The two cyclists who are in the first two positions are equal.'

(9) *Je ne crois pas qu'il soit possible d'aider les syriens si on ne fait pas un effort soi-même.*
'I do not think that it is possible to help the Syrians if we do not make an effort ourselves.'

Concessive clauses, introduced by *même si* – 'even if', as in Sigrid's example (10), did not appear until the learners' last texts in 2019:

(10) *Quand je vois ces photos je crois que tout est possible même si la voie est difficile.*
'When I see these pictures, I believe that anything is possible even if the path is hard.'

Thus, in Sigrid's example from her last text, we observed three dependent clauses, all in the same T-unit: a temporal clause, a nominal clause and a concessive clause. This is a good example of the increasingly complex language use observed in the written texts of the Norwegian L2 learners of French in our longitudinal study.

In the following section, we analyse number and gender agreement in the noun phrase in order to examine the development of micro-level morpho-syntactic features specific to written French in the learners' texts.

---

[11] This example is difficult to translate properly.

Development of morpho-syntactic accuracy

In the following sections, we present the results of the analysis of number agreement between the determiner and noun in the simple NP and the adjective agreement in gender and number in the complex NP, as well as in predicative structures, all measures of morpho-syntactic accuracy in written L2 French.

Number in the noun phrase

In this section, we focus on plural contexts in order to examine the learners' plural agreement between the determiner and head noun in simple NPs and of the adjective in complex NPs, as well as in predicative structures.

Figure 3 below shows the extent to which the learners produce the correct number agreement between the determiner and noun in the simple NP. The pattern D_{PL}-N_{PL} represents correct agreement: *les enfants* – 'the-PL children-PL'.

Figure 3

Development of number agreement between the determiner and noun in the simple NP
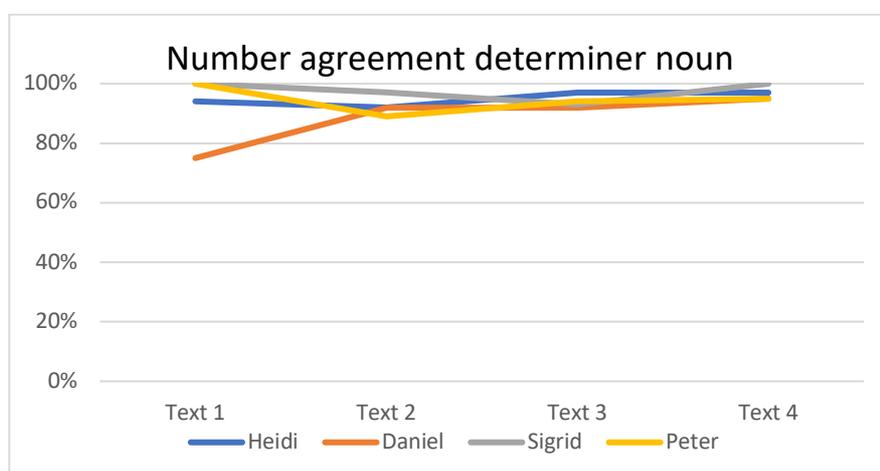
The results illustrate a clear ceiling effect: number agreement between the determiner and noun is well mastered from the beginning of the data collection period, which is an expected result and in line with precious research on written L2 French (Ågren, 2008). Most texts have accuracy rates reaching over 90% and two texts reach 100% correct number agreement. However, we observed some rare cases of number agreement errors in 13 texts out of the 15 altogether. See the Appendix for the detailed results.

Number agreement errors display the patterns D_{PL}-$*N_{SG}$ and $*D_{SG}$-N_{PL}, as illustrated in (11) and (12), respectively:

(11)   *deux *kilomètre* (Heidi)

               two kilometre-SG

               'two kilometres'

(12)   **le connections* (Peter)

               the-SG connections-PL

               'the connections'

The most frequent error pattern is D_{PL}-$*N_{SG}$, representing 74% of the errors – 25 out of 34 altogether and is primarily demonstrated in Daniel and Peter's texts. When analysing the actual errors qualitatively, particular determiners seem to play a role in this error pattern: the noun is preceded by a quantifier in more than two-thirds of these errors, as illustrated in (11) above, as well as in (13) and (14) below:

(13)   *plusieurs *enfant* (Daniel)

               several child-SG

               'several children'

(14)   *beaucoup de *chose* (Peter)

               many thing-SG

               'many things'

A possible explanation may be that since the quantifier explicitly communicates the plural of the NP, the plural morpheme *-s* on the head noun may appear somewhat redundant from a semantic perspective.

As to the occurrences of the pattern $*D_{SG}$-N_{PL}, the few errors reveal a slight tendency towards overuse of the singular form of the possessive determiner in plural contexts:

(15)   **notre sentiments* (Sigrid)

               our-SG feelings-PL

'our feelings'

(16)   *_sa poissons_ (Peter)

           his/her-SG fish-PL

           'his/her fish'

(17)   *_son insécurités et problèmes_ (Heidi)

           his/her-SG insecurities-PL and problems-PL

           'his/her insecurities and problems'

Difficulty with possessive determiners in plural contexts echoes previous research (Ågren, 2008; Helland, 2017, 2018).

        We now turn our focus to the complex noun phrase including an adjective, as well as predicative structures with adjectives. Table 4[12] illustrates the accuracy rates for number agreement of the adjective in relation to the determiner and noun. The structures displaying the pattern D_{PL}-N_{PL}-A_{PL}/D_{PL}-A_{PL}-N_{PL}/D_{PL}-N_{PL}-copV-A_{PL} are considered correct: _les chaussures rouges/les petites chaussures/les chaussures sont rouges_ – 'the-PL red-PL shoes-PL'/ 'the-PL little-PL shoes-PL'/ 'the-PL shoes-PL are red-PL'.

Table 4

**Accuracy rates for number agreement in the complex NP and predicative structures**

Text	Heidi	Daniel	Sigrid	Peter	MEAN
1	3/6 – 50%	2/3 – 67%	4/6 – 67%	0/0	**61%**
2	2/2 – 100%	4/4 – 100%	4/6 – 67%	9/13 – 69%	**84%**
3	12/13 – 92%	13/16 – 81%	4/5 – 80%	4/8 – 50%	**76%**
4	11/13 - 85%	20/22 – 91%	14/19 – 74%	8/12 – 67%	**79%**

        Overall, developmental curves for this agreement are somewhat fluctuating and do not show linear progress. The number agreement of adjectives appears more challenging to the learners than Determiner-Noun agreement, which is also found in previous research (Ågren, 2008). Daniel

---

[12] Since adjectives in general are few in the learners' texts, the results are presented in tables instead of diagrams.

and Heidi's second text have accuracy rates reaching up to 100%, but these texts contain few plural contexts. It is important to note that the number of adjectives in plural contexts are few. A tendency observed in the data is that the use of adjectives in plural contexts increases over time. In the last texts, the number of adjectives in plural contexts was two-digit in all of the learners' texts, illustrating the fact that the noun phrase became increasingly complex over time, even though number agreement in the adjective was not always consistent at the end of the longitudinal study.

With regard to error patterns, the most common error includes a lack of number agreement of the adjective and displays the pattern D_{PL}-N_{PL}-*A_{SG}/D_{PL}-*A_{SG}-N_{PL}/D_{PL}-N_{PL}-copV-*A_{SG}, representing 85% of the errors, as in (18):

(18)   *des peintures sont très *jolie* (D_{PL}-N_{PL}-copV-*A_{SG}) (Sigrid)

          the-PL paintings-PL are very nice-SG

          'the paintings are very nice'

Only 15% of the errors display the pattern D_{PL}-*N_{SG}-*A_{SG}/D_{PL}-*A_{SG}-*N_{SG}/ D_{PL}-*N_{SG}-copV-*A_{SG}:

(19)   *les *cheveu *brune* (D_{PL}-*N_{SG}-*A_{SG}) (Daniel)

          the-PL hair-SG brown-SG

          'the brown hair'

In this pattern, both the adjective and head noun lack plural marking and the agreement rules between the determiner and adjective have not been respected.

Gender agreement in the complex noun phrase and in predicative structures

The accuracy levels in Table 5 below show the extent to which adjectives agree with the determiner and the noun in singular contexts: *un pays intéressant* (D_M-N_M-A_M) – 'an-M interesting-M country-M', *la maison est blanche* (D_F-N_F-Vcop-A_F) – 'the-F house-F is white-F'. Errors consist of the masculine forms of adjectives being incorrectly replaced by feminine forms – or vice versa.

Table 5

Accuracy rates for gender agreement in the complex noun phrase and in predicative structures

	Heidi		Daniel		Sigrid		Peter		MEAN	
Text	MASC	FEM	MASC	FEM	MASC	FEM	MASC	FEM	MASC	FEM
1 2016	2/3 67%	1/1 100%	4/4 100%	6/6 100%	1/1 100%	2/2 100%	1/2 50%	0/0	**72%**	**100%**
2 2017	5/9 56%	5/5 100%	7/7 100%	11/12 92%	1/1 100%	7/8 88%	6/6 100%	7/11 64%	**89%**	**86%**
3 2018	7/8 88%	5/6 83%	7/7 100%	2/2 100%	2/2 100%	8/9 89%	3/3 100%	3/3 100%	**97%**	**93%**
4 2019	11/11 100%	9/9 100%	3/7 43%	12/13 92%	2/2 100%	5/5 100%	4/6 67%	1/6 17%	**78%**	**77%**

It is important to note that adjectives in singular contexts are also few in the first texts by all learners (for plural contexts, see above). Moreover, the number of adjectives varies considerably from text to text. In general, the learners demonstrated high levels of accuracy, and we observed 100% accuracy in both masculine and feminine contexts in six of the total texts. However, progress was not linear over the three years and gender agreement did not seem to be automatised in all learners at the end of the longitudinal study.

In the cases in which agreement errors occur, the error pattern consisting of the adjective displaying the opposite gender than the determiner and the noun represents the majority of errors (85%), as illustrated in examples (20) and (21):

(20)   *le peuple le plus *contente* (D_M-N_M-*A_F) (Daniel)

        the-M people-M the most happy-F

        'the happiest people'

(21)   *cette citation est *parfait* (D_F-N_F-copV-*A_M) (Peter)

        this-F quotation-F is perfect-M

        'this quotation is perfect'

Whereas the head noun has been correctly assigned by the learner, the gender feature did not reach the adjective. This may be due to what Dewaele and Véronique (2001) call "premature deactivation of the gender node": correct gender is selected, but the grammatical procedure has

failed to deliver the information systematically to all modifiers. Sigrid and especially Peter show a tendency to overgeneralise the masculine forms of adjectives with feminine nouns, which is in line with Bartning's (2000) and Dewaele and Véronique's (2001) results on advanced learners and with Bartning's (2000) claim about the masculine being the unmarked form and more accessible than the feminine. On the other hand, Heidi showed the opposite tendency, overusing feminine forms of adjectives in her first two texts before stabilisation, in line with the results of Granfeldt (2003) on initial and intermediate L2 learners.

We also found occurrences of the error pattern in which neither the determiner nor adjective agree with the noun:

(22)   *une *nouvelle monde (*D_F-*A_F-N_M) (Peter)

          a-F new-F world-M

          'a new world'

(23)   *le forêt *amazonien (*D_M-N_F-*A_M) (Heidi)

          the-M Amazonian-M forest-F

          'the Amazonian forest'

Since the determiner and adjective are used with the same gender, the head noun may have been assigned to the wrong gender and the modifiers agree accordingly. These error patterns may be explained not by a lack of agreement, but by gender assignment errors in the learner's mental lexicon.

Discussion and concluding remarks

In the present study, four learners from the same L2 French class in Norway were followed longitudinally over a period of three years in order to examine the development of their written French interlanguage at the syntactic macro level, as well as the morpho-syntactic micro level.

Our first research question addressed the learners' linguistic development in terms of syntactic complexity. In order to trace development, we used two well-established measures in the SLA literature: T-unit length and the number of dependent clauses per T-unit, both broad measures that are generalisations in themselves of many separate constructions in the learners' productions (Verspoor et al., 2017). These measures are not language-specific and may be used to

trace development in any L2. Our findings clearly illustrate an increasing length of T-units, by which the learners progress from simple to more complex constructions in their written L2 French. The learners' use of dependent clauses per T-unit also demonstrated linear progress. Indeed, the students showed relatively similar development in our two different measures in that they all demonstrated steady progress and linear trend lines from one text to the next over the three years of the study, even though they displayed different points of departure and different degrees of complexity compared to each other. However, the results show that developmental trends can be more or less clear and not always completely linear, as illustrated in the case of Sigrid. Overall, and as predicted, the results clearly suggest that the written French of all four learners became more syntactically complex over the three years of the study.

It is clear from the topics and types of texts that the complexity of the tasks also increased over time. The students started by writing texts about their everyday life, followed by trips to Bretagne and, finally, about the refugee situation in Syria, as well as argumentative texts on solutions for the climate crisis. The last text types clearly indicate higher expectations in terms of embedding. We thus need to take into consideration that this increasing level of task complexity also contributed positively to the clear increase in syntactic complexity.

The second research question addressed development of morpho-syntactic accuracy, with a focus on number and gender agreement in the noun phrase which, contrary to the first research question, is specific to written L2 French. The results showed that the tendencies varied according to the nature of the features studied, in all four students, independently of their L1 (cf. the ESF project, Perdue, 1993). As regards the acquisition of number agreement between determiner and noun, we observed ceiling performances from the start of the data collection phase, in line with our hypothesis and previous research (Ågren 2008). Like Swedish learners, these learners in Norway are not negatively influenced by the fact that the morpheme *-s* is silent in spoken French. This finding may be related to the large amount of written input and output in the L2 French classroom, as well as in homework.

With regard to the number agreement of adjectives, on the other hand, the developmental trend is not straightforward in the individual learners, which is not in line with our hypothesis. The accuracy rates were neither stable nor developing; instead, they fluctuated somewhat over the three years. This agreement appears somewhat challenging to the learners, which is an expected observation and in line with Ågren (2008).

Since the same morpheme *-s* serves as a plural marker in the simple and complex French noun phrase, it could be assumed that the high regularity and high frequency of this morpheme

might facilitate the acquisition of plural agreement in the noun phrase. However, semantic transparency seems to play an important role in the acquisition and performance of this morphology (Ågren, 2008). Whereas number marking and number agreement in the simple noun phrase communicate important semantic content, the only function of adjective agreement is to mark the cohesion of the phrase. Moreover, as we observed, adjectives are, in general, rare in the learners' output compared to the numerous occurrences of nouns, determiners and verbs (Bartning & Schlyter, 2004; Ågren, 2008). We might also take into account a possible transfer from L2 English: whereas nouns are marked with the same morpheme -*s* in plural, adjectives do not agree in number in English. We underline that the number agreement of adjectives takes a long time to master also for L1 learners of French, as it demands important metalinguistic awareness (Fayol & Jaffré, 2016).

With regard to the gender agreement of adjectives, the learners demonstrated relatively high accuracy rates compared to the results of studies on spoken L2 French concerning adjectives with audible gender distinction. This may be related to the fact that writing provides more processing time than oral production. Whereas explicit grammatical knowledge is of limited use in spontaneous oral production due to limited time constraints, the learner has the opportunity to consult and use this knowledge in written language production in order to control his or her output (Gunnarsson, 2006; Gutiérrez, 2016). However, the accuracy rates for gender agreement did not indicate linear progress. This agreement is somewhat challenging to the learners, in line with previous research on the written production of both L1 and L2 learners of French (Bril, 2018).

Overall, the results provided us with insight into the learners' development in syntactic complexity in relation to their development in morpho-syntactic features in the noun phrase and showed that these two linguistic characteristics of L2 production did not develop in parallel.

It is clear from the topics and types of texts that the requirements related to other aspects of the text than the language itself increased over time. It is possible that higher demands linked to the demonstration of knowledge on curriculum-based topics (area knowledge, politics, culture, etc.) means that the monitoring of morpho-syntax, such as the gender and number agreement of adjectives, may fade somewhat into the background. As indicated by the results of Gunnarsson's study (2006), a primary focus on the communicative dimension of the task may imply a reduced use of explicit grammatical knowledge in the writing process. When the learner is paying more attention to or struggling with another aspect of the writing task, such as content or organisation at the text level, this may be at the expense of the accuracy of specific morpho-syntactic features.

By contrast to syntactic complexity – which is unconscious in the typical learner (Wolfe-Quintero et al., 1998), the complexity of written French morphology calls for important metalinguistic awareness before automatisation can be reached. In fact, French morpho-syntax in general, and the agreement of adjectives in particular, is challenging – not only for L2 learners but also for L1 learners of French (Fayol, 2003; Ågren, 2008; Fayol & Jaffré, 2016; Bril, 2018). The variability in accuracy rates indicates that the learner's interlanguage system is not fully developed: a lack of automaticity is associated with time-consuming processing and errors.

Our results may have implications for the L2 French classroom and underline the importance of what Pallotti (2010) pointed out, namely that we need to distinguish between accuracy growth in particular and interlanguage development in general. Interlanguage development is multifaceted and demands an awareness of the different linguistic aspects of learners' productions and how they develop over time. In addition to examining the learner's performance in morpho-syntax, for instance, it is productive to recognise and acknowledge when the interlanguage has reached a higher level of complexity and sophistication, independently from the number of errors produced. A better understanding of learners' competences and processes is important in itself. Following Verspoor et al. (2017), we must acknowledge each student's learning path and practice patience with them and with their interlanguage development along the way.

References

Bartning, I. 2000. Gender agreement in L2 French: pre- advanced vs. advanced learners. Studia Linguistica, 54 (2): 225-237.

Bartning, I. & Schlyter, S. 2004. Itinéraires acquisitionnels et stades de développement en français L2. *Journal of French Language Studies,* 14: 281-299.

Bril, M. 2018. Persistent grammatical writing errors of L1 and L2 learners of French: Analysis and remedy. Amsterdam: VU University Press.

Bulté, B. & Housen, A. 2014. « Conceptualizing and measuring short-term changes in L2 writing complexity ». Journal of Second Language Writing. 26: 42-65.

Bulté, B. & Housen, A. 2018. Syntactic complexity in L2 writing: Individual pathways and emerging group trends. International Journal of Applied Linguistics. 28 (1): 147-164.

Council of Europe. 2001. *Common European framework of references for languages: Learning, teaching, assessment.* Cambridge: Cambridge University Press.

Dewaele, J-M. & Véronique, D. 2001. Gender assignment and gender agreement in advanced French interlanguage: A cross-sectional study. *Bilingualism: Language and Cognition* 4: 275–297.

Fayol, M. 2003. L'acquisition/apprentissage de la morphologie du nombre. Bilan et perspectives. *Rééducation Orthophonique*, 213: 151-166.

Fayol, M. & Jaffré, J-P. 2016. L'orthographe : des systèmes aux usages. *Pratiques: linguistique, littérature, didactique,* 169-170.

Granfeldt, J. 2003. *L'acquisition des catégories fonctionnelles. Étude comparative du développement du DP français chez des enfants et des apprenants adultes*. Thèse de doctorat, Études Romanes de Lund 67, Université de Lund.

Granfeldt, J., Schlyter, S., & Kihlstedt, M. 2007. French as cL2, 2L1 and L1 in pre-school children. In: Granfeldt, J. (Ed.), *PERLES 24. Studies in Romance bilingual acquisition - Age of onset and development of French and Spanish,* p.7–42. Lund, Sweden: Lund University Center for Languages and Literatures.

Granfeldt, J. 2018. The development of gender in simultaneous and successive bilingual acquisition of French – Evidence for AOA and input effects. Bilingualism: Language and Cognition. 21 (4): 674-693.

Gunnarsson, C. 2006. Fluidité, complexité et morphosyntaxe dans la production écrite en FLE. Published Ph.D dissertation Lund University. Lund: Media-Tryck.

Gutiérrez, X. 2016. Analyzed knowledge, metalanguage, and second language proficiency. *System*, 60: 42-54.

Heimark, G.E. 2013. *Praktisk tilnærming i teori og praksis. Ungdomskolelæreres forståelse av en praktisk tilnærming i fremmedspråksundervisningen.* Oslo: Universitetet i Oslo.

Helland, H.P. 2006. *Ny fransk grammatikk*. Oslo: Universitetsforlaget.

Helland, H.P. 2017. An empirical L2 perspective on possessives: French/Norwegian. In: Fabricius-Hansen, C. et al. (eds). *Possessives in L2 and translation: basic principles and empirical findings*. OSLa Oslo Studies in Language. 9 (2): 75-104.

Helland, H.P. 2018. Complexité et fréquence: l'acquisition des structures possessives. Synergies Pays Scandinaves, 13, p. 37-50.

Housen A. & Kuiken F. 2009. Complexity, Accuracy, and Fluency in Second Language Acquisition. Applied Linguistics, 30(4): 461–473.

Housen et al. 2012. Complexity, accuracy and fluency: Definitions, measurement and research. In: Housen et al. (eds). *Dimensions of L2 Performance and Proficiency. Complexity, Accuracy and Fluency in SLA*. John Benjamins Publishing Company.

Kuiken F., et al. 2010. Communicative adequacy and linguistic complexity in L2 writing. Communicative proficiency and linguistic development. EuroSLA Monograph series 1: 81-99.

Kupisch, T. et al. 2013. Gender assignment and gender agreement in adult bilinguals and second language learners of French. *Linguistic Approaches to Bilingualism* 3:2, 150–179.

Pallotti, G. 2010. Doing interlanguage analysis in school contexts. EuroSLA Monograph series 1: 159-189.

Perdue, C. (ed.) 1993. Adult Language Acquisition. Vol 1: Field Methods. Cambridge University Press.

Riegel, M. et al. 2009. *Grammaire méthodique du français.* Paris : Presses Universitaires de France.

Schlyter, S. 1995. «Morphoprosodic schemata in Swedish and French bilingual acquisition ». In: Pishwa, H. et Maroldt, K. (eds.) *The development of morphological systematicity: a cross-linguistic perspective*. Tübingen: Günter Narr Verlag, p. 79-106.

Simensen, A.M. 2007. *Teaching a foreign language.* Bergen: Fagbokforlaget.

Véronique, D. et al. (eds.) 2009. *L'acquisition de la grammaire du français, langue étrangère.* Paris : Les Editions Didier.

Verspoor, M. et al. 2017. Linguistic complexity in second language development: variability and variation at advanced stages. Recherches en didactique des langues et des cultures. 14 (1).

Wolfe-Quintero, K., Inagaki, S., & Kim, H. Y. 1998. *Second language development in writing: Measures of fluency, accuracy and complexity*. Honolulu, Hawai'i: University of Hawai'i Press.

Ågren, M. 2008. À la recherche de la morphologie silencieuse. Sur le développement du nombre en français L2 écrit. Published Ph.D. dissertation Lund University. *Études Romanes de Lund* no 84.

APPENDIX

Individual data on syntactic complexity

Table 6: Number of words per T-unit

	Heidi	Daniel	Sigrid	Peter	MEAN
2016	6,975	8,195	10,100	8,042	**8,328**
2017	9,594	10,700	12,074	10,420	**10,697**
2018	10,629	13,508	14,159	11,845	**12,535**
2019	14,446	14,932	12,339	13,161	**13,720**

Table 7: Number of dependent clauses per T-unit

	Heidi	Daniel	Sigrid	Peter	MEAN
2016	0,025	0,210	0,167	0,083	**0,121**
2017	0,297	0,343	0,389	0,295	**0,331**
2018	0,486	0,619	0,682	0,414	**0,550**
2019	0,676	0,703	0,525	0,643	**0,637**

Individual data on plural agreement between determiner and noun in the simple NP

Table 8: Accuracy rates for plural agreement between determiner and noun in the simple NP

Text	Heidi	Daniel	Sigrid	Peter	MEAN
1	16/17 – 94%	12/16 – 75%	9/9 – 100%	10/10 – 100%	**90%**
2	22/24 – 92%	45/49 – 92%	33/34 – 97%	47/53 – 89%	**93%**
3	34/35 – 97%	45/49 – 92%	26/28 – 93%	31/33 – 94%	**94%**
4	57/59 – 97%	59/62 – 95%	52/52 – 100%	39/41 – 95%	**97%**