Speaking and Writing in French L2: Exploring Effects on Fluency, Complexity and Accuracy

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SPEAKING AND WRITING IN L2 FRENCH: EXPLORING EFFECTS ON FLUENCY, COMPLEXITY AND ACCURACY.

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1. INTRODUCTION

Writing contrasts with speaking in a number of domains. With respect to processing constraints there are three simple but yet important key differences: (i) the stability of the language signal; (ii) the degree of control of the language user over linguistic output and (iii) the presence or absence of an audience during production (Ravid & Tolchinsky, 2002: 426). The first difference is a prerequisite for the second, the degree of control over the linguistic output. The writer more than the speaker can revise and edit the message before submitting it to the receiver. The third difference makes significantly longer planning possible in writing. Taken together, the three differences lead to a situation that typically allows for a more control and focus on the message in writing as compared to speaking.

In L2 research it is debated how and to what extent the "control", "planning" or "monitoring" possibilities affect the linguistic output of language learners. The question is if the L2 learner can improve his or her performance under beneficial conditions where there is time to reflect and focus for example on grammatical form? The question is also if the language learner under such conditions can put to use a more complete inventory of his or her knowledge of the second language. The current discussions on these issues often differentiate between implicit/declarative and explicit/proceduralized knowledge. Somewhat simplified, we could say that if proceduralized knowledge is associated with automatic and fast language processing (Towell *et al.*, 1996), then we can assume that oral production will be mostly influenced by this type of knowledge. There is simply not time to consistently draw on declarative knowledge when speaking. In writing the learner is given more time to plan and monitor the production. We could hypothesize that this will have the consequence that the written production will additionally bear features of conscious declarative knowledge of the second language that might lead to a more complex and more accurate performance.

If we put this in a developmental perspective and adopt a version of the interface position with respect to declarative and proceduralized knowledge (Anderson, 1983 and later), we might additionally hypothesize that "recently acquired" linguistic knowledge appears first in written production and then later in oral production (when proceduralized). The oral – written comparison translates in this paper into the question if additional planning time and extended monitoring possibilities will bring out declarative knowledge that ultimately can differentiate the grammatical performance of the L2 learners in the two modalities.

Weissberg (2000) in a longitudinal case study of five ESL learners set out to answer more or less this last question. Weissberg analyzed the syntactic innovation (i.e. the emergence) of different morphosyntactic features in oral and written production. The results showed that writing was the preferred modality for L2 development of syntax. In other words, it was in writing that most syntactic innovations occurred. But Weissberg also found differences between different morphosyntactic features. While regular past morphemes, modal auxiliaries and passives appeared first in writing, irregular verbforms and plurals more often appeared first in speaking. Last, Weissberg found important individual differences and suggested that the learners were driven by a "modality preference".

Another recent comparative study by Håkansson and Norrby (2007) looked at oral and written production within Processability Theory (PT) (Pienemann, 1998). In PT a central explanatory factor is working memory capacity or more precisely the limited capacity of this memory. When speaking for communicating a propositional content, the working memory capacity is insufficient to control all grammatical information in the beginner learner. This limitation is of course also present when writing but planning and monitoring might take off some of the burden on working memory. The PT stages of development were originally elaborated on oral data and it has not been clear to what extent they are valid also for written data. Therefore, Håkansson and Norrby (2007) tested the same structures on oral and written data from the same learners of Swedish and found that the predictions of PT were followed in both modalities. The additional planning time and the extended possibility to control the written production did not lead to a difference with respect to processability levels. It appears, they say: "[t]hat time alone does not give differences in levels of processability." (Håkansson & Norrby, 2007). This confirms the result from a previous study by Hulstijn & Hulstijn (1984) on Dutch were four different production conditions were compared. Only in conditions where the learners were explicitly told to focus on form could they change their grammatical production. Also in the Hulstijn & Hulstijn study (planning) time was not enough to change how the tested structures were produced (for example word order).

But Håkansson & Norrby did find an increase in complexity in writing. There was a tendency for the learners to produce more subordinate clauses in written than in oral production. This result also seems consistent with many previous studies looking at planning effects. Yuan & Ellis (2003: 28) summarize a handful of studies and find that there is good evidence for a pretask planning effect on complexity (measured by subordination ratio) and fluency. For accuracy, the results are, however, mixed. Following these results we could expect a greater syntactic complexity in written production but not necessarily an increase in accuracy.

A study that provided inferential evidence of higher accuracy rates in written than in oral production is Granfeldt (2005) where the marking of finiteness was analyzed in two groups of Swedish learners of French. Independent linguistic criteria placed the learners on stage two and four in the six stage scale of Bartning & Schlyter (2004). At stage 2 in spoken learner French we should, according to Bartning & Schlyter (2004), expect between 20 and 30% of non-finite forms (or long forms) like /parle/ /sortir/ where the target language requires a finite verb form (e.g. /parl/ or /sor/) and still at the pre-advanced stage 4 there should be some occurrences of this error remaining. But in written production Granfeldt (2005) found a ceiling effect for this phenomenon emerging already at stage 2 and at stage 4 the learners did practically not produce any non-finite forms at all in writing. This raised the interesting question if, in writing, the learners performed perhaps at a more advanced developmental stage. Since no oral data was available for the same learners this hypothesis could, however, not be verified. In the present study data has therefore been collected in both modalities from the same L2 learners.

2. METHOD

The research design was inspired by the one used in the project "Developing literacy across genres" (Berman & Verhoeven, 2002). The design of the study and some information on the participants are described below.

2.1 Participants

Subjects were recruited in the beginning of the fall semester of 2005 among the students of French at the Department of Romance Languages, Lund University, Sweden. Before the experiment they had had approximately 500 hours of teaching. On the basis of the scores from an in-house placement test, the six subjects were grouped into two subgroups: one group with a lower score (NonPass group) and one group with a higher total score (Pass group).

The subjects filled out a short background questionnaire about their mother tongue, years of studying French, age of onset, length and purpose of visits in French speaking countries and use of French outside the classroom. The subjects also estimated their keyboard ability on a scale from 1 to 10 where 10 indicated perfect mastery. The result of this self-assessment and other relevant information on the subjects is presented in Table 1.

Table 1: Information on participants.

Subject	Group	Sex	Age	Keyboard ability score	SCORES ON PLACEMENT TEST			
					Grammar	VOC I	VOC II	Total
1	NonPass	Male	19	9	21	14	12	47
2	NonPass	Female	23	9	25	19	4	48
5	NonPass	Female	21	8	31,5	24	15	70,5
3	Pass	Female	22	4,5	53	29	18,5	100,5
4	Pass	Female	20	7	58	32	25	115
6	Pass	Female	21	8	47	34	23,5	104,5
Mean			21,0	6,5	39,3	25,3	16,3	80,9
St.Dev.			1,4	1,7	15,5	7,8	7,8	29,8

Legend: VOC I = Vocabulary test part one: translation from French to Swedish (passive vocab); VOC II = Vocabulary test part two: translation from Swedish to French (active vocab). Max score on Grammar = 80, VOC I and II = 40 respectively and max total score = 160.

A series of t-test revealed that there are significant differences between the groups for all three scores of the placement test and for the total score: for Grammar $t(4)=$, -6,081, p= 0,004, for VOCI $t(4)=$ -3,919, p=0,017 and VOCII $t(4)=$ -3,136 p=0,035 and for Total $t(4)=$, -5,848, p=0,004.

2.2 Design of the study

All subjects produced four texts, two spoken and two written, in two genres[2]. Data collection took place in two sessions. In the first session, all six subjects produced two expository texts. Half of the subjects spoke before writing and half of the subjects wrote before speaking. About a week later, all subjects came back for a second session and the same procedure was repeated but with two narrative texts.

2.3 Settings and procedures

The subjects looked at a video with different scenes from an ordinary school day. The video is silent but accompanied by music. The scenes have in common that they tell mini-stories about different problems that school children might encounter in school. In all conditions the subjects were told not to focus on form but on meaning. Before producing any text, the subjects were asked to take some time to reflect on their production.

The key-stroke logging software *ScriptLog* (Strömqvist & Malmsten, 1997) was used to collect the written texts. Each subject sat alone in a quite room. Subjects were told that they could write for 20 minutes. After 15 minutes the experiment leader notified the subjects that 5 minutes remained.

The spoken sessions took place in the same room. The experiment leader sat opposite the subject and acted as the listener. The experiment leader was deliberately silent and gave only some short feedback signals to the subject. The idea was to encourage the subjects to produce monologic texts without focusing too much on form and choice of words.

The spoken texts were recorded on a computer and transcribed by the experimental leader in the CHAT format (MacWhinney, 2000).

2.4 Measures and analysis

In the first part of the study three sets of analysis were conducted on the data. Five different measures of fluency, complexity and accuracy were applied. These are described and operationalized in the following sections.

2.4.1 Fluency

Fluency measures can reveal how easy it is for the language learner to retrieve process and produce the second language in real time. In this study, fluency is defined as rate measure, "Words per minute". Fluency in speaking and writing can not, of course, be compared directly

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[2] The study was designed to evaluate also the effect of genre on L2 performance and production was elicited in two contrasting genres, expository and narrative. Due to limits of space I will, however, only report on the general comparison between the spoken and written data here. The effect of genre was addressed in the poster presentation and the results are available upon request.

since the speaking in normal adults is about six times as fast as writing but it seemed important to use the same quantitative measure for both modalities.

All incomplete words, all non-French words and all repeated words were excluded. "Words" in this study refers then to all *meaningful non-repeated French* words in the oral production and all words *in the final edited text* in the written production. "Minutes" refers to the amount of time measured in minutes that the subject spoke or wrote. "Fluency" was then calculated as the ratio words/minute with the above definitions.

2.4.2 Complexity

Measuring linguistic complexity is a way of defining the degree of variation and sophistication in the learners' productions. In this study I differentiate between grammatical and lexical complexity.

Grammatical complexity is defined here as a ratio, "Number of clauses per T-unit". The choice of this measure is motivated by the fact that it has been used in a large number of studies and it has been found to show a linear relationship with proficiency levels at least in writing (Wolfe-Quintero *et al.,* 1998). The "clause" is defined here following Bardovi-Harlig and Bofman (1989). Clauses can be both finite and non-finite. Participle phrases, gerunds and infinitive phrases were all analyzed as clauses. "T-unit" is defined here following Hunt (1965) as a main clause plus any subordinate clauses. Differently from Hunt, I analyzed punctuated sentence fragments as T-units in writing. In speaking I analyzed prosodically marked fragments as T-units.

Lexical complexity is defined here as a measure of vocabulary diversity, D, developed by Richards, Malvern and colleagues (Richards & Malvern, 2004). This measure is a development of the traditional Type-Token-Ratio (TTR). It has been implemented to solve some problems encountered with the TTR, specifically the problem with different sample lengths. The lexical diversity measure, D, is computed via a specific program in the CLAN toolbox, called *vocd*.

Self-repetitions, code-switches and incomplete words were excluded. In the written production, I spelled corrected words where the proposed spelling did not alter the pronunciation of the word in relation to the norm. Words with a very deviant spelling were excluded. Finally, to avoid confusing this lexical measure with morphological development all inflected forms were lemmatized before analysis.

2.4.3 Accuracy

In this study accuracy is defined as a ratio, "Number of errors per T-unit". There are several reasons for this choice. Errors per T-unit was one of the accuracy measures that were found to correlate significantly with overall proficiency scores in the meta-analysis of Wolf-Quintero et al. 1998.

I divided the error analysis into lexical and grammatical errors. The last category contained three subgroups.

Table 2: Error types.

Lexical errors	Grammatical errors		
Wrong choice of:	Syntactic errors	Tense errors	Morphological errors
• prepositions • temporal auxiliaries Wrong meaning of a word in a particular context	Omissions (f ex): • subjunctions • articles Word order errors	Absence of tense marking (non-finite forms) Wrong tenses • passé composé for Imparfait (or vice versa). • Present tense for past tense. • Imparfait for plus-que-parfait	Agreement errors. • S-V agr Gender concord errors

Given the amount of "silent" morphology in spoken French it was clear from the beginning that there was a risk for underestimating the accuracy of the written production compared to the oral production. A lot of silent agreement morphology (person, number and gender) could not be scored in speaking. The very same morphology could potentially be scored in written French. But this would risk biasing the results since it would importantly increase the number of *possible contexts* for errors in writing compared to the speaking.

The proposed solution is to only score *audible morphological errors* both in the spoken and the written data. In the written data this means that subject-verb agreement errors that involved "silent" morphology were not scored (ex. *Il fais*, *Ils parle* etc) but only errors that would have been heard in spoken production (ex. *Nous a*, *Ils va*).

3. RESEARCH HYPOTHESES

The following research hypotheses will be tested:

A. The written and oral productions of the Pass group will be characterized by an overall higher degree of fluency, complexity and accuracy than in the NonPass group.

This would be explained by a developmental effect. Following the results from the off-line placement test, the Pass group could be more advanced than the NonPass group.

B. The written production will be characterized by a higher degree of accuracy and complexity than the oral production in all learners.

This would be explained by a planning effect as discussed in the introduction.

C. The individual grammatical profiles of the written production will include more advanced structures than the grammatical profiles of the oral productions. The written production of each learner will consequently be analyzed as reflecting a more advanced stage of development.

This would be explained by the extended monitoring possibilities in writing where the learners also can draw more consistently on declarative knowledge.

4. RESULTS

Tables 3 and 4 present the results of research hypothesis A. In the spoken tasks (cf. Table 3), the descriptive results suggest the expected difference. The learners in the Pass group speak more fluently, use more subordinate clauses per T-unit and use a more diversified vocabulary. As expected the Pass group also makes fewer errors, both lexical and grammatical. But there is no significant effect of group on any of the measures, probably due to the very small size of each group in this pilot study (N=2x3).

Comparing the results in Table 3 and 4, it is interesting to note that, for some measures, the differences between the Pass group and the NonPass groups are leveled out in the written production when compared to the oral production (cf. the higher p-values in Table 3). This seems to be true for the complexity measures. For fluency and lexical errors the relationship is even inversed in the written production. The results suggest that the NonPass group produce more words/minute in writing than the Pass group. This could, however, be due to the greater keyboard ability in the NonPass group (Mean self-estimated score of 8,7 compared to 6,5 in the Pass group, see Table 1). More notably the supposedly more advanced group makes more lexical errors than the less advanced group but only in writing French. I will come back to this somewhat unexpected result below.

Table 3: Means and standard deviations for fluency, complexity and accuracy in oral production.

	Fluency		Complexity				Accuracy			
	Ws/min		Clauses/ T-unit		Vocab diversity (D)		LexErrs / T-unit		GrammErrs / T-unit	
	M	SD	*M*	SD	*M*	SD	*M*	SD	*M*	SD
Pass	84,0	23,9	1,8	0,5	52,0	7,5	0,2	0,1	0,4	0,1
NonPass	62,4	20,2	1,4	0,2	43,1	9,1	0,4	0,2	0,5	0,5
T	-1,685		-1,779		-1,855		-1,370		-1,786	
P	0,123		0,106		0,093		0,201		0,486	

Table 4. Means and standard deviations for fluency, complexity and accuracy in written production.

	Fluency		Complexity				Accuracy			
	Ws/min		Clauses/ T-unit		Vocab diversity (D)		LexErrs / T-unit		GrammErrs / T-unit	
	M	SD	*M*	SD	*M*	SD	*M*	SD	*M*	SD
Pass	8,5	1,9	1,5	0,3	65,3	21,8	0,6	0,3	0,5	0,2
NonPass	10,8	3,0	1,5	0,2	59,5	19,0	0,5	0,3	0,7	0,5
T	1,554		-0,102		-0,493		-0,594		2,249	
P	0,151		0,921		0,633		0,566		0,391	

In real time production the two groups seem closer than the initial off-line placement test suggested. There are several possible factors inherent to the design of the study that might

explain this. But it is also possible that this result captures some more general difference between off-line language knowledge tests and on-line performance in the same language. Many teachers would probably confirm this. Some learners are simply better at performing on cloze-tests but this doesn't necessarily mean that they are more advanced language users.

Since no measure revealed any significant difference between the two groups, I decided to treat the learners as one group when evaluating research hypothesis B - the effect of modality on the dependent variables of complexity and accuracy. Table 5 presents the relevant results.

Table 5: Means and standard deviations for complexity and accuracy in spoken and written production.

	Complexity				Accuracy				
	Clauses/ T-unit		Vocabulary diversity (D)		LexErrs / T-unit		GrammErrs / T-unit		
	M	SD	*M*	SD	*M*	SD	*M*	SD	
Oral	1,6	0,4	47,5	9,2	0,3	0,2	0,5	0,3	
Written	1,5	0,2	62,4	19,8	0,5	0,3	0,6	0,4	
T	0,24		5,55		5,1		0,8		
p	0,629		0,028*		0,035*		0,373		

Looking first at the complexity measures, Table 5 shows that vocabulary diversity is significantly higher in writing than in speaking. This is in line with research hypothesis B. On the other hand the ratio of clauses per T-unit is lower in writing. This result immediately raises two questions. First there can be qualitative differences in the kind of subordinate clauses used in the spoken and the written production. One possibility is that the learners use a less varied and less "advanced" set of subordinated clauses in the spoken conditions. In fact studies on discourse structuring and clause combing have shown that there is at least a qualitative development with respect to types of subordination in learner production (see Bartning & Schlyter, 2004, for a summary). I conclude here that a general measure of grammatical complexity does not reveal any differences between oral and written production but in a future study the type of subordinate clauses will have to be looked at in more detail. Second, there might be a strong effect of genre on this measure. In the spoken expository texts one can expect to find a lot of relatively simple or formulaic subordinations like *je crois/pense que* X.

Contrary to hypothesis B, there are both more lexical and grammatical errors in the written production than in the oral production. The difference is significant at the p < 0.05 level for lexical errors. This is an unexpected result since writing allows for more time to plan the production. I also hypothesized that writing would bring out more declarative knowledge and therefore lead to higher accuracy. The results show, however, the exact opposite of this prediction. I will come back to this in the final discussion.

4.1 Grammatical profiling

Tables 6 and 7 present individual grammatical profiling analyses of the personal narratives in the two groups. The morphosyntactic phenomena taken into account come from Bartning & Schlyter (2004) on the basis of which these authors identified six stages or profiles of development. The analysis was carried out with the *Direkt Profil* software (Granfeldt &

Nugues, 2007). In the tables the phenomena are presented in their ranked order with the early phenomena at the top and the late/ more advanced phenomena at the bottom. The last row of the tables indicates the stage evaluation according to *Direkt Profil*.

Table 6: Grammatical profiles of personal narratives in speaking and writing NonPass-subjects ("+" = well acquired, target-like-use score above 75%.

	Speaking			Writing		
Subjects	1	5	2	1	5	2
Passé composé	+	+	+	+	+	+
(ne) V pas	+	+	+	+	+	+
Subordinates	+	+	+	+	+	+
Modal Verb + Infinitive	+	+	+	+	+	+
Imparfait of lexical verbs	/	+	+	+	+	+
Finite forms of lexical Verbs	+	+	+	+	+	+
Nous V –ons	(+)	/	(+)	(+)	/	(+)
Ne (V) rien	(+)	/	(+)	/	/	/
3P.pl V–ont	(+)	/	(+)	(+)	/	/
Object Pronouns	(+)	(+)	(+)	(+)	(+)	(+)
Conditionnel	/	/	/	/	/	(+)
% D-N gender agreement	81%	83%	80%	64%	66%	79%
Stage acc. DP	3	3	3-4	3	3	3

"(+)"= emerged structure but only occasional occurrences and/or errors; "/" = no occurrences of the structure; Stage acc. DP = Stage evaluation according to Direkt Profil.)

Table 7: Grammatical profile of personal narrative in speaking and writing Pass-subjects.

	SPEAKING			WRITING		
Subjects	3	6	4	3	6	4
Passé composé	+	+	+	+	+	+
(ne) V pas	+	+	+	+	+	+
Subordinates	+	+	+	+	+	+
Modal Verb + Infinitive	+	+	+	+	/	+
Imparfait of lexical verbs	+	+	+	+	+	+
Finite forms of lexical Verbs	+	+	+	+	+	+
Ne (V) rien	/	+	+	/	/	/
3ppl –ont	(+)	(+)	(+)	/	/	/
Object pronouns	(+)	+	+	+	+	+
Pluperfect	(+)	/	+	/	/	+
Futur simple	(+)	/	(+)	/	/	+
Conditionnel	(+)	/	(+)	(+)	/	/
3P.pl V–ent	(+)	(+)	/	/	/	/
Subjonctif	/	/	(+)	/	/	/
Gérondif	/	/	(+)	/	/	/
% D-N gender agreement	80%	80%	96%	100%	50%	80%
Stage acc. DP	4-5	4	4	4-5	3-4	3-4

The analysis shows that contrary to research hypothesis C, the grammatical profiles of the written production do not generally include the use of more advanced structures than the profiles of the oral production. The automatic stage evaluation of *Direkt Profil* is practically the same in speaking and in writing for all learners with the learners in the Pass group being evaluated approximately at one stage of development above the learners in the NonPass group. This is consistent with the fact that the Pass group learners have acquired more advanced structures than the NonPass group (for example object pronouns are well acquired by all Pass subjects, except subject 3 while this is only an emerging structure in the NonPass group).

If there is no general effect of modality here either there might however be individual differences. Especially in the Pass group, there is a tendency for the learners to use more advanced structures in oral production. This is the case for subjects 3 and 4, cf. Table 7. This result recalls the study of Weissberg (2000) discussed in the introduction. Weissberg found that learners have "modality preferences" when it comes to morphosyntactic constructions. It might be that the preferred modality for learners 3 and 4 is speaking. This in turn could be part of the explanation as to why the CAF-differences between the two groups of learners were leveled out in writing (see discussion of Tables 2 and 3 above). If writing was the dispreferred modality for two out of three learners in the Pass group, this can explain why the NonPass learners "caught up" with them in writing.

5. SHORT SUMMARY AND DISCUSSION

In this study I have analyzed the effect of modality on two sets of dependent measures: traditional CAF-measures and grammatical profiles. In the context of CAF-studies, the modality comparison could translate into a study on the effect of on-line planning. Previous studies (see Yuan and Ellis, 2003) have found a positive planning effect on complexity and fluency but only mixed results for accuracy.

In this study, I found that the lexical complexity, measured as vocabulary diversity, significantly increased in writing but there was no effect on grammatical complexity, measured by a subclause ratio. Furthermore and contrary to expected, the learners produced more errors in writing than in speaking. A first way to explain this result is to consider some intervening factor(s) in writing. Two candidates come to mind. First spelling might be a problem here. French is, like English, a deep orthography with a highly complex relationship between the oral and written systems. In the final *product* I have consistently neutralized this factor since I have spell-corrected all written texts before analysis (see Method). But it is possible that in the *process* of writing this factor might have had a greater influence than I originally thought. If the learners devoted much attention to spelling this might have distracted them away from formal grammatical aspects. This will be looked at in a future study.

A second possibility was discussed in relation to the results of the second analysis of individual grammatical profiles. It was found that the grammatical profiles were not more advanced in the written than in the oral production. The extended possibilities to monitor and draw on declarative knowledge did not make the learners produce at a more advanced stage of development in writing (as evaluated by the Direkt Profil software). This result confirms

Håkansson & Norrby's (2007) study on learners of L2 Swedish within Processability Theory.

But interestingly some individual differences suggested that learners can have a "modality preference" (Weissberg, 2000) when it comes to morphosyntactic constructions. This might then be the second factor to explain why at least some learners did not perform better in writing.

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FLUENCY AND ACCURACY IN THE WRITTEN PRODUCTION OF L2 FRENCH.

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1. INTRODUCTION

The aim of this study is to examine the relation between fluency and accuracy, in written production of L2 French. The research in L2 acquisition has for a long time focused on the learners' oral production. In the last few years though, an interest in studying the written production has emerged. This recent interest has resulted in two models for written production in L2 (i.e. Zimmermann, 2000; Wang & Wen, 2002).

In a longitudinal study of 30 months, we have followed the written production of 5 guided learners of L2 French. The learners are 16 to 19 years old. The learners' computer-written production was recorded in the program ScriptLog (Strömqvist & Malmsten, 1997) and a video-filmed thinking aloud protocol (TAP). This methodology allows us to follow the written production in real time. The protocols from ScriptLog and the TAP:s provide the material for the analysis of the development of linguistic proficiency.

In a previous study we hypothesised a general development leading to more fluency and complexity (Gunnarsson, 2006). This hypothesis was not confirmed. Instead we observed important inter-individual differences in the 5 learners. One group of learners produced written L2 French with more fluency and less verbalised reflection in the TAP:s, whereas the other group produced with less fluency and more verbalisations. Considering each learner's limited cognitive capacities (Fayol, 1994) we expected those who produced more fluently to have less complexity and vice versa. A simple relation like that between fluency and complexity could not be confirmed. We could observe it in some learners but not in general.

This lack of relation could be explained by the fact that writers in L2 are more preoccupied with the formulation process, where the ideas get their verbal form, compared to the planning process, where the ideas are generated (Zimmermann, 2000, see his model in Figure 1). Compared to writers in L1, writers in L2 tend to rephrase more frequently, see the shadowed middle section in the model (Figure 1). In the rephrasing you find that modifications (Mod), repetitions (Rep) and simplification (Simplify) are the techniques the writer uses to try out different tented forms during the formulation process.