Dynamically Assessing Written Language: To what Extent Do Learners of French Language Accept Mediation?

Sylvie Thouësny*

Abstract

In contrast to standardised assessment, dynamic assessment (DA) simultaneously combines teaching and assessment activities. The key difference between standardised and dynamic approaches lies in the fact that, in the latter, an expert is allowed to provide assistance to a novice during the assessment process. Mediation, whether in the form of interventions or in the form of negotiated interactions between mediators and learners, aims not only to help learners complete the task, but also to promote their cognitive development. Whilst an approach to dynamic assessment implies the mediator's participation, it is equally important to note the involvement of the learner during this process. However, the way in which learners contribute to dynamic assessment tends to be overlooked by researchers. This chapter examines a relatively small corpus of 14 language learners' written texts, who were asked to correct themselves with and without assistance by means of a computer-based application. It then investigates how learners responded to interventions, and how they negotiated mediation in terms of acceptance and refusal. Results not only show that learners' acceptance of mediation is unsystematic, but also demonstrate that learners may refuse and argue the mediation offered.

Keywords: dynamic assessment, interaction, intervention, mediation, written language, French as a foreign language.

*Dublin City University, Ireland. e-mail: sylvie.thouesny@icall-research.net

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1. Introduction

Although the term dynamic assessment originated in research investigating children's abnormal behaviours (Mathews, 1961) and is nowadays predominantly applied in areas such as learning disabilities or adults' language impairments (e.g., Navarro & Calero, 2009), other practitioners have started to widen the use of dynamic assessment practices to second language assessment and pedagogy (e.g., Ableeva, 2008; Erben, Ban, & Summers, 2008; Poehner, 2008). Dynamic assessment is commonly categorised depending on the type of "mediated assistance" provided to learners in order for them to attain their goal (Lantolf & Poehner, 2004, p. 54). For example, Daniel (1997) distinguishes two groups with different intervention processes: the first approach provides "standard interventions" and the second one "nonstandardised interventions" (p. 1041). While the former relates to the use of measures to determine the amount of prompts learners require to be able to provide a correct alternative, the latter refers to Feuerstein, Rand and Hoffman's (1979) idea of associating intervention with assessment (Daniel, 1997, p. 1041). Lantolf and Poehner (2004) refer to both approaches as "interventionist" and "interactionist", respectively (p. 54).

During an interventionist approach, teachers are "not free to respond to learners' needs [...] but must instead follow a highly scripted approach to mediation in which all prompts, hints, and leading questions have been arranged in a hierarchical manner" (Poehner, 2008, pp. 44-45). By contrast, mediated assistance between learners and teachers during an interactionist orientation is negotiated rather than established in advance, which is more in line with sociocultural theory (Lantolf & Poehner, 2004, p. 58). The learner's participation is then viewed as an active co-construction of knowledge between both the learner and the teacher (Poehner, 2008, p. 58).

Whilst an approach to dynamic assessment, either interventionist or interactionist, implies the participation of the mediator, the involvement of the learner during the process is equally as important. Yet, research seems to focus more on mediation techniques rather than on learners' participation and

reciprocity (Van der Aalsvoort & Lidz, 2002). Poehner (2008) further points out that "learner reciprocity is critical to enhancing [...] interpretations of L2 learners' contributions during DA", and expands "the concept to include not only learners' responsiveness to mediation but also their requests for support and even their refusal of it" (p. 86).

Antón (2009), for instance, reports on the implementation of a dynamic assessment approach. Second language learners of Spanish were given twenty minutes to write an essay without assistance. The correction of their text was performed under the supervision of the teacher. Firstly, students self-edited their written text after which they were then given a dictionary and a grammar manual. Finally they were invited to interact with the examiner about concerns they might have about the composition of the text. According to Antón (2009), learners have the opportunity to revise what they think they do not know. However, and as stated by Skinner and Madden (2010), even if learners believe they need help, it is not certain that they will ask for it (p. 21). In the case of computer-based application, it is not because help is available to learners that they will use it (Fischer, 2007).

A computer-based dynamic assessment in line with interventionist approaches was designed and implemented for the purpose of this researcher's doctoral research (Thouësny, in progress). This chapter explores the learners' responses to interventions with regards to acceptance, refusal and negotiation of assistance when being dynamically assessed.

2. Method

2.1. Context of the study and participants

This study was conducted in a French language class at university level over the first semester of the 2008/2009 academic calendar. This class was composed of eighty-nine learners of French in their first year, and included twelve sessions of three hours a week. The module covered a project-based

approach, which was to describe one typical week at the university from the students' point of view. It included text types such as the writing of a critical reflection on their own language learning experience, or wiki texts. Wikis, as mentioned by Warschauer (2010), are tools "for collaborative writing and collective knowledge development" (p.5). Within this class, the wiki naturally included texts written as a result of learners' collaboration, thus implying amongst other tasks peer-reviewing. However, all performances submitted for correction within this study were texts students had to write individually.

From the eighty-nine learners of French enrolled in the language course, nineteen students signed the consent form to participate in this study, and fourteen of them sent at least one text for correction. Almost all participants had English as their first language, except for one student whose native language was Portuguese. There were three males and eleven females, and the participants' age ranged from eighteen to twenty-four, except for one student who was fifty years old.

2.2. Participants' task

Learners were invited to review each of their texts via a web-based application and to provide alternatives to all forms that were marked as incorrect by the corrector. The assistance was given on a progressive scale varying from implicit to specific answers. While it is commonly assumed that if learners are able to produce a correct alternative with implicit assistance, which designates that they already have a certain control over their subject (Lantolf, 2009, p. 360), it could also be the case that producing a valid answer after the first level of assistance may result from a learner's guess. For this reason, students were asked to correct themselves three times consecutively and independently of what they may have proposed at previous levels of assistance.

2.3. Procedure

Learners' texts submitted for correction were manually annotated with the help of a computer-aided error annotation, and each incorrect form identified was

linked to different levels of assistance going from implicit to explicit. The error type category used to annotate the learners' texts was adapted from (a) Mackey, Gass and McDonough (2000) with regard to morphosyntactic and lexical errors, (b) L'Haire (2007) with reference to syntax and punctuation, and (c) Granger (2003) with respect to grammar and typography. It includes the following domains: selection, syntax, morphosyntax, misspelling and typography, and each of these domains contained error types such as incorrect tense for selection, word addition for syntax, incorrect past participle agreement for morphosyntax, incorrect accent for spelling, or inappropriate space for typography.

The levels of assistance provided to learners were derived from Aljaafreh and Lantolf's (1994) regulatory scale. They are as follows:

- **Level 1.** The highlighted incorrect word, or group of words indicates that something is wrong, no further information is provided.

- **Level 2.** The error type is provided for each highlighted incorrect word or group of words, narrowing down the nature of the incorrect form.

- **Level 3.** Detailed explanations about the nature of the incorrect form is given to help the learner find the correct answer, yet without providing it.

- **Level 4.** The correct form is provided.

Each incorrect form is annotated with the editor tool in the following way:

**incorrect form*[errorType]{index@meta-linguistic feedback@correct form}.*

The **incorrect form** sequence corresponds to the first level of assistance in the regulatory scale, where the incorrect form is solely highlighted. The *[errorType]* section coincides with the second level of assistance where only the error type of the incorrect form is issued. An index is given in order to make the sequence unique in the input text. The *{_@meta-linguistic feedback}*

and *{_@correct form}* strings provide the information for the third and fourth levels of assistance, respectively. Information inside the curly brackets are separated with the @ sign, which is used afterwards as a splitting character when processing the string.

Students were then asked to review their written performance, and to re-submit their texts along with alternatives to their incorrect forms if they knew or thought they knew a correct replacement. For the first level of correction, learners had to correct all sequences marked as incorrect without any indication about the error type. For the second level of correction, they were provided with comments on the error type. For the third level of correction, they were provided with meta-linguistic feedback. The comments were visible with a mouse roll-over action on the incorrect forms. Finally, learners were offered the possibility to access correct alternatives to their ill-formed words that were proposed by the corrector.

3. Analysis

Accessing a feedback does not signify that the learner has read it. However, since learners had to move their cursor over the incorrect forms to display the annotation, and if the message was open sufficiently long, it was assumed that the learner had the intention to read it. To determine whether a feedback was accessed/read, the computer-based application (a) recorded the time at which any feedback pop-up was opened and closed, (b) computed the difference between both records, (c) calculated the time required to read the feedback, and (d) evaluated whether the access was sufficiently long for the feedback to be read.

The time required to read the feedback was determined depending on the amount of words included in the message and the speed rate at which learners read. While it is commonly assumed that the speed rate at which a native speaker reads is around 250 words per minute, Ziefle (1998) found that reading on a computer screen, as opposed to paper, slowed down the

rate to 180 words per minute. Additionally, the author tested the reading rate on several display resolutions and found that there were no statistical differences between the various screen conditions. The only significant difference observed was between paper and computer screen. Following her findings, the speed rate adopted in this study was set up at 180 words per minute. The time in milliseconds required to read one word is thus equal to 333.33ms (60/180*1000).

Figure 1 below is a screen capture of a learner's report with regard to alternatives provided and whether or not they were correct. In addition, it shows whether the assistance was accessed.

Figure 1. Monitoring report

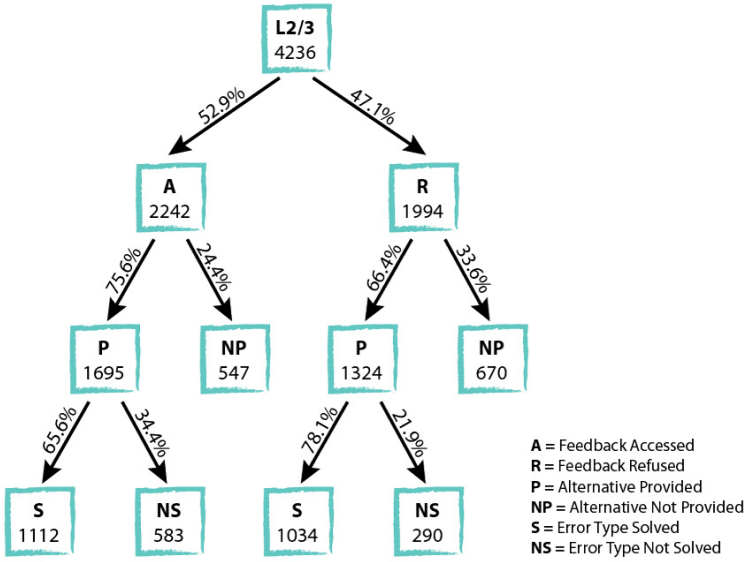
incorrect form	feedback	my correction	teacher's correction	Alternative validated?	Feedback read? How many times? Average time?	
[francais]	misspelling	français	français	✔	✔	1.46 seconds (1 time)
[les grammaires]	inappropriate word choice	la grammaire	les exercices de grammaire	✘	✔	1.53 seconds (1 time)
[était]	subject verb agreement	-	étaient	✘	✔	3.86 seconds (1 time)
[renconterai]	misspelling	recontrerai	rencontrerai	✘	✔	1.35 seconds (3 times)
[apres]	incorrect or missing accent	après	après	✔	✘	Not read!
[heures!]	missing or inappropriate space	heures !	heures !	✔	✔	2.64 seconds (1 time)
[bientot]	incorrect or missing accent	bientôt	bientôt !	✔	✘	Not read!

For instance, the incorrect word **était (was)* –fourth row– was accessed once for 3.86 seconds. In fact, the feedback was accessed twice; the other access lasted 21 milliseconds. Since the feedback message includes three words, i.e., *subject verb agreement*, the time required to read this message is calculated to be at least 999 milliseconds. As a result, the access that lasted 21 milliseconds was not considered long enough to ensure the reading of the message

Results

The corpus includes in total 2,118 incorrect sequences, for which 4,236 annotations were given at levels two and three of the regulatory scale. From these 4,236 annotations, 47.01% (N=1994) of them were not accessed, which implies that they were not read. Figure 2 provides an overview of the learners' behaviour with regard to feedback access. In addition, the diagram displays the amount of alternatives provided with and without assistance, and whether these alternatives were correct.

Figure 2. Overview of feedback access



Breaking down the analysis, Table 1 below provides the percentage of feedback each student did not access, and outlines different behaviours in terms of acceptance and refusal of assistance. For instance, student #2 opened 80.1% of all her feedback (19.9% were not read), whereas student #6 did not read 86.5% of the feedback provided to her.

Table 1. Percentage of feedback not read per student

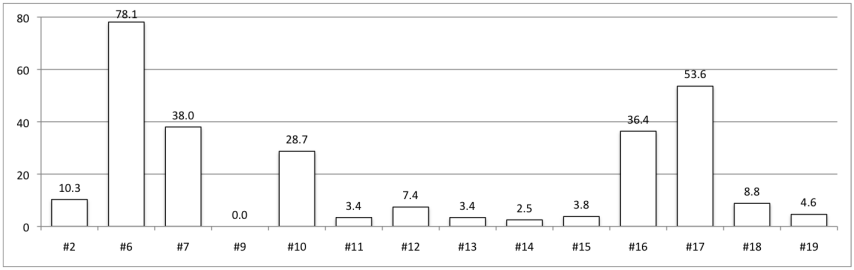
Student	Amount of feedback provided (levels 2 and 3)	Percentage of feedback not read
#2	1614	19.9%
#6	148	86.5%
#7	272	47.4%
#9	44	6.8%
#10	312	52.6%
#11	156	75.6%
#12	74	36.5%
#13	150	58.7%
#14	120	33.3%
#15	98	54.1%
#16	192	55.7%
#17	914	78.4%
#18	64	53.1%
#19	78	83.3%

Mediation is considered as *refused* when learners did not access the assistance made available to them at the different stages of their correction task. Additionally, mediation is also regarded as refused when learners proposed alternatives which were identical in all respect to their initial incorrect forms, whether the assistance was accessed or not. Alternately, accessing the assistance presupposes that learners *accepted* it. The fact that they disagreed with the assistance indicates that they *negotiated* the content.

3.1. Refusing the assistance

In the event of learners' refusal with regard to feedback access, that is, where learners did not open the pop-up windows that included the error type or meta-linguistic feedback, learners could either provide alternatives or leave the fields blank. Altogether students did not propose any alternatives to 33.6% of all incorrect forms for which the feedback was not accessed/read. Breaking down the analysis per student, Figure 3 below illustrates the percentage of incorrect forms that were not attempted when the assistance was not accessed.

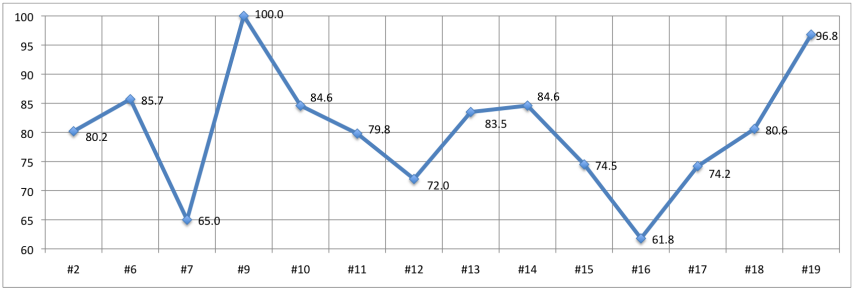
Figure 3. Percentage of incorrect forms not attempted when feedback is not read



While student #6 scored rather weakly in terms of engagement with 78.1% of incorrect forms left without any replacement, the other students generally proposed alternatives to their incorrect forms despite the fact that they did not access the assistance. For example, student #14 did not provide any alternatives to 2.5% of all her incorrect forms for which no feedback was read, which implies that 97.5% of her incorrect forms were attempted, whether successful or not.

As mentioned above, students altogether proposed alternatives to 66.4% of all incorrect forms for which the feedback was not read. The percentage of correct alternatives when assistance is not accessed is illustrated in Figure 4 below.

Figure 4. Percentage of correct alternatives without seeking assistance



While student #16 was slightly over confident with 61.8% of success when editing herself, students #9 and #19 were able to successfully correct their incorrect sequences for which no assistance was required, 100% and 96.5%, respectively. For most students, the percentage of success in correcting themselves without assistance is higher than 70%.

Another form of refusal relates to situations where learners reproduced their initial incorrect forms after either accessing the assistance or skipping it. Table 2 below lists the percentage of alternatives that were rewritten exactly as the incorrect sequences at all three levels of assistance.

Table 2. Percentage of incorrect sequences rewritten as such

Level of assistance	Amount of alternatives provided	Incorrect sequence reproduced as such
1	1372	45 (3.27%)
2	1478	13 (0.87%)
3	1541	11 (0.71%)

The percentage of sequences rewritten as such is higher at level one (3.27%) than at levels two and three, 0.87% and 0.71%, respectively. The decrease at levels two and three is due to the fact that learners were able to edit themselves after reading the assistance. What is interesting to note, however, is the figure of 0.87% and 0.71% of incorrect forms that were reproduced at levels two and three, especially after being provided with assistance. For example, Table 3 displays the alternatives that were identically rewritten as the incorrect forms by student #2.

Table 3. Examples of alternatives rewritten as the incorrect sequences

Level of assistance	Feedback accessed	Incorrect sequence reproduced as such by student #2
1	NA	[informathique], [À], [amusée], [mes], [contribuons], [de]
2	1 time	[informathique]
3	2 times	[informathique]

The word **informathique (computing)* was incorrectly rewritten at all levels, although the feedback was read at least once at levels two and three. Rewriting

the incorrect sequence certainly signifies more than merely not knowing how to correct the highlighted words, otherwise student #2 would have rewritten with the same orthography the 23 incorrect forms she left without any replacements at level one, the 16 incorrect forms she left blank at level two, and the 12 incorrect forms for which she did not enter a correction at level three. Mostly, when students did not know how to self-edit themselves or did not understand the feedback, they left the field blank as was advised during the training session.

3.2. Accepting the assistance

Accepting the assistance designates that the feedback was opened long enough to be read. Table 4 shows that of the 2,242 feedback comments that were accessed, learners suggested alternatives to 1,695 incorrect forms (75.6%).

Table 4. Alternatives provided after reading the feedback

Amount of alternatives provided		Amount of alternatives not provided	
1695	75.6%	547	24.4%

The analysis of whether an alternative was provided after reading the feedback shows varying percentages when splitting the data per error category. Figure 5 displays the percentage of all alternatives provided in selection, syntax, morphosyntax, misspelling, and typography, and Figure 6 shows the percentage of correct alternatives provided within these categories.

Figure 5. Alternatives provided after reading the feedback per error category

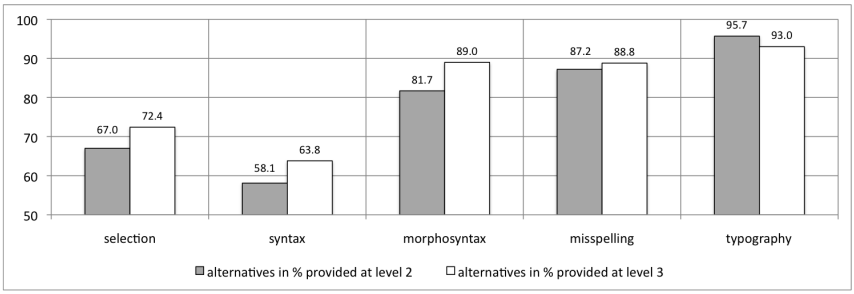
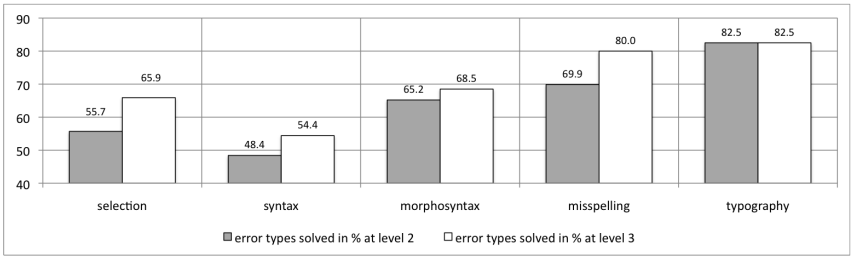


Figure 6. Correct alternatives provided after reading the feedback, per error category



Learners tend to have less difficulties in proposing alternatives to incorrect sequences related to morphosyntax, typography and misspelling. However, when the focus is on syntax, learners seem to be more challenged. While the participants provided 95.7% of alternatives at level two in typographic error types, 82.5% of them were resolved. With regard to syntactic incorrect forms, learners are inclined to correct themselves more often with a *word omission* error type than a *word addition* error type. For example, the following sequence marked as *word omission* –the preposition is missing– **besoin une... (need one...)* was appropriately corrected by student #2 as *besoin d'une*. The following sequence marked as *word addition* –the preposition *de* is added– **position de sociale* was edited by the same student as **position de la sociale*, where a correct answer would have been *position sociale (social position)*.

In general terms, it may be advanced that learners tend to have more difficulties in providing correct alternatives after accessing the assistance for selection and syntactic error types than morphosyntactic, misspelling and typographic categories. However, when looking at the distribution of correct alternatives per student, the conclusion to be drawn is to some extent different, as illustrated in Table 5 below. Student #19, for instance, does not struggle with any of the error types, since she achieved 100% of correct alternatives in all five error categories after accessing the assistance at level three. Syntax is not an issue for student #9, nor student #13, who performed 100% correctly. As for students #6 and #12, they could not correct themselves even with a full explanation about the

incorrect forms in the syntax feedback. This table below demonstrates that one individual may have issues in one category and skills in another, which may not correspond to the group average.

Table 5. Percentage of correct replacement provided at level 3 per student per error category

Student	Selection	Syntax	Morphosyntax	Misspelling	Typography
#2	64.1	57	70.8	76.8	88
#6	100	3	100	3	100
#7	75	66.7	20	87.5	100
#9	100	100	100	80	100
#10	71.4	66.7	72.7	92.9	50
#11	83.3	75	3	100	0
#12	55.6	20	100	0	100
#13	100	100	50	90.9	0
#14	81.8	40	50	83.3	50
#15	71.4	33.3	3	50	0
#16	60	40	100	3	3
#17	50	20	50	80	100
#18	33.3	50	0	100	100
#19	100	100	100	100	100

3.3. Negotiating the assistance

While the computer-based application used to collect the data was not originally designed for negotiation, student #14 discussed (literally) the content of one feedback. The incorrect sequence marked as *not understandable* in terms of word meaning is as follows:

> Je commence chaque jour avec [des céréales] *d'être polarisé sur mon jour*.
> *(I always start my day with cereals in order to be physically and morally fit for the day)*

The participant attempted an unfruitful alternative at level one, i.e., without assistance, **à être polarisé sur mon jour*. Then, the learner accessed the feedback at level two twice with an average time of 15 seconds each, yet

without providing any alternatives. At level three, the learner accessed the meta-linguistic annotations three times with an average time of 11 seconds for each reading, and tried to reformulate the sequence differently **d'être en forme*. After the self-editing task, the student came to the corrector and said that her semiotic intention was misunderstood. This interesting comment led to a conversation in French about the meaning of the whole sentence, and the meaning of the word *polariser (polarise)* in this context. The participant added that she was tempted to argue during the self-editing task, and wished to write (in English) the reasons for which she thought her formulation was correct. Yet, the learner did not take the liberty to do so, since she said the guidelines were to enter alternatives or to leave the field blank if she had no clue how to edit the incorrect sequence. In this case, the learner did not reproduce her original sequence as a form of objection, rather, she left the field blank.

4. Discussion

The aim of this chapter was to address the learners' contribution to dynamic assessment and to investigate how learners responded to assistance when correcting their texts written in the French language. The assistance offered to learners was displayed on request, as opposed to being systematically given with each incorrect form. As Clarebout and Elen (2006) suggested, the use of such tools should presuppose "that learners are good judges of their learning needs" (p390). The results not only show that a large part of annotations (47.01%) were never accessed, but also established that learners' refusal to read feedback was not to be interpreted as a definitive refusal of engagement. Although the feedback was not read, most students tried to correct themselves, suggesting that they were willing to take turns in the interaction process. They proposed replacements to 66.4% of their incorrect forms from which 78.1% were correct. Despite the fact that learners could have rejected the assistance on account of several factors "that play important role in the success of online test", such as user friendliness or interface design (Nordin, Arshad, Razak, & Jusoff, 2010, p. 62), it may equally be the case that if learners did not seek help when proposing alternatives, it was because they did not need it.

The fact that some learners reproduce their incorrect forms when correcting themselves even after consulting the assistance could be more than just a misunderstanding of the feedback read; learners might have internalised a misconception which could be interpreted as an example of fossilisation (Selinker & Lamendella, 1979). Although the term *fossilisation* is often acknowledged as lacking a unified definition (Han, 2004), it is generally understood as a cessation in language learning, which could be for instance permanent (Selinker & Lamendella, 1981, p. 217), backsliding (Selinker, 1972), or long lasting (Ellis, 1999). Yet, the synchronic analysis undertaken within this study does not allow to confirm whether these incorrect forms rewritten as such were indeed internalised misconceptions. A longitudinal study would be more appropriate to investigate whether language development had stopped.

Since stimulated recalls were not organised after the self-editing task, the reasons for not providing any alternatives when the assistance was not accessed (33.6%) are not straightforward. As a first explanation, it might be the case that learners were more interested by the final correction and decided to skip some of the incorrect forms along with their feedback so as to attain the final level of correction faster. In that case, learners might be characterised as *browsers*; they "browse through the exercises, sometimes requesting the answer without providing any input" (Heift, 2002, p. 301). Secondly, given the fact that a comprehensive error annotation was adopted**,** learners may have felt overwhelmed by the amount of highlighted incorrect forms to be corrected (Ferris, 2002), and thus decided to skip some of them in order to lighten the burden of correcting themselves. Finally, learners may have thought that they would not be able to self-edit a particular incorrect form even with feedback, so there were no point in reading the assistance.

In addition to focusing on learners' refusal of assistance, this chapter investigated the extent to which learners accepted and negotiated help. Generally, alternatives were proposed after learners accessed the assistance (75.6%). Reasons for which the learners left the field blank after reading the feedback might be that they did not understand the message, or that the message was not adapted to their incorrect forms, or simply that they did not know how to correct themselves even after being provided with help. Furthermore, not entering alternatives after reading

the feedback has been shown to be a form of negotiation with learner #14. She would have argued the content of the message at the time of the self-editing task, but did not as the guidelines were to enter an alternative only if she knew one. This example of negotiation cannot be generalised but it certainly opens the door to the possibility of integrating learner's interactions as opposed to interventions in computer-based dynamic assessment targeting written language.

5. Limitations and future work

While learners provided an alternative for most of the incorrect forms for which they read the feedback, a probable explanation of not suggesting any replacement after accessing assistance could be due to a misunderstanding of the message read. Given that learners seemed to be familiar with the linguistic terms when addressing them orally in class, and given that most of the participants had an introductory course in linguistics, it was assumed that they would understand the terminology used. Yet, they seemed to have experienced difficulties in comprehending certain meta-linguistic feedback. Student #7, for instance, wrote the following words in the wrong order **je suis enregistrée me*; the correct formulation would be *je me suis enregistrée (I have signed up)*. The learner edited herself at level one without assistance and at level two without reading the error type, which indicates that she had a good sense of how to make it correct. After reading the meta-linguistic feedback for 15 seconds at level three, she was not able to provide a correct alternative. Learners' ability to interpret the message might have been over-estimated in some occasions, as it seems some of them may have struggled with terms describing specific aspects of the language, such as *auxiliary* or *direct object*. Lee (1997) finds that teachers often used "a wider range of metalinguistic terms than students could understand" (p. 471). Consequently, future research should adjust more precisely the level of meta-linguistic annotation to each individual so as to ensure a proper understanding of the feedback itself.

From a human-computer interaction perspective, Bahr and Ford (2011) very recently have established that pop-up windows might be "annoying and frustrating" for participants (p. 781). As a result, it may be relevant to investigate

other means of dispensing feedback when implementing computer-based language learning (CALL) applications, and more specifically computer-based dynamic assessment, so as to ensure a more sustained engagement from learners. As noted by Heift (2010), "even the best team of CALL software designers cannot always anticipate the ways in which learners will use a CALL system" (p. 445). Identifying learners' behaviour with regard to refusal or acceptance of feedback may assist students and teachers alike in reframing the type of assistance that is required in order for learners to self-edit their incorrect forms.

Continuing on from this research, and taking a pedagogical perspective into account, future research should be directed towards the self-editing task, where it was demonstrated that the mediation may have in some occasions not been adapted to the learners' need or comprehension. As Poehner (2005) noted, the advantage of dynamic assessment "lies in the timeliness of the mediation" (p. 148), which is not without challenges when the assistance is provided through the means of a computer-based dynamic assessment application. A future and extremely ambitious direction may include research at the level of negotiated interactions, as opposed to interventions, between a computer and a learner.

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