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Exploring and Reshaping Learners' Beliefs About the Usefulness of Corrective Feedback: A Sociocultural Perspective

A number of studies have shown that learners' beliefs about the *usefulness of* corrective feedback for improving their L2 (a second of a foreign language) use influences the extent to which learners can utilize that same feedback. It seems, then, that changing some of these beliefs could benefit the L2 learning process. The present article reports on two small-scale studies, both drawing on a sociocultural perspective on the development of beliefs. Changes in learners' beliefs about corrective feedback were observed both within a period of six months (Case study) and over the course of one research interview (Group study). The studies exemplify how the interplay of one's own and other's experience, others' mediation, and authoritative voices facilitated these changes.

Keywords: learners' beliefs; social interaction; dynamic assessment; feedback; sociocultural theory

INTRODUCTION

Teachers' beliefs and practices can influence learners' beliefs about learning a second or foreign language (L2) (Aro, 2009; Barcelos & Kalaja, 2013; Diab, 2005; Kern, 1995). However, teachers and learners do not necessarily share the same beliefs about learning an L2 (Barcelos & Kalaja, 2013; Brown, 2009; Kern, 1995), which can result in miscommunication, poor motivation, and non-participation in classroom activities (e.g., Barcelos & Kalaja, 2013; Kern, 1995). Similarly, a number of studies have demonstrated that learners and teachers can have different beliefs about corrective feedback (CF) in particular (Brown 2009; Diab, 2005; Hedgcock & Lefkowitz, 1994; Saito, 1994). For example, believing that it promotes learners' autonomy, teachers sometimes give implicit CF (i.e., not overtly stating that there is a mistake) (Amrhein & Nassaji, 2010; Yoshida, 2010). At the same time, learners, some studies suggest, consider explicit CF (e.g., overt correction or explicit explanation) more useful than implicit feedback (Amrhein & Nassaji, 2010; Ashwell, 2000; Leki, 1991), for example, because learners believe that teachers have a responsibility to correct their errors (Amrhein & Nassaji, 2010). Particularly as regards younger learners, the research findings on computerised CF, that is, feedback provided automatically to learners via computer, appear to be similar to the findings regarding CF in the classroom. Specifically, learners appear to consider implicit computerised CF rather useless for learning (e.g., Cornillie, Clarebout, & Desmet, 2012).

Learners' beliefs seem to be especially important when they interact with computerised feedback, as there is no educator to account for the way learners approach such feedback (e.g., skipping it because of not being able to understand it), adjusting the feedback accordingly. Heift (2002), for example, found that when given control, especially low-achieving learners extensively peeked at correct responses rather than read explanations. Pujolà (2001) found that learners who seemed to arrive at the correct responses by chance, generally, did not read the explanations of why their responses were correct. Thouësny (2011) studied the way learners approached CF in a computerised dynamic assessment where they could choose whether to access feedback or not. She found that learners either did not access or did not fully read about 47% of all the feedback provided to them.

Some studies have shown that learners are more likely to pay attention to corrective feedback when they believe it is useful; thus, feedback that learners perceive as useful could be more effective (Kern, 1995; Leki, 1991; Schulz, 2001). Thus, it has been suggested that teachers appraise their learners' perceived usefulness of corrective feedback or, better, work to change their beliefs when these are counterproductive (Amrhein & Nassaji, 2010; Brown, 2009; Hyland, 2003; Leki, 1991; Saito, 1994; Schulz, 2001). Several studies have investigated how teachers might do this.

Using questionnaire responses as data, Plonsky and Mills (2006) demonstrated that learners expressed significantly more belief in the usefulness of their teacher's feedback after he had explained his approach to correcting mistakes. Similarly, Sato (2013)

demonstrated that training learners in providing CF to each other strengthened their belief in the usefulness of peer feedback.

However, there still appears to be no clear understanding of how these changes occur. Moreover, there are still relatively few longitudinal studies focusing on this issue. Finally, there seem to be no studies specifically tracing how exactly social interaction and experience lead to changes in learners' beliefs about the usefulness of CF. In the present study, I will define learners' *beliefs* as personal knowledge and assumptions (e.g., those of corrective feedback) which can either be relatively fixed and then used as means to mediate learners' actions, expectations, and strategies, or in a state of flux and constantly reshaped in social interaction and with new experience (Alanen, 2003; Aro, 2009; Barcelos, 2003; Dufva, 2003).

The two small-scale studies discussed in the present article were conducted to better understand the process through which learners' beliefs regarding the usefulness of corrective feedback develop and transform. I next present the research that motivated the two studies. I will argue that a sociocultural perspective on the development of beliefs is an appropriate theoretical framework for promoting our understanding of how learners' beliefs regarding CF develop. I will then present the two studies, discuss the findings, and sketch some directions for further research.

BACKGROUND

Researching Learners' Beliefs From a Sociocultural Perspective

Learners' beliefs have been studied from different perspectives, which can be broadly classified into *cognitivist* and *contextual*. In the following, I will give a brief account of the cognitivist *perspective* and discuss the *contextual* perspective in detail, the latter being the main theoretical grounding of my work.

Cognitivist (or *normative* and *metacognitive*) approaches to defining and studying learners' beliefs are informed, above all, by the Cartesian school of thought, which considers the human mind to be autonomous and almost unaffected by social phenomena (see Barcelos, 2003; Dufva, 2004). This view clearly influenced the studies by Horwitz (e.g., 1985) and Wenden (e.g., 1987), who used questionnaires to discover, for example, how learners' beliefs relate to their learning behaviour.

However, *contextual* approaches to studying beliefs (Barcelos, 2003), stating that beliefs are dynamic and are influenced by social factors have been gaining more prominence (Alanen, 2003; Aro, 2009; Barcelos, 2003; Barcelos & Kalaja, 2013; Dufva, 2003; Kalaja & Barcelos, 2013; Mercer, 2011). Judging by Barcelos' (2003) discussion, these approaches appeared as an alternative to cognitivist approaches, which aimed at generalisability in findings about beliefs, aiming instead at a deeper understanding of beliefs in contexts. In these approaches, beliefs are seen as dependent on and influenced by *contexts* that are socially constructed and dynamic. Within these contexts, beliefs emerge, transform, and in turn, construct these contexts (Barcelos, 2003). Among the contextual approaches, *dialogical* (e.g., Dufva, 2003) and *sociocultural* (e.g., Alanen, 2003) approaches are especially interesting, as they highlight both the individual and the social in the development of beliefs. Especially in the sociocultural approaches, the development of

beliefs is perceived as a movement from other-regulation, when beliefs are in a state of flux and are constantly co-constructed and reconstructed in social interaction which mediates (i.e., guides) their development, to self-regulation, that is, appropriation of socially constructed knowledge to a private knowledge reservoir (Vygotsky, 1978). I next summarise two studies that used a combination of sociocultural and dialogical approaches to study learners' beliefs. These studies were used as models for the two studies reported on in the present article.

Building on the works of Bakhtin (e.g., 1981; 1986), Bråten (e.g., 1991a; 1991b), Cole (e.g., 1996), Kozulin (1998), Wertsch (e.g., 1991; 1998), and others, Alanen (2003) presented a neo-Vygotskian approach to the study of beliefs about L2 learning, which can be summarised as follows:

- beliefs are cultural artifacts that mediate human behaviour, constructed through social interaction;
- beliefs are experiential;
- significant others also shape learners' beliefs;
- beliefs are situational, that is, the context in which they emerge should be considered when studying them;
- the unit of analysis for the study of beliefs is *mediated action*, a system in which the relation between the subject and the object is mediated by a material or symbolic tool;
- dialogic speech is important for belief construction and is a type of mediated action;

- co-constructed beliefs may become a part of learners' knowledge through appropriation (one starts using an other's words to convey one's intentions);
- agency in utterances can thus be a sign of belief appropriation.

A term that needs elaboration is *mediated action*. An important premise of a sociocultural perspective on interaction is that not only every action, including dialogic speech, is mediated but also that agents and mediational means are interdependent (Wertsch, 1998). That is to say, to be able to fully understand how beliefs develop, instead of concentrating on separate elements presumably promoting the development of beliefs, these elements should be studied as a system. Following Wertsch (1991; 1998), Alanen (2003) suggested that in mediated action that is dialogic speech it is important to consider not only what the interlocutors say, but also which (and whose) words they use, who uses these words, and in which order the words appear. One example from Alanen's study was how a learner's immediate repair of her own utterance after another learner responded differently illuminated the process of co-construction of beliefs in social interaction.

Using Bakhtinian dialogical and Vygotskian sociocultural frameworks, Aro (2009) studied the development of fifteen learners' beliefs about learning English. The premise for combining the two perspectives was that while dialogical perspective emphasises both the importance of the social and the individual in cognition and metacognition, it does not explicitly discuss the development of beliefs focusing rather on their nature. On the other hand, development is emphasised in the sociocultural perspective. Thus, the two perspectives complement each other.

Stressing the importance of appropriation, Aro discussed the results in terms of genres in the Bakhtinian sense (utterances typical for certain contexts) and in terms of polyphony, that is, a multitude of *voices* (the speaking consciousness: e.g., a child, a learner, a teacher) in learners' reflections. While some beliefs were appropriated early, remaining almost intact, she found that others changed with the learners' experience. It is worth mentioning that different learners' beliefs became more similar over time, suggesting the influence of authoritative voices, such as teachers'. She also found that the way the interviewer's questions were formulated invoked different beliefs—questions containing the second-person singular resulted in learners reflecting on their own experience, whereas questions about 'people' did not. In addition, teacher's voice was transparent in the learners' utterances, which contributed to the formation of their beliefs. Dialogic approaches to the study of beliefs emphasise, thus, that there are always others that learners have interacted with who have contributed to shaping their beliefs.

In fact, Alanen's (2003) study can also be considered a combination of these two perspectives. For example, Alanen observed how one interviewer told a learner that the learner could use English in Singapore, where her godmother lived. This resulted in that a year and a half later, during a research interview with another interviewer, this learner used the first interviewer's words when asked whether she would like to study English, saying *I would! Because my godmother lives in Singapore!* (Alanen 2003: 75).

In light of the above, it is important to note that the interviewer's/researcher's role in the contextual approaches is that of an active participant in the interaction, jointly creating the context with learners (Alanen, 2003; Dufva, 2003). That said, it should not be

forgotten that beliefs are above all experiential. In the following section, I will suggest how experience of dynamic assessment, can contribute to a transformation of learners' beliefs about corrective feedback.

Dynamic Assessment

Dynamic assessment (DA) builds on the concept of the *Zone of Proximal Development* (ZPD), defined as "the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers" (Vygotsky, 1978: 76). Application of the ZPD concept to educational assessment (including assessment of L2) resulted in a shift away from the traditional assessment paradigm, which is often perceived to be in opposition to instruction, toward the view that assessment should facilitate learners' development by simultaneously assessing and promoting their abilities (e.g., Poehner, 2008). At the core of DA lies mediation (assistance provided within the learners' ZPD), which includes *adaptive corrective feedback*, that is, corrective feedback that adjusts dynamically to learners' performance (Vasilyeva et al., 2007).

The study of Aljaafreh and Lantolf (1994) serves as an illustration of dynamic assessment, showing how learners' development was facilitated by CF gradually adapted to match their abilities. Aljaafreh and Lantolf (1994) reported on an interactionist DA, where mediation depends on learners' reciprocity and emerges in interaction between the learner and the mediator, the latter adjusting the following mediational moves based on the learner's reaction. However, this gradual adaptation from implicit to explicit and detailed

mediation is equally applicable to interventionist dynamic assessment, where feedback is standardised, consisting of a battery of predefined mediational moves, often in the form of CF arranged by its explicitness, which are provided to learners one by one until the learners are able to self-correct or are provided with the correct response (e.g., Poehner, 2008).

Computerised dynamic assessment is a relatively recent development in interventionist DA (Poehner, 2008). Thus, only a few dynamic tests of L2 exist. Poehner and Lantolf (2013), for example, demonstrated that computerised DA promoted learners' L2 Chinese and French listening and reading abilities. Teo (2012) went further and collected learners' reflection on the way DA mediated their performance, which suggested that learners realised that the adaptive CF helped them to find out which strategies helped them read between the lines and which were not useful. However, Teo did not collect the learners' reflections on the usefulness of different CF types they were given during the DA.

Nevertheless, it can be suggested that experience with dynamic assessment may allow learners to realise that they do not always need explicit CF for their learning to progress. That said, learners enter DA with their own beliefs, which can guide their DA performance, which can also mediate, that is, guide, their DA performance (e.g., Thouësny, 2011).

It should be noted that while experience is important in belief formation, it is no less important what is noticed in this experience and what mediates what is noticed (see Alanen, 2013). Thus, mediating learners' reflection of their DA experience to help them notice (and understand) the way CF helped them during the DA has the potential to transform their

beliefs about corrective feedback. That said, to my knowledge this has not been addressed in previous research, which inspired the present study.

METHODOLOGY

In the present paper, I will address the following questions:

1) How are learners' beliefs about the usefulness of corrective feedback transformed by their experience of dynamic assessment?
2) How are learners' beliefs about the usefulness of corrective feedback co-constructed in social interaction?

The primary data come from a series of semi-structured interviews conducted (a) before and after human-mediated dynamic assessment sessions focusing on learning English as a foreign language (Case study) and (b) after one session of computerised dynamic assessment (Group study). This constrained the social interaction analysed in the study to that happening during the research interviews. The first study was a Case study of one learner of English while the second one was a short-term study of a group of learners. To enhance confidence in the interpretation of the results, and overall, to provide a richer picture, the data from the dynamic assessment sessions were used to compare and contrast the data from the interviews, as will be detailed in the corresponding sections to follow. In the approach adopted in the study, the interviewer was considered to be an active participant in the interaction, his contribution being equally relevant for the construction of the learners' beliefs. In both studies, utterance (e.g., *I think these hints are very helpful.*) as a type of mediated action was used as the unit of analysis (cf. Wertsch, 1991; 1998). The

aim of the studies was to find out what it was that mediated learners' actions in the context of utterance. For example, I noted cases of others' mediation similarly to the way Alanen (2003) did it (see the **Background** section). While acknowledging the inseparable relationship between agents and mediational means, in my analysis I chose to concentrate on the latter. The interviews were consequently transcribed and their structure analysed.

Following Aro's (2009) finding regarding the triggering of learners' self-beliefs, the interviewer used the second person (singular or plural) when addressing the participants. The changes in learners' beliefs will be traced by noting, for example, paralinguistic features, (e.g., changes in the learners' intonation or hesitation) or degree of agency (e.g., learners saying *'I think'* as contrasted with *'the learner should'*) in the learners' utterances, which were identified and interpreted by two people separately and later agreed upon, in addition to studying what was said by the learners (and the interviewer). Transcription markings are presented in **Appendix A**. I conducted the interviews myself and report the data separately for the two studies. I was not the teacher of any of the participants in the two studies. However, I conducted the dynamic assessment with the participant in the Case study.

I followed Alanen's (2003) suggestion to study the data chronologically, noting how what had been reported at earlier points of the interviews influenced the learners' later utterances. The following section will provide an overview of the Case study.

CASE STUDY

Participant

The participant in the Case study was an L1 Russian learner of English in grade ten (16 years old) at an upper-secondary school in Estonia (hereafter, referred to as M). By the time of the study, M had studied English for about seven years, both at school and in private language courses. M was chosen for the study since I assumed that his English proficiency would be around level B1.2 of the adapted Common European Framework of Reference for Languages (CEFR). This assumption is based on the fact that the Estonian State Curriculum specifies that learners' proficiency in English as the first foreign language should be around level B1.2 at the end of grade 9 (Põhikooli riiklik õppekava õigusakt: Lisa 1, 2010). Judging by previous studies (e.g. Nation, 2001), learners at lower-intermediate level of L2 proficiency (which is roughly equivalent to level B1 on the CEFR scale) are more likely from the instruction in word derivation, the target of the dynamic assessment sessions (see below), than at lower levels of L2 proficiency.

Data and Procedure

The data in the Case study come from (1) three human-mediated dynamic assessment sessions, comprising a set of exercises on word derivation mediated by the interviewer, and (2) three semi-structured interviews conducted one week before, one week after, and six months after the last DA sessions. The DA sessions were administered within a period of three weeks, with about one-week intervals.

The interview topics included:

- feedback from the school teacher of English and the learner's perceived usefulness of this feedback (the second interview did not include this topic);

- usefulness of corrective feedback of different degrees of explicitness;
- usefulness of adaptive corrective feedback in general;
- learning an L2.

Conducted in Russian, the interviews were translated into English for the present article (as also in the Group study). Printed sample feedback messages were presented to the learner as exhibits to reduce potential confusion between different feedback types.

There were the following types of exercises in the Case study:

- classification exercises, e.g., *which of these words are adverbs; what parts of speech are the rest of the words: momentary, literacy, ability, hyperactively*;
- suffix and prefix elicitation exercises, e.g., *on the basis of the word in the brackets, form a word that fits the sentence*: *They want to raise …… (aware) of the problem*;

Adaptive corrective feedback was provided to the learner based on Aljaafreh and Lantolf's (1994) Regulatory Scale, and included the following:

1) implicit indication that there is a mistake, e.g., *look at number one again*;
2) the mistake is located, e.g., *she showed her disapprove<u>ment</u>*?
3) attention is directed to syntactic function, e.g., *which part of speech do we need*?
4) the meaning of the affix is either hinted or revealed, e.g., *this suffix means a quality*;
5) example sentences are given containing words formed with the affix;

6) the correct response and explicit explanation are provided.

The following **excerpt 1** illustrates how M's performance was mediated during the DA sessions (in the excerpt, the item *He is very brave. He is known for his ..... (fear).* from the third session is discussed; hereafter, M = the participant, I = the interviewer). Since both English and Russian were used in the dynamic assessment sessions, the Russian transcription and the English translation will both be given, but in the rest of the excerpts (and also in the Group study), only the English translation will be used.

1 (1) *I:* Posmotri na sed'moe…

Look at the seventh…

2 *M:* (5.2)

3 *I:* …predlozhenie. Kakuyu chast' rechi nam nuzhno obrazovat'? He is known for

4 ↑hi:s-

… sentence. Which part of speech do we need to form? He is known for ↑hi:s-

5 *M:* Besstrashie – sushtshestvitel'noe.

Fearlessness—a noun.

6 *I:* Tak. A u <u>tebya</u> chto?

Right. And what do <u>you</u> have?

8 *M:* Ah (0.6) prilagatel'noe.

Ah (0.6) an adjective.

9 *I:* Tak. Chego-to ne hvatayet. To est' (.) u tebya prilagatel'noe 'fearless'.

10 Oznachazushtshee ↑chto?

Right. Something is missing. That is (.) you have the adjective 'fearless'. Which means ↑what?

11 *M:* Besstrashnyi.

Fearless.

12 *I:* To est' tebe ostalos' dobavit' suffiks kotoryi delaet ego sushtshestvitel'nym.

So, what you need to add is a suffix that makes it into a noun.

13 *M:* (4.0).

14 *I:* Podumai chto oznachaet slovo. Besstrashie – eto chto?

Think what the word means. What is fearlessness?

15 *M:* Kachestvo.

A quality.

16 *I:* Zamechatel'no!

Great!

17 *M:* (16.5) Fearnessless?

18 *I:* Tol'ko naoborot.

Yes, but vice versa.

19 *M:* ((laughter)) Fearlessness. ((laughter))

So, generally, first, the interviewer asked the learner to look at the item, giving him some time to respond (line 2). If there was no response, the interviewer gave the learner a

hint (line 3) regarding the part of speech. If the learner was still unsure, the interviewer prompted him further (lines 6-18).

Findings

As I will demonstrate, M's beliefs about the usefulness of corrective feedback were transformed over the period of time the interviews were conducted. To support these findings, I will present excerpts from the dynamic assessment since I believe the assessment sessions, taken as a whole, facilitated these changes.

Changes in M's Beliefs

During the first interview, M was asked how his English teacher at school gave feedback on errors. In M's words: "*the teacher first shows where the mistake is (.) and if we don't understand (0.4) she (.) our teacher, starts explaining the specific rule word or situation."* I take his statement as a starting point: this is what M believed about how corrective feedback was given at the onset of the study. However, M doubted the efficacy of some of his teacher's feedback (**excerpt 2**). **Excerpt 2** also exemplifies how the concept of mediated action was applied during the analysis.

(2) *I:* Can you learn something from these hints? Let's say when the teacher shows where the mistake is.

M: (2.0) If he [in Russian, the grammatical gender of the word *teacher* is masculine] explains why it is incorrect—what the rule is—then I'll remember it.

I: OK. What if he doesn't?

M: We::ll then I'll try to understand why it is a mistake (.) but I can be wrong, or maybe I won't understand at all.

The mediated action in **excerpt 2** is the product of the interaction between M and the interviewer, the latter mediating M's utterance by asking "*What if he doesn't"*. However, it is also constructed by M's experience with his teacher's feedback practices. It appeared that this experience strongly influenced the way M reported on the usefulness of implicit CF; thus, the interviewer's mediation did not lead a noticeable change in his belief. However, during the interview a week after the DA, M changed his opinion (**excerpt 3**).

(3) *I:* Which of these hints was the most useful?

M: I think when you hinted (.) there I still had to think.

I: Uhu:

M: But (.) already in the <u>right</u> direction.

I: Hinted that there is a mistake or hinted where the mistake is?

M: Well, hinted that there is a mistake and hinted about the rule (1.2) something like that.

I: And these hints are useful for what? To learn something or to find a mistake?

M: I guess both.

I: Let's say I tell you that you that you have a mistake here. Can this be useful and why?

11 *M:* Well, it is useful that you tell me there is a mistake. (0.6) I try to find it, and exclude some options that do not fit, including the one that I wrote.

First, M is invited to reflect on his experience with DA (line1). With reference to his DA experience, M reports that when the interviewer/researcher hinted, M had to think, which was useful. The interviewer then mediates M's reflection by providing alternatives (lines 5 and 7). In line 6, M accepts only the first alternative. The interviewer, however, then formulates the question in such a way that M has to refer to his DA experience (line 9). This all creates a context which is different from **excerpt 2** (where M reflected on the school teacher's feedback), and as a result a different way in which M reported on the same CF as in **excerpt 2**.

By contrast, during the first interview, M considered feedback that gave examples of the correct structure to be the most useful, saying, *"the teacher gives me an example of some other sentence with a similar meaning or a word in which (.) eh I had the mistake. Then he asks me what the difference is between my sentence and (.) the sentence that the teacher gave me."*

During the second interview, M still considered this type of feedback useful, but seemed to have changed his mind regarding what he felt it was useful for (**excerpt 4**).

(4) *I:* You remembered this hint. Why?

M: Because it helped a lot.

I: Did it help you to find your mistakes or to learn something?

M: I think above all to find the mistakes.

Here, as in **excerpt 3**, the interviewer mediated M's response by providing two options. Nevertheless, as the context was the DA, it helped M to formulate his response.

Interestingly, six months later, M still considered the feedback hinting about meanings (which M referred to as 'rules') and the feedback hinting that there is a mistake to be useful because "*in the first (.) and the one where it is shown that there is a mistake (0.6) you have to think there*', and '*where the rule is shown, there you [me/one] (.) too have to ↑think. And there (1.4) we::ll, it looks like the first one where it is shown that there is a mistake.*" The rising intonation at the end of what otherwise seems to be a confirmatory sentence might be interpreted as hesitation. However, I would suggest that it indicates M's desire to continue his thought that the first three corrective feedback types were similar in that they made him think. Importantly, this time, no explicit mediation by the interviewer was observed.

The most notable change across the interviews was the way in which M's opinion developed about the usefulness of examples of correct structures. During the last interview, which took place six months after the DA, M said, "*where [the teacher] gives examples of correct sentences is (.) in my opinion (.) useless becau:se (.) I will correct the mistake but (0.6) I might not understand (.) the rule or remember the mistake*." Thus, it seems that, in contrast to the first interview, where, judging from his use of the word *understand* (see **excerpt 2**), M doubted that implicit feedback would result in *awareness with understanding*

(Alanen, 2013), during the last interview, M had similar doubts about feedback providing examples of correct structures.

In the following section, I will elaborate on how dynamic assessment mediated the way M reported on his beliefs during the last two interviews.

Dynamic Assessment

During the dynamic assessment, there were several episodes when M was able to self-correct after implicit CF. Consider **excerpt 5**, for example. During the first session, M did not know the meaning of the suffix -*ess*; I had to give him the correct answer and explain the meaning of the suffix. During the second session, the process was quite different:

(5) *I:* Yea:h. Almost right. You missed one letter in number nine.

M: "r"? I <u>knew</u> it!

I: Huntress. You wrote it right. You remembered that it [[is a suffix-]]

M: [[of the feminine gender.]]

The recognitional overlap at the end of the exchange suggests that M did not require the interviewer's mediation, as he was able to do it himself. Another example is **excerpt 1**, where M was directed to the meaning of the word *fearlessness* (lines 14-16) and, as a result, was able to recall the suffix -*ness* (line 17).

Episodes like these seem to have led M to classify references to hints about 'rules' and mistakes as the most useful CF types, during the second and the third interviews.

GROUP STUDY

Two group interviews were analysed in order to understand how social interaction brings about changes in learners' beliefs over a short period of time.

Participants

The participants in the Group study were 6 L1 Russian learners of English at grade 8 (14-15 years of age) from a secondary school in Estonia. By the time of the study, they had been studying English for about six years.

The participants in the study were selected from a larger group participating in a study aiming at establishing the effect of dynamic assessment on learners' ability to form L2 English questions (see Leontjev, 2014). The larger group from which the present participants were sampled was recruited such that wh-questions with auxiliaries were within the learners' ZPDs. This was done by asking their teacher whether the learners were familiar with the trained structure. What is more, all of the participants were able to form several correct questions during the DA (albeit some learners with rather explicit assistance), which confirmed that the structure was within the participants' ZPD.

The selection of the participants in the present study was based on (a) their teachers' evaluation of their abilities and (b) the learners' performance on two unmediated exercises which showed their unassisted ability to form wh-questions with auxiliaries (the target of the DA). The first exercise measuring their unassisted performance was E-mail writing according to the prompts given and the second, a gap-filling exercise. More details about

the original group from which the participants in the present study were sampled and the exercises can be found in Leontjev (2014).

The learners were interviewed in two groups, as mentioned above, formed based on the learners' unassisted performance and their teacher's evaluation of their abilities. The first group included two high-achieving learners (coded *HA1* and *HA2*) and one middle-achieving learner (*MA1*). The second group had two low-achieving learners (coded *LA1* and *LA2*) and one middle-achieving learner (*MA2*). The low-achieving learners were selected among those whose unassisted performance was in the lower tertile, the middle-achievers, in the middle tertile, and the high-achievers, in the top tertile in their group. The teacher confirmed that HA1 and HA2 were, indeed, high-achievers as regards their performance in the class, the two low-achievers were among the low-achieving learners in the class, and MA1 and MA2 were among the averagely performing learners. It should be noted that the high-achieving learners only occasionally required CF during the dynamic assessment, and when they did, it did not reveal much detail about their mistakes. The low-achieving learners, on the other hand, received the CF almost on every item in the test and experienced feedback of different explicitness and level of detail. The middle-achievers' experience with the DA was somewhere between the little implicit feedback that the high-achievers received and extensive CF of various explicitness and level of detail received by the low-achievers.

One high-achieving learner missed the day of the interview and had to be replaced by another high-achiever (and coded as HA1 instead of the missing learner) who, however, had knowledge of results feedback (i.e., either telling that his response was correct or that it

was wrong) and not adaptive feedback as the rest of the participants did, as this high-achiever was from the control group in Leontjev (2014). While HA1's experience with the CF in the study seems to be different at the first glance, it was rather similar to HA2's. HA1 received the CF (i.e., this is wrong) thrice, and so did HA2, two of them *think more carefully*, and one, *look at this part of your sentence*. Further details on the participants are presented in **Appendix C**.

Data and data analysis

The data consist of two small-group interviews with the six learners. Additional data collected in the study come from a questionnaire (**Appendices B and D**), observation of the learners working on the computerised DA tasks and their performance logs (**Appendix C**), and an interview with their teacher of English. The learner interview topics included:

- teacher's feedback practices and learners' perceived usefulness of it;
- feedback in the dynamic assessment;
- learning an L2.

To help the interviewees recall their experience, they were presented with screenshots of sample feedback messages and exercise items. For verification, learners' interview data were triangulated with the data accumulated from the learners' performance on the dynamic test, the observation of the learners working on that same test (**Appendix C**), and the interview with their teacher. The interviews were transcribed, noting what mediated the learners' utterances (the teacher's voice, DA experience, other participants'

mediation, etc.) and what, in addition of the utterances themselves (e.g., lack of hesitation or degree of agency) could be later interpreted with reference to the beginning of appropriation of the learner's beliefs. In one case (**excerpt 14**), both coders were not sure whether one of the utterances produced by LA2 was the manifestation of this learner's agency. Thus, a third person was asked to help with establishing whether it was so.

The overall procedure was as follows:

1) two unmediated exercises;
2) a computerised DA (immediately following the unmediated exercises);
3) a questionnaire (immediately following the DA);
4) interviews (on the following day after the DA).

All the exercises and the questionnaire were completed online.

During the dynamic assessment, the learners completed five exercises:

- two ordering exercises intended to diagnose problems with the word order of wh-questions with auxiliaries, e.g., *park/where/near the shop/my father/can ?*
- three ordered multiple-choice exercises evaluating problems with *do*, *does*, and *did* in wh-questions with auxiliaries, e.g., *what else [do you sell] in your shop?*

Based on Aljaafreh and Lantolf's (1994) Regulatory Scale, the feedback messages in the exercises (originally in Russian) had growing explicitness and detail, as indicated by numbers from 1 to 5 (also see **Appendix B**):

0) An indication that the response is correct.
1) An implicit hint that the response is incorrect, e.g., *Think more carefully*.

2) The part of the sentence containing the error is highlighted, e.g., *When **he comes** to work? Look at the highlighted part of your sentence*.
3) Metalinguistic clues and/or elicitations are given, e.g., *Where does it **plays** in the shop? You used the correct helping verb **does**. But something should be changed in the verb **plays** in your question.*
4) Examples of the correct structure are given, e.g., *Not quite right. Look at the following examples… How are they different from your sentence?*
5) The correct response with explicit explanation is provided, e.g., *How did you **found** my E-mail address? Unfortunately, it is incorrect. You used the verb **did** in the Past Simple tense. Great! But since **did** is already in the past tense, you shouldn't have used **found** in the past tense. The correct answer is…*

With each incorrect response from the learners, the level of the feedback message that followed was increased (i.e., after the first mistake, feedback level 1 was displayed, after the second, feedback level 2, and so on). The feedback level was reset in each new exercise. I will refer to feedback given in the Group study in terms of these five levels.

Findings

In what follows, I will present excerpts from the two interviews in chronological order to illustrate the changes in the learners' beliefs that emerged during the interviews. It should be noted that the social interaction was constrained by the activity of the interview. Thus, the learners in the Group study, in most cases, did not respond to each other's utterances directly. However, in the analysis, it was noted how what was said by one participant

mediated the way other participants constructed their utterances. Before turning to the interviews, I will briefly summarise the learners' responses to the questionnaire (**Appendix B**) and their teacher's feedback practices.

Questionnaire

I used the learners' responses to the questionnaire as an indication of the beliefs about feedback with which they entered the interviews. These responses are summarised in **Appendix D**.

By and large, the high-achieving learners entered the interview with varying perspectives regarding the usefulness of feedback. The low-achievers, however, presented somewhat more homogeneous perspectives. Similarly to the findings of previous research (e.g., Amrhein & Nassaji, 2010), LA2 and MA2 considered explicit feedback to be the most useful, finding implicit feedback the least useful. LA1 thought all feedback in the dynamic test was useless. Notably, and perhaps relevant to these beliefs, two of the three low-achieving learners did not benefit from more implicit feedback during the dynamic assessment, as it did not help them to self-correct their mistakes. However, this does not apply to MA2, who was sometimes able to self-correct with less explicit feedback (**Appendix C**).

Teacher's Interview

The teacher's interview seemed somewhat contradictory. On the one hand, she confirmed that she often directed learners to the correct answer without overtly correcting, adding,

"*that's my way*" because "*if we have some additional information or some hints, it makes our brain work.*" On the other hand, she added that "*the most usual way (1.1) first of all, I explain and then say the correct [answer].*" She also believed that her low-achieving learners expected her to provide only overt correction. Thus there is a possibility that the teacher's feedback practices were different with less-able learners, whose mistakes she corrected explicitly.

High-achieving Interviewees

MA1's experience mediated by the interviewer resulted in an interesting development in the way he reported on his beliefs, which influenced the rest of the discussion, including the interviewers' questions later during the interview (**excerpt 6**).

(6) *I:* Which one wasn't understandable?

MA1: This one, the second.

I: What was it that was not understandable?

MA1: Because it's simply eh (.) 'think more carefully'.

I: OK, <u>think</u> more carefully.

MA1: Well (.) as soon as I <u>thought</u> (.) I immediately understood ((laughter)).

The final MA1's utterance was in part constructed by the interviewer, who stressed the word *think* when repeating MA1's previous utterance. MA1 then not only repeated the word *think*, but also used the same intonation as the interviewer. In fact, the whole

exchange can be seen as the interviewer's scaffolding the learner's response. That MA1 used the interviewer's words to formulate his utterance can be interpreted as the beginning of appropriation of the belief that such feedback can be useful for him (initiated by MA1's DA experience and mediated by the interviewer).

MA1's reflection notwithstanding, HA2 continued to report that the think-more-carefully feedback was useless. Thus, the interviewer turned to HA2's experience with this feedback (**excerpt 7**).

(7) *I:* OK. Can you remember (.) while you were doing the exercises did you get this feedback (.) and could you find the correct answer after it?

HA2: (1.0) Well yes (2.0) because in the beginning (.) I had like (0.8) <u>two</u> options that could fit.

I: Aha.

HA2: And since the first one was wrong, it could only have been the second one.

This reflection on his own experience could have been a reason for a change in HA2's report. Specifically, towards the end of the interview, the interviewer covered all the sample feedback messages but the most explicit and asked the learners whether it would have been useful if they had been always provided with correct responses during the test. To this, HA2 responded, *"I don't think so. Because it's better to understand the rule."* This was a change from his questionnaire responses (**Appendix D**), where he did not discuss the usefulness of the CF in terms of helping him understand the rules (something that was

brought up by MA1 in **excerpt 6**). What is more, at the end of the interview, when the interviewer switched the context to the feedback from the teacher, HA2 reported that the teacher "*may at first hint that there is a mistake (.) the learner will try to guess it himself (1.1). It is more useful*."

Low-achieving Interviewees

Judging by the questionnaire responses of the low-achieving group learners, I expected that peer utterances would result in little changes in the way learners talked about their beliefs about CF. However, it was one of the learners whose utterances guided the utterances of other learners. To start with, soon after the beginning of the interview, LA1 seized the initiative, discussing why she felt feedback was useless for her (**excerpt 8**).

(8) *LA1:* There if you do one time correctly (.) the rest are the same. It happens with 'did' and without the ending (.) for example with 'does'. (0.4) And then everything else was correct. And ↑these ones ((points at the ordering exercises)) are a <u>real idiocy</u>.

What it more, the interviewer then decided to change the topic and asked the learners if they found any mechanics of doing the exercises that could be made better. However, instead of responding to the interviewer's question, LA1 continued to criticise, saying that "*the hints were really not understandable*," as a matter of fact, interfering with MA2's response.

However, she was also the first to acknowledge the usefulness of implicit feedback from the teacher (**excerpt 9**).

(9) *I:* What do you [2nd person pl.] think can such feedback be useful to you? When the teacher does not correct you, but (.) e:r (.) tries to help you to find the correct answer, so that you yourself find the mistakes?

LA1: Of course they are useful.

I: How?

LA1: Because we think ourselves (0.4) we start (1.2) something like these rules ((points in the direction of the screenshots of the feedback and the exercises)) (0.6) so:mehow (0.4) connections.

LA's last utterance is quite interesting. The unfilled pauses could be due to the increased cognitive load (e.g., Goldman-Eisler, 1960). That the utterance was rather fragmentary also suggests this interpretation. LA1 making a connection between the teacher's feedback and the feedback in the exercises (something like these rules), or the interplay of her two discordant beliefs—that such feedback is useful and not useful—might have increased the load. The teacher's voice (see the teacher interview) may also be reflected in LA1's utterances, triggered perhaps by the interviewer's use of the second-person plural at the onset of the exchange. That is to say, LA1 might have been more likely to see the advantages of corrective feedback when the implied agents were other, perhaps, more able learners, whom the teacher directed to correct responses without revealing them

(as emerging from teacher interview). In any case, this exchange became rather important for the rest of the interview, as this connection between the teacher's feedback and the feedback in the study helped the other learners to construct their utterances about the usefulness of feedback in the study.

In the questionnaire, LA2 rated the last two levels as the most useful. In fact, also immediately before the episode quoted in **excerpt 9**, both MA2 and LA2 reported that feedback that showed them the correct response was the best. However, in **excerpt 10**, LA2 reports on these two feedback levels somewhat differently.

(10) *LA2:* And for me it was that one.

I: The <u>second</u> to last?

LA2: Yes. (0.6) Well (.) the last one and this one.

I: M: the last one and the second to last.

LA2: Yeah, you [one/me] have to (.) ↑think a bit there.

I: Aha. And here you have to think <u>less</u>? ((points at level 5 feedback))

LA2: Yes.

At first, LA2 pointed to level 4 feedback (i.e., examples of correct structure), only mentioning overt correction after some hesitation. LA2 then reported that one had to *think a bit* when level 4 feedback was displayed, again seeming rather hesitant, as the rising intonation suggests. LA2's utterance "*you have to think a bit"* is very similar to LA1's "*we think ourselves*" in **excerpt 9**. This choice of words is not coincidental, considering that this

LA2's utterance appeared only about three minutes after LA1's utterance in **excerpt 9.** This is all the more interesting because in the questionnaire LA2 discussed the usefulness of the feedback in terms of whether it explicitly revealed what his mistakes were (useful) or not (useless). That is to say, LA2 used LA1's words to construct his utterance. The sequence I see is the following: the teacher's feedback that does not reveal the correct answer is useful because it makes them think (as LA1 reported); the feedback in the study also makes them think (the connection that LA1 made between the teacher's CF and the feedback in the study); one has to think more when one is given fewer details about the error. The interviewer mediated this emerging belief by stressing that the learners had to think less when provided with overt correction.

In **excerpt 11**, changes in the beliefs of two learners emerge.

(11) *I:* OK (.) let's go back to what you [2nd person pl.] learned yesterday. What do you [2nd person pl.] think, could the hints, which you got yesterday (1.1) help you to learn that? That is, for you: the sentences in the past tense, for example?

LA2: Yes (.) they could.

I: Uhu.

LA2: Well, at first I did not understand, but then-

I: Uhu.

LA2: I read the hints and it (.) became a little more understandable.

(2.0)

I: What about you?

11 *LA1:* No.

12 *I:* Why?

13 *LA1:* Because I told you that the construction was the same (.) and I put it because

14 I knew it was right (0.6). I did not think (0.5) didn't read the sentences.

15 I: Right. (0.6) What about you?

16 *MA2*: Well, there were similar sentences. Sometimes I simply pressed OK (.) and

17 it was right.

18 *I*: So, the hints did not help you?

19 *MA2*: We:ll (0.8) some of them ↑helped.

20 *I*: Uhu.

21 *MA2*: The ones that (0.8) were (.) the <u>second</u> to last.

First of all, LA2, having reported in the questionnaire that the feedback did not help him, now confirms that it actually did (lines 6-8). As LA1 reminds us of her strategy (lines 13-14), MA2 reveals that he, too, sometimes answered randomly (lines 16-17; see also **Appendix C**). He, however, adds that the feedback did help him. Importantly, he now only refers to level 4 feedback (lines 19-21; cf. **Appendix D**).

LA2 now seemed to have abandoned his view that overt correction is always the best, but LA1 also realised something about effortlessly getting the correct answers (**excerpt 12**).

1 (12) *I:* What if you [2nd person pl.] (.) instead of all this, you [2nd person pl.] had been

2 given the last feedback only? Would it have been more useful for you [2nd person

3 pl.] (.) what do you [2nd person pl.] think?

4 *LA2:* No it wouldn't.

5 *I:* Why?

6 *LA2:* Well (.) like (.) the:n you [one/me] (.) don't try to understand why it is so.

7 Well it does not make you [one/me] think about it.

8 *I:* Uhu.

9 LA1: For the <u>test</u> result (.) if you need to know the correct answer (.) then it would

10 be <u>yes</u> (.) more useful.

11 *I:* And for you?

12 *LA1:* °No°.

LA2 again used the verb *think* (line 7) to refer to level 4 feedback, this time, however, without hesitating (differently from **excerpt 10**). It is also interesting that LA2 used the word *understand* as a positive aspect of feedback (line 6); that is to say, L2 appreciated the awareness with understanding that more implicit feedback made possible, which was a change from his questionnaire responses (**Appendix D**). There is also (arguable) evidence for LA2's agency. The sentence he formed (lines 6-7) was a mononuclear impersonal sentence (in the original: "*ne pytaesh'sya ponyat"*). These are often used to refer to self in the Russian language.

While LA1 in lines 9-10 responded to the interviewer's question, she also responded to LA2's utterance. In lines 9 and 10, it then appears that (a) LA1 assumed CF not revealing the correct answers could have been useful for her during the DA (which line 12 also suggests) and (b) that she probably considered the DA to be a conventional test. LA1's "*no"* (line 12) was uttered in a soft, quiet voice. Perhaps, she did not want to admit that the feedback she had skipped might have been useful for her. This does not mean, however, that she fully abandoned her prior belief—at the end of the interview, she added that, above all, she needed "*a good graduation diploma, and then knowledge*." Though her existing belief in the superiority of good marks over knowledge was still strong, her negation indicates that it had weakened. In this respect, LA2's negation (line 4) is different from LA1's, as he was confident in his response and justified it (lines 6-7). This can be interpreted with reference to a different degree of appropriation of their beliefs, LA2 having appropriated his belief to a greater extent than LA1 did.

OVERALL DISCUSSION

The present study aimed at discovering how learners' beliefs were transformed by their experience of dynamic assessment and were co-constructed in social interaction unfolding during research interviews, as well as, what, in addition to the learners' DA experience, mediated these changes.

The findings of the two studies indicate that the learners' beliefs about the usefulness of corrective feedback transformed (or started transforming) through social interaction and experience. In the Case study, what the learner reported about corrective

feedback differed across the interviews. That is, M started appreciating implicit feedback because it made him think (in M's words) rather than more explicit feedback that he thought only helped him to self-correct. In the Group study, the participants' responses to the questionnaire were different from what they reported during and especially at the end of the interviews.

With reference to the first research question, it appears that the recent experience of DA influenced the way the learners reported on the usefulness of corrective feedback. Evident in the Case study above all, this is also seen in the Group study. Importantly, the results of the Case study suggest that the beliefs that emerged from the learner's experience of dynamic assessment persisted and even developed further over the following six months. That said, it should not be assumed that the DA experience was uniform for all the high-achieving and all low-achieving interviewees (**Appendix C**), especially considering the nature of DA, where mediation (in the case of the present study, CF) is attuned to each learners' ZPD but also that learners entered the DA with their own beliefs and expectations. This was particularly evident in the case of LA1. It appears that due to the teacher's intervention during the DA (**Appendix C**), LA1 perceived the procedure as a common test (see **excerpt 12**). This resulted in that she rejected the feedback, instead memorising her responses when these were correct by chance. It can even be suggested that at times (e.g., **excerpt 8**), instead of responding to the interviewers' questions (which should be expected in an interview), she decided that her task was to criticise the DA procedure since she considered it to be useless (probably having certain expectations of what a test should be like).

What is more, it was not the experience per se, but the experience mediated in the social interaction unfolding during the interviews that brought about changes in the learners' utterances. In the following, the results contributing to the response to the second research question will be discussed.

The interviewer, who also was the mediator during the DA in the Case study, was the most evident source of mediation during the interviews, being a significant other (researcher). It appeared that he mediated the learners' utterances in a variety of ways, for example, providing two options (e.g., **excerpts 3** and **4**) or eliciting the learners' DA experience (e.g., **excerpt 7**). In fact, the sole presence of the interviewer during the final interview of the Case study was enough to construct the context, where M discussed the usefulness of his school English teacher's feedback with reference to his DA experience.

Regarding the latter, it is possible that, in line with the previous studies (e.g., Aro, 2009), and considering the teacher's own beliefs about CF emerging from the interview, teacher's voice was present in LA1 utterance in **excerpt 9** ("*we think ourselves"*). Even if the teacher was not the 'speaking entity' in LA1's utterance, at least the teacher's (an authoritative other's) feedback practices led to LA1's report. That is, LA1's belief in the usefulness of her teacher's feedback mediated her reflection.

However, as the Case study demonstrated, it is not always beneficial to draw on teachers' feedback. M appeared to have negative experiences with his teacher's feedback in locating a mistake. This could have been the reason why during the last interview, when there was no explicit mediation by the interviewer, M never mentioned this CF type among the ones that could be useful for him.

What other learners reported also mediated the learners' utterances. One example of that is LA1' utterance in **excerpt 9** discussed earlier. After LA1 reported that teacher's feedback made them think, the focus of the learners' discussion of the usefulness of the feedback changed from whether or not it revealed the correct answers and explained everything to whether or not it made them think. Similarly, it seems that what MA1 reported in **excerpt 7** mediated HA2's utterances towards the end of the interview. Some of the changes in the way learners reported on the usefulness of corrective feedback can be interpreted with reference to mediation of noticing (Alanen, 2013). That is to say, other participants' mediation helped the learners to recall something from their experience (e.g., **excerpt 7**) or make connections between the CF they received during the DA and the feedback from their teacher (e.g., LA1's report helping to construct LA2's utterance).

That said, especially as regards the Group study, it would be inaccurate to talk about the transformation of the learners' beliefs about corrective feedback. Rather, the changes in the learners' utterances can be perceived as the beginning of the process of appropriation of these beliefs, different for different learners, at different times during the interviews, and in different interviews. For example, LA2's absence of hesitation in **excerpt 12** while present in **excerpt 1** when he reported on that CF is useful when it makes one think can be interpreted as a change in the degree of appropriation of this belief. Similarly, the degree of appropriation of LA2's "*no it wouldn't*" and the following elaboration in **excerpt 12** seems to be higher than LA1's "*no*" in the same excerpt due to the lack of hesitation and an arguable degree of agency in the former. Finally, that there was no mediation of M's beliefs by the interviewer (apart from the latter being present) during the last interview in the Case

study also suggests that M's beliefs about CF were appropriated more during the last interview.

With reference to appropriation, LA1's case is especially interesting, as it appears that she had two beliefs: that the teacher's implicit feedback was useful and that good marks and knowing the correct responses were important (both, judging by the degree of agency in her utterances, appropriated considerably). However, she appeared to have used the latter to mediate her selection of strategy during the DA and not the former (see also, e.g., Mercer, 2011). Possibly, she turned to this belief to mediate her experience (also during the interview) because she considered the procedure to be a conventional test, since the situation, for her at least, was indeed test-like. A further reason for LA1's performance can be her frustration at not being able to find the correct answers in the ordering exercises (**excerpt 8**). That LA1 reported on both of these beliefs during the interview can be explained by the natural polyphony of voices and beliefs mediating her (and others') reflections (Aro, 2009; Bakhtin, 1986; Dufva, 2003).

LIMITATIONS AND IMPLICATIONS

The two studies reported here aimed to add to the understanding of how recent experience and social interaction between the interviewer and the learners, but also utterances of other learner participants change learners' beliefs about the efficacy of corrective feedback.

There are, however, several limitations to the studies, the biggest of which concerns the absence of longitudinal data in the Group study. It is therefore impossible to confirm or refute that the learners appropriated the beliefs that emerged during the research interviews.

It is also difficult to say how the interaction would have unfolded and what beliefs would have emerged should there have been less guidance by the interviewer. It should also be noted that while the task that the learners were given was to answer the interviewer's questions, they could have perceived their task as, for example, having to respond 'correctly', that is, to tell the interviewer what they thought he wanted to hear (see also Alanen, 2003). Finally, caution must be exercised when extending the findings from these two studies to other contexts.

Notwithstanding these limitations, the findings suggest that learners' beliefs about corrective feedback can change through social interaction and recent experience. Specifically, learners' own experience, other participants' reflections, the interviewer's questions, and voices of significant others (i.e., the teacher) influenced the ways in which the learners reflected on their beliefs about the usefulness of different types of corrective feedback. The findings also suggest that beliefs about corrective feedback emerge and start transforming (and being appropriated) both with time (the Case study) and over as short a period of time as one research interview (the Group study).

The implications of these findings stretch beyond the immediate pedagogical context, namely, to change learners' beliefs about corrective feedback through discussion (see Amrhein & Nassaji, 2010). The findings imply that learners might sometimes skip feedback provided to them during computerised dynamic assessment if they believe it is useless (see also Thouësny, 2011), which may hinder the reliability and validity of DA. Specifically, when learners skip feedback because they believe it is useless, they may lose opportunities for development, which decreases the usefulness of DA. Furthermore, any

inferences made from the performance of such learners (e.g., the amount of assistance they require with certain structures) can be unreliable. However, discussions similar to the ones presented here might potentially serve as a remedy for this problem. The implied reason that LA1 skipped the feedback has further implications for computerised dynamic assessment. Manipulating the starting level of the complexity of feedback, that is, making it more explicit and detailed for these learners, should reduce the possibility that less able learners get frustrated and skip the feedback they receive. Future studies can shed more light on the ways learners' reciprocity (including when it is guided by their beliefs) can be accounted for in computerised DA.

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APPENDIX A

Transcription Symbols.

Symbol	**Meaning**
<u>text</u>	a stressed word or a part of it
↑	noticeably rising intonation[1]
((text))	non-verbal behaviour, e.g., laughter, gestures, etc.
A: [[text]]	
B: [[text]]	overlapping utterances
(.)	pause of 0.2 seconds or less
(0.0)	timed pause
:	elongation of the preceding sound
-	an utterance is cut off
°text°	uttered in a noticeably quieter, softer voice
[text]	comment

[1]Punctuation markers are not deliberately used to indicate intonation in the transcript although question marks show a somewhat rising intonation and full stops, unless otherwise indicated, show a somewhat falling intonation.

APPENDIX B

Questionnaire Items Discussed in the Study (English Translation).

Please tell us how useful the hints were for you (how well they helped you to complete the exercises).

☐ Very useful (they helped me a lot)

☐ Quite useful (they helped quite a lot)

☐ Not really useful, but not entirely useless either (they helped me a little bit)

☐ Quite useless (they did not really help me)

☐ Useless (they did not help me)

Did you learn anything after completing the exercises?

☐yes ☐no

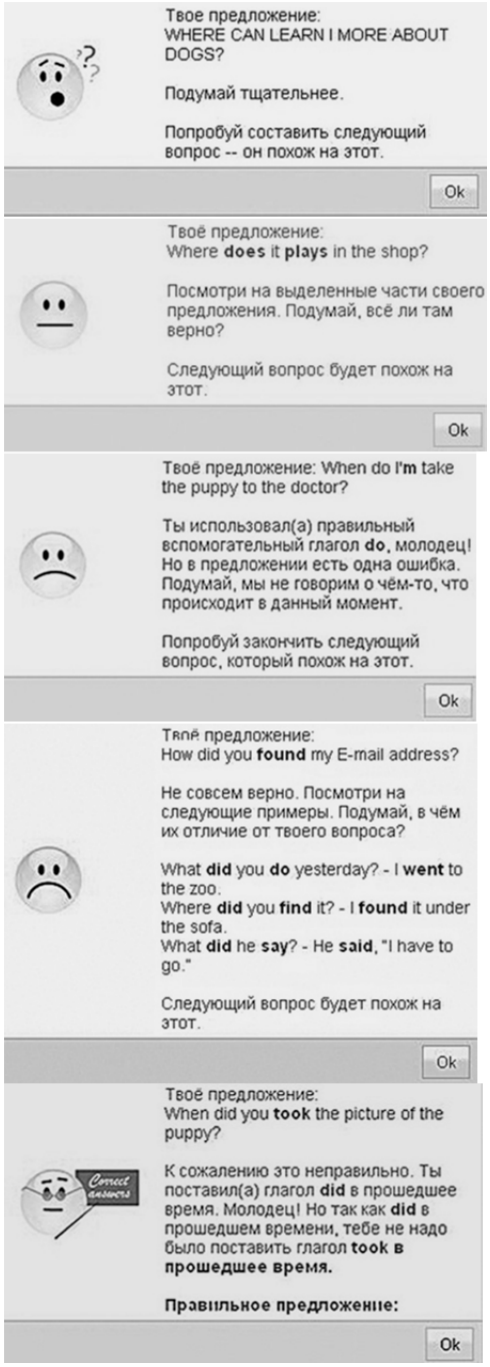
Please tell us what you learned:

Do you think the hints you received helped you to learn it?

☐yes ☐no

Please tell us how exactly the hints helped you to learn:

Below are the hints similar to the ones you probably saw while doing the exercises. Click on the hints and give <u>each</u> of them a mark from '1' to '5' depending on its usefulness for you. Give a '1' to the most <u>useless</u> and a '5', to the most <u>useful</u>.



Please tell us why do you think the hint that you gave the highest mark was the most useful for you?

Why was the hint that you gave the lowest mark useless for you?

APPENDIX C

Interviewees' Performance/Observation.

Code	Sex	Performance	Observation
HA1	M	From the knowledge of results feedback group. Required feedback once in the first exercise and twice in the second exercise.	I observed him working through the exercises, as he looked at the items quickly, thought for several seconds, and selected the correct options.
HA2	M	Required level 2 feedback in the second ordering exercise to self-correct and level 1 feedback, in the *did*-exercise.	I watched him carefully studying different options in the exercises before submitting his answers.
MA1	M	Required feedback level 2 to 4 in the exercises.	I noticed him pressing the *OK* button on a level 2 feedback window immediately after it appeared. By and large, though, he seemed to be reading the feedback.
LA1	F	Was not able to find any correct answers in the ordering exercises, but in the	At first, she tried to find out the correct answers from her classmates, but the teacher reminded her that she had to work

		multiple-choice exercises, only required feedback level 1-3. The reason for this is discussed in the article.	independently, which she, after this point, did. Spent more time on reading feedback after she responded correctly.
LA2	M	Needed level 5 feedback in three out of five exercises. Needed levels 3 and 4 feedback in the other two.	When I observed him, he seemed rather concentrated not looking around or asking anything either from his teacher, me, or his classmates.
MA2	M	Required from no feedback up to level 5 feedback in the exercises.	On two occasions, I noticed that he skipped a feedback message, pressing the OK button immediately after the feedback message appeared.

APPENDIX D

Summarisation of the Participants' Questionnaire Responses.

Code	**Overall usefulness of the feedback in the study**	**Useful feedback**	**Useless feedback**	**Comments**
HA1	Useful, but only for finding correct answers, not for learning.	Both telling that the answer was correct and incorrect.	None	Received knowledge of results feedback.
HA2	Not useful.	Level 5	Levels 1 and 2	Reported that getting explicit explanations would remind him about the rules.
MA1	It helped him to find the correct answers in all the exercises and helped him to learn how to form questions.	All the feedback	None	-
LA1	Useless.	None	All the	Reported that she did not

			feedback	understand the meaning of the hints.
LA2	Somewhat useful, but did not help him to self-correct/learn anything.	Levels 4 and 5	Levels 1 and 2	Reported that the levels he rated as the most useful showed him his mistakes, whereas the useless did not.
MA2	Useful, as it helped him to self-correct in half of the exercises. Did not learn anything.	Levels 4 and 5	Level 1	The useful levels explained what his mistake was, whereas the useless did not.