The Study of the Phenomenon of Hesitation as a Cognitive Process in Iranian French Learners’ Oral Production

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Abstract
Hesitation, when speaking a foreign language, is studied through its components: beginnings, pauses, and repetitions. This paper aims to identify, through the study of this phenomenon, vulnerable zones among Iranian learners when they speak French. A case study of 30 adult learners shows that hesitation is not random and at different levels (A1 to B2) it is differentiated and divided into fluent, semi-fluent, and disfluent utterances. Problematic linguistic elements and those structures that have not yet been internalized make up speaking vulnerable zones, cognitively manifested by hesitations. The results show the least fluent learners at each level had more finished beginnings. The less a learner was fluent, the more they had in-word beginnings. In addition, the number of modified beginnings was greater than the finished ones when more fluent learners spoke. There are, therefore, implications for oral proficiency assessors who may conclude that the learner knows the rules but still has to practice to reach fluency. The results also show that there were more filled pauses than silent ones at all levels except A2. At B2 level, there were considerably less pauses, a sign of learner autonomy.

Keywords: hesitation, cognitive process, French as a foreign language, Iranian learners

1. Introduction
Cognitive sciences emerged and flourished between 1940 and 1956. Their focus is on the study of cognition particularly that of human, from its outer structure to its underlying biological layer, trying to establish a model to decipher its psychological, linguistic, and anthropological expressions (Bajric, 2013).

Today, the term “cognitive sciences” comprises a number of fields of study whose aim is to reach a better understanding of the relations between mental activities and human knowledge. Language teaching, in its turn, has benefited from cognitive sciences. The dominant approach is now to investigate cognitive processes which play a part in language acquisition and perception, as well as in written and oral expression and comprehension (Billières & Spanghero-Gaillard, 2007).

Concerning the teaching and learning French as a foreign language, from the 1980s onward, the focus has been on cognitive dimensions of written skills. In the last few years, however, a marked interest in oral skills has become prominent (Chiss, 2002). A close tie has since been established between interactionist perspective and the cognitive dimensions of oral skills.

The objective of this paper is to verify the links between cognitive and linguistic factors by zooming in on the phenomenon of hesitation in its cognitive dimension during oral expression. It aims to understand and analyse the organization of the knowledge system and the processes through which they work. In doing so, the present research will illustrate, through the study of hesitation, the vulnerable zones in Iranian learners’ oral expression in French.

From the methodological point of view, this study is outlined within the frameworks of cognitive language teaching (Billières & Spanghero-Gaillard, 2005). It tries to bridge cognitive psychology and psycholinguistics on the one hand, and language teaching on the other. The researchers have therefore tried to explain how to interpret the phenomenon of hesitation as a cognitive process while speaking a foreign language.
2. Hesitation While Speaking a Foreign Language

The concept of fluency as opposed to the concept of hesitation is centered over the temporal aspects of speech: as the number and duration of hesitation goes up, the speech is considered as less fluent.

On a general basis, hesitation in mother tongue allows the speaker to plan his/her speech, to select words, and to articulate. The same is true for a foreign language. However, hesitation in a foreign language is interpreted as a sign of disfluency. According to Hilton (2008), disfluent speech is a speech marked with long pauses which cut off the discourse into less well-defined blocks from a syntactic or conceptual point of view. Hesitation that extends beyond three seconds is the sign of a major breakdown, or even premature end to the speech. Hesitation comprises three components: beginnings, pauses, and repetitions. Each component has sub-components. The following diagram illustrates the phenomenon of hesitation along with its components.

Diagram 1. The phenomenon of hesitation along with its components

Here we would like to explain what we mean by the concepts in the diagram.

Beginning words:
- Modified beginnings: The beginning unit is followed by another unit which replaces it.
- Completed beginnings: The beginning unit is interrupted and then completed without a syntactic change.
- Unfinished beginnings: The beginning unit is left off unfinished and is replaced by a syntactically different word. (Henry & Pallaud, 2004)

Pauses:
- Silent pauses during which the learner remains silent. It is defined by a sudden lack of all vocal emissions in the course of speech. Some silent pauses may seem to be a chance for the speaker to breathe but the morphosyntactic regularities of the breath breaks show that the speakers choose when to breathe and are not passively subject to such physiological constraint. With the exception of some pathological cases, no one breathes in the middle of uttering a word. Even if this happened, one would almost necessarily pronounce the whole word again. (Candea, 2000)
- Filled pauses are the interruption of a segment accompanied by hesitation interjections. Vocal lengthening also falls into the category of filled pauses. (Campione & Véronis, 2004)

Repetitions:
- Repetitions as a language feature are predicted by the grammar. They are manifested in a variety of forms in course of speaking. Repetitions give the utterance an expressive value and are not considered as a sign of disfluency for example C’est très très eh (.) <((in persian)) \textit{[	extit{saxt}]}> [That’s very very (.)<difficult>].
- Repetitions as a speech feature only appear in spoken language and result in the formation of ungrammatical utterances. In other words, this type of repetitions is grammatically unacceptable. (Henry, 2002)
3. Oral Expression Stages in a Foreign Language from a Cognitive Point of View

Linguistic development may be considered as a dynamic system (De Bot et al., 2007) whose characteristics are as follows:

- Dependence sensitive to initial conditions: learners’ initial state not only includes their background knowledge, but also their mental state at the moment of expression.
- Total interconnectivity of the subsystems: while speaking a foreign language, many interdependent variables such as cognitive, social, and affective variables intervene.
- Variations: They include learners’ personality features, linguistic environment, the type of relationship between learners, etc.

Speaking is the result of the combination of three types of knowledge:

- Declarative knowledge which, according to Anderson (1987) includes everything stored in the memory. Because using this knowledge does not require that one knows how it works, it takes considerable effort to transform this knowledge into behavior, however easy it might be to store.
- Procedural knowledge which cannot be taught by the teacher and added to the existing knowledge, but which has to be built by the learners themselves through trial and error (Bange, 2005). If we could roughly compare declarative knowledge to computer data, procedural knowledge would be comparable to computer applications.
- Conditional knowledge, which was first put forward by Tardif in 1992, concerns the ability to adapt some procedure to a given situation. It is considered as the capacity to use the context for producing appropriate utterances.

There are several models which describe oral production (Levelt, 1989; Levelt & Bock, 1994; Levelt et al., 1999 etc.). In this paper, we opt for Anderson’s model, thanks to which, procedural learning and oral production in a foreign language may be better explained. According to this model, procedural learning takes place in three phases.

The cognitive, declarative, or interpretative phase implies that the ability to acquire is encoded either through instructions or through examples (Anderson, 1993, 1995) in order to allow the learner to exhibit the desired behavior, even if at first it has to be realized approximately. This phase is particularly marked by hesitations.

The associative stage is when the knowledge is compiled. In computer language, this is like compiling a source program to an executable application. The transformation of the initial declarative representation to the procedure takes place through a compilation process. This is, in fact, the phase through which declarative knowledge is gradually converted to procedural knowledge.

The autonomous stage is when the learner becomes able to refine and regulate his/her utterances. Through this phase, the learner becomes constantly swifter and more automated and necessitates less and less cognitive intervention.

The following diagram summarizes the stages in oral production according to Anderson’s theory.
4. Field Study

4.1 The Context

The data for this research were collected in a well-known language school in Tehran, Iran. It is to mention that French language teaching and learning in Iran takes place in anon-nativesetting and French learners learn it as a foreign language. Persian is the official language of the country and the first foreign language of almost all learners is English. French may be learned only as the second foreign language at some universities or language schools where there are extensive or intensive courses based on a French-as-a-foreign-language course book. The most commonly-taught French course books in Iran are Le Nouveau Taxi, Alter Ego, Écho, etc.

4.2 Learner Demography

Our corpus included 30 learners divided into four CEFR levels: nine learners at A1 level, six learners at A2 level, nine learners at B1 level, and six learners at B2 level. They were all Iranian adults, male and female, whose age ranged from 20 to 40 years and whose mother tongue was Persian, with a few exceptions who spoke Azeri as their first language. They all knew English and their levels varied from beginner to advance. They all had learned French in Iran either at language schools or at universities. They would only come into contact with the French language at their educational centers with their teachers and classmates and not with native French speakers.

To complete each level, an approximate 200 hours are required. Intensive courses were held for 72 hours while the extensive ones ranged from 36 to 40 hours. We chose to investigate a whole semester at the language school.

4.3 Methodology of Research

This research adopts a hypothetic-deductive approach which led us to conducting a field study. The approach to carrying out the field study is qualitative-quantitative using interviews. This approach aims to understand the linguistic behavior of learners of different proficiency levels, particularly that of hesitation, on which this study focused.

It is to remind that an interview, as a means of collecting information, is a form of bi-directional communication, which allows the interviewer to directly observe the interviewee’s reactions to questions that have been designed beforehand, based on some previously-established criteria (Zihisire, 2011). Our semi-guided interviews were conducted individually with both closed and open questions.

There are two procedures to collect spoken corpus to the purpose of analysis:
(1) A spontaneous procedure throughout which the two sides speak freely;
(2) A procedure which consists of asking learners to translate an utterance from the source language to the target language or answer multiple-choice questions.

The authors preferred the first procedure. The corpus has been collected throughout a semester from both intensive and extensive courses in a pseudo-longitudinal manner.

4.4 Corpus Transcription

Once recorded, the samples were transcribed in accordance with ICOR convention of ICAR/Lyon laboratory, updated as of November 2007.

5. Results and Discussion

5.1 Analysis of Hesitation at the Beginning of the Speech at Different Levels

5.1.1 Study of Hesitation at the Beginning of the Speech in Level A1 Learners

At this level, the modified beginnings seem to fall in different categories:

- The majority of modifications were related to verbs. Interestingly, A1 level learners had doubts over equivalent structures.
  - je su- eh je m’appelle … [I’ am- My name is …]
  - elle est elle s’appelle {pro= [elzapel]} eh eh mad- madame mademoiselle eh [She’s Her name is eh eh Ms. Miss. Eh]
- The verbs “to be” and “to have”, easily accessible, interfered every time the learners wanted to use another verb. Consciously knowing that these verbs do not fit the context, the learners then tried to replace them with a better choice.
  - le week-end je sui-eh eh eh le week-end je fais de sport [At the weekend, I am eh eh eh at the weekend, I do sports]
  - il est il porte jeans t shert et basket [He is he wears jeans, T-shirt, and sneakers]
- The learners changed the grammatical gender of the words, attempting to correct themselves.
  - il est un lit un photo une photo eh (.) [it is a bed, a picture, a picture]
- The learners restarted their utterances to change prepositions.
  - en droite droite à droite de entrée [to the right of on the right of entrance]
- We also noted a case of paraphrase when speaking. It is to mention that this learner had a richer linguistic background and was more fluent than the other level A1 learners.
  - si le temps est belle le temps est le temps n’est pas mauvais [If the weather is beautiful the weather is the weather isn’t bad]

The hesitated beginnings outnumbered the completed beginnings. However, the completed beginnings are also repeated and could be categorized as follows:

- Searching for a noun in order to give oneself some time to find the right word;
  - quatre s- eh quatre s-s-sœurs [Four s- eh four s-s-sisters]
  - comme un comme un bracelet [Like a like a bracelet]
- Searching for a verb as well as its conjugated form;
  - je-je vais eh la mer [I I go eh the sea]
  - elle-elle (habiter; habitez) à Mashhad [she-she live in Mashhad]
- In-word hesitations were also recorded;
  - je vais au- bu- au bureau [I’m going to the off- to the office]
  - jouing avec ma- ma f-femme [playing with my- my w-wife]

The modified beginnings which are self-corrected, according to Anderson’s model, are in the associative stage: learners start to shape the utterance; the utterance is uttered; but possessing some declarative knowledge or some meta-knowledge of the produced utterances, they try to correct themselves. Indeed, they accomplish several tasks (elaboration, articulation, and verification of the utterance) at the same time. Therefore, this takes place as
part of the knowledge proceduralization.

Sometimes modified beginnings are said to be in the autonomous stage. Knowing the general rule, under the influence of multiple factors such as stress, tiredness, lapse of concentration, etc., learners may produce an utterance using generalization strategies. Once the utterance is pronounced, hearing their own voice, they notice their mistake and try to restrict the domain of application of the rule, entering the stage of autonomous and particularly discrimination. When producing the first utterance, the learner extends the domain of application of the rule (generalization and overgeneralization), but when they correct themselves, they actually restrict the domain by reminding themselves of the exception.

In certain cases, a consolidation phase is also noted. In this phase, learners consolidate the rule when they receive positive feedback either from their peers or by searching into their accumulated knowledge. This stage is characterized by repeating the chunk with a more confident tone of voice.

- il est eh il a eh un ascenseur il a il a un ascenseur. [It is eh it has eh a lift it has it has a lift]

Less fluent learners had unfinished beginnings at this level. This could be due to difficulties with retrieving desired L2 structures.

- je traduc: (. ) [I transl]

- elle a elle est elle- elle porte [she has she is she- she’s wearing]

- i-il eh il [h-he eh he]

5.1.2 Study of Hesitation at the Beginning of the Speech in Level A2 Learners

Regarding modified beginnings in level A2 learners, like level A1 learners, learners mostly tend to stumble over grammatical genders and prepositions;

- Adjective placement, verb tenses, and choosing synonyms also cropped up as the most frequent causes of hesitation;
  - quelqu’un eh eh que toujours porte sportifs (. ) les vêtements sportifs [somebody eh eh whom always wears clothes sport (. ) sport clothes]
  - je n’est pas je n’étais pas seule [I is not I was not alone]
  - je travaille à- à un bureau de (. ) consultant con(. )- con- SEILLE conseiller- bureau de conseiller conseiller [I work at at an office of (. ) consultant con(. )- con- SULT consulting- consulting office]

- Linking consonants and vowels as well as verbs starting with a vowel prove to be problematic too;
  - je (. ) j’utilise la logiciel autocad
  - je (. ) j’aborde- j’aborde eh (.) autres gens

Completed beginnings at A2 level could be categorized as they were at A1 level:

- The search for the noun to give oneself the time to look for the term in question;
  - les systèmes que avoir un intéressante intéressante eh (..) matière [The systems who to have an interesting interesting eh (..) career].
- The search for the verb as well as its conjugation;
  - je vais- je vais aller au canada [I go- I’m going to go to Canada]
- Another case where a learner tried to offer a more complete answer was witnessed;
  - méca (. ) je suis ingénieur de mécanique [mecha (. ) I’m a mechanical engineer]
- Words with more than two syllables which seemed to be hard to pronounce were more likely to be stumbled over in the middle;
  - je me sens dyna- dynamique [I feel dyna- dynamic]
- inter- intermédiaire [inter- intermediate]
  - j’aime eh les tra- traditionnel (. ) re- repas [I like eh food tra- traditional]

There was only one case of unfinished start at this level. After unfinished starts, learners have a more or less long pause which indicates the lack of linguistic tools to express their ideas.
5.1.3 Study of Hesitation at the Beginning of the Speech in Level B1 Learners

Most modified starts at this level were self-corrected. B1 learners only occasionally failed to correct themselves after the modification. The subcategories are identical to those at A2 level;

- quand vous c’est quand eh quand ils sont fini ces les batteries sont dans l’environnement [when you that’s when eh when they are finished these the batteries are in the environment]
- je suis eh je travaille eh dans eh ingénierie eh département d’ingénierie [I am eh I work eh in eh department engineering eh engineering department]
- la technologie peut en train de peut cause de individualisme [technology can is can cause individualism]

In some cases, modified beginnings give way to rewording the idea;

- j’ai vu que c’est une bonne eh c’est une bonne langue et j’intéresse et j’ai vu que j’aime cette langue [I thought that it’s a good eh it’s a good language and I interested and I thought that I like this language]

Modifying the beginnings is sometimes accompanied by an outright refusal of the structure and by code switching to the learner’s mother tongue. To be more precise, the L1 plays an instrumental role (Hammaberg, 2006) in commenting on or judging the structure.

- quand j-j’entre j’entré <((en persan)) > j’ai entré- j’ai entré à l’université [when I enter entering <((in Persian)) no> I entered- I entered university]

Generally, we noted that at B1 level, completed linguistic units were longer than those at lower levels. Cognitively speaking, we may say that the chunks or cognitive units were longer.

- les batteries sont-sondt de produit de lithium [batteries are-are lithium products]
- les enfants a besoin de- a besoin de l’éducatif de ses parents[children need- need their parents’ educative]

Contrary to A2 level, here unfinished beginnings are not accompanied by long pauses. Learners stop and rephrase their utterances in other words or sometimes in more complex structures. This shows that learners have reached a certain level of linguistic proficiency in expressing what they wish.

- nous sommes en train nous sommes en dans- dans le temps transion [We are about we are at- at the time transion]

5.1.4 Study of Hesitation at the Beginning of the Speech in Level B2 Learners

Modified beginnings at this level accomplish two functions: correcting a mistake and clarifying the meaning.

- nous vivons peut-être nous essayons de vivre [we live maybe we try to live]
- je fais je ne fais pas beaucoup de sport [I do I don’t do much exercise]
- c’est ce sont loin pour moi [that’s they’re far for me]

As for completed beginnings at this level, we noticed that learners were able to utter longer linguistic units.

- ils n’ont pas les eh ils n’ont pas eh le temps qu’ils passent avec ses amis [they don’t have the eh they don’t have the time that they spend with his friends]

The function of unfinished beginnings for learners is to reformulate their thoughts in other terms.

By studying the learners’ unfinished beginnings, we may conclude that they would not try to express an idea that is more complex than what they started with. The problem, therefore, lies in the linguistic inability to finish their utterances. Other hypotheses concerning unfinished beginnings such as self-censoring or choosing an idea more complex than what they would like to express would still be valid, but obviously they would not apply to the utterances of our corpus. These hypotheses may be applicable to the utterances made by learners at higher levels where constructing grammatical structures is no longer an object.

Agreeing with Hilton (2008), we believe that modified beginnings are telltale signs of a monitoring procedure: the subject listens to his/her own voice, thinks about either the structure or the meaning, and tries to improve his/her production. These reformulation procedures are punctuated by short hesitations, fragments, and simple repetitions. Such hesitation patterns could indicate a certain type of metaprocedure being executed.

It is also to mention that less fluent learners, irrespective of their linguistic proficiency level, had more
completed beginnings. On the one hand, the more a learner was fluent, the more they had in-word beginnings. On the other hand, the number of modified beginnings among more fluent learners was relatively higher. This could allow for a positive feedback at the assessor’s end, concluding finally that a learner knows the rule but has yet to practice in order to reach a level of linguistic proficiency where they will not have to go back and restart their utterances. The evolution of beginnings for each level is depicted in the following figure.

![Figure 1. Evolution of beginnings for each level](image)

5.2 Pause Analysis at Different Levels

As mentioned earlier, we recognize two types of pauses in speech: silent and filled. According to Hilton (2008), a pause at the beginning of an utterance is to be considered as a conceptuo-discursive planning pause. One can say that, generally, a pause in the middle of an utterance means that the learner is having difficulties formulating their utterance, syntactically or semantically.

We also notice a shift in a learner’s attentional effort as they make headway in language learning. For beginner learners, low-level processes require a lot of attentional effort. This kind of effort is much less needed in advanced learners who focus more on the meaning as well as on managing their interaction. This can well justify why in our level B1 and B2 corpora, the pauses are often found at the beginning of utterances while at A1 and A2 levels, we witness pauses in the middle of utterances.

At all levels, except A2, the filled pauses outnumbered the silent ones. At B2 level, the number of pauses considerably decreased, which shows a high degree of fluency.

The following figure summarizes the information on pauses at different levels.
5.3 Study of Repetitions

Regarding the issue of repetition, we may confirm that less fluent learners repeated some utterances two or even three times. Such double or triple repetitions were not observed among more fluent learners.

- vous habitez où j’- j’habite j’habite à télérar [you live where I-I live I live in Tehran]
- il est il est il habite en en en il habite en en eh <((en persan)) [he is he is he lives in in in he lives in eh <(in Persian)) The Czech Republic>
- il est a- a- a le- a le lit a le lit[he is has has has the has the bed has the bed]

Some repetitions led to completion or modification of the utterance.

- c’est possible par exemple pour eh pour pour pour tout le monde que apprendre[that’s possible for example for eh for for for everyone that learning]
- il faut que sache tout l’monde tout le- tout le toutes tous les affaires par rapport à l’ordinateur [necessary to know everyone every- every every thing in relation with computer]

At advanced levels, repetitions were limited to when learners looked for a word.

- elle-elle peuvent elle-elle eh peut comment elle peut fossiler« COM » ((en riant))[she-she could she-she eh is could how she could fossilize (laughs)]

6. Conclusion

Oral fluency may well depend on the size of the chunk or the cognitive unit that the learner utters. Acquisition of a procedure, which here is oral production proficiency, is the acquisition of some automaticity in using the declarative knowledge.

The phenomenon of hesitation in speech could be influenced by cultural factors. Our subjects usually filled their pauses with “eh” rather than “euh” or “hum”. It is necessary to underline that in our corpus, only few examples of language-bound repetitions were observed. This shows how uneasy the learners were when they expressed themselves in French.

In addition, we noted that some B1 and B2 level learners had catch words or phrases (Fahandej, 2010). A very common one was found to be for example (par exemple). Using this phrase, the learners bought themselves some time to think. This use of a catch phrase lies in the phase of utterance elaboration or, in Anderson’s terminology, in the interpretative stage. Not being aware of the shifted use of this phrase, learners used it to fill in their pauses. This can be considered as a strategy more commonly pursued by advanced learners.

We have analyzed three theoretical concepts generally acknowledged as pertinent in the field of speech production (generalization, discrimination, and strengthening). This allows us to understand the dynamics of learning. Iranian learners’ interlanguage includes three types of production: fluent productions, semi-fluent...
productions, and disfluent productions.

- In case of fluent productions they are either correct; that is the learner successfully conveys the message in a semantically and syntactically acceptable manner, and this is often the case of B2 level learners, or they are incorrect where systematic mistakes occur mainly due to fossilization. This is seen in learners at all levels. The speech is, however, fluent.

- In case of semi-fluent productions, part of the utterance is pronounced fluently while the other part seems problematic. This is where the learner attempts to reach a degree of fluency as he/she advances. Semi-fluent productions take much less time to be pronounced compared to disfluent ones. This is actually what sets them apart. Modified and completed beginnings characterize this type of production. If the situation arises, generalization, discrimination, and strengthening come into play at the moment of uttering. The areas which seem problematic to learners make up the vulnerability zones.

- Disfluent productions are marred with unfinished beginnings, repetitions, and silences. They are first manifested in course of interaction. Elaborating the communication purpose takes considerable time and a heavy cognitive load.

The ultimate goal in teaching and learning speaking is to develop spontaneity. According to Tabensky (1997), in order for this to come true, the adopted methodology should be based on the means rather than results. The interaction between pairs in an educational context does not wait for the learning process to reach a certain level to set off but rather coexists with spontaneity all along the learning process.

References


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