Rapid Changes in Foreign Language Learning Anxiety Caused by a Multiplicity of Topics: An Idiodynamic Approach

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Considering the dynamic nature of foreign language anxiety (FLA), we applied an idiodynamic method to explore topic-based variations of FLA. Before the study was conducted, a class of 20 female intermediate English as foreign language learners were assessed using the foreign language classroom anxiety scale (FLCAS). Two low-anxiety learners and two high-anxiety learners were selected to participate in this study. The idiodynamic method involved videotaping the participants’ responses to four topic-based questions, their self-ratings of fluctuations in FLA while answering the questions, and drawing attributions for topic-based changes in FLA. The results demonstrated both within-individual and between-individual stability and variation in FLA. Linguistic block, topic familiarity, topic interest, and topic-related emotional loading were revealed as the major factors affecting the dynamics of FLA. The pedagogical implications of the findings are discussed.

Keywords: foreign language learning anxiety, idiodynamic method, change, topic, complex system

Introduction

Foreign language anxiety (FLA) has been a highly investigated construct in the field of second language acquisition (SLA). The bulk of the studies addressing this construct have mainly provided us with the underlying factors as well as its association with other language-related constructs from a linear perspective. However, the emergence of complex dynamic systems theory has urged researchers to explore FLA from a complex dynamic perspective. This shift in perspective towards research on FLA has pivoted on the issue of the ergodicity problem in individual differences in SLA (see Lowie & Verspoor, 2019). That is, the average FLA level of a sample of language learners cannot represent the FLA trajectory of each individual in that sample. Considering this shift, in this study we aimed to explore the dynamics of FLA under the influence of conversational topics via an idiodynamic approach.

Literature Review

The literature on FLA indicates three main approaches to research on FLA in terms of its underlying assumptions and historical trends. These approaches are confounded, specialized, and dynamic approaches (MacIntyre, 2017). The confounded approach encompasses ideas regarding language anxiety as well as its influence on learning a foreign or second language from an amalgamation of numerous resources, which are not necessarily associated with language learning. The specialized approach explores and identifies experiences of anxiety that are specifically related to the process of language learning. The dynamic approach regards anxiety experiences in second language learning as situated complex processes in association with other contextual experiences under the influence of a network of ecological factors (Gkonou, Daubney, & Dewaele, 2017).
The main challenge of the research on the confounded approach (e.g. Chastain, 1975; Kleinmann, 1977; Spielberger, 1966) was related to the scales for measuring anxiety in the language learning process, derived from general psychology, which were rarely in connection with the language itself (MacIntyre, 2017).

The literature of the studies applying the specialized approach can be categorized into the following aspects. First, some studies have dealt with the nature of FLA (e.g. Aida, 1994; Cohen & Norst, 1989; Dewaele, Petrides, & Furnham, 2008; Gardner & MacIntyre, 1993; Horwitz, 2001; Horwitz, Horwitz, & Cope, 1986; Horwitz & Young (eds.), 1991; MacIntyre, 1995; MacIntyre, 2007; Sparks, Ganschow & Javorsky, 2000; Tran, Baldauf Jr, & Moni, 2013).

Second, a series of studies have addressed the influence of FLA on learners’ achievement (e.g. Aida, 1994; Chastain, 1975; Dulay & Burt, 1977; Elkhaifaifi, 2005; Gardner & MacIntyre, 1995; Horwitz, 1986; Huang, & Hung, 2013; Kleinmann, 1977; MacIntyre, 1995; MacIntyre, 2007; MacIntyre & Gardner, 1994; Saito & Samimy, 1996; Sparks & Ganschow, 1991). Third, some studies have encompassed the sources of FLA and the influence of socio-cultural or instructional conditions on FLA (Bailey, 1983; Dewaele, Petrides & Furnham, 2008; Gregersen & Horwitz, 2002; Horwitz, 2001; Horwitz & Young (eds.), 1991; Koch & Terrell, 1991; Young, 1990).

Furthermore, numerous studies have considered the relationship of FLA with other learner-related factors (e.g. Bailey, 1983; Dewaele, 2019; Dewaele, Petrides, & Furnham, 2008; Elahi Shirvan, Khajavy, Nazifi, & Taherian, 2018; Elahi Shirvan, Khajavy, Nazifi, & Taherian, 2019; Gregersen & Horwitz, 2002; Horwitz, 1996; MacIntyre, 1995; Matsuda & Gobel, 2004; Sparks & Ganschow, 1991; Saito & Samimy, 1996). MacIntyre, Dörnyei, Clément, and Noels (1998) reported a negative association between L2 willingness to communicate (WTC) and FLA. Examining this correlation among Chinese second language learners of English, Liu and Jackson (2008) also found a significantly negative association between their WTC and FLA. Considering this finding, they suggested that both WTC and FLA should be regarded as complementary constructs to understand learners’ emotional feedback to their second language acquisition. This strong association between the two variables has been also confirmed by a recent meta-analysis of L2 WTC and its high evidence correlates (Elahi Shirvan et al., 2019) and a regression model of independent variables influencing L2 WTC (Dewaele, 2019).

Recently, given the tripartite of cognition-affect-motivation, using latent growth curve modeling, Elahi Shirvan et al. (2018) found an increase in the strength of association between adult second language learners’ FLA and their self-efficacy during a university general English course. They also found that the long-term link between the two variables is directly associated with the learners’ ideal self-motivation in the first session of the course.

Regarding the contribution of second language learners’ age to their feeling of anxiety, Dewaele, Petrides, and Furnham (2008) concluded that by starting to learn a second language at younger age, learners experience lower levels of anxiety. They also reported that second language learners with high levels of trait emotional intelligence experienced lower levels of anxiety. Furthermore, with respect to the social factors involving second language learners’ feeling of FLA, Spitali (2002) reported a significantly negative correlation between second language learners’ attitudes toward the second language culture and their levels of FLA. Moreover, Matsuda and Gobel (2004) reported that learners with overseas experience had lower levels of anxiety than those without it.

Finally, a few studies have focused on skill-specific (listening, writing, and reading) FLA (Hilleson, 1996; Horwitz, 2001; Elkhaifaifi, 2005; Oh, 1992). For instance, examining learners’ anxiety in reading tasks, Oh (1992) reported that second language learners’ anxiety in these tasks can be influenced by the familiarity of the learners with the tasks, the difficulty of the texts, and the learners’ perceptions of the validity of the tasks. Exploring the experiences of second language learners’ anxiety in language specific skills, Hilleson (1996) also found anxieties in relation to writing and reading skills. Likewise, introducing the concept of foreign language reading anxiety (FLRA), a scale for its measurement called the foreign language reading anxiety scale (FLRAS) was developed by Saito et al. (1999). They regarded FLRA as quite distinct from FLA. Similarly, learners’ anxiety in reaction to reading skills was discussed by Horwitz (2001). Furthermore, foreign language listening anxiety (FLLA) and FLA were described as quite distinct constructs by Elkhaifaifi (2005), exploring second language learners’ anxiety in listening comprehension as well as their FLA in a critical language.

The dynamic approach to FLA suggests that anxiety should be regarded as an emotion that is in a fluctuating state over time, even on small time scales like minutes and seconds, and that the (intra- or interpersonal)
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stability or fluctuation of this emotion is susceptible to contextual factors (Gkonou, 2017; Saghafi, Adel, & Zareian, 2017). This is due to the fact that foreign language learners are not ergodic ensembles (see Lowie & Verspoor, 2019); that is, the patterns of anxiety experienced by each individual learner is different from those experienced by the average learners in the class. Considering this approach, we can conjecture that although the previous findings of FLA research, adopting the specialized approach, have verified traces of anxiety in students’ language learning, they have not kept the multi-faceted nature of FLA in perspective. Thus, a dynamic state-oriented approach should be employed to explore various processes contributing to changes in FLA, compensating for the previous trait-oriented ones. One of the recent approaches to explore the dynamics of individual learners’ FLA experiences has been the idiodynamic approach.

The Idiodynamic Method

The idiodynamic method can be applied to study affective and cognitive states of human communication (MacIntyre, 2012). Individual characteristics rapidly deal with situational features to regulate communication behavior (MacIntyre, 2012). The affective and cognitive contexts accompanying communication behavior are being continuously shaped, modified, and reinforced simultaneously in a constant ebb-and-flow mood (Fogel, 2006). The lack of attention on the contextual factors has rendered the modus operandi of common nomothetic methodologies unsuitable for exploring the dynamics of change (MacIntyre, 2012). Regarding the dynamic nature of FLA, the network of subtle changes inducing the domino effect on FLA have been poorly addressed and, consequently, traces of influential features influencing the complexity of FLA have either been taken for granted or escaped the eyes of research on anxiety (MacIntyre, 2012). With the affective dimensions of communication in the spotlight, the idiodynamic method and its microscopic scope, focusing on the interaction between the situation and the person, set the stage for the dynamics of change in the variables under study (MacIntyre, 2012).

The term idiodynamic refers to the passage of changes enacted by the environment within an individual in a given situation “as an event unfolds” (MacIntyre, 2012, p. 362) contrasting “idiographic” approach to personality by Allport (Rosenzweig & Fisher, 1997). Opposing an approach scanning individual-level traits (idiographic) or group-level traits (nomothetic) or, the idiodynamic method maps out individuals’ behavior during an episode of one’s life (MacIntyre, 2012). In this regard, the idiodynamic method encompasses an oral interview or a conversation which takes a short period of time in terms of minutes or seconds, called a communication episode (MacIntyre, 2012).

This method employs a process-oriented individual-formative approach of exploration. In this method a participant’s communication, which is video recorded, is displayed right after it is completed by asking the participant to rate him/herself or another participant on a cognitive or affective variable under study using a software program by which a rating graph is provided right away and applied to the interview to justify the participant’s thoughts and feelings underlying the ratings regarding the variable being studied (MacIntyre, 2012). The video is documented for further analysis. The researcher and the respondent can pause or play the video back in case of any valley or peak observed in the graph or the need for further explanation during the interview. Afterwards, the respondents’ justifications are recorded (MacIntyre, 2012). In addition, the idiodynamic method can be employed in experimental studies manipulating contextual features. The dynamic systems theory (DST), addressing communication as being an apex of a net of interrelated fluid systems, theoretically underpins the idiodynamic method (MacIntyre, 2012).

Research on the DST of human development supports the application of the idiodynamic method to SLA via the conceptualization of some key terms (Howe & Lewis, 2005; van Geert, 2011). Four main properties of dynamic systems were proposed by deBot, Lowie, and Verspoor (2007):

- Each state feeds into its previous state and grows up to another state under the light of some influences (Howe & Lewis, 2005, especially pp. 248–249).
- Dynamic systems are chained up each-to-all and all-to-each, falling under each other’s influence.
- Dynamic systems co-ordinate to converge into preferred/attractor states diverging from unsettled/repeller or shifting states.
- Even the most minor changes in one part of the system might have a far-reaching revolutionary effect in the whole system calling attention to the theory of the butterfly effect. On the other hand, it is also likely that a significant change causes no big change but a cosmetic or small one in the system.
Furthermore, communication behavior, cognition, and affect can be viewed from the standpoint of the DST. Different systems inter-connectedly affect one another either to serve or strangle communicative goals and intentions. The following list refers to some examples of these systems:

- Core physiology
- Affective states
- Cognitive events
- The local social system
- The global pattern of intergroup relations

The term “attractor state” demonstrates a state in which the system tends to be settled (de Bot et al., 2007). For instance, a system is in the attractor state if two positive contextual characteristics correlate positively. Taking the DST into perspective, we can trace minor and major fluctuations in one section of the system that directs the rest of the system for better or worse. The more the rising and falling of the two states correlate, the more distinctly they weave into particular communicational patterns. Traditional approaches holding a trait-oriented view towards psychological constructs like FLA have not been able to explain the dynamic nature of these constructs (Parlade & Iverson, 2011; Thelen & Smith, 1994). Contrasting traditional research approaches, the idiodynamic method, holding a sensitive perspective to the initial conditions, unfolds communication processes via a state-oriented view towards psychological constructs, which have been neglected by traditional approaches to the trait research (de Bot et al., 2007). Primary conditions, susceptible to any sort of change, trigger a wave of conditional violations throughout the whole system, which make initial predictions crumple even in cases of in-advance familiarity with the component parts of a given system.

**Current Research Examples Using the Idiodynamic Method**

The first study that introduced and utilized idiodynamic method was released in 2011 by MacIntyre and Legatto investigating L2 WTC. Outcomes of the study took fairly divergent paths, both within the individual on a time continuum and over the different questions of the interview. Thus, both consistency and variation among a small group of homogeneous participants were reported. This study also confirmed that linguistic block is the most critical process affecting WTC. As MacIntyre and Legatto (2011) asserted, WTC is a representation of the dynamically fluctuating nature of communication system.

Inspired by MacIntyre and Legatto (2011), in research on the dynamics of FLA, given the influence of the different contextual factors, researchers have recently applied the idiodynamic approach. For example, Gregersen, Meza, and MacIntyre (2014) studied learners’ FLA at an individual level, its dynamicity, and elucidation of frequent changes in the participants’ affective reactions. The study provided evidence of the fact that experiences of anxiety in foreign language learners should be studied at the individual level. Moreover, considering individual experiences of anxiety, Elahi Shirvan and Talebzadeh (2017), via an idiodynamic approach, concluded that the status of the interlocutors in conversations and the familiarity level of the learners in their study with these interlocutors contributed to the fluctuations of FLA in classroom conversations. Furthermore, Gregersen, MacIntyre, and Olson (2017), via the application of the idiodynamic method, reported that learners’ anxiety of FLA might be partially transparent to their peers and teachers in the classroom. Inspired by these recent studies using the idiodynamic approach to the investigation of the individual learners’ patterns of anxiety, in this study we intended to explore the influence of conversational topics on the emergence of dynamic patterns of anxiety in individual learners of English as foreign language.

**The Present Study**

Given the lack of studies exploring the dynamics of EFL learners’ anxiety under the influence of conversational topics through the lens of dynamic systems theory, the present study takes a qualitative approach, drawing on the idiodynamic method to explore topic-related fluctuations in FLA over four topic-based questions. In the present study we examine the following research questions:

1. To what extent do we see within-individual variations in FLA over time under the influence of different conversational topics?
2. To what extent do we see between-individual variations in FLA over time under the influence of different conversational topics?
3. What attributions do the individual participants make for rises and falls in FLA?
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Method

Participants

Using maximum variation sampling, we selected two high-anxiety and two low-anxiety Iranian female students aged 15-17 from an intermediate English course with 20 students at a private institute in Mashhad, Iran. To measure the FLCA of the participants, we applied the foreign language classroom anxiety scale (FLCAS) (see Table 1).

Table 1
The Participants’ Profiles

<table>
<thead>
<tr>
<th>Pseudonym</th>
<th>Gender</th>
<th>Age</th>
<th>Proficiency level</th>
<th>Anxiety mean*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ziba</td>
<td>Female</td>
<td>16</td>
<td>intermediate</td>
<td>50</td>
</tr>
<tr>
<td>Melika</td>
<td>Female</td>
<td>15</td>
<td>intermediate</td>
<td>90</td>
</tr>
<tr>
<td>Zahra</td>
<td>Female</td>
<td>16</td>
<td>intermediate</td>
<td>80</td>
</tr>
<tr>
<td>Azar</td>
<td>Female</td>
<td>17</td>
<td>intermediate</td>
<td>30</td>
</tr>
</tbody>
</table>

Instruments and Materials

Persian Version of the Foreign Language Classroom Anxiety Scale

The Persian version of FLCAS (Elahi Shirvan, Khajavi, & Taherian, 2016) was used to measure the participants’ level of FLA prior to data collection. The psychometric properties of this scale were measured via Rasch analysis. The item reliability of the scale was .93 and its person reliability was .95. The scale included 26 items of the 33 items of the original FLCAS (Horwitz et al., 1986) because seven items misfit the unidimensionality hypothesis, underlying the Rasch model, within the context of Iran.

EFL Topic-Based Questions

Four oral tasks were undertaken in the following order using the “anecdote” tasks from the book of American Inside Out, intermediate level: (T1) Describe something that has special significance for you; (T2) Describe a movie that has disappointed you; (T3) Describe a party you did not enjoy; (T4) Describe your favorite celebrity. The respondents were also provided with leading hints on how to give responses to the questions with accurate information, with no sense of confusion. Before the interview was carried out, the participants were given a short period of time, two minutes, in order to comprehend the topic, review the hints, and dispel confusion over the task instruction. All four questions were at the same difficulty level. As soon as they felt ready, the interviews were held and video recorded. Moreover, the participants were provided with regular constructive verbal and non-verbal feedback during the conversations.

Video Recording Camera

Using a mobile camera, we video recorded each interview and fed them through an anxiety rating software program (Anion Variable Tester, V2) right after each interview was conducted.

Anxiety Rating Software

For the idiodynamic rating of the participants’ anxiety, we used Anion Variable Tester, version 2, (MacIntyre, 2012). As soon as the video-taped interview of each topic discussed was entered into the software program, each participant watching the video recording of her interview, rated her anxiety level on a clear graph with a vertical axis indicating an anxiety level ranging from -5 to +5 and a horizontal axis indicating time in terms of seconds. Windows-based software was developed to plot a graph of the participant’s ratings on her anxiety level while displaying her recorded interview and keeping a record of her anxiety level ratings in two different windows simultaneously on the same screen. Respondents watching the video clicked on the computer mouse and rated their anxiety level on a scale of -5 to +5. It should be noted that in case no anxiety level rating was assigned, the software assigned a level of zero for the explored construct. Software outcomes were released in
the form of bitmapped graphs of dynamic anxiety ratings and an Excel spreadsheet, which were compatible with time and anxiety data.

**Graph of Changes in FLA**

A printed graph of dynamic anxiety ratings was provided for each participant immediately after each interview was conducted and rated via the anxiety rating software program. The second researcher in this study played the video-recorded interview once more and paused it each second the graph was shown to the respondents to explore the explanations of the participants regarding the dynamics of their anxiety as presented in their graph of FLA.

**Observer’s Ratings**

Plotting the respondents’ affective feedback, the first researcher in this study, viewing the video recordings, drew up a narrative report.

**Procedure**

This study was conducted in five phases. Before the study was conducted, the Persian version of the FLCAS was administered to an intermediate English class of 20 students out of which the participants of the study were selected (phase 1). This questionnaire including 26 items assessed EFL learners’ anxiety level taking the course on a Likert-type scale of five ranging from strongly agree to strongly disagree. After this phase, concerning the participants’ anxiety level, four students, two of high and two of low anxiety level, were selected, suiting the purpose of the study. The participants took four topic-based questions and were videotaped at the same time (phase 2). Afterwards, they answered each question, watched their recorded video, and self-rated their anxiety level (phase 3). The second researcher in this study documented his understanding of the respondents’ verbal and non-verbal reactions on a piece of paper (phase 4, which will be presented in the results section). Later, as soon as the participants answered all the questions and self-rated their anxiety levels, they justified their anxiety self-ratings (phase 5, which will be presented in the results section and the appendix) that were analyzed after being recorded, translated, and transcribed.

**Results**

The results of the fluctuations in anxiety in response to the four topics are presented for each participant separately. First, the observation of each participant’s dynamics of anxiety while answering the questions is reported, and second, the findings of the interviews with each participant in terms of her explanations for her anxiety levels in response to the questions are presented.

**Observation of Ziba’s Anxiety Dynamics**

**Topic 1-4**

Ziba was one of the low-anxiety participants. Going through verbal and non-verbal reactions to different topic-based questions, she smoothly vaulted into her first speech. Looking at the tranquility in her eyes, we noticed that she truly channeled the way she felt about her necklace to us attentively. After her first sentence, she uttered “a very special kind of stone” she sat up, narrowed her eyes and peacefully reflected in order to recall the name of stone and suddenly, her glittering eyes flying open, came into her own just in time to recalling name. As she started revealing the story behind the necklace, dredging up the memory of her brother leaving her family to head to university, she blushed. She went red in the face, rubbed her hand together, and she was close to tears every time she discussed this memory. Although she was emotional, she never lost her string of thought or failed to deliver her intended meaning in English. It seemed that words and sentences with degrees of emotion such as “memories”, “necklace”, “my brother”, “him”, and “sadness” were challenging to discuss.
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The transcript of Ziba’s first conversation is as follows. It should be noted that anxiety ratings appear above the text ranging from -5 to 5 and the number on each word indicates her clicks representing her level of anxiety):

"I have a necklace. It's green. It's made of a special kind of stone. It's called Antovenie. When my brother wanted to leave home and go to university in another city, he gave me that necklace to remind me of him and he told me it makes you happy because it's a special stone and every time you're sad I just look at this stone and remember our happy memories together. So, anytime I'm sad I look at this necklace and after 2 minutes I forget my sadness. I always carry it with myself everywhere. If I die, I would return it to my brother."

Answering the second question, she made up her mind quickly and announced that she was ready. She started answering the second question with no signs of anxiety. As before, the words’ emotional load caused a high level of anxiety. While narrating her story, she suddenly became angry. As she continued her story, she started rubbing her face and nodding her head and kept digging her nails into her lap, which indicated a high level of anxiety. Next, as she was responding to question 3, she became calmer, signaling lower levels of anxiety. But from the moment she began recounting a horrible incident that took place after a party, a sense of anxiety came over her again. Furthermore, Ziba’s speech on her favorite actor stood out among her answers as she fluently and accurately started off her speech and remained at ease, which continued until her last word.

**Ziba’s Explanations of Her Anxiety Dynamics**

During the discussion of dynamic anxiety ratings, Ziba explained that the first question haunted her and jogged her memory of her brother leaving her. As we put our question to her, she spoke honestly about her attachment to her brother and her intense grief caused by his not being around anymore. She concluded that her anxiety was allayed during her speech under the influence of the words’ and sentences’ emotional load on her. She also explained that she could easily overcome her anxiety. Moreover, she added that a high proficiency level and high self-confidence could make up for her high anxiety level to allow her to deliver a flawless speech. Moreover, Ziba explained that her anxiety during her second speech was increased by the heartrending story of the movie that she reflected on and she did not experience a linguistic block on the words ‘rape’ and ‘abuse’. She decided that if she could not make herself understood one way, she would either find another way to explain or describe the words she did not know.

Discussing the second topic, Ziba stated that thinking back on the moment of the incident exacerbated her anxiety as it emotionally overloaded her, yet it did not distract her from focusing on her English wording and structure. She claimed stressing over using the right collocations and not making mistakes when applying English in communication. On topic 4, she explained that her high-anxiety moments fell back on her personality trait of jealousy when she said, “He has gray eyes and blonde hair” as well as for the word “fan”. She also discussed that while answering the fourth question, she had experienced less anxiety as she had built more confidence over the first three questions and she had gotten used to the commonalities of the practice (see Figure 1).

**Observation of Melika’s anxiety dynamics**

**Topic 1-4. Phase 4**

Melika is one of the high-anxiety students. We observed that she went through moments of high anxiety as she was answering question 1 and 2 since she was gasping for breath and her face turned pale. She was also observed taking many awkward pauses, some momentary and some quite lengthy, and he was observed lifting, squeezing, shutting, wiping, and averting her eyes from us during the first two questions. Even after her code-switching, asking for the English synonym of a Persian word from us, her anxiety did not fall because, as we guessed, she could not use the word “remind” in the right form.

Despite her moments of high anxiety while answering the first two questions, she started answering the third one..."
with no sign of anxiety. But she looked anxious after that. Uttering the word "player", she gave us a questioning look at us and produced the made-up word "sporter". As soon as we reminded her of the word "player", she came to feel at ease for a short period in time. With she struggled talking about her favorite volleyball player, she seemed to suffer from a high level of anxiety. She delivered her fifth speech on and off, while she was highly anxious. She seemed puzzled about the topic as she did not follow a structured speech plan.

**Figure 1**
Ziba’s Anxiety Rating

![Ziba's Anxiety Rating](image)

**Melika’s explanations of her anxiety dynamics**

Melika explained that linguistic block was mostly the main hindrance to her affective self-control. Besides, her fear of being recorded made her go blank, stumbling over her English. She also reported difficulty making up her mind around the topic, which reduced her peace of mind as she was given two minutes to think about her answer. This time seemed too short for her to come up with a flash of inspiration; thus, she had no time left to plan her answer in terms of using the right words and structures. Following her unsettled state of mind over the topic, she claimed that time dragged while she was answering the question. On topic 2, Melika explained that she could not provide much information on the topic since she usually did not watch much TV and she was not also a cinema fan; thus, she could not think of a movie she knew everything about. Moreover, she explained that her confusion regarding the topic was accompanied with confusion over the English words and structure. Furthermore, she noted that her education background was not sufficient to help her with a suitable response to the question. She also reported that she was afraid she would lose face if she revealed her difficulties speaking English. As a result, she was deep in her own thoughts, which resulted in either pointless or poor speech. She also declared that she was never given the chance to solve her problems when speaking. Another point she addressed was that her dazzling performance in class achievement tests was a result of a number of multiple-choice and true-false questions regarding vocabulary, grammar a by which they were graded, excluding their all-inclusive performance with respect to the absence of speaking and listening assessment as well as reading and writing in a productive way. She discussed that her good grades in such unreliable achievement tests always seemed satisfying to her and her family since it was enough to pass the entrance exam. Furthermore, Melika explained that after she was recorded twice, she did not feel uncomfortable being recorded the third time. But she claimed that she had difficulty describing her favorite volleyball player because she had never been interested in learning about famous people’s lives. Therefore, it was difficult to organize her speech.

She also explained that under the influence of this lack of interest in the topic she went through a high anxiety level. Deep in contemplation, she explained that she could have been able to have a better performance on
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the questions if she had been given more time to utilize the hints and plot her speech in her head. Thus, she asked us to give her a longer period of time, about an hour, to be interviewed again. Her request was rejected as it would have put the research authenticity of our study into question. Furthermore, she noted that her poor performance and her high level of anxiety worked cyclically as she used “is” instead of “was” and committed the same mistake afterward because her anxiety was aroused by her first mistake and reinforced by its repetition (see Figure 2).

*Figure 2*
Melika’s Anxiety Rating.

**Observation of Zahra’s anxiety dynamics**

**Topic 1-4. Phase 4**

Zahra is one of the two high-anxiety students. She began answering the first question rubbing her left hand against the other, avoiding eye-contact with us, breathing hard, biting her nails, staring at the wall, and rolling her eyes. She also used a code-switching strategy to compensate for her linguistic block. Moreover, she looked to be under a great level of anxiety while pronouncing the word “turquoise”, but her anxiety dropped after we repeated the right pronunciation of the word. To our surprise, she started answering the second question with a peaceful look on her face. Although she took lots of pauses, she seemed to enjoy being engaged in the topic. Despite her being in a stress-free state answering the third question, she looked puzzled while answering. As a result, she took lots of short pauses. However, she seemed at ease only after we helped her with the word “spot”. She started answering the fourth question with her face swelling with interest in the topic. She spoke simple English and used short sentences. She also took short pauses to reflect on the information she had heard or read about her favorite celebrity.

**Zahra’s explanations of her anxiety dynamics**

Zahra reported that she began her first answer with a high level of anxiety because she did not know what “Firoozeh” was in English and her whole speech was going to be built on and around this word. She explained that she was fortunate that we could note her anxiety and translate her code-switched word, Firoozeh, to English. Moreover, she reported that her anxiety was about to decrease but after she failed to pronounce the new word, she felt embarrassed, slow to speak about the topic, and highly anxious. Zahra explained that, as we had an understating of her affective state, she repeated the word with less anxiety as she felt understood. She also explained that before the interview she could easily imagine herself going through moments of anxiety.
and shaking in her boots because she knew that she did not own a rich vocabulary and could not fully employ all of the grammatical rules she had learned to talk about different topics. But the moment we raised the first question, as she claimed, she felt a load was taken off her shoulders and this helped reduce her anxiety.

She noted that she had never been given the chance to express her personal ideas. Thus, she felt pleased while she was talking about her thoughts on movies and being videotaped. She explained also that she felt anxious when she was recalling the words and names in response to the first topic. She also reported her experiences of anxiety on the word "if" when producing her last sentence because it required a long pause for her to structure her sentence. She explained that she could not make up her mind answering the third question because an unrelated family issue ran through her mind during the preparation time; thus, her search for right words and structures to fabricate her story spoiled her speech and she was unable to recall the simplest words such as "uncle" or "knife". She also found code-switching a soothing way to make herself understood. She also said that she was highly anxious due to the chunks of speech that required her to recall difficult events in her past. She noted that her interest in the fourth topic and her primary preparation could help her achieve peace of mind during her speech. She also explained that her personal characteristics of high self-confidence and sociability made up for her occasional linguistic blocks. She decided not to focus on the reliable delivery of information but merely share her opinion (see Figure 3).

Figure 3
Zahra’s Anxiety Rating

Observation of Azar’s anxiety dynamics

**Topic 1-4**

Azar was one of the low-anxiety students. Despite her performance on the FLCAS, she anxiously asked us to extend the preparation time. She started answering her question while slurring her words. After some time passed, she began to feel more confident and maintain the topic with less anxiety than before. However, her anxiety was higher saying the word “cage”. Announcing that she was ready before her preparation time was up, she appeared interested in the second topic, although she experienced moments of anxiety. She started answering the third question and seemed that she was rather unsure about the topic. Her anxiety fluctuated, rising on the sentence “you know” and on the word “cold”. She also made a number of grammatical errors. In response to the fourth question, she felt overcome with anxiety and her chest tightened in fear, and she inhaled deeply. She made a number of errors in terms of grammar and vocabulary. Finally, she slumped down in her chair in relief as the interview finished.
Azar explained her additional-time request as she could not overcome her nervousness or her lack of interest in the topic. Moreover, she reported that her anxiety dropped to zero in a short amount of time. Furthermore, she added that she felt anxious about the word “cage” because she was not sure whether she was using the right word or not. She explained that our supportive reaction to her questioning gesture reduced her anxiety. She concluded that her anxiety was mostly induced by a linguistic block. She reported that she could project her answer immediately for the second topic, which raised her interest in the topic. In addition, she reported that she felt quite anxious as a result of collocation-related linguistic block. Moreover, her difficulty in recalling words and names contributed to her nervous pauses while talking about the topic.

She also added that she felt a little anxious when producing her last sentence, which started with “so”, since she found herself so deep in reflection that she temporarily lost her train of thought. She also explained that having no idea how to answer to the third question, she experienced high anxiety, confusion, and obliviousness to her errors from the very first moment. In addition, she addressed her perceived low English proficiency as an anxiety provoker as she could not think about the topic and grammatically formulate the sentences simultaneously. Moreover, she noted that accounting for her unstable state of mind regarding the topic, she decided to cheat from one of the hints (were the guests cold?) and make up a fake story. She noted that she suffered from a high level of anxiety since the third question did not elicit any of her real-life experiences.

Furthermore, she discussed that she could barely recall the word “cold” from the hint, which raised her anxiety, but our supportive feedback to her common questioning gesture at the word “cold” assuaged her anxiety. She also reported that she used the conjunction “and” and the phrase “you know” to take some time to plot her fake story and avoid lengthy pauses; however, they could not alleviate her anxiety level because she knew that her speech was not very informative for us. She revealed that although she was interested in the topic, her excitement did not allow her to concentrate on the topic. She explained that when thinking of her favorite celebrity, her blood pressure dropped and she felt cold. She could neither think clearly how to produce flawless speech in terms of grammar and vocabulary nor recall the wealth of information she had read about her favorite singer. She concluded that she lost her train of thought due to her strong affection for her favorite singer (see Figure 4).

**Figure 4**
Azar’s anxiety rating
Discussion

The idiodynamic method casts light on emerging information about the dynamics of FLA that nomothetic methods could not disclose in previous studies. The first research question sparked off the debate over the issue of within-individual variations in FLA during the conversational topics. Regarding the within-individual changes in the reactions set off by the same stimuli during conversational topics, it was demonstrated that the anxiety provoking and reducing stimuli were both consistent and inconsistent within the individuals. This means that due to the content of each question, each individual went through different moments of anxiety. That is, as a complex system, the anxiety trajectory of each participant was susceptible to each topic as an attractor, which contributed to the stability of anxiety states for each participant. Ziba’s anxiety provokers and reducer sas well as the reactions they sparked did vary from one question to another. Likewise, Melika, Zahra, and Azar’s anxiety provokers and reducers as well as the reactions they induced varied from one question to another. For example, Zahra pointed to the issue of linguistic block as an anxiety provoker while answering the fourth question, yet she claimed the same issue as an anxiety reducer when answering the first and second questions. Besides, Melika was gripped by the deep-seated fear of being videotaped while replying to questions 1 and 2, yet she felt totally indifferent to the same stimulus when replying to questions 3 and 4. Moreover, Azar’s within-individual variation in terms of topic interest was one of the shocking outcomes of the study underlying the free-floating nature of human beings as her anxiety was fueled by a burst of affection for her favorite singer. This provides evidence for the topic-sensitive nature of the learners’ states of anxiety, and thus the complex nature of each individual learner’s anxiety. Topics shape an inseparable part of a classroom interaction. Given the interplay of each individual learner’s emotional repertoire in terms of her background experiences with the emotion-laden words in each question, her path of feeling anxiety might go through different states. For instance, compared to her state of anxiety under the influence of the first question, the words “disappoint” and “not enjoy” triggered Ziba’s past experiences, which led to her higher states of anxiety. For Azar, the words “favorite celebrity” reminded her of her idol singer and the strong affective bond she felt with her. Under the influence of this tight emotional connection with her favorite singer posed by the fourth question, she experienced moments of higher anxiety than her those in her exposure to the second and third questions.

The second research question debated the issue of between-individual variations in FLA over time. The present outcomes indicated that anxiety provoking and reducing stimuli were both consistent and inconsistent between individuals. The findings demonstrated that the reactions set off by these stimuli varied from one individual to another. That is, contributing to the emergent nature of FLA, each question paves the way for the emergence of a different state of anxiety for each individual. This means that each topic played a different attractive role and; as a result, a different pattern of anxiety for each participant. For instance, in response to the fourth question, Zahra and Azar experienced different patterns of anxiety. Zahra’s interest in the topic and her primary preparation brought her peace of mind. This peace of mind led to her feeling a low state of anxiety. However, the strong affective connection with her favorite singer raised by the topic in the fourth question contributed to a climax of experienced anxiety for Azar. It should be noted that the emergence of different states of experienced anxiety for each participant was not limited to the existence of a specific topic, but a glance at the four participants’ trajectories of anxiety indicates that under the influence of the four topics, the states of anxiety emerged differently for each participant. This supports the fact that “L2 learners do not form ergodic ensembles” (Lowie & Verspoor, 2019, p. 184) and is in alignment with Gregersen, MacIntyre, and Meza (2014) who said it should be explored from an individual level. The patterns of anxiety under the influence of the four topics for each individual participant are different from their average experience of anxiety. In addition, consistent with Lowie and Verspoor (2019), the participants’ anxiety ratings were surprisingly not in line with their scores on the FLCAS, representing potential spontaneity in light of individual differences under the influence of the four topics.

With regard to the third research question, the findings indicated that the participants attributed their feelings of anxiety in the conversations to the different topics in the questions raised to them. This means that given the situated nature of FLA, in line with Okonou (2017), the stability and fluctuations in anxiety depend on interactional factors and one of these interactional factors is the range of topics in the interactions. Particular to the content of each topic, each participant’s anxiety was triggered differently. For instance, the existence
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...of the word “not” and the emotionally negative laden word “disappoint” for Zahra induced high anxiety in her while responding to the second and the third questions. On the other hand, for Melika and Zahra, the emotionally positive laden word “favorite” in the fourth question provided them with a sense of interest in the topics, helping them experience the lowest levels of anxiety in their trajectories of anxiety. However, the fourth question triggered a strong affect in Azar with her favorite singer, leading to a high anxiety state in her anxiety trajectory.

With respect to the pedagogical implications of this study, the results showed that the use of the idiodynamic method could provide us with documents regarding the dynamics of FLA under the influence of conversational topics. A body of ample evidence supporting four main features of dynamic systems (de Bot et al. 2007) came to light through the insight gleaned from the current study. Our methodology tested the first property of dynamic systems providing a continuous graph of individual variations in FLA on which the participants’ ratings per second revealed FLA as a fluctuating state within a short period of time, which is in line with the respondents’ justifications for the rise and fall of their anxiety. For instance, Zahra explained how a lack of initial preparation hit her with a stabilized ripple effect that spoiled her speech. This provided evidence for the within-topic consistency of the first property of dynamic systems although we cannot assert that our findings demonstrate total between-topic consistency of this property as Zahra’s low anxiety ratings while answering the first question can neither explain nor predict her high anxiety ratings when replying to the second question. On the other hand, Melika reported that her anxiety over her fear of being videotaped dropped as time went by. Hence, the between-topic consistency of the first property was reflected to a small extent.

Moreover, we observed interconnectedness between the affective state of anxiety and the participants’ educational background, consistent with Melika’s explanations, the cognitive state of linguistic block that was inconsistent with Ziba’s within-topic and between-topics anxiety, and Zahra’s between-topics anxiety. Furthermore, we saw interconnectedness between individuals’ personality traits and their affective state of anxiety in this study. For example, Ziba reported that her high self-confidence made up for her linguistic block, decreasing her anxiety, and Azar noted that she got stuck in a state of high anxiety at the beginning of her first speech due to her shyness and low ambiguity tolerance. The findings also showed that difficulty in vocabulary retrieval and a low fluency level were two of the main anxiety provokers for the participants in this study, contributing to their moment-to-moment fluctuations of anxiety.

Documenting the third property of dynamic systems, we see both variations and stability in the anxiety of the participants reflecting on both within-topic and between-topic explorations carried out during the within-individual investigation of their FLA. For instance, Melika noted that linguistic block was always deleterious to her, yet the same stimulus induced both flat and anxious reactions when answering different questions as Azar’s interest in the topics was once reported as facilitating and once debilitating in her conversations.

In addition, our study provides evidence for the fourth major property of the dynamic systems, the butterfly effect, as Zahra experienced a short period of distraction during the preparation time, which caused her not to be able to map her speech properly, and she consequently suffered from high levels of anxiety when answering the second question. Ziba also reported a major problem of linguistic block. It was likely that her curve would continue to fluctuates, but instead her anxiety curve remained stable since she immediately decided to give the definition of the words she had difficulty recalling.

Conclusion

The recent dynamic perspective towards anxiety in learning a foreign language as well as the issue of ergodicity in research on individual differences inspired us in this study to explore the fluctuations of four participants’ anxiety in their conversations under the influence of different conversational topics. The findings indicated that the patterns of anxiety emerged differently both intra-individually and inter-individually; that is, from a complex dynamic perspective, each topic attracted each individual’s anxiety to different attractor states, contributing to the dynamics of their anxiety. Furthermore, being sensitive to the topics in the conversations, each individual attributed the dynamics in her anxiety trajectory to different emotion-laden words in the topics.
Finally, the use of the idiodynamic method in this study provided us with insights into the complex nature of anxiety under the influence of different topics for conversation. With regard to the pedagogical implications of the findings of this study, we can note that foreign language teachers should be sensitive to the types of topics they use in their classroom interactions with their students. That is, the same question might have a different effect in terms of its contribution to the students’ anxiety, creating inter-individual differences of FLA. Furthermore, the series of questions for one student might lead to fluctuations in anxiety for that student, causing intra-individual variations in FLA, even in short-term conversations. It should be noted that due to the qualitative nature of this study, the findings cannot be generalized to other settings of experiencing FLA by learners of a foreign language. This means that since language learners are not ergodic ensembles, further research on the dynamics of FLA under the influence of conversational topics can shed more light on the dynamic nature of FLA.

Conflict of Interest

The authors declare that they have no conflict of interest.

References


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Appendix

Ziba

**Topic 1**

I have a necklace. It's green. It's made of very special kind of stone. It's called Antovenie. When my brother wanted to leave home and go to university in another city, he gave me that necklace to remind me of him and he told me it makes you happy because it's a special stone and every time you're sad I just look at this stone and remember our happy memories together. So, anytime I'm sad I look at that necklace and after 2 minutes I forget my sadness. I always carry it with myself everywhere. If I die, I would return it to my brother.

**Topic 2**

Two years ago, I saw a movie. The name of that movie was "Hiss DokhtarhaFaryad Nemizanand." I saw this movie because I heard it's an interesting movie, but one should watch it many times to get the story because it's a little confusing. I hate this movie because it shows what happened in the movie has happened to many girls. It also shows that men can force little girls to have sex with them (child abuse). If there would be another movie with the same story I would never watch it because it made me sad and made me think why some men do such things to good girls. In this movie, a man babysat a little girl. Her parents trusted him with their child. One night when her parents went out and left their baby with the man to take care of her. But that man forced the girl to have sex with him (raped her) and took pictures of her and told her if you tell your parents what I did, I will show these pictures to your parents. So the girl didn't say anything to anyone to save her face.

**Topic 3**

When I was 12, we went to Ghoochan with my family for my cousins' wedding party. It was a great party. The food was fine. We ate rice and kebab. We danced a lot and took a lot of pictures. After the party, we went to the parking lot to take our car and go home but the car didn't turn on (start). Although the party was fine but it didn't end very well.

**Topic 4**

My favorite actor is. When I was 12, my brother suggested me to his movie and he said it was very suitable for your age. So I watched it and I really enjoyed it. Stared in "Harry Potter". This movie won many prizes. He continued acting in fiction movies. He has a lot of fan. He is handsome. He has gray eyes and blonde hair. I searched a lot about him on the internet so I have a lot of information about him and I'd like to see him.

Melika

**Topic 1**

I have a... notebook. Two years ago... I bought it... alone and... it is very personal... what is "be yadavordan in English?" Aha...It reminds (me) of my friend... it is on my drawer and if I die... I give it to my friend because... because I write... no... because we wrote... write our memories in... memory book?! (diary) together.

**Topic 2**

I saw "AsreYakhbandan" movie... in cinema... I went to cinema with my friends to see it because... because they... they wanted to see... watch this movie. I think it was... awful...because I didn’t like... the... characters... director of the movie were... I don’t know the director and the... the actors... of the ‘movie’... but. Because... because... I... don’t watch movies many...I mean... a lot....
Rapid Changes in Foreign Language Learning Anxiety Caused by a Multiplicity of Topics

**Topic 3**

I love my favorite volleyball player, Shahram Mahmoudi. Because he is one of the best player in the world and I like him since three years ago. I saw him in Milad tower and she... he is 20...6 years old and she is married. No... he is married... uhm... hamin... finished...

**Topic 4**

Last year I went to my friend's party because of her birthday. I bought one doll for her and I went to the party alone... her birthday was in her house... the decoration was... was... very awful... the guests... were... very cold... and... I didn't know them... the food was terrible... and... the music was... very... antique.

Last year I went to my friend's party because of her birthday. I bought one doll for her and I went to the party alone... her birthday was in her house... the decoration was... was... very awful... the guests... were... very cold... and... I didn't know them... the food was terrible... and... the music was... very... antique.

Zahra

**Topic 1**

Two years ago... I went to the cinema with my friends... and saw "Shiyare 145". It was very beautiful and... the first character of the movie was lovely because she was very patient... but I didn't like the movie because... because it made me sad... I don't like movies with such stories... I didn't like Gelareh Abbasi's playing (acting) and... if... if she plays in another movie, I wouldn't see it.

**Topic 2**

Five years ago, I went to my aunt's house on my aunt's house... my husband and... of my aunt (my uncle, or my aunt's husband) died... so I went to my aunt's house... At the party (ceremony)... when my little sister was running and a "chagoo" (knife) cut her feet... in... she didn't know (notice) it... and... continued running but after some minutes we saw bloody "lake"... Yes... yes... blood spots on the carpet and she took... we... took her to a hospital... now she's fine...

**Topic 3**

Rambod Javan is my favorite actor... because... because of his acting... I know him (him) (since) four years ago... he's very active... I guess he's 40 years old... and... he has married 2 times... but got divorce... after that... she... he got married again for the three... third time... I haven't see (seen) him... but I'd like to see him once.

**Topic 4**

Two years ago... we traveled to Neishaboor... and... my mother bought me a "firoozeh" ring... Aha... it's very beautiful... I like it a lot... I always wear it because when I wear it... I... remember all of the good memories of Neishaboor... and if I die, I would give it to my sister to remember me... Aha... yes... a... a... a...

Azar

**Topic 1**

My pet is my favorite. It's a parrot. My father bought it for me a year ago. It's a "he", I like it very
much° because I° have a lot° of fun with° her. I° keep him° in a cage°?! He1 eats “tokhmeh”°, and fruit°. He can° sing, swing°, and repeat° some simple° Persian words°.

**Topic 2**

One° of the movies° I don’t like° is “Zapas”°, because I° didn’t get1 the movie... ‘subject?! Aha°... yeah°... the movie° plot. I° saw the preview° of the movie° on TV and° watched it° in cinema° with my cousins°... the actors° of the movie° were Rima Raminfar°, mehran'... ops... 'Ahmad Mehranfar°, and Amir Jaafari°... and1... ‘but I don’t ‘remember the ‘director’s and ‘the other actors’° names...°I like the actors°, but the story° of the movie° was ...° poor°... I think°...°so if these actors° act in another° movie, I° will° definitely watch° it.

**Topic 3**

I° went to my1 friend’s party!... they° don’t bought2 anything2 for our friend2...and ... ’you know...? they went to2 the party with? my mother to2 have fun... we ’eat sandwiches’...and then°... we don’t° dance or ’listen to music...°and°...I don’t like° the party °... because°... you ’know...the quests are° cold?! And... ‘I didn’t know! all of them!

**Topic 4**

My3 favorite singer° is Sirvan Khosravi°... I love °his sound4 {voice} °... °you know...° His songs4 are beautiful°...in the past°... you °know... I° didn’t like° him... °you know... °because...° you know°... I don’t° hear her° music... °you know°...‘one of my° friends said4 that hear her° music maybe° you like that°... so I hear °his music and° I liked it°...° you know°... I don’t° see him but° I like to see° him... he’s° single... ‘and ... he’s 30°...34 years °old...