Understanding learner agency as a complex dynamic system

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Abstract

This paper attempts to contribute to a fuller understanding of the nature of language learner agency by considering it as a complex dynamic system. The purpose of the study was to explore detailed situated data to examine to what extent it is feasible to view learner agency through the lens of complexity theory. Data were generated through a series of in-depth interviews and narratives over a two-year period with a single, female tertiary-level EFL learner. The data were then analysed in a grounded manner taking a complexity perspective. The findings illustrate how agency can be conceived of as a complex dynamic system composed of a number of constituent components; each of which is itself a dynamic complex system. In particular, motivation, affect and self-regulation emerge as the ‘controlling’ components of this learner’s agentic system. The paper ends by discussing the findings in respect to pedagogy and future research.

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1. Introduction

Two major developments within Second Language Acquisition (SLA) have led to an increased interest in the concept of learner agency. The first concerns the prominence of the concepts of learner-centeredness and autonomy; both of which emphasise the role of the learner as an active key agent in language learning processes (Benson, 2001: 17). As opportunities for self-directed learning proliferate given the growth and advancements in various technologies and easier possibilities for travel, it has become increasingly important for learners to feel a sense of agency in relation to such contexts in order to make the most of the learning opportunities they potentially represent (Benson, 2001; Gremmo and Riley, 1995; Murray, 1999).

The second development in SLA reflects the growing recognition following the ‘social turn’ (Block, 2003) of more socio-constructivist understandings of learners which acknowledge the agentic interaction between learners and their environments and learning contexts. Learners are viewed as agents who “actively engage in constructing the terms and conditions of their own learning” (Lantolf and Pavlenko, 2001: 145), in whatever communities of practice they engage with, whether these are situated inside or outside formal language learning contexts. Research employing such a perspective has also revealed the central role played by agency, which can be both constrained and facilitated by...
various contextual affordances, in the construction of learner identities, degrees of learner autonomy, motivation and strategic learner behaviour (Gao, 2010; Toohey and Norton, 2003; Ushioda, 2007).

Thus, in light of the growing significance attached to the notion of learner agency as a result of these developments in SLA, it is apparent that deep, nuanced understandings of this key construct are crucial. In an attempt to contribute towards a greater understanding of the nature of learner agency, this paper examines situated, holistic case study data in order to consider whether agency may best be conceived of as a complex dynamic system.

2. Agency

Agency is one of the most fundamental characteristics of general human behaviour and has been defined as being an individual’s will and capacity to act (Gao, 2010). How agency is defined and what significance it is assigned have been the subject of numerous theoretical and philosophical debates. In SLA, as outlined above, renewed interest about agency has emerged from recent theoretical debates about the role of structure/society and the individual. Often two main perspectives have been polarised with one view, cognitive theorists, giving primacy to the individual’s cognition and the other view assigning primacy to social contexts. However, recently another perspective has gained ground which takes a more balanced view and assigns equal importance to both the individual and the context. Realist perspectives conceive of both structure (social relations and macro features of society) and agency (humans as agents in the human world) as interacting in a relationship of reciprocal causality which generates emergent irreducible phenomena (Sealey and Carter, 2004). As Carter and Sealey (2000: 11) explain:

“Too great an emphasis on structures denies actors any power and fails to account for human beings making a difference. Too great an emphasis on agency overlooks the (we would claim) very real constraints acting on us in time and space. And reducing each to merely a manifestation of the other (...) necessarily results in a theory which is unable to capture the complex relations between them”.

The importance of such a view is that it sees humans as agents able to influence their contexts, rather than just react to them, in a relationship of ongoing reciprocal causality in which the emphasis is on the complex dynamic interaction between the two elements.

Within psychology, Bandura (2008) has also argued that humans are not just reactive to their surroundings and environment but are also creative and proactive. Bandura (1989: 1175) explains that “the capacity to exercise control over one’s thought processes, motivation, and action is a distinctly human characteristic”. In his social cognitive theory, he proposes a triadic model of human behaviour:

“…persons are neither autonomous agents nor simply mechanical conveyors of animating environmental influences. Rather, they make causal contribution to their own motivation and action within a system of triadic reciprocal causation. In this model of reciprocal causation, action, cognitive, affective, and other personal factors, and environmental events all operate as interacting determinants”.

Thus, in this model, human functioning is seen as emerging from the complex interplay between three constituent factors (1) intrapersonal (biological, cognitive, affective and motivational), (2) behavioural and (3) environmental factors (Bandura, 2008).

In SLA, numerous studies have examined agency, often in respect to learners’ capacities for autonomous, self-regulated behaviour (e.g., Bown, 2009; Huang, 2011; Toohey and Norton, 2003; Ushioda, 2007). As Bown (2009: 580) explains “to effectively manage learning and regulate emotional responses, learners must be aware of their own agency and must believe themselves capable of exercising that agency” in all learning contexts. Effective self-regulatory learners have been found to be those who are aware of themselves as active agents and who are then able to exercise that agency through various strategies to actively shape and construct their learning experiences as well as their motivational and affective responses (Bown, 2009: 578). In a recent study by Gao (2010), a realist perspective combined with a sociocultural framework was employed to investigate how learners exercise their agency in their selection and use of strategies within a range of contexts. He concluded that it is not just context or agency that is responsible for engendering strategy use but the balanced interaction of both. He argues that the concept of learner agency needs to be extended to include a number of elements other than learners’ metacognitive knowledge or self-regulatory competence (Gao, 2010: 154—155) and concludes that one of the most critical parts of learner agency is the learners’ motive/beliefs system.
Thus, realist approaches, theoretical work by Bandura and various studies in SLA suggest that learner agency is a complex phenomenon that is closely interrelated with other learner and contextual factors and plays a central integral role in facilitating autonomous, self-regulatory and goal-orientated strategic learning behaviours (Bown, 2009; Gao, 2010; Huang, 2011; Oxford, 2003; Toohey and Norton, 2003). Therefore, there seems to be a pressing need for “a more complex view of second language learners as agents” (Lantolf and Pavlenko, 2001: 155), which recognises the dynamic, situated and multi-dimensional nature of agency. With this in mind, this paper seeks to examine whether there are grounds for viewing agency as a complex dynamic system.

3. Complexity theory

Larsen-Freeman (1997: 157) characterises language learning as a non-linear, complex process and explains that “we will never be able to identify, let alone measure, all of the factors accurately. And even if we could, we would still be unable to predict the outcome of their combination”. Thus, rather than trying to extricate and separate the variables involved in a piecemeal fashion, complexity theory recognises the need to explore and acknowledge the dynamic complexity inherent in learning a foreign language. It rejects simplistic cause and effect explanations of language learning and accepts its non-linear, dynamic nature which can vary across individuals and is closely tied to a range of contextual factors.

Not every system is a complex system and in order to clarify to what extent learner agency can justifiably be conceived of as such, the defining features and behaviours of such a complex system need to be considered.¹ Primarily, a complex system is composed of at least two but usually a multitude of interrelated components or elements (agents).² The components of a system may themselves be processes or systems leading to complex systems nested within complex systems descending at various levels; all of which in turn contribute to larger complex systems. The constellation and interaction of these different components is one of the defining characteristics of a particular complex system. Another essential feature is that context is not considered a stable background variable but is seen as an integral part of the system in which the individual and context are interconnected and in which there is an “ongoing interaction between the sociocognitive and the environment” (Larsen-Freeman and Cameron, 2008: 7).

Another core characteristic of a complex system is its dynamic nature. Everything within the system is dynamic and in a constant state of flux giving rise to changing states in the system and the way in which the components interact. Whilst the system continuously evolves and adapts internally as well as through external connections to its environment (Larsen-Freeman and Cameron, 2008: 43), it can also adapt and thereby generate a kind of ‘dynamic stability’. This does not mean that a system is fixed but rather it can continuously adapt in order to retain a degree of stability. Changes in the system can thus either be smooth, continuous and gradual over time or the system can also be affected by larger perturbations in ways which lead to dramatic and sudden change. As components are not independent of each other, changes in one part of the system will lead to changes in other parts of the system in ways that are not entirely predictable and hence complex systems are typically described as being non-linear. Given the centrality of change, dynamic variability and stability in a complex system, it is important for studies to understand the starting state or initial conditions of the system in order to appreciate its dynamism as well as the ‘control parameters’ of the system. These are the components of the system, which have a particularly significant influence on the trajectory of the system and can essentially ‘drive’ and ‘control’ the possible states and development of the system (Larsen-Freeman and Cameron, 2008: 54).

4. The study

Dörnyei (2009: 242) has argued that a complex dynamic systems approach does not lend itself well to quantitative investigation given the extensive number of confounding variables. A qualitative study is perhaps better suited given

¹ In this paper, it is not possible to examine all the possible characteristics due to limitations of space and thus the most salient for this study will be highlighted.

² Although in complexity theory nomenclature the term agent is frequently used particularly to refer to humans or animate beings as well as aspects of them (Larsen-Freeman and Cameron, 2008: 27), I have here eschewed it in favour of the less contextually confusing term, components, given the potential for confusion in light of the focus of this article on agency.
the thick description of context and the ability to analyse individual participants, thereby revealing unique dynamic patterns and avoiding blanketing over inter-learner idiosyncrasies by relying on group averages.

Taking a complex systems approach also requires that the data generated fulfil particular criteria. Firstly, research needs to ensure that it has sufficiently detailed, longitudinal data which covers a range of timescales in order to capture different levels and types of change and variability (Larsen-Freeman and Cameron, 2008: 40). The second issue concerns the need to strategically simplify the complexity in order to research a system (Van Geert, 2008: 185). Thus, the system under investigation needs to be bounded in some way for research purposes, whilst consciously acknowledging its interconnectedness with a wider range of systems and further subsystems beyond the scope of the particular study (Larsen-Freeman and Cameron, 2008: 35). As Larsen-Freeman and Cameron (2008: 203) explain, “we will need to select, out of all that is connected and interacting, particular systems to focus on”.

In this article, the focus is on a single case study of a tertiary-level language learner concentrating on aspects of her psychology related to her thoughts and behaviours in language learning domains. Whilst these boundaries and focus are chosen for practical reasons and in order to connect with other relevant research, it must be remembered that the individual is a holistic being who is part of a larger system involving other aspects of her life, a range of domains, and multiple contexts.

As a research method, case study research is especially useful for investigating complex and dynamic systems given its in-depth but yet holistic focus on a single bounded system (Yin, 2003). It enables rich, detailed, personal and contextualised data to be generated, which can lead to “a full and thorough knowledge of the particular” (Stake, 2000: 22). However, case study research is frequently criticised for difficulties in generalising its findings, given its focus on an individual case. Whilst care clearly must be taken not to transpose findings from one context or population to another, as Yin (2003: 10) points out, case studies can be considered “generalizable to theoretical propositions”. Therefore, a case study can be considered ideal for considering the theoretical question underlying this study; namely, whether learner agency can be conceived of as a complex, dynamic system.

4.1. The participant

The case study participant is a female student who at the outset of the study was 20 years old and commencing her second year of studies at an Austrian university. She was studying two languages, English as her major and Italian as her minor, in order to become a teacher. In Austria, students studying foreign languages also have to study Latin but this can be done within the framework of an intensive course that typically lasts only one semester. The participant took her Latin course during the research period and thus in the data it is possible to see her relationship to three languages: English which she started at school aged 10, Italian which started in school aged 16, and Latin which she began with no prior knowledge during the study. As such, her length of experience and actual as well as perceived abilities differed considerably across these languages. The case study student will be called by her chosen pseudonym Joana. At the outset of the study, Joana’s English was high B2, low C1 according to the European Common Framework of Reference. Her Italian was reported to be A2 which is the admission level at university for her course of studies.

4.2. Method

A series of 21 in-depth, informal interviews in English was conducted over a two-year period and was supplemented by three written texts. The interviews were spaced closer together for the first year and further apart for the second year. They lasted between 45 min and 2 h.

4.3. Analysis

In this study, in order to attempt to honour the complexity of the learner’s agentic system, the data are analysed in line with a grounded theory approach which avoids premature assumptions and allows for an analysis which respects and preserves the holistic, situated nature of the data. Grounded theory approaches can be combined well with
a complexity theory perspective as they enable the complexity to remain visible and can retain the contextualised nature of data.

Analysis began by analysing all the data line-by-line in order to ensure that every possible aspect of the data was included. The data were repeatedly coded and recoded using a range of individual codes, supercodes and families of codes until ‘saturation’ (Charmaz, 2006) with the help of the software Atlas.ti. As familiarity with relevant aspects of the dataset grew and supercodes were created, the researcher alternated between bottom-up and top-down views of the data (Erickson, 2004), in order to look for patterns in respect to learner agency. Memos were also used throughout in order to trace and examine the dynamism across the data (Charmaz, 2006). Once a working description of the data was established based on the Grounded Theory analysis, the literature on complex systems was revisited and the data were then considered in respect to key characteristics of complex systems and the ways in which these were evinced in the data in respect to Joana’s agency across her three languages. The attempt at describing learner agency in terms of a complex dynamic system forms the results section of this paper.

5. Results

There is a temptation in reporting the results to organise the findings according to familiar, static monolithic categories such as individual learner characteristics; however, this would belie the complexity that this paper seeks to explore. Therefore, in this paper, overarching subheadings are used that reflect the typical characteristics of a dynamic complex system outlined above. Nevertheless, under these organisational headings, the focus is often on a particular characteristic such as motivation, affect or self-regulation. As Dörnyei (2010: 261) explains, given their phenomenological differences, it is still acceptable to write about and focus on these factors as if they were separate entities, but it is important not to create the impression that these components of her agentic system function in isolation or can be thought of as discrete items, but rather these too must be conceived of as complex dynamic systems in their own right.

5.1. Components of Joana’s agentic system

The first characteristic of a complex system is that it is composed of multiple components. Joana’s agentic system appeared to incorporate at least two broad, interrelated and mutually constitutive dimensions, although those presented here should not necessarily be viewed as representing an exhaustive list. Firstly, Joana expressed ‘a sense of agency’ which, at least phenomenologically, appeared to be distinct from her actual ‘exercise of agency’. Whilst these are closely interrelated, simply holding or feeling a sense of agency did not necessarily mean that she chose to exercise it in respect to a particular affordance. As will be seen, Joana appears able to hold a dynamic underlying sense of agency but certain triggers are needed to lead her to exercise her agency.

As might be expected from Bandura’s (1986) social cognitive theory, one of the most salient components contributing to her sense of agency and decisions about how to exercise it was her self-concept which refers to self-beliefs of competency and affect in respect to a specific domain, in this case her various foreign languages:

I thought okay my Italian is not as good as my English so... so I am sort of forced to go to Italy, so I’ll just go to Italy but I would love to go to an English-speaking country but I can’t, I have no real choice because I have to really (J#1: 132–136).

In other words, she believes her Italian is weaker than her English and therefore she feels that this is the language she needs to focus and work consciously on. Clearly, beliefs about one’s perceived abilities will influence agency on several levels. Firstly, it will affect decisions about how to exercise agency as well as the degree to which a learner feels able to direct their agency in ways to enhance their learning. In terms of motivation, when a learner compares their current self-concept with future possible selves and their self-related goals, they can be motivated to act to reduce any perceived gap (Dörnyei, 2005).

Another component contributing to Joana’s sense of agency is her system of beliefs about the nature of language learning, including her mindset beliefs (Dweck, 2006). A language learning mindset is the basic set of beliefs an individual has about whether they believe language learning ability stems primarily from some fixed, innate talent
(fixed mindset) or is attributable to effort and conscious hard work (a growth mindset) (cf. Mercer and Ryan, 2010).

Clearly, believing that either your language learning abilities are something unchangeable or something that you can develop will have a considerable impact on your sense of agency. As can be seen from the extract below, Joana believes that working hard will improve her abilities and that her language learning development is within her control.

I’m really relaxed, I have no exam fear at all, well, I’m preparing and I do the work. I do it on a leisurely pace and I do what I can get done and I have my aims, every day I set my aims for what I want to get done and it all works out and I’m completely, like, really I have complete control of everything (J#12: 24–29).

Also Joana’s beliefs about the nature of language learning and how best to learn a language appear interrelated with her sense of agency and how she chooses to exercise it in strategic terms:

I rather pick out a few words, a few new words and write them down and I think it’s better to learn like five words a day than when you just… when you just study a list of words, it’s not as useful, it’s not as efficient (J#1: 983–986).

A particular set of beliefs that are an important element in her agentic system are her beliefs about contextual factors and affordances. It is as much her subjective perception of these as their ‘actual’ nature that are related to her agency.

I think it’s probably not true but it’s just from my feelings or from my experience, the people who study Italian, I don’t… I don’t have any access to them. I don’t know almost anyone, it’s strange but I feel like the ones who study English are much more nicer (J#3: 404–408).

From a complexity theory perspective, context is also viewed as an integral part of the system and it is evident here that Joana’s agency is interrelated with contexts at different levels — sociocultural, family, educational, out-of-class, in-class and down to the level of immediate interactional contexts. For example, in a classroom context, she indicates how her agency and willingness to take an active role in the class is influenced by the affective climate and her sense of self-confidence in that setting.

…there shouldn’t be too many people in the course, it would be great if I knew the people because it makes me more, feel more confident in the course and I feel rather able to, to speak up and say something because I would feel more confident about it (J#4: 1734–1738).

Another example from the micro-level of an interactional context shows how her sense of agency is closely related to her perceptions of a particular speech context, in particularly her relationship to the interlocutor.

I put much more effort in it to use good expressions, and if I’m talking to, I don’t know some other people, I might just use normal everyday language, I wouldn’t put so much effort in it because I would be afraid that they might consider me being a nerd or being like, you know using like all too formal language… (J#2: 69–74).

Naturally, different contexts require different levels of agency for participation and the learner’s agentic system adapts and adjusts accordingly. One particular dimension of context that may be important for learner agency is the extent to which a context is imposed on the learner or selected or created by the learner. For example, the suggestion of a context being imposed on her appears to strongly affect Joana’s motivation, affective attitude and subsequent agency.

…they want to send me to Italy necessarily and they more they force me to study Italian, they more they want me to send to Italy they less I want to study for it so it’s really, you know, it’s like a vicious circle and you know, the more somebody forces you to do something, I don’t want to do it anymore (J#4: 1145–1150).

5.2. Control parameters

In the analysis, three components of Joana’s agentic system appear to play a more significant role than the other components outlined above in affecting and directing the trajectory of her agency: motivation, affect and self-
regulation (including goals, metacognitive knowledge, and strategic knowledge). These components, which must be viewed as complex systems in their own right, may perhaps best be thought of as control parameters, given that they appear to guide the trajectory and ‘control’ the possible states of her agentic system (Larsen-Freeman and Cameron, 2008: 53).

5.2.1. Motivation
The crucial motor of change in Joana’s agentic system appears to be motivation which itself needs to be understood as a dynamic complex system. As Ellis and Larsen-Freeman (2006: 563) state, “motivation is less a trait than fluid play, an ever-changing one that emerges from the processes of interaction of many agents, internal and external, in the ever-changing complex world of the learner”.

Throughout the data, it is possible to see the central role motivation plays in guiding Joana to exercise her agency and choose a certain path of action or indeed to select passivity. Joana herself acknowledges how central motivation is to her approach to language learning.

I’m the type of student who really needs this kind of motivation and personal ties to get on with my studies. I need to be passionate about it and then I am willing to give more than a hundred per cent and want to fight nail and tooth for it, you know? If I am really a hundred per cent convinced (J#24: 2024–2029).

5.2.2. Affect
The second control parameter is affect, which once again Joana herself recognises as important for her willingness to exercise her agency in her pursuit of learning.

I think that everything you are interested in, everything you want, you can learn. You have to have a positive attitude towards it (J#22: 796–798).

An interesting dimension in the system of affect is her positive attitude towards English which remains strong and relatively stable throughout the two-year period. From a complex systems perspective, it is possible to consider her positive affect for English as an attractor in her agentic system. It is the system’s ‘typical’ state. However, her love of English tends to draw her attention and agentic resources away from her work for Italian — a language which she is generally less positive about but feels a need to work on in order to improve.

I would have enjoyed doing more for English I think. It’s a pain in the neck because I love working for English and sometimes I have to really, you know, get myself together and do something for Italian. It just feels like that and I have to change that, it’s just the whole attitude, it’s bad, bad! (J#3: 74–79).

The relationship between these two aspects of her affective system highlights the need to consider the holistic nature of the learner’s agentic system which is influenced by experiences across domains.

5.2.3. Self-regulation: goals, metacognition and reflection
From a social cognitive theory perspective, self-regulation acts as a key dimension in the learner’s agentic system (Zimmerman et al., 1992). As a complex system in its own right, it comprises metacognitive knowledge about oneself, often gained through self-monitoring and self-evaluation, as well as metacognitive knowledge about the task in hand, goals and the subject to be learned. Other key self-regulatory processes include goal setting, strategic knowledge and skills and time management (Zimmerman and Kitsantas, 2005: 510). In the learner’s agentic system, these self-regulatory processes can be viewed as a collective variable which play a central role in Joana’s decisions about how to allocate her agentic resources. A particularly noteworthy dimension concerns her time management and decisions she makes about her priorities and personal needs. A learner needs to balance their goal to become highly proficient in a language and their other life goals (to relax, see friends, do other tasks, etc) (Van Geert, 2008: 187). In this way, it is possible to see how Joana’s agentic system adapts to these competing needs from all aspects of her life by prioritising concurrent needs and goals.

…for a lecture I don’t think I work any more, I just, I’m going there and I know I’m going to make it with the presentation to pass, so I think why should I be spending three or four hours for that homework and it isn’t worth, it is worth 20% of my grade so I think I have to set priorities, I can’t do it anymore, I don’t know when I
should do it, I have no clue when I should do it and it’s just and I need a day or half a day off or even, you
know, even if I’m doing some cleaning on Friday it was just nice to go shopping on Friday afternoon (J#6:
455–464).

It is immediately apparent that isolating learner agency within the vacuum of a single domain such as
language learning or single context such as a language classroom is an over-simplification of a much more
complex reality.

5.3. Timescales and dynamism

A key aspect of a complex dynamic system is the nature of its dynamism. Taking a top-down view of the data
(Erickson, 2004), it is possible to observe how Joana’s agentic system as a whole seems to adapt and change over
time and place throughout the study; however, its dynamism is most salient and revealing when key components are
examined in detail. Given the interdependence of the components of the system, dynamism in respect to key
components of the system, such as self-concept, affect, motivation and self-regulatory behaviours, can be taken as
indicators of dynamism in the larger system although how different components are affected cannot be predicted by
examining one component. A useful perspective for illustrating the dynamism of aspects of Joana’s agentic system is
to employ both short-term (micro-level) and long-term (macro-level) perspectives (cf. Van Geert and Steenbeek,
2005). These should not be thought of as distinct given that short-term dynamics are nested within long-term
dynamics and both are interrelated in complex ways.

Taking motivation as an example, it is possible to see that Joana’s motivation with respect to English is relatively
stable from both short- and long-term perspectives. From a long-term perspective, her motivation to achieve her goals
of becoming a teacher and having a high level of proficiency does not change throughout the two-year period and
remains consistently high. From a short-term perspective, her motivation to pass upcoming exams and have regular
contact with the language in order to improve also remains high with very little fluctuation, despite other pressures and
commitments and short-term fluctuations due to mood, weather, and tiredness.

In respect to Italian, her motivation from both perspectives is much more dynamic. From the long-term view, she
goes through a period of doubt about whether she has chosen the right subject and indeed wishes to give it up against
the wishes of her parents.

I might have changed my mind if they had let me (J#4: 1430).

However, she decides to commit herself to completing her Italian studies and her long-term motivation stabilises at
a more mid-range level. It changes once again following her stay in Italy for a semester, which could be viewed as
a major perturbation to her agentic system. Joana then describes a dramatic, seemingly lasting change in which her
long-term motivation for Italian appears to undergo a transition to a qualitatively different state.

I need proper motivation and that was the same with Italian and I think I’ve got now this boost of motivation
(J#24: 844–846).

From a short-term perspective, her motivation to engage with Italian also changes throughout more dramatically
with higher peaks and deeper lows than the minor shifts visible in respect to her English motivation.

I really had a rush of motivation in Italian. I’m so motivated, you know, I have learned so much since, ahm, the
end of last term and it’s going all well (J#17: 33–36).

Thus, her motivation subsystem under these parameters (in respect to Italian) seems much less stable and more
prone to both gradual and dramatic changes over time. As a system, it seems more prone to the effects of small critical
experiences which can potentially have a disproportionately large impact beyond what could have been anticipated
through the ‘butterfly effect’ (see, e.g., Finch, 2010; Larsen-Freeman, 1997: 57). Indeed, Joana describes at length
various incidents which could be conceived of as critical experiences, such as the extract below in which she reports
receiving praise following an in-class task:

…he said to the first five of us, you know, that was really, I am really pleased with you, you know, that was
great and, you know, and if you had done that like that in the exam then you would have certainly, you know,
passed it and things like that, but it was really motivating (J#20: 476–481).
Thus, Joana’s motivation system appears to be differently dynamic depending on the specific parameters, such as language domain, under consideration. This raises questions about the exact nature of the dynamic interrelationships between components in a complex system, and the extent to which the overall system is more likely to be stable, if the key components and subsystems are stable and in stable interrelations.

6. Discussion

The important perspective emerging from this study is that a learner’s agency is not a single, monolithic factor but can best be understood as a complex system composed of a number of constituent components; each of which can itself be thought of as a dynamic complex system. Learner agency exists as latent potential to engage in self-directed behaviour but how and when it is used depends on a learner’s sense of agency involving their belief systems, and the control parameters of motivation, affect, metacognitive/self-regulatory skills, as well as actual abilities and the affordances, actual and perceived, in specific settings. No single component or element in the complex system causes Joana to exercise her agency in a certain way, but it is rather a series of multiple, interconnected causes which appear to vary in their relative significance and can interact in unpredictable ways. Joana was seen to ‘soft assemble’ her agentic resources (internal and external) in response to the actual and perceived contextual affordances in order to achieve her personal language learning goals, both short- and long-term. In this study, learner agency is seen to be continually developing and adapting to changes in different parts of a wider system, occasionally undergoing changes but sometimes resulting in dynamic stability, and also varying across parameters, such as language domains and contexts.

One particularly salient dimension that emerged from this study is the importance of understanding learners as holistic beings nested within the bigger systems of their personal histories and the entirety of their lives and multiple contexts. However, for research to be comprehensible and manageable there is an acknowledged need to set parameters which define the system under study. Whilst such an approach enables a domain-specific focus, in reality, it is impossible to compartmentalise and isolate the subject domain. It thus seems problematic to view Joana as multiple persons with multiple senses of agency (cf. Bandura, 2008), but rather she is one unique, complex individual with one sense of agency which adapts to and interacts with different parameters such as different languages, contexts and settings.

7. Conclusion

The findings presented in this article do not provide easy formulas or advice for pedagogy. In fact, understanding agency as complex dynamic system poses a challenge for educational theory as to how best educators can use such insights in practical terms to help individuals to become the most effective language learners they can. The findings suggest the benefits of developing certain facilitating learning conditions, such as a positive learning climate, opportunities for self-direction, support for developing self-regulatory skills and positive motivational attitudes; however, above all, they warn against the supposed effectiveness of simple pedagogical ‘recipes’, given the inherent complexity and individuality of every single learner in any particular language learning setting.

Reframing learner agency as a dynamic complex system represents a fresh way of looking at this key dimension of learner behaviour. Although care must also be taken not to unthinkingly extrapolate the applicability of the findings concerning this one unique individual beyond the specifics of her own personal history and contexts in time and place, the experiences of employing a complex system perspective to this particular learner’s agentic system can hopefully generate useful ideas and hypotheses to be explored in further research. The findings have shown how agency cannot meaningfully be understood as a single monolithic variable but is perhaps best conceived of as a complex, dynamic system composed of a multitude of interrelated components. This study should not be seen as attempting to present a completed understanding of agency, but is intended to serve as an initial contribution towards an ongoing conversation about both the nature of learner agency and what complexity theory can offer researchers, and more challengingly in practical terms, educators in this field (cf. Larsen-Freeman and Cameron, 2008: 255).

References


