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Towards a non-dichotomous view of motivators and demotivators in language learning

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This study explores the motivational dynamics and motivational factors of 60 first-year English for Academic Purposes learners. Data were collected over a 10-week period by means of motivation journals and focus group discussions. The findings indicate that students' motivation levels changed frequently from day to day and that motivational factors can serve as both motivators and demotivators as their strength and polarity change according to initial conditioning and the complex interactions of factors within and outside of the classroom context. We argue that the practice of categorizing contextual factors as motivators or demotivators be abandoned, and in its place a non-dichotomous view of motivators and demotivators in language learning be adopted.

KEYWORDS
complex dynamic systems theory, demotivation, motivation, motivational factors, motivational dynamics, 复杂动态系统理论, 动机消退, 动机, 动机因素, 动机动态 本研究探讨了60名一年级学术英语学习者学习动机的动态和因素。数据是通过动机日志和焦点小组讨论在10周内收集的。研究结果表明, 学生的动机水平每天都在频繁变化, 并且动机因素包括激励因素和消极因素, 它们的强度和极性会根据初始条件和课堂内外环境因素的复杂相互作用而变化。我们认为应该摒弃将动机因素归类为激励因素和消极因素的二分法, 而采取语言学习中动机激励的非二分法观点。

1 | INTRODUCTION

Without sufficient motivation, second language (L2) learners are unlikely to expend the effort needed to succeed since motivation "provides the primary impetus to initiate L2 learning and later the driving force to sustain the long, often tedious learning process" (Dörnyei & Ryan, 2015, p. 72). Because of its importance in successful L2 learning, there has

been no shortage of theories, models, and articles that attempt to explain L2 motivation and the underlying factors that shape it.

The conceptualization and theorizing of L2 motivation have seen an evolution and development of ideas in the field. While originally considered a static attribute, variable, or individual difference, motivation is now viewed as being a multifaceted, complex, and dynamic phenomenon that is subject to influences from contextual factors across time. Of particular note is the recent trend to examine L2 motivation under the lens of Complex Dynamic Systems Theory (CDST). While this research paradigm in motivational studies presents challenges to researchers, such as modeling nonlinear change and observing a system holistically rather than focusing on specific variables in isolation (Verspoor et al., 2011), it offers many affordances. These include capturing the multi-faceted complexity of Second Language Acquisition (SLA) phenomena, integrating internal and external language learning factors in a socially grounded approach, and increasing ecological validity (Dörnyei et al., 2015b).

Dörnyei (2014) has argued that retrodictive research methods, rather than predictive ones, may help with understanding how a particular complex system reached an attractor state or emergent outcome. Framing this in terms of L2 motivation, an understanding of how the motivation of language learners arrived at a particular emergent outcome (i.e., a particular motivational disposition) can be gained by means of reversed qualitative modeling.

This study uses reversed qualitative modeling, albeit differently than Dörnyei's (2014) method, in order to reexamine motivators and demotivators from a CDST perspective. It investigates the motivational dynamics of 60 year-one English language learners at a transnational education (TNE) university in Mainland China that uses English as its medium of instruction (EMI). The study attempts to explore how L2 motivation changes, as well as what motivators and demotivators account for these changes. The following research questions were adopted to guide the study:

1. How does the L2 motivation of year-one English learners at a TNE EMI university in Mainland China change over time?
2. What are the salient motivating factors experienced by these students?
3. What are the salient demotivating factors experienced by these students?
4. How stable are motivating and demotivating factors in the complex dynamic motivational system?

2 | LITERATURE REVIEW

2.1 | Motivational factors

Motivation, as an abstract concept cannot be directly observed and measured (Dörnyei & Ushioda, 2011). Therefore, in much of the literature, L2 motivation is investigated through a variety and of constructs. Some of the most commonly researched ones include Intended effort, the Ideal L2 self, the Ought-to L2 self, Family influence, Instrumentality (promotion), Instrumentality (prevention), Attitudes to learning English, Attitudes to the L2 community, Cultural interest, Integrativeness, Linguistic self-confidence, Ethnocentrism, and L2 anxiety (see for example Dörnyei & Ushioda, 2011; Taguchi et al., 2009) .

The fact that scholars have come up with so many different ways to explain the forces and influences that shape learners' intended effort in language learning shows how multifaceted and complex L2 motivation is. Interestingly, however, most motivational constructs look at motivation as being driven by the internal cognitive and affective processes of the learners themselves. Only a few attempt to relate motivational phenomena to contextual factors external to the language learner. Perhaps this is why some have claimed (e.g., Du & Jackson, 2018) that the "L2 learning experience" is the least researched of the three components of Dörnyei's L2 Motivational Self System (Dörnyei, 2005, 2009). Most of the studies that do investigate the effect of contexts in which the L2 learning experience takes place have primarily focused on what happens in the classroom; they do not address the wide array of possible contextual influences that originate from beyond the classroom walls (Kikuchi, 2015: p. 16).

No matter which construct one chooses to investigate, we find that a learner's motivational state is influenced by motivating and demotivating forces exerted by a complex array of motivational factors. Many of these are internal to the language learner (e.g., L2 self-guides, affect, and cognition), while others are contextual factors inside and outside of the language classroom. These external factors present a challenge for researchers as their numbers, due to the individual characteristics of different classroom contexts, the broader sociocultural worlds in which learning takes place, and the complex personalities of language learners, are infinite; there is no end to the number of potential contextual factors affecting motivation. Furthermore, not all factors have the same effect on learners' motivation. Thus, some have viewed them as falling into two distinct categories. Factors that exert a positive influence on a learner's motivational state have been referred to as motivators, and those that negatively influence learner motivation have been labeled as demotivators (Kikuchi, 2015: p. 4). The metaphor that appears from such categorization is that learners' motivational state is a tug of war between these two forces with the learner in the middle; whichever force pulls the student harder wins and renders the student into either a motivated or demotivated state.

Christophel and Gorham (1995) found that the strongest influence on learning motivation was not the presence of motivators in the classroom, but rather the absence of demotivators, especially those associated with teachers. It is not surprising, therefore, that many studies have attempted to identify demotivating factors with the hope that the effects of the demotivators can be mitigated. Dörnyei's (1998) seminal work in the search for demotivators, which has been used by many studies on demotivation, identified the following broad factors: inadequate school facilities, reduced self-confidence, negative attitudes towards the L2, the compulsory nature of L2 study, interference from another L2 being studied, negative attitudes towards the L2 community, group members, and the use of particular teaching materials. As research has expanded, the original categories have been further refined. For example, Sakai and Kikuchi (2009, p. 61), in their review of studies on demotivators in the EFL classroom, concluded that L2 demotivators can be organized into six basic categories: teachers; characteristics of classes; experiences of failure and associated feelings of disappointment and incompetence; class environment; class materials; and learner interests.

Research into demotivation has been especially thriving in the Asian context. Studies situated in Japan (Kikuchi, 2009), Korea (Song & Kim, 2017), and China (Li & Zhou, 2017; Sun & Lei, 2013) seem to reinforce the notion that EFL learners in these contexts tend to experience demotivation in learning English due to factors such as the compulsory nature of English classes, teachers' behavior, the pedagogical approach utilized, the focus on exams, rote-memorization and over reliance on textbooks, as well as internal affective factors such as feelings of boredom, incompetence, failure, and low self-esteem.

Although interesting and informative, many of these studies are problematic in two ways: first, they adopt a narrow focus of the learning experience that overlooks social and environmental factors outside of the classroom; second, they over rely on quantitative research methodologies, such as administering a Likert-scale based questionnaire and analyzing the data by Gaussian statistical analysis procedures. Such procedures, however useful, can only provide a limited understanding of the dynamics of Second Language Acquisition (SLA) phenomena, including motivational states (Henry, 2015; Lowie & Verspoor, 2015: p. 63; van Geert, 2011: p. 275).

2.2 | Motivation and motivational factors as a complex dynamic system

The need to capture the complex, multifaceted, and dynamic nature of motivation has led to an increased interest of L2 motivation researchers in using methodologies that are informed by Complex Dynamic Systems Theory (CDST; e.g., Dörnyei et al., 2015b). The concept was introduced to the field of SLA by Larsen-Freeman (1997, 2012) and it refers to phenomena that display certain characteristics, such as interconnectedness of components, nonlinear and iterative development, sensitive dependence to initial conditions, interaction with the environment, dependence on internal and external resources, and emergent properties (Clarke & Collins, 2007; de Bot & Larsen-Freeman, 2011; Johnson, 2012). In such phenomena there is always "a certain kind of balance between the forces of order and the forces of disorder" (Waldrop, 1992, p. 293) which do not allow them to settle into a stable state.

Although originally CDST was labeled as an "alternative approach" (Atkinson, 2011, p. 16) to the mainstream cognitivism that has dominated the field of L2 motivation research, in the past two decades it has become an established research paradigm. Dörnyei et al. (2015a, p. 1) describe CDST guided research as focusing on "the combined and interactive operation of a number of different elements/conditions relevant to specific situations, rather than following the more traditional practice of examining the relationship between well-defined variables in relative isolation." In short, CDST allows for a more holistic approach in which "becoming (i.e., dynamic change) and being (i.e., emergent outcomes)" (Hiver & Al-Hoorie, 2016, p. 747) can be both observed. Therefore, CDST guided methodologies can go beyond providing "a freeze frame/snapshot perspective on motivation" of groups of individuals (Schumann, 2015, p. xv) and they allow for insights into the processes that lead to changes in motivation of individual language learners.

The growing interest in using CDST to understand L2 motivation has been testified by a rise in studies that employed various research methodologies to explore the dynamics of L2 motivation and related motivation constructs, such as the L2 self-concept (Irie & Ryan, 2015; Mercer, 2015), Ideal L2 selves (Nitta & Baba, 2015; You & Chan, 2015), emotion and cognition (Waninge, 2015), anxiety and self-efficacy (Piniel & Csizér 2015), amongst others. Yet, operationalizing such methodologies in the field of L2 motivation is not an easy task.

Consider Kikuchi's (2017) study, which employed Dörnyei's (2014) Retrodictive Qualitative Modelling approach. He used group interviews, student journals, and motivation questionnaires to explore the motivational dynamics of 20 Japanese university English language learners and concluded that each learners' motivational system differed in trajectory as a result of influences from both inside and outside of the language classroom. Motivators identified by Kikuchi included personal goals, interests, and interaction with people outside of the classroom; demotivators included taking a long summer holiday, part-time jobs, club activities, problems in personal relationships, and teachers' teaching styles. Yet Kikuchi (2017, p. 142) argued that "each learner interacts with contextual factors differently and it is simply not possible to identify what motivates or demotivates all the learners."

The participants in Kikuchi's study, however, only reflected on their motivation seven times over an 8-month period. It stands to reason that a research design with data collection points spread out over such a large time span would make it difficult for students to recall the myriad contextual factors that affect their motivation on a daily basis. Perhaps Kikuchi identified few motivators and demotivators because he did not see the value in creating a common list since each learner interacts with the factors differently. It could also be that the number of participants was insufficient, data collection was too infrequent, or that too much time had passed between when participants recollected demotivating experiences and their actual occurrence.

Kikuchi (2017) and others (e.g., Chong et al., 2019), have called for additional studies that use a CDST lens to explore motivation and demotivation to understand the complex interplay of various agents such as classmates, teachers, and other social and environmental factors. This can only be possible if the L2 motivational system's, or at least a part of that system's, interconnected parts are identified and mapped. The current study, therefore, in line with CDST, aims to focus on both motivating and demotivating factors and their interaction that is believed to contribute to particular motivational states that impact L2 learning. While Kikuchi may be correct that generating a list of motivators and demotivators for all learners may have its challenges, this study sets out to capture a wide range of motivational factors and investigate how changes in system components (agents and contextual motivational factors) lead to changes in learner's emergent L2 motivational dispositions over a period of one semester. There are three reasons for such goals:

1. Dynamic systems are open to new input and thus there is a need to move beyond pre-established lists of motivators and demotivators and cast a net wide enough to record influences that enter the motivational system from a variety of sources.
2. CDSs are characterized by constant change and fluidity; therefore, research that addresses motivational factors should be able to account for such changes in the system.

3. Motivational factors that are part of the L2 motivational system are interconnected with each other and other components. Therefore, their interaction has an impact not only on the learners, but through feedback loops within the system, on the factors themselves. Interconnectedness also suggests that the students may also have an impact on the individual motivational factors and change their influence on motivation.

3 | METHODOLOGY

The study followed an exploratory design that made use of motivational journals and focus group discussions to collect data. It was conducted over 10 weeks toward the beginning of the participants' second semester in their first year at university. Unlike many previous studies investigating motivators and demotivators, the current research did not rely on lists of motivators and demotivators identified in the professional literature. Rather, it aimed to elicit as many motivating and demotivating factors from ongoing and cyclical data collection processes as possible. The L2 motivation system, as a CDS, is open-ended and thus new agents can be introduced to it and influence its trajectory. As such, a research design utilizing motivational factors preselected by the researchers will likely be unable to identify the large array of contextual factors that influence L2 motivation. This study therefore takes into careful consideration the processes within the system and aims to record possible changes in not only the motivational states of students, but in the behavior of components over the time that passes between students' recollection of motivating or demotivating experiences and their actual occurrence. It stands to reason that students are likely unable to recall the myriad contextual factors that affect their motivation day to day if data are collected at only a few specific times in the research process.

3.1 | Participants

The study was conducted at a Sino-British, EMI university in China. To ensure participant anonymity and safety, standard ethical procedures were followed. A non-probability, that is, non-random selection based on convenience, (Bloor & Wood, 2006) voluntary response self-selection sampling method (Starnes et al., 2004) was used. Four EAP teachers invited their students to participate, and students voluntarily responded. This resulted in 60 first-year students being recruited from three general and two advanced level freshmen English for Academic Purposes (EAP) and study skill courses classes. In total, there were 18 male and 42 female students, all between the ages of 18 and 20. The vast majority of students were Chinese, with one Russian, one Tanzanian, and three Indonesian students being exceptions. Students came from a variety of majors related to architecture and design, finance and economics, mathematics, computer science and information technology, engineering, biological sciences, and international business.

3.2 | Instruments and data collection procedures

3.2.1 | Motivation journals

During the 10-week study the participants completed a daily motivation journal in English. The journals were piloted with 8 year-two EAP students who were asked to complete the journal for a period of 4 weeks. Minor changes were then made to the instructions and organization to make the journals easier to use. Once each day, regardless of the EAP timetable, participants self-assessed and recorded their motivational disposition, or willingness to study EAP, by choosing a level of motivation (0 – very demotivated, 1 – fairly demotivated, 2 – slightly motivated, 3- fairly motivated, 4 – very motivated), similar to Kikuchi's (2017) study. Following Waninge et al.'s (2014) practice, students were asked to reflect on two questions when selecting a motivation level: (1), how much effort do I want to put into learning EAP? and (2), how much do I enjoy learning EAP? For each day, students were also asked to provide a reason for selecting a

particular motivation level; this open-ended answer could be a few words or sentences. Furthermore, the motivation journals included weekly reflection questions where students were asked to reflect on their motivational dynamics and answer the following questions:

1. Did your motivation go down at any point in the week? If so, what might be the cause of this change?
2. Did your motivation go up at any point in the week? If so, what might be the cause for this change?
3. If you lost motivation and did not regain motivation, why did your motivation remain low instead of increasing?
4. If your motivation stayed the same, why did it stay the same?

In order to avoid influencing participants' responses, the motivation journals were not assignments; participating or not participating had no influence on students' marks. Students were informed that their teachers would not read their journals and that they were free to write about any motivating or demotivating factors. Focus group discussions confirmed that bias because of the data collection procedure was highly unlikely.

3.2.2 | Focus group discussions

Two focus group discussions were held in the last week of the study to further investigate salient motivating and demotivating factors. A non-probability voluntary response self-selection sampling method was used, resulting in 12 students participating in the discussions; five participated in the first discussion and seven in the second. Each student was given a list of 28 demotivating factors that were identified from the motivational journals. The list was cut into thin strips of paper. Students were asked to consider each demotivating factor and place them in one of three columns which were titled: things that do not affect me; things that affect me in a minor way; things that affect me in a major way. The first author led a discussion on the factors that were listed as major demotivating factors to identify if they were primarily associated with phenomena related to the EAP classroom or phenomena outside the EAP classroom. This process was repeated albeit with another list that included 39 motivating factors.

3.2.3 | Data coding and analysis procedures

Data collected from the motivational journals fell into two categories: a numerical value representing students' motivational disposition levels each day, and qualitative data that provided an explanation for the choice made. The numerical values of each student were listed in an Excel sheet in order to generate line graphs as visual representations of the students' dynamics of motivational disposition. The qualitative data were coded using NVivo 12 through several cycles of coding and analysis. In the initial coding stage each daily and weekly reflection journal entry was coded for case (associating it with the student who wrote the entry), the week and the day when it was recorded, motivation level, and the change in motivation from the previous day. If the motivation level on Monday was *4 - very motivated*, and the motivation level for Tuesday was *2 – slightly motivated*, for example, then the motivational change between these 2 days would be coded as *-2*.

A team of three coders conducted a second round of coding. Qualitative data from the journals and focus group discussions were included in this round of coding. In order to become familiar with the data and to create a code book, one student's entire journal was coded by the whole team individually using descriptive or topic coding (Saldaña, 2009). The inter-rater reliability was then evaluated by calculating the Kappa coefficient. With a Kappa coefficient of 0.96, well above the 0.85–0.9 minimal benchmark (Saldaña, 2009), the coding was considered reliable.

The third phase of coding was pattern coding (Miles & Huberman, 1994; Saldaña, 2009, p. 69). Each of the coding team members coded an additional five journals (thereby coding roughly 10% of the total data from the journals), using descriptive coding and pattern coding. With a Kappa coefficient of 0.95, the inter-rater reliability was acceptable.

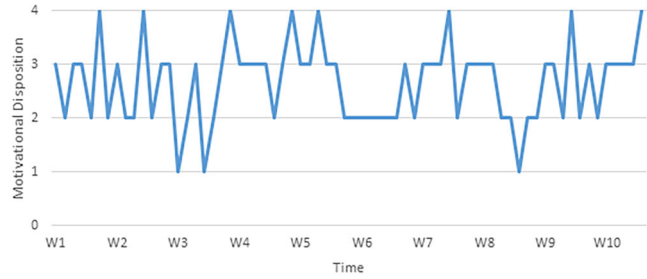

FIGURE 1 Motivational disposition of Susan (pseudonym), a standard level EAP student [Color figure can be viewed at wileyonlinelibrary.com]

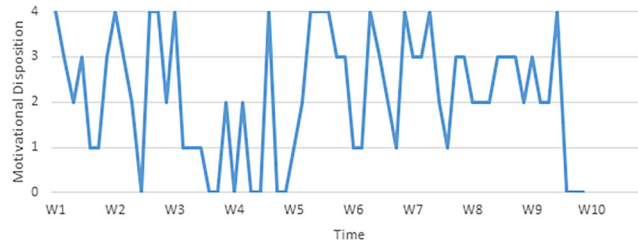

FIGURE 2 Motivational disposition of Jack (pseudonym), an advanced level EAP student [Color figure can be viewed at wileyonlinelibrary.com]

Given that the inter-rater reliability had been checked and found acceptable at multiple points, the remaining journals were divided amongst the team to complete the coding processes. In total, 1244 thematic codes were created from the descriptive and pattern coding processes.

Data analysis of the qualitative data included several steps. First, a matrix query of thematic codes and self-assessed motivation levels from the data in all students' journals was conducted. Following this, a matrix query of the most frequently referenced codes and the change in motivation levels from day to the next was conducted. Frequently motivating factors were analyzed through a series of matrix coding queries to identify: (1) factors that frequently corresponded to positive motivation levels in students' journals (*2 – slightly motivated*, *3 – fairly motivated*, *4 – very motivated*); (2) factors that frequently corresponded to positive changes in motivation levels (*+1* to *+4*) from 1 day to the next in students' journals; and (3) students' answers to journal weekly reflection questions that related to positive changes. Each of these generated a list of thematic codes denoting motivational factors. The more frequent a thematic code was, and the more prominent position in the lists it held, suggested that the factor was frequently acting as a motivator for the students. Similar steps were taken to generate a list of factors that frequently served as demotivators, albeit using the negative range of answers in the matrix queries (e.g., *0 – very demotivated*, *1 – fairly demotivated*, *-1* to *-4)*.

4 | FINDINGS

4.1 | Motivational dynamics of English learners

The first research question concerns the general dynamics of the motivation of the learners. The 60 participants completed on average 8.73 weeks in the motivation journal, with the majority of students finishing the entire 10 weeks. While some students were able to sustain motivation for the majority of the semester (see Figure 1), it was more typical for students' motivation to be volatile, fluctuating frequently between motivated and demotivated states (see Figure 2).

TABLE 1 Results of a matrix query of the 25 most frequent thematic codes and motivation levels (all students' journals)

	Motivation Levels				
Thematic Code	**0**	**1**	**2**	**3**	**4**
1. Assignments, coursework, homework, projects	25 (4.4)	63 (11.2)	132 (23.5)	188 (33.4)	155 (27.5)
2. Classes	23 (10.1)	51 (22.5)	67 (29.5)	57 (25.1)	29 (12.8)
3. Being or feeling – mood and emotion	9 (5.6)	25 (15.5)	46 (28.6)	48 (29.8)	33 (20.5)
4. Physical health	28 (17.4)	51 (31.7)	52 (32.3)	19 (11.8)	11 (6.8)
5. Time or days	10 (6.1)	22 (13.4)	39 (23.8)	55 (33.5)	38 (23.2)
6. Exams, tests, quizzes, assessments	24 (14.7)	29 (17.8)	40 (24.5)	41 (25.2)	29 (17.8)
7. Good desires	0 (0)	0 (0)	14 (14)	55 (55)	31 (31)
8. Vacation and travel	30 (30.3)	26 (26.3)	22 (22.2)	12 (12.1)	9 (9.1)
9. Busy	4 (5.4)	21 (28.8)	38 (52.1)	8 (11)	2 (2.7)
10. Entertainment	8 (17)	12 (25.5)	10 (21.3)	13 (27.7)	4 (8.5)
11. Friends	6 (12.2)	9 (18.4)	8 (16.3)	16 (32.7)	10 (20.4)
12. Weather	2 (5.9)	5 (14.7)	5 (14.7)	15 (44.1)	7 (20.6)
13. What students did (related to studying)	3 (4.8)	9 (14.5)	8 (12.9)	30 (48.4)	12 (19.4)
14. Clubs	6 (11.8)	18 (35.3)	20 (39.2)	5 (9.8)	2 (3.9)
15. Teachers and tutors	1 (3.7)	0 (0)	6 (22.2)	8 (29.6)	12 (44.4)
16. Other things	5 (14.3)	10 (28.6)	16 (45.7)	4 (11.4)	0 (0)
17. Pressure, stress, weight	2 (13.3)	2 (13.3)	1 (6.7)	6 (40)	4 (26.7)
18. Feedback	0 (0)	7 (17.1)	5 (12.2)	18 (43.9)	11 (26.8)
19. Lack of desire or negative desire	7 (19.4)	13 (36.1)	15 (41.7)	0 (0)	1 (2.8)
20. Having no class	1 (3.5)	7 (24.1)	3 (10.3)	12 (41.4)	6 (20.7)
21. Holiday	6 (28.6)	7 (33.3)	6 (28.6)	2 (9.5)	0 (0)
22. Marks	0 (0)	0 (0)	3 (27.3)	3 (27.3)	5 (45.4)
23. Problems or bad things	5 (26.3)	7 (36.8)	4 (21.1)	2 (10.5)	1 (5.3)
24. Something good happened	1 (5)	1 (5)	0 (0)	8 (40)	10 (50)
25. Classmates	1 (7.7)	0 (0)	1 (7.7)	9 (69.2)	2 (15.4)

Notes: Percentages of total references for each thematic code are given in parentheses. 0 = very demotivated, 1 = fairly demotivated, 2 = slightly motivated, 3 = fairly motivated, 4 = very motivated.

4.2 | Factors influencing motivation

The second and third research questions ask what the salient motivating and demotivating factors are that influence learners' motivational disposition. These questions prove challenging to answer because the data revealed 1244 motivating factors, some of which emerged as umbrella terms for a group of similar factors, and also because the data indicated that a particular factor can exert a range of influences on the motivational disposition of different students, as well as on the same student at different times and in different contexts.

The matrix coding query of thematic codes and self-assessed motivation levels from the data in all students' journals gave an indication as to how frequently particular factors were attributed to specific motivation levels (see Table 1). The data suggest that some thematic codes frequently coincided with a particular motivational disposition. Specific references to student achievement (e.g., marks) in students' journals (see thematic code #22 in Table 1), for example,

never coincided with a demotivated disposition level. Other thematic codes coincided with a positive or negative motivational state in a heavily skewed manner. Comments regarding EAP teaching staff (#15), for instance, coincided with positively motivated dispositions 96.3% of the time. This would suggest that marks and EAP teachers were primarily motivating factors for the students.

The majority of the 25 most frequent thematic codes, however, coincided more evenly across the different motivational disposition levels. Due to differences in context and the time of recording, these factors were at times motivating, while at other times demotivating.

On its own, a matrix query of thematic codes and motivation levels was inadequate to explain the influence various factors have on motivational disposition. Consider the case where a student who assessed their motivation level on Monday to be *4 – very motivated* (because of an encroaching assignment deadline), and on Tuesday to be *2 – slightly motivated* (because they are tired of working on the same assignment). The results of the matrix query of thematic codes and motivation levels shown above would suggest that in both cases the assignment was motivating; in actuality, working on the assignment on Tuesday likely had a negative or demotivating influence on the student with a net loss of -2 on the motivation scale, and yet the student's disposition was still in the motivated range. Similarly, if a student assessed their motivation level on Monday to be *0 – very demotivated* (because they were physically ill), and then on Tuesday they assessed their motivation level to be *1 – fairly demotivated* (because they spent time resting and felt slightly better), then the data in Table 1 would incorrectly give the impression that resting had a demotivating influence on the student's motivational disposition. A matrix query of thematic codes and motivation levels is therefore unable to provide a definitive picture of which factors are the most motivating or demotivating. This being acknowledged, the data from the query does paint *part* of the picture.

The first major finding from the data generated from running the matrix query of the most frequently referenced codes and the change in motivation levels from 1 day to the next is that factors listed affected students' motivational disposition in both positive and negative ways; they served as both motivators and demotivators. Yet, some factors were more frequently cited as motivators than as demotivators, as can be seen in Table 2. The data suggest that the following factors frequently served as important motivators: assignments, deadlines, and exams that relate to EAP classes, as well as positive moods and emotions, a desire to improve, a desire to be prepared for class, the time and day of EAP class, having enough time to focus on EAP, making significant progress on assignments, EAP teachers, being in a good physical condition (e.g., getting enough rest), and receiving good marks. The factors that served as the most frequent and prominent demotivators included assignments, deadlines, and exams that relate to other classes; as well as negative moods and emotions; poor physical health; friends; entertainment; and vacation. While there were times where students cited EAP related assignments, deadlines, and classes as being demotivating, the vast majority of demotivating factors seem to be unrelated to EAP classes.

The data presented in Table 2 also provide insight into the final research question, which aimed to investigate the stability of motivational factors in the L2 motivational system. The data seem to indicate that factors that enter the motivational system are connected to the various contextual experiences students encounter both inside and outside the classroom, and that these factors affect the internal cognitive and affective processes which in turn influence students' motivational disposition. Such change can easily be explained by CDST, which posits that interconnected elements in a CDS affect each other through their interactions, and through such interaction emergent properties materialize. A feedback loop is established by which connected elements interact and influence each other; a student's motivational disposition is impacted not only by a particular motivational factor, but the interaction of a combination of factors and elements within the system, including external contextual factors and internal factors such as cognitive, affective, and physical states. The data indicate that the effect that the majority of motivational factors exert on motivational disposition frequently changes. This suggests that motivational factors are not stable in their strength and polarity within the L2 motivational system, as would be expected of elements in a CDS. They appear to be fluid, and their interaction with other agents in the system broker their impact on emergent motivational states at any given time.

TABLE 2 Results of a matrix query of the most frequent 25 thematic codes and changes in motivation levels (all students' journals)

	Change in Motivation Levels								
Thematic Code	**−4**	**−3**	**−2**	**−1**	**0**	**+1**	**+2**	**+3**	**+4**
1. Assignments, coursework, homework, projects	6	9	35	85	212	112	61	18	5
2. Classes	1	4	22	48	80	38	21	3	3
3. Being or feeling – mood and emotion	0	4	16	31	54	35	13	5	0
4. Physical health	5	11	22	41	47	19	6	1	1
5. Time or days	2	5	10	32	48	30	22	6	2
6. Exams, tests, quizzes, assessments	2	2	14	20	77	36	6	3	2
7. Good desires	0	0	3	14	24	28	14	8	2
8. Vacation and travel	0	5	3	14	60	9	5	1	1
9. Busy	2	2	15	25	19	7	1	0	0
10. Entertainment	2	4	7	14	11	7	2	0	0
11. Friends	0	2	8	10	10	13	3	0	2
12. Weather	0	2	1	4	11	11	1	1	1
13. What students did (related to studying)	1	2	4	16	24	10	3	2	1
14. Clubs	1	1	5	16	26	2	0	0	0
15. Teachers and tutors	0	0	3	1	5	10	4	1	0
16. Other things	0	2	6	0	11	3	0	0	0
17. Pressure, stress, weight	0	0	1	3	7	1	1	0	1
18. Feedback	9	9	2	8	8	15	6	2	0
19. Lack of desire or negative desire	1	2	6	12	14	0	1	0	0
20. Having no class	0	1	3	10	7	6	1	0	0
21. Holiday	0	1	2	7	10	1	0	0	0
22. Marks	0	0	0	3	0	2	2	1	1
23. Problems or bad things	0	2	7	6	2	2	0	0	0
24. Something good happened	0	1	1	2	6	3	3	1	0
25. Classmates	1	0	0	2	3	4	2	1	0

An example from the motivation journals may elucidate the point that motivational factors can serve multiple contradictory purposes. One student cited his football class as having an invigorating, positive influence on his motivation level on a particular day: "I am full of vitality, because I had a football lesson in the morning" (Student A14, motivation journal, week three, Friday, motivation level 3 – fairly motivated, no change from the previous day). The same student, however, cited playing football as having a physically draining effect on two other days of the next week: "I have a 7v7 football game and will be a linesman. That makes me very tired" (week four, Wednesday, motivation level 2 – slightly motivated, -2 from the previous day); "I'm very tired now because of football games. I may go to sleep after this class" (week four, Thursday, motivation level 2 – slightly motivated, no change from the previous day). In total the student wrote about how playing football affected his motivation five times. Three of these times playing football had a negative effect because it made him too tired to learn; two of these times playing football resulted in him feeling full of energy and in a good motivational disposition to study EAP. There may be other contextual factors not listed by the student that would explain why playing football had a positive effect on his motivation at times (e.g., winning a close

match, playing exceptionally well, praise from teammates, etc.) while having a negative impact at others (e.g., losing the game, muscle soreness, criticism, etc.).

The last finding of particular note is that despite the complexity of the data (i.e., motivational factors can change in frequency, strength, and polarity), certain trends or patterns can be identified. One of these is that motivating factors were typically associated with phenomena related to the EAP classroom and demotivating factors were primarily associated with experiences outside of the EAP classroom. In the focus group discussions, for example, eight out of 12 students concluded that motivating factors were primarily linked to factors related to the EAP classroom. The remaining four students disagreed and felt that factors outside of the EAP classroom played a more prevalent role in positively shaping their motivation to study EAP. A total of 10 out of 12 students agreed that demotivation to study EAP primarily stemmed from phenomena outside of their EAP class. The data from the journals also corroborated these findings; factors frequently acting as motivators were most commonly associated with phenomena related to the EAP classroom and factors frequently serving as demotivators were mostly connected with factors external to the EAP classroom.

5 | DISCUSSION AND CONCLUSION

The major findings of the study therefore are: (1) the majority of students' motivation frequently fluctuated between motivated and demotivated states; (2) motivational factors can change in strength and polarity (i.e., they can serve as motivators *and* demotivators, depending on the context and the time of measurement); and (3) despite point two above, patterns in the data, such as factors that are more frequently motivating than demotivating (or vice versa), can be identified. These findings merit further discussion as they hold implications for theory and research methodology.

While it has been theorized that the influence of elements in a motivational system can change according to context (Dörnyei et al., 2015b), the notion that motivational factors can serve multiple contradictory purposes is a novel one. Given that factors' influence varies in polarity and strength at different times and in different contexts, creating a list of strictly motivating/demotivating factors would misrepresent the data, as well as run contrary to current theories that define L2 motivation as a CDS (de Bot & Larsen-Freeman, 2011; Dörnyei et al., 2015b). The data therefore corroborate Kikuchi's (2017) claim that it is impossible to create a list of factors that will always motivate or demotivate all language learners. However, due to the emergent properties of a CDS, the data also show "a complicated mix of ordered and disordered behavior" (Johnson, 2012, p. 15). This means that in a particular classroom context, at a particular time, pockets of order, or patterns in the system will appear that indicate a somewhat stable behavior of certain motivational factors. Therefore a list of factors that frequently and prominently serve as motivators or demotivators at a specific time in the L2 learning experience can be generated by means of a CDST guided methodology that is able to capture: (1) a wide array of contextual factors (internal to the language learner, as well as internal and external to the language classroom); and (2) the change of influence that these factors have on resultant motivational disposition across time. Yet, it needs to be emphasized that motivational factors are connected to each other in a CDS, thus emergent order does not "emanate from a single point or location […] but from many points simultaneously" (Clarke & Collins, 2007, p. 163). This indicates that the influences which shape learners' motivational dispositions originate not from single factors acting alone, but from a combination of motivators and demotivators.

While valuable at the time, the relevance of previous studies that generated lists of motivators and/or demotivators stemming from the learning experience in the classroom (e.g., Christophel & Gorham, 1995; Gorham & Christophel, 1992; Li & Zhou, 2017; Sakai & Kikuchi, 2009; Sun & Lei, 2013) is now perhaps questionable; while they may identify a list of key motivational ingredients, they fail to acknowledge the dynamics of motivation in which components react to and interact with a variety of factors that have an impact on their own behavior. Our study has presented data that strengthen the claim that L2 motivation has CDS characteristics, including the existence of feedback loops and nonlinearity within the system. These explain why motivational factors can change their strength and polarity and why research that identifies these as beacons of motivation or demotivation only capture their temporary state. Therefore,

the significance of a CDST approach is that it enables researchers to observe not only the ingredients and resultant product, but also the emergent patterns and processes that appear from the interaction of a multitude of socio-cultural and contextual, cognitive, affective, and physical factors at a particular time in the L2 learning experience and influence the learners' motivational disposition.

Through the cyclical data collection processes our study recorded 1244 motivational factors. This, admittedly, is not an exclusive list of the possible influences on the participants' motivational disposition. It is undoubted that there are many more factors that the learners did not record in their motivational journals or raise during the focus group discussions either because they did not consider them worth mentioning or because they were simply unaware of how these might have influenced their motivation. The sheer number of possible motivational factors and the fact that they can have multiple contradictory purposes within the CDS of L2 motivation, suggests that motivational systems are unpredictable and they can never reach equilibrium (Larsen-Freeman, 1997, 2012); in other words, they always balance at the edge of order and chaos (Waldrop, 1992). Furthermore, this suggests that there is no such thing as an *ultimate* motivational or demotivational state; should motivation ever reach that, it would cease to be a complex dynamic system.

Despite being unpredictable (i.e., it is impossible to determine a universal influence of an individual motivational factor on motivational disposition), patterns emerge in an L2 motivational CDS providing a way to determine the most likely motivational and demotivational forces in a specific context at a particular time. This has significant implications for classroom teachers who, understanding these emergent patterns in their learners' motivation, may steer it towards a more positively motivated state. While at first this may sound contradictory to how CDSs operate, it makes sense when we consider two key characteristics: open-endedness, that is, the capability to incorporate new input, and adaptability, namely, the system's reaction to new information through feedback-loops. Therefore, understanding what factors could exert a positive influence at a given time for their learners, teachers may introduce or reinforce factors that may prompt the L2 motivational system to move towards and maintain a positive motivational state as an emergent order for a period of time. Temporariness, however, must be emphasized.

5.1 | Implications for research

For L2 motivation researchers, embracing CDST means more than acknowledging that motivation is dynamic; it means understanding it as a complex system intertwined with other systems of contextual factors that have a non-linear influence on motivational disposition. As such, the influence of other systems and system components (i.e., motivational factors), whether they be related to the learner, classroom, or the learners' extensive social systems, may change in strength and polarity. Our study has provided data that suggests that this is in fact the case. Therefore, we conclude that L2 motivation researchers should adopt a non-dichotomous view of motivational factors in language learning, allowing unpredictable changes in their behavior that has an impact on the learners' motivational states. We contend that how academics conduct research, and write about their research, ought to reflect this view. In researching L2 motivation, we argue for the use of methodologies that allow for frequent sampling of participants and which ensure that minimal time passes between students recollecting their motivating/demotivating experiences and the actual time of those experiences. In this way it is more likely that the variety of contextual factors that influence learners' motivation can be captured. We also recommend the use of multiple instruments for the corroboration of data by means of methodological, data, and time triangulation. While such research designs are more complicated, they afford researchers the opportunity to observe emerging patterns in a dynamically changing system. Finally, when findings are reported and discussed, we suggest that authors avoid language that reinforces a dichotomous view of motivators and demotivators.

Future research might adopt a similar methodological design to the one used in the current study to explore the more common EFL and ESL learning contexts at micro- and meso-levels. This would allow for comparison of the trends in strengths and frequencies of motivational factors in these contexts, as well as provide additional evidence that

suggests L2 motivation scholars ought to move towards a non-dichotomous view of motivators and demotivators in language learning. Replicating the current study in an EAP context, albeit in a different culture, may also be fruitful by providing insights into how the larger socio-cultural context may shape and guide the complex and dynamic motivational system of language learners.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

PEER REVIEW

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REFERENCES

Atkinson, D. (2011). Introduction: Cognitivism and second language acquisition. In D. Atkinson (Ed.), *Alternative approaches to second language acquisition* (pp. 1–23). Routledge.

Bloor, M., & Wood, F. (2006). *Keywords in qualitative methods: A vocabulary of research concepts*. Sage.

Chong, M. Y. C., Renandya, W. A., & Ng, Q. R. (2019). Demotivation in L2 classrooms: Teacher and learner factors. *LEARN Journal: Language Education and Acquisition Research Network Journal*, *12*(2), 64–75.

Christophel, D. M., & Gorham, J. (1995). A test-retest analysis of student motivation, teacher immediacy, and perceived sources of motivation and demotivation in college classes. *Communication Education*, *44*(4), 292–306.

Clarke, A., & Collins, S. (2007). Complexity science and student teacher supervision. *Teaching and Teacher Education*, *23*(2), 160–172.

de Bot, K., & Larsen-Freeman, D. (2011). Researching second language development from a dynamic systems theory perspective. In M. H. Verspoor, K. de Bot, & W. Lowie (Eds.), *A dynamic approach to second language development: Methods and techniques* (pp. 5–23). John Benjamins.

Dörnyei, Z. (1998). *Demotivation in foreign language learning*. Paper presented at the TESOL '98 Congress, Seattle, WA.

Dörnyei, Z. (2009). The L2 motivational self system. In Z. Dörnyei & E. Ushioda (Eds.), *Motivation, language identity and the L2 self* (pp. 9–42). Multilingual Matters.

Dörnyei, Z. (2014). Researching complex dynamic systems: "Retrodictive qualitative modelling" in the language classroom. *Language Teaching*, *47*(1), 80–91.

Dörnyei, Z., MacIntyre, P., & Henry, A. (2015a). Introduction: Applying complex dynamic systems principles to empirical research on L2 motivation. In Z. Dörnyei, P. MacIntyre, & A. Henry (Eds.), *Motivational dynamics in language learning* (pp. 1–7). Multilingual Matters.

Dörnyei, Z., MacIntyre, P., & Henry, A. (Eds.). (2015b). *Motivational dynamics in language learning*. Multilingual Matters.

Dörnyei, Z., & Ryan, S. (2015). *The psychology of the language learner revisited*. Routledge.

Dörnyei, Z., & Ushioda, E. (2011). *Teaching and researching motivation* (2nd ed.). Pearson Education.

Gorham, J., & Christophel, D. (1992). Students' perception of teacher behaviors as motivating and demotivating factors in college classes. *Communication Quarterly*, *40*, 239–252.

Henry, A. (2015). The dynamics of possible selves. In Z. Dörnyei, P. D. MacIntyre, & A. Henry (Eds.), *Motivational dynamics in language learning* (pp. 83–94). Multilingual Matters.

Hiver, P., & Al-Hoorie, A. H. (2016). A dynamic ensemble for second language research: Putting complexity theory into practice. *The Modern Language Journal*, *100*(4), 741–756. https://doi.org/10.1111/modl.12347

Irie, K., & Ryan, S. (2015). Study abroad and the dynamics of change in learner L2 self-concept. In Z. Dörnyei, P. D. MacIntyre, & A. Henry (Eds.), *Motivational dynamics in language learning* (pp. 343–366). Multilingual Matters.

Johnson, N. F. (2012). *Simply complexity: A clear guide to complexity theory*. Oneworld.

Kikuchi, K. (2009). Listening to our learners' voices: What demotivates Japanese high school students? *Language Teaching Research*, *13*(4), 453–471. https://doi.org/10.1177/1362168809341520

Kikuchi, K. (2015). *Demotivation in second language acquisition: Insights from Japan.*. Multilingual Matters.
Kikuchi, K. (2017). Reexamining demotivators and motivators: A longitudinal study of Japanese freshmen's dynamic system in an EFL context. *Innovation in Language Learning and Teaching*, *11*(2), 128–145. https://doi.org/10.1080/17501229.2015.1076427
Larsen-Freeman, D. (1997). Chaos/complexity science and second language acquisition. *Applied Linguistics*, *18*(2), 141–165. https://doi.org/10.1093/applin/18.2.141
Larsen-Freeman, D. (2012). Complex, dynamic systems: A new transdisciplinary theme for applied linguistics?. *Language Teaching*, *45*(2), 202–214. https://doi.org/10.1017/S0261444811000061
Li, C., & Zhou, T. (2017). A questionnaire-based study on Chinese university students' demotivation to learn English. *English Language Teaching*, 128–135, *10*(3). https://doi.org/10.5539/elt.v10n3p128
Lowie, W., & Verspoor, M. (2015). Variability and variation in second language acquisition orders: A dynamic reevaluation. *Language Learning*, *65*, 63–88.
Mercer, S. (2015). Dynamics of the self: A multilevel nested systems approach. In Z. Dörnyei, P. D. MacIntyre, & A. Henry (Eds.), *Motivational dynamics in language learning* (pp. 139–163). Multilingual Matters.
Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis* (2nd ed.). Sage.
Nitta, R., & Baba, K. (2015). Self-regulation in the evolution of the ideal L2 self: A complex dynamic systems approach to the L2 motivational self system. In Z. Dörnyei, P. D. MacIntyre, & A. Henry (Eds.), *Motivational dynamics in language learning* (pp. 367–396). Multilingual Matters.
Piniel, K., & Csizér, K. (2015). Changes in motivation, anxiety and self-efficacy during the course of an academic writing seminar. In Z. Dörnyei, P. D. MacIntyre, & A. Henry (Eds.), *Motivational dynamics in language learning* (pp. 164–194). Multilingual Matters.
Sakai, H., & Kikuchi, K. (2009). An analysis of demotivators in the EFL classroom. *System*, *37*, 57–69.
Saldaña, J. (2009). *The coding manual for qualitative researchers.* Sage.
Schumann, J. H. (2015). Foreword. In Z. Dörnyei, P. MacIntyre, & A. Henry (Eds.), *Motivational Dynamics in Language Learning* (xv–xix). Multilingual Matters.
Song, B., & Kim, T.-Y. (2017). The dynamics of demotivation and remotivation among Korean high school EFL students. *System*, *65*, 90–103. https://doi.org/10.1016/j.system.2016.12.010
Starnes, D. S., Moore, D., & Yates, D. (2004). *Statistics through applications.* Macmillan.
Sun, Y. M., & Lei, L. (2013). An analysis of demotivators in Chinese college EFL classrooms. *Foreign Language Research*, *5*, 57–65.
Taguchi, T., Magid, M., & Papi, M. (2009). The L2 motivational self system among Japanese, Chinese and Iranian learners of English: A comparative study. In Z. Dörnyei & E. Ushioda (Eds.), *Motivation, language identity and the L2 self* (pp. 66–97). Multilingual Matters.
van Geert, P. (2011). The contribution of complex dynamic systems to development. *Child Development Perspectives*, *5*, 273–278.
Verspoor, M. H., de Bot, K., & Lowie, W. (Eds.). (2011). *A dynamic approach to second language development.* John Benjamins.
Waldrop, M. M. (1992). *Complexity: The emerging science at the edge of order and chaos.* Simon & Schuster Paperbacks.
Waninge, F. (2015). Motivation, emotion and cognition: Attractor states in the classroom. In Z. Dörnyei, P. D. MacIntyre, & A. Henry (Eds.), *Motivational dynamics in language learning* (pp. 195–213). Multilingual Matters.
Waninge, F., Dörnyei, Z., & De Bot, K. (2014). Motivational dynamics in language learning: Change, stability, and context. *The Modern Language Journal*, *98*(3), 704–723. https://doi.org/10.1111/j.1540-4781.2014.12118.x
You, C., & Chan, L. (2015). The dynamics of L2 imagery in future motivational self-guides. In Z. Dörnyei,P. D. MacIntyre, & A. Henry (Eds.), *Motivational dynamics in language learning* (pp. 397–418). Multilingual Matters.

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