

# Exploring L2 Motivational Psychology among Chinese Tertiary EFL Learners from a DMCs Perspective

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## Abstract

Directed Motivational Currents (DMCs) are the latest development in second language (L2) motivation introduced by Muir & Dörnyei (2013). Due to its novelty and innovative nature, this concept needs more empirical evidence in wider contexts. Therefore, this study aims to examine the features of L2 motivation among Chinese tertiary English as a foreign language (EFL) learners from the DMCs perspective. Data were collected by means of a questionnaire survey. The quantitative data were analyzed by descriptive and inferential techniques. The quantitative results revealed that the participants experienced DMCs in their English language study. Besides, factor analysis yielded four features that consist of the participants' DMCs, namely, vision-orientedness, salient facilitative structure, participant ownership, and positive emotionality. This study confirmed the validity of DMCs in an EFL context and lent support to the pivotal role of the four components proposed in previous studies in L2 learning. The findings of this study have pedagogical implications for L2 learning and teaching in EFL contexts.

**Key words:** L2 Motivation; Directed Motivational Currents; Chinese EFL learners

## 1. Introduction

Research on second language (L2) motivation has been burgeoning since 1950s when Gardner and his associates proposed the socio-educational model (Gardner & Lambert, 1959, 1972). L2 motivation studies have subsequently undergone the cognitive stage, process-oriented stage, L2 self system model, and socio-dynamic model (Li & Yang, 2012, 2015). Along these approaches put forward a series of L2 motivational theories which considerably promoted the development of L2 motivational research but are stricken with their shortcomings respectively. To name a few, present perspectives to L2 motivation pay less attention to the variations of the psychological factors among learners and to the interaction between individuals and environments (Li & Yang, 2012). In light of these disadvantages, the concept of Directed Motivational Currents (DMCs) was recently proposed by Dörnyei and his associates (Muir & Dörnyei, 2013; Dörnyei et al., 2015; Dörnyei et al., 2016).

DMCs provide a theoretical framework for examining the formulating mechanism of L2

motivation in relation to specific behavioral path. However, as the latest development of L2 motivational theories, DMCs research is still at its conceptual exploration stage. Besides, its validity has been previously verified in some EFL contexts like Sweden and Iran, but more empirical support is needed in wider EFL contexts (Ning & Cai, 2019). In addition, previous studies mainly adopted a qualitative paradigm to investigate the features of DMCs (Chang, 2017; Duan, 2020; Ning & Cai, 2019). Little has approached to this topic from a quantitative perspective. Therefore, this study aims to explore the DMCs profile of Chinese tertiary EFL learners.

## 2. Literature Review

### 2.1 L2 Motivation

Second language (L2) motivation has been examined from a number of perspectives in the past seven decades. The socio-educational approach followed an instrumental-integrative dichotomy and adopted the linear paradigm to capture the motivational traits among L2 learners from a long time span (Wang et al., 2017). Previous research against the English as a second language (ESL) context revealed that integrative motivation plays a pivotal role in L2 learning process (Gardner & Lambert, 1972). By contrast, studies in China

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showed an instrumental orientation prevalent among Chinese EFL learners (Qin & Wen, 2002). This dichotomous perspective has now gradually lost its explanatory power against the background of English as Lingua Franca (Chang, 2017). Situational discrepancy is thus inadequately examined.

The cognitive approach answered this call for taking situational realities into account when scrutinizing L2 motivation. It proposed an analytical framework composing language, learner, and learning situation (Dörnyei, 1994). It attempted to explore L2 motivation from a micro perspective of learning environment with a focus on how L2 motivation would influence learning behaviors and achievement in specific learning situations (Dörnyei et al., 2015). This perspective has its merits in terms of considering the multiple sources of factors leading to L2 motivation, but fails to account for its individual differences and dynamics.

The dynamic feature was taken into account by the process-oriented model of L2 motivation which was initiated by Dörnyei & Otto (1998) and later developed by Dörnyei (2000, 2003). This model took L2 motivation as a process encompassing pre-action, action, and post-action stages (Dörnyei & Ushioda, 2011). This approach paid much attention to characterizing L2 motivation at different action stages in the L2 learning process, but less to the internal psychological variations among the learners (Li & Yang, 2012).

The L2 Motivational Self System drew on the concept of self from psychology and divided L2 motivation into ideal L2 self, ought-to L2 self, and L2 learning experience (Dörnyei, 2005, 2009). Among these three components, the ideal L2 self is at the very core place bringing about motivation (Dörnyei & Ushioda, 2009) and highly related to individual differences (You & Dörnyei, 2016). The L2 motivational self system goes beyond the cognitive model and the process-oriented model in that it confirms the starting and the ending points of motivational behaviors (Li & Yang, 2012). However, it only shifts its focus to the inner heart of the learners from learning situations but shows inadequate concern to the interplay between individual learner variables and learning environment (Chang, 2016).

In light of the above problems in previous relevant theories, the socio-dynamic model lent support from the non-linear system dynamics and proposed as series of L2 motivational theories, namely, the chaos theory, emerging theory, the dynamic system perspective, and the complex theory (Dörnyei, 2014; Dörnyei et al., 2015). This dynamic turn pinpoints that L2 motivation interacts with the components of the learning system

(Larsen-Freeman, 2015). To understand L2 motivation should not only depend on the linear relationship between individual variables, but on the whole learning system (Dai, 2015; Wang et al., 2017).

## 2.2 Directed Motivational Currents

The latest development of L2 motivation research from the social turn perspective is the Directed Motivational Currents (DMCs) theory (Dörnyei et al., 2014, 2016; Muir & Dörnyei, 2013). The theoretical underpinnings stem from a number of previous theories including the goal-setting theory (Locke & Latham, 1990), flow theory Csikszentmihalyi (1990), the concept of perceived behavioral control (Ajzen, 1988), the Self-determination theory (Deci & Ryan, 1985), the time perspective (Carstensen et al., 1999), and the Dynamic Systems Theory (Larsen-Freeman, 2015).

The notion of DMCs holds that L2 motivation has a clear goal/vision orientation, takes behavioral structure as its path and grounds itself on the completion of routine learning behaviors, that is, the realization of the immediate learning goals. These features could enable learners to generate a type of powerful surging drive which would lead to and maintain long-term learning behaviors (Dörnyei et al., 2015). This concept is composed of goal/vision orientedness, salient and facilitative structure, participant ownership, and positive emotionality (Henry et al., 2015). This theory displays a multi-dimensional integration of individual, chronological and environmental aspects in the exploration of L2 motivation.

Scholars call for more research on DMCs theory from the dynamic perspective and on the changing mechanism of L2 motivation (Dörnyei, 2014; Dörnyei et al., 2015; Henry et al., 2015). Among the few relevant empirical studies, Henry et al. (2015) conducted the first systematic empirical research on the DMCs among immigrating learners in Sweden. Zarrinabadi & Tavakoli (2017) confirmed Iranian pre-service teachers' structural components of DMCs proposed by Dörnyei et al. (2015). Safdari & Maftoon (2017) identified the unique DMCs experience of Iranian learners of Italian which reflected the abrupt surge and sudden disappearance of L2 motivation. Ghanizadeh & Jahedizadeh (2017) validated the Persian version of the DMCs scale among Iranian tertiary EFL learners. These early empirical studies shed light to the validity and effectiveness of DMCs for L2 motivation research.

DMCs research in China is still in its infancy, mainly introducing and reviewing the concept and its development. Available on the China National

Knowledge Infrastructure (CNKI) are Chang (2016, 2017), Wang et al. (2017), Ning & Cai (2019), and Chang & Zhang (2020). Among them, Chang (2016) and Wang et al. (2017) introduced the concept and features of DMCs and discussed its implication for L2 motivation research in China. Chang (2017) investigated the changes in L2 motivation among 10 English postgraduates and found their DMCs were mainly displayed in the goal/vision-orientedness and salient and facilitative structure. Similar results were also reported in Ning & Cai (2019). Chang & Zhang (2020) validated DMCs in L2 listening and found that DMCs were the result of the interaction between internal and external factors.

In summary, the different stages greatly promoted the development of L2 motivation research. These stages mainly follow a cross-sectional linear research paradigm which fails to identify the individual differences and the dynamic mechanism of L2 motivation (Chang, 2016, 2017; Wang et al., 2017). To address these problems, the social turn advocates a shift in L2 motivation research focus from collective communality to individual characteristics and from a linear to a non-linear approach in research methodology (Wang, 2016). This proposed shift accords that of the DMCs (Chang, 2016, 2017). On the other hand, research on DMCs has come to the empirical stage, mainly focusing on validating the construct in ESL contexts and on adult learners (Henry et al., 2015; Zarrinabadi & Tavakoli, 2017; Safdari & Maftoon, 2017). More empirical studies on tertiary learners in EFL contexts are necessary for enriching the scope of research on DMCs (Chang, 2017).

Furthermore, present studies mainly followed a qualitative method. Little effort has been made to quantify the features of DMCs in L2 class. Therefore, this study aims to investigate the features of DMCs among Chinese tertiary EFL learners. It mainly addresses the following questions:

- 1) What is the profile of DMCs among the Chinese tertiary EFL learners?
- 2) What are the structural features of the DMCs among the Chinese tertiary EFL learners?

### 3. Methodology

#### 3.1 Participants

Table 1 reports the demographic information of the participants for the present study. The participants include 262 Chinese tertiary EFL learners from a technological university in China. The population is composed of 179 male and 83 female students from four grades. 54 of them were freshmen, 65 sophomores, 63 juniors, and 80 seniors. They aged from 16 to 24 years old, with an average age of 20.0763. In terms of hometown, 114 of the surveyed participants were from countryside, 91 from town, and 57 from metropolitan areas. With regard to their English proficiency, the maximum English scores in Gaokao (National Matriculation English Test) were 140 out of 150 in total, and a minimum 70. The average scores of them were 70. Besides, in the participants' self assessment of English proficiency, only eight scaled themselves to be advanced learners, but 120 of them to be at intermediate level, and 134 at low level. These participants were from such disciplines as Big Data, Computer Sciences, Electrical Engineering, Architecture, Civil Engineering and Built Environment, and Industrial Design.

Table 1. Demographic Information of the Participants

Category	Number	Minimum	Maximum	Mean	Standard Deviation (SD)
Age	262	16	24	20.0763	1.48101
English scores in Gaokao	262	70	140	115.9065	13.81250
Grade of Education	Freshman	Sophomore	Junior	Senior	Total
	54	65	63	80	262
Gender	Male			Female	
	179			83	
Hometown	Countryside			Town	City
	114			91	57
Self-assessed English Proficiency	Advanced			Intermediate	Low
	8			120	134

#### 3.2 Instrument

The instrument applied for the present research was a questionnaire based on the notion of DMCs proposed by Muir & Dörnyei (2013) and drawing on the questionnaire designed by Dörnyei and his associates (Muir, 2016). The DMCs questionnaire

has been validated in the Iranian EFL context (Ghanizadeh & Jahedizadeh, 2017). In order to contextualize the questionnaire in the Chinese EFL context, the questionnaire was modified in terms of wording and expression. Before finalizing the questionnaire, the modified one was piloted with

four non-English undergraduate students from the same university. Further revision was made on the questionnaire based on the feedback from the piloted respondents. The finalized questionnaire for the present study was composed of two parts. The first part elicited the demographic information of the participants, including their age, English scores in Gaokao (National Matriculation English Test), grade of education, gender, hometown, and self-assessed English proficiency.

The second part (8 items) inquired the participants' experiences of DMCs concerning the frequency, situation and motivational intensity in their English language learning. To be specific, Item 1, 2 and 3 asked the participants whether they ever experienced DMCs, following a five Likert scale from *Strong Disagree* (1) to *Strong Agree* (5). Item 4 and 5 elicited the frequency and duration of DMCs that the participants ever experienced with five choices. Item 6 measured the motivational intensity of the participants when DMCs occurred with a 5-Likert scale. Item 7 aimed to understand the language proficiency when the participants felt DMCs in their language study. Item 8 related to the participants' willingness to re-experience DMCs again. The third part consisted of 12 items (Item 9-20) evaluating the participants' level of DMCs with a five Likert scale from *Strong Disagree* (1) to *Strong Agree* (5). The Cronbach Alpha for this part is .865, indicating a high internal consistency and reliability.

### 3.3 Data Collection

Before formally administering the questionnaire survey, the author first contacted the lecturers who were delivering College English class to for selecting potential participants.

## 4. Results

### 4.1 Profile of DMCs Experiences among the Participants

Table 2. DMCs Experiences among the Participants (N=262)

Item	D (%)	N (%)	A (%)	Min.	Max.	Mean	SD
1	6.5	32.1	61.5	1.00	5.00	3.6756	.86086
2	6.9	22.9	70.2	1.00	5.00	3.7634	.87390
3	22.1	46.9	30.9	1.00	5.00	3.1031	.94325

For the purpose of answering Research Question One which examines the profile of the participants' experience of DMCs, frequency and means were calculated on the collected data. Table 2 presents the participants' experiences of DMCs in their English learning. It can be found that over half (61%) of the survey participants acknowledged that they ever recognized this kind of intense motivation

The participants were selected following a random sampling method. Upon the consent of these teachers, eight enact class with 305 university students were finally recruited as the targeted population for the survey.

The questionnaires were distributed to the participants during class break. Before the participants answered the questionnaires, the objectives and methods to respond to the questionnaire items were first explained to the respondents. They were also guaranteed that their personal information would be kept confidentially and utilized only for research purpose. They were also relieved that the survey would be of no threat to their final scores of the semester. It took about five to eight minutes for the participants to answer the questionnaire questions. All the 305 copies of the questionnaires were collected. When the incomplete and invalid ones were removed, there were 262 copies of the questionnaires effective for further analysis.

### 3.4 Data Analysis

The collected data were processed by means of the Statistical Product and Service Solutions 24.0 (SPSS 24.0) to seek answers to the two research questions. Frequency and means were first calculated in order to answer Research Question 1 regarding the participants' experiences of DMCs. When counting frequency, responses for *Strongly Disagree* and *Disagree* were categorized into *Disagree* (D), *Neither Disagree nor Agree* into *Neutral* (N), and *Agree* and *Strongly Agree* into *Agree* (A). Next, for the purpose of evaluating the level of DMCs among the participants, means were first calculated. Then factor analysis was performed on the data so as to understand the characteristics of their DMCs.

(Item 1, Mean = 3.6756). similarly, over seventy percent of the participants (70.2%) endorsed that they ever experienced this type of intense motivation while doing a project (Item 2, Mean = 3.7634). In light of the percentage of agreement and the means which are above 3.5, it seems that the participants were greatly impressed with their DMCs experiences. However, it is interesting to

note that only 30.9% of them expressed that they ever personally experienced this type of intense motivation specifically while learning a language (Item 3). This is also reflected in their mean value (Mean = 3.1031), which indicates that they might be moderately impressed when relating language learning into their DMCs experiences.

With regard to the frequency of experiencing DMCs (Item 4), 17.7% of them confessed that they never ever had this kind of experience, and 11.8% of them said that they once experienced but not that strongly as described in Item 1 to 3. Besides, 8.8% of the participants expressed that they ever had such an experience once with the same intensity as introduced in the previous three items. In addition, over a quarter (27.5%) of them had several times of experiencing DMCs with the same intensity. It is also noticeable that over half (54.6%) of them agreed that they ever experienced this kind of DMCs several times but with a moderate intensity. This finding to some degree confirms the participants' orientation as displayed in their response to Item 3.

As for the duration length of time for experiencing DMCs (Item 5), 116 participants (44.3%) expressed that their feeling of intense motivation would last within one month. 65 of them (24.8%) said that this experience would last in one to two months and 43 of them (16.4%) would have this strong feeling in two to four months. This feeling would last for four to six months with 16 participants (6.1%). In addition, 22 of them (8.4%) would keep this DMCs experience for over 6 months. It seems that most of the participants would experience DMCs within a limited time span.

As regards the motivational intensity when experiencing DMCs (Item 6), 15 participants (5.7%) strongly disagreed that they had intense motivation, 28 of the surveyed participants (10.7%) disagreed. 95 participants (36.3%) were neutral in whether they ever had intense motivation when feeling DMCs. By contrast, over one third of the

participants (35.5%) expressed that they had intense motivation when had DMCs experience. In addition, 31 of the participants (11.8%) strongly agreed that they ever had intense motivation when experiencing DMCs. The mean value (Item 6, mean = 3.3702) suggests that the participants had a moderate motivational intensity when they experienced DMCs.

As far as English language proficiency is concerned in the experience of DMCs (Item 7), 55 respondents (21%) thought themselves to be beginners and 72 participants (27.5%) scaled themselves to be at pre-intermediate level. 91 participants (34.7%) said that they were intermediate learners when experiencing DMCs. Forty respondents (15.3%) assessed themselves to be at upper-intermediate level, and only four of the participants (1.5%) surveyed rated themselves to be advanced learners when having experienced DMCs. These findings show that most of the participants were at or below intermediate level when they experienced DMCs.

When being asked whether they were willing to re-experience DMCs (Item 8), 197 respondents (75.2%) gave a positive answer while the remaining part (24.8%) responded with a negative answer. This finding shows that three quarter of them had a good emotional orientation when experiencing DMCs and that they would be highly willing to gain this psychological experience again.

#### 4.2 Features of DMCs among the Participants

For the objective of answering Research Question Two regarding the structural features of the participants' DMCs, the questionnaire data were subjected to a factor analysis. The KMO value .891 and Bartlett's Test of Sphericity .000 ( $< 0.05$ ) suggested significant correlations among the variables in the questionnaire items. This result indicated that the collected data were suitable for factor analysis. An exploratory factor analysis was then performed and yielded four factors.

**Table 3. Correlation Matrix of the Four Extracted DMCs Factors**

Factor	Factor 1	Factor 2	Factor 3	Factor 4
Factor 1	1.000	.489	.573	.246
Factor 2	.489	1.000	.427	.297
Factor 3	.573	.427	1.000	.207
Factor 4	.246	.297	.207	1.000

Table 3 presents the correlation matrix of the four extracted DMCs factors. It can be found that there were no significant correlations among these four factors, which indicate that they were independent of each other and thus show the reliability of the factor analysis. Table 4 reports the

loading factors among the participants. The Eigenvalues of the four extracted factors were larger than one ranging from 2.874 to 1.189. The explained variances for these four factors were 23.953%, 16.967%, 15.900% and 9.910% respectively.

The accumulative explained variance was 66.730%. These results suggest that the DMCs questionnaire had sound construct validity. The Cronbach Alphas

for these four factors were .782, .685, .739 and .362 respectively, revealing reasonable internal consistence of each extracted factor.

**Table 4. Loadings and Cumulative Variance of DMCs Factors**

Factor	Eigenvalue	Explained Variance	Accumulative explained variance	Cronbach Alpha
1	2.874	23.953	23.953	.782
2	2.036	16.967	40.920	.685
3	1.908	15.900	56.820	.739
4	1.189	9.910	66.730	.362

**Table 5. Matrix of Factor Loadings of DMCs**

	Item	SFS	VO	PE	PO	Mean
13	This experience helped me to achieve all I had wanted to and more	0.816				3.6489
11	I was surprised to find that I have completed so much	0.742				3.6183
10	During this time I was able to work more productivity than I usually can	0.630				3.8550
15	At the time, this project became a central part of my life	0.304				3.6756
19	I often imagined myself achieving my final goal		0.810			3.6336
18	I remember thinking about my goal all the time		0.730			3.6221
12	Many times it felt like a real struggle to keep going		0.519			3.7137
20	It was a really enjoyable experience			0.798		3.6527
9	When looking back now, I have very good memories of this time			0.696		3.8053
14	I think something special happened to me during this experience –it was an amazing time			0.387		3.5649
17	It didn't feel like hard work at the time- I was just caught up in the flow				0.930	3.0954
16	The people around me could see that I was experiencing something special				0.423	3.4962

\* SFS = Salient Facilitative Structure, VO = Vision Orientation, PE = Positive Emotionality, PO = Participant Ownership.

Table 5 presents the matrix of the DMCs factors so as to explore the structural components of the construct. According to the item contents, the four extracted factors were named as follows:

Factor 1 had four items, including learners' evaluation of the DMCs experience in helping them achieve what they aimed for (Item 13), their surprised feeling of completing the amount of what they aspired to (Item 11), and their comment on the ability to produce more than they usually could (Item 10). These three items echo progress checks of DMCs (Henry et al., 2015). The fourth item (Item 15) of Factor 1 was about the central position of DMCs experience in the learners' study life, which reflects the behavioral routines of DMCs (Dörnyei et al., 2016). Factor 1 is therefore named as the Salient Facilitative Structure (SFS).

Factor 2 included three items, regarding the learners' imagination of achieving their final goals (Item 19), their thinking about goals all the time (Item 18) and their struggling to keep going for the

goals (Item 12). These items are related to the goal/vision which partly characterizes the structure of DMCs (Henry et al., 2015). This factor is thus termed as Vision Orientation (VO).

Factor 3 encompassed three items involving the learners' perception of the experience as an enjoyable journey (Item 20), their good memories of the time experiencing DMCs (Item 9) and their special experiential feeling (Item 14). These items pertain to the positive emotions the learners experienced. Therefore, this factor was named as Positive Emotionality (PE).

Factor 4 had two items regarding the learners' perceived self-control of the learning process in which they did not feel caught up in the flow (Item 17) and their ownership of the learning outcomes with a special experience (Item 16). This factor was thus coded as the Participant Ownership (PO).

The variances of the four factors suggest that Factor 1 (the Salient Facilitative Structure) was the most influential, Factor 2 (Vision Orientation) the second, followed by Factor 3 (Positive Emotionality)

and Factor 4 (Participant Ownership) being the least. The above results show that DMCs among the participants are structured by the following four components: Salient Facilitative Structure, Vision Orientation, Positive Emotionality, and Participant Ownership. An examination over the mean values of each item included in each factor reveal that the participants had a high level of DMCs.

To be specific, the mean values for Item 13 (mean = 3.6489), Item 11 (mean = 3.6183), Item 10 (mean = 3.8550) and Item 15 (mean = 3.6756) in Factor 1 are all above 3.5. This result indicates that the participants were at a high level of the salient facilitative structure in their DMCs. The mean values for Item 19 (mean = 3.6336), Item 18 (mean = 3.6221) and Item 12 (mean = 3.7137) in Factor 2 are all above 3.5, suggesting a strong motivational goal/vision in the participants' DMCs. For Factor 3, the mean values for Item 20 (mean = 3.6527), Item 9 (mean = 3.8053) and Item 14 (mean = 3.5649) are over 3.5, revealing a strong awareness of positive emotionality among the participants. As for Factor 4, the mean values for Item (mean = 3.0954) and Item 16 (mean = 3.4962) are between 2.5 and 3.5, which indicates a medium level of the participant ownership among the participants.

## 5. Discussion

The present research was aimed to explore the profile and structure of directed motivational currents (DMCs) among technological university students in China. A questionnaire was instrumented by drawing on previous sources to fulfill this purpose. It was verified with sound validity and reliability.

As for the profile of the DMCs experience among the participants as expressed in Research Question 1, the results show that a majority of the surveyed respondents clearly expressed that they ever experienced DMCs in their English language learning process and were strongly willing to regain such experiences. Under such circumstances, they were at or below the intermediate English proficiency. They displayed a medium motivational intensity and their motivational flow would last for a limited time span. This is also reflected in the participants' self-assessed English proficiency as reported in Sub-section 3.1. This finding shows that the initial conditions for DMCs among the participants were not salient among those university students, which indirectly confirms some previous studies both abroad and at home (i.e., Chang, 2017; Li et al., 2020; Selcuk & Erten, 2017; Wang, 2014). Li et al. (2020) found that demotivation to learn English were prevalent among technological tertiary students in China,

indicating no salient initial state among Chinese EFL learners' DMCs (Chang, 2017).

The second research question investigated the structure of DMCs among the participants. It is found that the DMCs among the surveyed respondents were composed of four parts, namely, Salient Facilitative Structure, Vision Orientation, Positive Emotionality, and Participant Ownership. This finding verified the presence of a powerful motivational surge (Safdari & Maftoon, 2017) and validated the structure of DMCs reported by previous studies conducted in other contexts (Chang, 2017; Muir & Dörnyei, 2013; Muir, 2016; Zarrinabadi et al., 2019). The finding also suggested the commonalities in the DMCs structure between Chinese EFL learners and those in other similar contexts (i.e., Sak, 2019).

The findings reveal that the participants displayed a strong goal/vision in their DMCs. This is congruent with Ghanizadeh & Jahedizadeh (2017) who hold that a vision of attaining a specific goal would be the aim for an individual when experiencing DMCs. A clear vision of goal in L2 learning would exert profound influence on an individual's effort and investment into his or her L2 learning (Norton, 2013) and govern learning behaviors (Locke & Latham, 1990). This behavioral investment would then prompt the emergence of the directed motivational currents until the goal is eventually achieved. This visionary quality would increase the probability of accomplishing the goal (Dörnyei, 2014). The component of goal/vision-orientedness identified in this study pinpoints the explaining power of goal/vision-orientation to the directional nature of DMCs (Dörnyei et al., 2015). The second major component of DMCs is the salient facilitative structure. This structure includes three sub-elements, namely, a start point as an initial state of the motivational deluge, progress checks and behavioral routines (Henry et al., 2015). With regard to the start point, it is found that the participants reported to be strongly aware of this DMCs experiences, though with a moderate motivational intensity. This indicates the commonalities in L2 motivational profiles between the surveyed respondents from technological universities and populations from other similar contexts (Chang, 2017; Ghanizadeh & Jahedizadeh, 2017). Another element embodied in the participants' salient facilitative structure is progress check. This progress check reminds the learners of their visions and sub-goals in L2 learning. It functions as a kind of positive feedback to give learners a message that sub-goal has been successfully achieved and thus brings about subsequent effortful behaviors (Chang, 2017). Each

progress check would facilitate the actualization of certain sub-goals and invite more motivational effort from the learners until it becomes routines (Dörnyei et al., 2015). These behavioral routines are the third element of the salient facilitative structure. These routines work as motivational autopilots which internalize motivational behaviors into the DMCs system and put learners into an optimal state of L2 learning (Dörnyei et al., 2016).

The third component of DMCs confirmed in this study is the positive emotionality. It indicates that the learners when experiencing DMCs would have positive feelings. In their pursuit of the ultimate achievement of L2 learning, they would harvest happiness and joy from the realization of their personal potential (Dörnyei et al., 2016). This sense of happiness does not only come from the mastery of language proficiency, but also from their involvement into the learning projects and the daily routines of motivational behaviors (Muir & Dörnyei, 2013). Engagement into the goal/vision-directed learning projects would make it possible for learners to confront themselves when facing challenges and difficulties and transfer this experience into actualizing the sub-goals (Dörnyei et al., 2015). This positive appraisal of engagement experience would lead to a change among the learners in their attitudes towards investing into L2 learning from being required tasks to preferred activities, from which their DMCs would be thus strengthened (Henry & Davydenko, 2020; Ibrahim, 2020).

The fourth component of DMCs identified in this study is the participant ownership. This feature firstly might be traced back to the centrality of goal/vision in the DMCs system. The directional role of goal/vision in formulating motivation relies on the learners' internalization of the vision. It is thus essential for learners to individualize and specify their goal/vision (Muir & Dörnyei, 2013). Another aspect relating to the level of the learners' participant ownership is their perceived control of their L2 learning (Ibrahim, 2017). This strong conviction is significant in directing the learners to achieve the DMCs goal (Muir & Dörnyei, 2013).

## 6. Conclusion

The findings of the present study lend support to the construct of DMCs. They validated the presence of the four components proposed in previous studies (Henry et al., 2015; Muir & Dörnyei, 2013). The participants displayed a strong goal/vision orientation which might have guided their motivational behaviors. Their profound experiences of DMCs show a salient facilitative structure which is composed a clear motivational

path from the start point to the progress checks and then to the behavioral routines. This motivational current directed by their vision yielded positive emotionality among the learners. During this process, the participants attained self control of their L2 study and showed a good participant ownership.

The findings of this study have some pedagogical implications. Regarding the importance of goal/vision-orientedness in the learners' motivational experience, teachers are suggested to integrate the vision training method into their classroom instruction (Dörnyei & Kubanyiova, 2014; Peng & Phakiti, 2020). Secondly, since progress checks and behavioral routines are important in the learners' path to DMCs experience, it is advisable for teachers to provide multiple methods of feedback to students and to help students develop effective learning habits. Thirdly, it is pivotal for teachers to encourage students instead of criticizing them. Recognition from the outside shall give the learners a continual and genuine sense of happiness (Ibrahim, 2016). Most importantly, students should be included in the curriculum so as to enhance their ownership of the learning process.

While providing empirical support to previous studies on DMCs, this study has certain limitations. Future research might focus on the variations among the learners in their DMCs experiences. Longitudinal studies with triangulated research methods are also recommended in future for exploring the dynamic nature of the DMCs as well as the influencing factors that might either promote or constrain them (Sak, 2019).

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