A Bilingual Identity-oriented Taxonomy of Nonlinear Dynamic Motivational Strategies

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Abstract

To fill the gap of a comprehensive taxonomic framework that includes language and identity-related concepts, a taxonomy of bilingual identities was arranged at psychological, social and cultural levels drawing on Schelling's Theory of Symbolic Language. The proposed taxonomy enables addressing nonlinearity and dynamicity of L2 motivation by utilizing nonlinear dynamic motivational strategies. Addressing the psychological, social, and cultural dimensions of L2 motivation from a bilingual perspective enables L2 teachers to keep the identified motivational factors in motion regardless of their homogeneity or heterogeneity throughout the learning-teaching process. Addressing the diverse nature of individual learner differences without pushing the learner group toward equal and static performance despite the motivational heterogeneity at the cost of forming a cohesive learner group is the main theoretical implication of the study.

Keywords: Nonlinear dynamic L2 motivation (NDL2M), bilingual motivational self system (MMSS), L2 motivational self system; complex dynamics systems theory (CDST)

Introduction

Schelling's Theory of Symbolic Language (Whistler, 2013) supports the plurality of identities in existence and accordingly Schelling argues that the law of identity is not expressed only via one form but multiple forms. Tilliette (1999) describes this proliferation of identities, 'Identity unfolds into an efflorescence of forms, a streaming forth and profusion' (p.147). Theory of Symbolic Language considers identity as a representation of idea which is open to multiple self-construction. Drawing on identity proliferation process which moves from single identity towards plural identities the present study moves from monolingual identity to bilingual identity.

Motivation studies have approached the concept of identity from a variety of vantage points and each one has added a new perspective. Socio-educational model suggests native speaker's identity as the motivational factor. The L2 motivational self system (Dörnyei, 2009) suggests the learner's perceptions of an ideal identity as the motivational factor. Anti-ought-to self suggests an oppositional identity as a motivational factor in keeping with reactance theory. Bilingual motivational self system (Henry, 2017) avoids the monolingual bias of the previous L2 motivational models and suggests a bilingual identity as the motivational factor. A conceptual framework of bilingual identities in relationship with motivation provides a clear picture of language identity types expanding from three main categories into three psychological, social, and cultural subcategories:
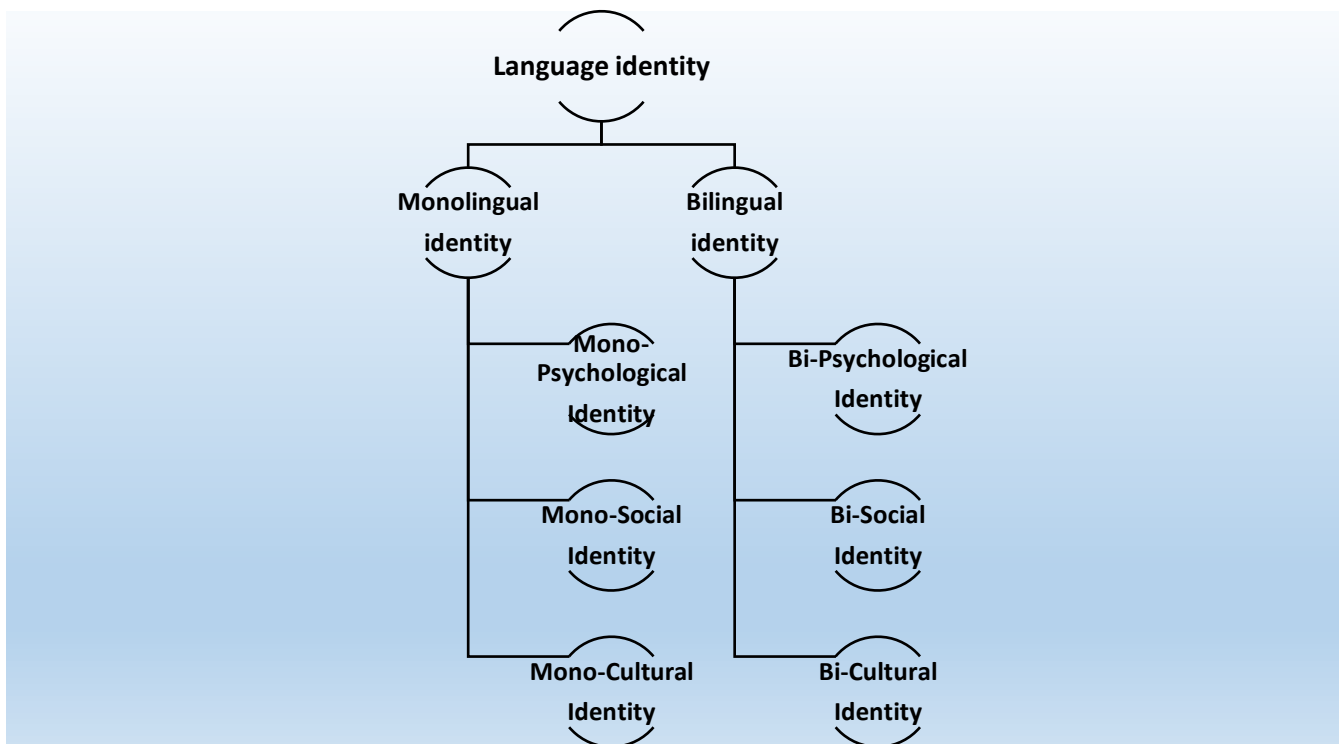

Figure 1. Language Identity Types Proposed by the Author

Bilingual Identity

Bi-psychological identity draws on several theories developed over the past decades with respect to the psychological aspect of identity. The flexibility of language ego among children is suggested as the

condition for an easy manner of native language development (Guiora, Acton, Erard, & Strickland, 1980). Childhood flexible language ego changes into a protective and defensive ego (Guiora et al., 1980) which makes bilingualism as well as multilingualism a traumatizing experience, particularly for those who have passed the flexible language ego period.

Double selves (Koven, 2007) suggests that our affective stance might change with the change of the language. Imagine a person for whom L1 serves as a means of exercising self-control and the L2 serves as a means of emotional expression. The former language is an intellectual language while the latter is a language of heart. Therefore, each self with a particular latent tendency has some motivational power to push a bilingual into further practice of the L2. Code-switching/language choice might be linked to concept of *voicing* (Bakhtin, 1981) wherein voice is the social intention infused by a dynamic nonlinear linguistic form. The very linguistic form serves as the dynamic framework for potentially multiple codes/voices/identities. Accordingly, the dynamicity of social indexicality (Silverstein, 2003) which vary with respect to the dynamic and nonlinear social and psychological contexts has been emphasized.

Bi-social identity draws on several theories developed over the past decades with respect to the social aspect of identity. Identification suggests that languages and their users belong to a particular type of social identity (Irvine & Gal, 2000). According to these process speakers of a particular language are tied to particular social, ethnic, national, religious, and cultural identities which either provides them with opportunities of social advancement or deprives them thereby. Bi-cultural identity draws on several theories developed over the past decades with respect to the cultural aspect of identity. Misrecognition suggests that linguistic varieties represent cultural traits and character types of their users which originate from their social, moral, political or intellectual character (Irvine & Gal, 2000). This process results in superiority of the dominant group of bilinguals against the minority group of bilinguals. Drawing on indexicality (Silverstein, 2003) and voicing discourse-semiotics perspective (Koven, 2007), the study suggests that *self* is inferred from semiotic processes. This perspective argues that bilinguals' sociocultural experiences of being different persons in different languages are nothing but the embodiment of multiple ideologies surrounding the bilingual person. In other words each and every adopted language, dialect or register represents a number of personas, values and positions (Keane, 1999). Under the same discourse-semiotics perspective, the relationship between language and selfhood has been explored through referential and indexical relations. To maintain vernacular cultures

some language learners might resort to subversive identities (Canagarajah, 2004) by doing clandestine literacy practices as oppositional behavior towards unfavorable identities imposed during learning a new language.

Bilinguals are suggested to preserve their cultural identity by high bilingualism (i.e. via communicating in the heritage language along with the second language instead of monolingualism) to ensure participation and integration in both cultures. Developing ethnic identity during the adolescent years positively correlates with heritage language proficiency (Maloof, Rubin, & Miller, 2006) and the same is true for heritage language proficiency and developing bicultural identities. The development of ethnic identity on the part of the language learner requires understanding of and competence in heritage language to ensure an ever-present cultural identity.

Multi-psychological identity draws on several theories developed over the past decades with respect to the psychological aspect of identity. Repression of an unpleasant past ego which has occurred in Language 1 (L1) (Buxbaum, 1949) might be done by persistent use of the L2. This dual self situation continues to exist even in the face of the preliminary linguistic difficulties encountered by the L2 learner to the point of overcoming the difficulties. Some reports show that language learners appeal to the L2/L3 to resist anxiety; to avoid painful topics (Krapf, 1955); and to repress negative feelings (Foster, 1996).

The relationship between split identity/split personalities and psychological functioning has been confirmed (Bialystok, 2001) but there is a contradiction in terms of the type of the reported *shift*. While Pavlenko (2006) describes the existence of a particular *self* in a person as the effect of a particular language, Bialystok (2001) considers split identity as a shift in behavior in response to a shift in context. These apparently opposite views are two sides of the same coin with respect to nonlinearity and dynamicity of language. If we consider language as the source of identity, no identity is conceivable for human without a language and accordingly if we consider that each language is a dynamically and nonlinearly applicable framework which can create indefinite nonlinear and dynamic identities. Therefore, there is no contradiction between these views since they are both under the influence of nonlinearity and dynamicity of language on the one hand and as a result of that the nonlinear and dynamic identity on the other hand.

Multi-social identity draws on several theories developed over the past decades with respect to the social aspect of identity. Bilingual identity politics suggests that the use or lack of the use of language in bilingual contexts can be interpreted as acts of identity. Imagine a minority group who feels socially inferior to other group(s) and rarely shifts into its native language as a sign of confirming their dominance. Imagine the same group who does not feel socially inferior to other group(s) and tries to prove it by shifting into their native language and demanding a fair share of native language use in multilingual communications. Therefore, bilingual identity politics has dynamic motivational potential to push bilinguals to use or not to use a language based on traditionally/socially/implicitly-established identity politics. A triangular relationship between the components of poststructuralist theory (Norton, 2010) can be seen (i.e. signifier (sound/image), signified (concept/meaning), and multiple identities).

The nonlinear and dynamic relationships between each of the angles with the social world across time and space are leads to multiple identities. Accordingly, every identity type in keeping with an imagined community presupposes a desired learning context with multiple identity options which serve to enhance motivation (Bahari, 2019). Multi-cultural identity draws on several theories developed over the past decades with respect to the cultural aspect of identity. Low level of communicative competence on the part of the foreign learners has been attributed to the clash of consciousness which originates from culturally different definitions of reality (Clarke, 1976). The clash of cultural identities imposes prior-adjustments towards the host culture on the part of the foreign learner to facilitate prior acculturation. However, this linear process is not the only possible trajectory. Imagine some religious foreign learners in a non-religious context who have to make prior adjustments. If it was the end of the process we could describe it as a linear process, however the other possibility on the part of the host culture is to make post-adjustments to consolidate the relationship with a culturally different identity. Therefore, identity-based acculturation or ideo-acculturation either considered as a positive (Baker, 2000) or a negative phenomenon shows nonlinearity and dynamicity in terms of trajectory of the adjustments following the clash of cultural identities.

According to queer theory (Seidman, 1995) sexual identities are what people do and not what they are. In other words sexual identities are performed rather than expressed. This view is in line with nonlinearity and dynamicity of the identity since emergent identities are communicatively constructed

via socio-cultural interrelations in keeping with a universalizing view rather than a minoritizing view (Seidman, 1995). In the same line of thought, sexual identity in language learning suggests an inclusive pedagogy which recognizes differences in terms of sexual identity instead of an exclusive one which limits sexual differences to male and female (Nelson, 2009).

Table 1
Bilingual Identity

Bilingual Identity		
Bi-Psychological Identity	Bi-Social Identity	Bi-Cultural Identity
Language ego (Guiora et al., 1980)	Identification	Misrecognition
Double selves	Anti-ought-to-self	Discourse-Semiotic perspective
Language embodiment Code-switching Language ego (Guiora et al., 1980)	Affective (re)socialization	Subversive identities High bilingualism Ethnic identity
Multilingual Ideal Self (Henry, 2017)	Multilingual identity politics	Clash of consciousness (Clarke, 1976)
Repression of a past ego (Buxbaum, 1949)	Bakhtin's concept of voicing	Translingual identity
Split identity	Poststructuralist theory	Queer theory

The Need for a Taxonomy

Studies on human motivation have developed several taxonomic structures (Chulef, Read, &Walsh, 2001). Accordingly, theL2 motivation studies have introduced different models including Dörnyei's (2001) Motivational Strategies and Zimmerman's (2013) motivational regulation strategies. Despite their contributions they have failed to include the concept of nonlinearity and dynamicity of motivational factors in their models. Given the general approval of the significance of Dörnyei's motivational strategies, the current study discusses some of its weaknesses with respect to nonlinearity and dynamicity. The L2MSS, the same as the formerly-proposed L2 motivation theories has emphasized on one aspect of L2 motivation (e.g. Self types) and failed to address other aspects (e.g. nonlinearity

and dynamicity of L2 motivation) in a comprehensive and multidimensional system. Drawing on self-determination theory, which focuses on autonomy of people as the source of regulating behavior (Noels, Pelletier, Clément, & Vallerand, 2000) without adhering to the dynamicity and nonlinearity of self is one of the major deficiencies of the L2MSS. It mainly emphasizes on the significance of future goals as a tool to motivate L2 learner by activating learner autonomy and recruiting the potential behind *Self* types and misses the critical features of dynamicity and nonlinearity of L2 goals. The following extract taken from the concluding part of a study carried out by Simpson (2012) clearly shows the dynamicity and nonlinearity of future selves in the eyes of L2 learners during the learning process: "students were able to perceive a variety of ways in which their L2 self-image changed over the course of the enhancement program" (p.333).

Drawing on self-discrepancy theory introduced by Higgins (1987), the L2MSS introduces discrepancy as the main genesis of L2 motivation. The argument is that following the recognition of discrepancy/discrepancies, the L2 learner tries to reduce the recognized discrepancy. The counter-argument is that we don't usually look around with such a deep negativity which can serve us as the source of motivation for L2 learning. In other words, the mere existence of difference(s) cannot be considered as the only motivating power behind L2 learning. Sometimes we simply become motivated by an interesting aspect of a language (e.g. mellifluous sounds, great authors, great literary works etc.) without paying attention to the differences. Thus, we are positively influenced by a positive factor which will serve us as the rationale to keep learning a particular L2 without either considering the negative factor (i.e. difference) or seeing a particular *self* in a future state.

Another instance of limited scope of the L2MSS is that it is not applicable/appropriate for all L2 learners except for late adolescents (Dörnyei, 2009) who have developed enough to recruit the potential behind the possible selves. This limited scope stems from the discrepancy-oriented definition of motivation in the L2MSS, according to which only those who can identify their possible selves and see the discrepancy between present and future selves will be motivated. What about the rest of the learners who have not reached this level?! This argument is open to criticism for two reasons. First, there is no evidence on the significance of age as a significant predictor and relevant factor in forming

L2 motivation for learners with dynamic L1 self-concepts. Second, by introducing age factor as a defining factor in L2 motivation among other reportedly significant factors (e.g. gender), it also fails to cover the sixth stage of self-development (i.e. late adolescence) and do not make sense of the possible selves as described by Harter (1981). This limited scope of the L2MSS is implicitly confirmed by Boo, Dörnyei, and Ryan (2015) who reported that primary school pupils are absent from systematic research compared to secondary school students. Another deficiency was the lack of validity which was reemphasized in a recent study by Papi et al., (2018, p.2) who contended that "ought-to L2 self has not even emerged as a valid construct". This deficiency was previously attributed to age factor (e.g. Kormos & Csizér, 2008; Lamb, 2012).

Another instance of limited scope of the L2MSS is the failure of the *Ought-to L2 Self* to serve as the self-guide in motivational practices which Dörnyei (2009) contended:

> "Because the source of the second component of the system, the Ought-to L2 Self, is external to the learner (as it concerns the duties and obligations imposed by friends, parents and other authoritative figures), this future self-guide does not lend itself to obvious motivational practices" (p.32)

This can be implied as the deficiency of this component at forming L2 motivation via socially-induced selves for future goals (e.g. academic achievement, school persistence etc.). This is confirmed by studies reporting its correlation with less internalized motivational factors as well as motivated learning behavior (Kormos, Kiddle, & Csizér, 2011). Another deficiency of the L2MSS is that it fails to address gender and gender differences which are reportedly significant and central factors in learner's self-concept and learners' motivation (King, 2016). This is in contrast with theoretical basis of the L2MSS (i.e. self-concept theory) which addresses the individual differences, in particular sex-specific differences. Even Dörnyei himself admits that, "the amount of systematic sex-specific research has been me agre" (Dörnyei & Csizér, 2002, p. 427). The L2MSS introduces clashing theoretical bases as the sources of motivational power to ensure its generalizability. At one point discrepancy (as a negative motivator which originates from difference/loss) is put forward as a motivating power and at another

point Ideal L2 (as a positive motivator which originates from hope/desire). Given the rise of globalization as well as the spread of international culture, such an identification/association with a particular cultural/geographical L2 community is less likely to happen (Lamb, 2012). We also observe that the third component of the L2MSS (i.e. the L2 learning experience) belongs to a different category from that of the first two components which are self-oriented in terms of theoretical basis. This is contended by Dörnyei (2009, p.29) who admits that the L2 learning experience "is conceptualized at a different level from the two self-guides" and suggests future studies to elaborate on the Self aspects of this component. Lack of theoretical interconnectedness between the components might be one of the reasons why they have rarely been addressed simultaneously. The Ideal L2 Self has been the most frequently examined component (Kormos & Csizér, 2008) and the L2 learning experience has been the least examined component of the L2MSS.

The NDMSs moves from individual to group at any stage or step of the revisited taxonomy trying to diagnose the motivational factors, test their compatibility, and integrate them which neither means learner examination in isolation (Triplett, 1898) nor creating group cohesion (Ehrman & Dörnyei, 1998) but rather recruiting group dynamics (Lewin, 1951) based on learner's self concept (Csizér & Magid, 2014) which needs to be discovered and directed rather than merely created/generated.

Theoretical Implications

To provide a dynamically oriented taxonomic structure (Bahari, 2019; Hiver & Al-Hoorie, 2016) the NDMSs basically draws on complex dynamic systems theory (de Bot, Lowie, & Verspoor 2007; Larsen-Freeman & Cameron, 2008; Serafini, 2017) to discover motivational surges at individual level and unlock the potential behind nonlinearity and heterogeneity of them by integrating them into multiple parallel NDMSs moving towards multiple nonlinear dynamic the L2 teaching-learning goals. Accordingly, the NDMSs aims at recruiting all components of motivational superstructure from directed motivational currents described as goal-oriented surges to other intense motivational experiences. This is done with respect to nonlinearity and dynamicity which starts at individual level. To this end, by discovering the motivational factors in members of the learning group and moves onto

group level where identified motivational factors are examined for compatibility, nonlinearly integrated and dynamically directed towards uniformity. The main point is that this process is not obsessed by the concept of creating/generating motivation at any cost. Eliciting motivational behavior (which is sometimes fake and pretended behavior) from members of the learner group at the cost of forming a single cohesive group with a single static motivational feature is demotivational. To avoid demotivation, the NDMSs facilitates approaching learners and identifying their dynamic motivational factors and nonlinearly integrating them. Ignoring the nonlinearity and dynamicity of motivational factors among the L2 learners is like expecting/forcing all members of a football team to strike a goal regardless of their positions/capabilities which reflect and represent their actual individual motivational factors.

A Taxonomy of Nonlinear Dynamic Motivational Strategies (NDMSs)

In keeping with different approaches suggested for bilingual pedagogy (Henry, 2017; Blackledge & Creese, 2010) the present study proposes a motivation-oriented taxonomy of strategies to facilitate bilingual language learning with respect to identity at three levels (Bahari, 2018).The NDMSs are applied at three stages: pre-motivational stage, motivational stage, and post-motivational stage. The first stage consists of steps in the order displayed in figure 2 starting by potential motivation diagnosis and ending by nonlinear integration. Drawing on nonlinearity and dynamicity even the proposed hierarchy allows a dynamic order which means there is no need to complete all steps in a linear process and the order can change dynamically into a nonlinear process based on the discovered motivational factors at individual level among the members of the learner group.
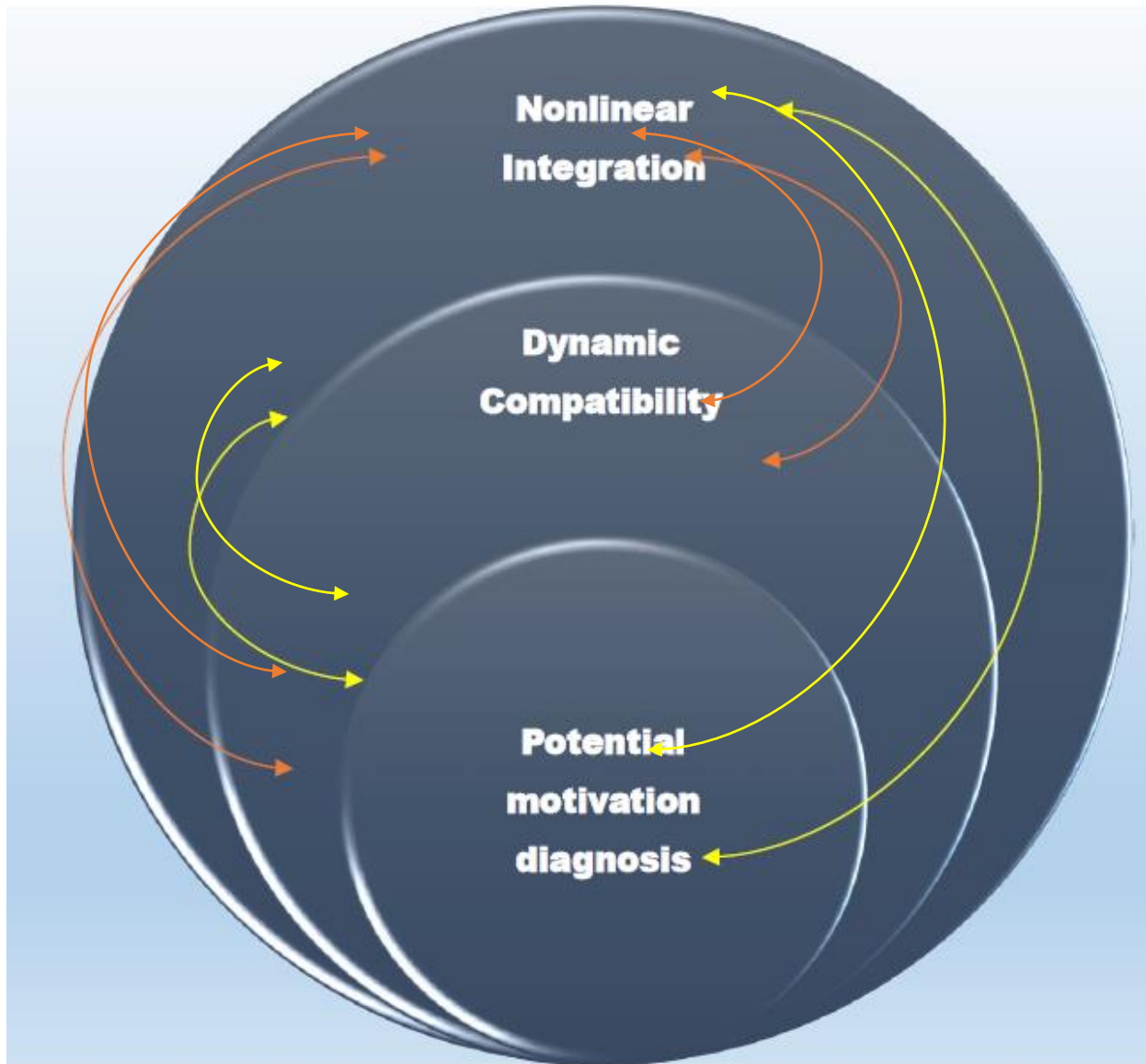
Figure 2 Pre-Motivational Stage of Applying NDMSs

To identify the motivational disposition of the L2 learners the studies suggest the focus on learners' Motivational Self System (Dörnyei, 2009) and its variations in future studies (Dörnyei & Chan, 2013; Csizér & Magid, 2014) as an important factor in energizing and motivating learning behavior. In diagnosing the motivational factors we need to identify tedious and boring experiences of the past as well as the attractive and enjoyable experiences of the learners (Dörnyei, Ibrahim, and Muir, 2015). Accordingly dynamic interactions of the learners need to be focused in the societal context with

respect to *the anti-ought-to self* (Lanvers, 2016; Liu & Thompson, 2017; Alharbi, 2017; Huensch & Thompson, 2017). This step is to make sure that previously discovered motivational factors are dynamically compatible in terms of motivational intensity, motivational imagery and motivational behavior (You & Chan, 2015)with respect to gender differences (Henry & Cliffordson, 2013) that can act together/along each other towards a nonlinear dynamic uniformity. Dynamic compatibility of the NDMSs should not be confused with 'cohesive group' which has been used in the literature. The former is an attempt to find out the rate of compatibility among motivational strategies in order to sort and categorize them under multiple dynamic motivational strategies. The latter is an attempt to group the learners under a single group which is labeled as 'cohesive group' regardless of the nonlinear and dynamic nature of the motivational factor in each and every member of the learning group. The goal is to nonlinearly integrate the previously discovered motivational factors at individual level without trying to form/find a cohesive group. For example, instead of encouraging all of the learners in the classroom to score higher in all four skills, we can encourage every individual learner to practice the skill(s) which he/she finds more interesting. This serves as a motivating strategy which caters for the dynamicity and nonlinearity of motivation for learning content. This step draws on group dynamics (Lewin, 1951) and the interplay between individual features and the learning styles (Kim & Kim, 2011; Dörnyei& Chan, 2013). This needs to be done by highlighting the discovered attractions at individual level and integrating them in consensus with dynamic motivational factors among the members towards a nonlinear dynamic uniformity rather than a static goal imposed by the curriculum.

Motivational Stage of Applying NDMSs

The NDMSs are psycho-socio-cultural-oriented strategies adopted from previous studies (Eccles, Wigfield, & Schiefele, 1998; Maehr, 1984; Sivan, 1986; Wentzel, 1999) based on their efficiency to enhance the L2 motivation. These strategies have reportedly self-regulatory potential on the part of the learner (Zimmerman, 2013) along with homogeneously/heterogeneously identified motivational factors on the part of the teacher. The NDMSs can sustain the ongoing efforts of the learners towards an adaptive motivation by exercising the appropriate motivational strategy. The use of learner-friendly NDMSs prevents reactance and oppositional behavior against the imposed inappropriate motivational

strategy on the part of the learner (Bahari, 2020a). The proposed NDMSs can reportedly affect learners' cognitive engagement as well as interest-enhancement.

Psychological Strategies (PSs)

Psychological strategies are recruited and arranged based on the previous studies to create positive changes in learners' attitudes and motivation (Kim, Choi, & Kim 2018; Legutke & Thomas, 2013) to lower anxiety in classroom learning and to engender self-efficacy among theL2 learners (Cheng, Lam, & Chan, 2008) in keeping with nonlinear dynamic L2 motivation. Arranging the proposed PSs based on previous studies (Onatsu-Arvolommi, Nurmi, & Aunola2002; Tao, Zheng, Lu, Liang, & Tsai, 2020)they have the potential to enhance self-regulation on the part of the learners and identifying and tracking dynamic motivational factors on the part of the teachers. Accordingly, the learner is encouraged to unlock the potential of psychological factors by having a goal-specific imagery along with self-efficacy as a significant psychological factor in line with his/her nonlinear dynamic motivational factors. Given the strong correlation between theL2 motivation and language anxiety (Cha & Kim, 2013), this level proposes learning-teaching readjustment by assigning a teacher well versed in psychology for psychological needs and concerns of the learners.

The following tables show the psycho-socio-cultural strategies with their theoretical bases at individual level which are applied either by mentioning/discussing/reinforcing by the teacher:

Table 2

Psychological strategies (Adapted from Bahari, 2018a)

Psychological Strategies		
Theoretical basis	**Concept**	**Strategy**
Self-efficacy theory (Bandura, 1997)	One's capabilities	Teachers are suggested to take the following steps to strategize and contextualize every step:
	Others' capabilities	
	self-monitoring strategies	
	self-regulating strategies	**First,** Mention/Discuss/Reinforce dynamic, nonlinear, and motivating psychological issues at individual level
	self-evaluation strategies	
	spatiotemporal complexity of language	
	self-regulated language learning	
Attribution theory (Weiner, 1992)	the causes of previous success and failure	**Second,** Encourage/Facilitate/Scaffold exchanging and introducing psychologically motivating factors at group level
	Goal-orientation	
	Hopefulness	
	Agentic persistence	For example, to contextualize the concept of **One's capabilities**, students' sense of self-efficacy is strengthened via mastery experiences which is strategized according to the above steps.
	Purposefulness	
	Zone of proximal development	
Self-worth theory (Covington, 1998)	Motivational behavior	
	Face-saving behavior	
	Goal-setting	
	Motivational factors	
	Intrinsic and extrinsic motivation	
Snyder's hope theory (2002)	Desire and expectation	
	Ambition	
	Positive emotions	
	Demoralization	
	Incompetency	
	Despair	
	Helplessness	

Social Strategies (SSs)

Social strategies enable the L2 learners to use the L2 for sociolinguistic goals (e.g. expression/comprehension of social emotions, social thoughts, and social activities in keeping with other studies (e.g., Joe, Hiver, & Al-Hoorie, 2017). This is done via project-based learning in the classroom setting with intensified motivation in accord with nonlinearity and dynamicity of the L2 motivation with respect to sociolinguistic goals. To this end, experiential learning and interaction (Legutke & Thomas, 2013) in a collaborative effort and performance (Beckett

&Slater, 2005) is encouraged. This is to master language, content, and skill via individual and group activities with respect to learning process and nonlinearity and dynamicity of motivation (Bahari, 2020a). This also provides learners with nonlinear dynamic motivation (Bahari, 2020b) while directing the learning process in a dynamic way (Kaldi, Filippatou, & Govaris, 2011) and considering the need to produce tangible products on the part of learners with enhanced sense of self-fulfillment. This level enables learners to share their experiences and understandings as well as to construct meaning by assigning a teacher well versed in sociology to cater for social needs and concerns of the learners.

Table 3.
Social Strategies (Adapted from Bahari, 2018a)

Social Strategies		
Theoretical basis	Concept	Strategy
Social motivation theory (Wentzel, 1999)	Social goal	Teachers are suggested to take the following steps to strategize and contextualize every step: First, Mention/Discuss/Reinforce dynamic, nonlinear, and motivating social issues at individual level Second, Encourage/Facilitate/Scaffold exchanging and introducing socially motivating factors at group level For example, to contextualize the concept of Social goal, students' social goal is strengthened via setting some goals which is strategized according to the above steps.
	Social conformity	
	Social autonomy	
	Social self-concept	
	Social responsibility	
	Social relationship	
	Social resource/position equity	
	Social safety	
	Social mastery	
	Social management	
	Social superiority	
	Social self-determination	
	Self-assertive social relationship	
Goal orientation theory (Ames, 1992)	Social self-acceptance	
	Social mores	
	Social affiliation	
	Community feeling	
	Social recognition	
	Well-being	
	Self-actualization	
	Appearance	
	Social events	
	Social activities	
	Social relationship goals	
	Social goals	
	Nonlinearity in time and space	
	Social supremacy	
	Social values	
Theory of social motivation (Weiner, 1994)	Social appropriateness	
	Social morality	
	Social behavior	
	Social competence	
	Social efficacy	
	Social outcomes	
Theory of planned behavior (Ajzen, 1988; Eagly & Chaiken, 1993)	Social pressure	
	Perceived behavior	
	Self-regulatory skills	

Cultural Strategies (CSs)

Cultural strategies require teachers to mediate in a joint activity with learners while trying to understand the learners' cultural orientation, cultural attitudes, sources of difficulty, and appropriate types of mediation with respect to nonlinear dynamic motivational factors on the part of learners at individual level (Bahari, 2020b). This construct proposes learning-teaching readjustment by assigning a culturally sensitive teacher for cultural needs and concerns of the learners instead of a culturally-prejudiced teacher who preaches anti-cultural views. Mentioning/discussing/reinforcing identified cultural strategies creates a mutual understanding between learners with diverse cultural value

Table 4
Cultural Strategies (Adapted from Bahari, 2018b)

Cultural Strategies		
Theoretical basis	Concept	Strategy
Young's (1994) motivation models	Cultural events	Teachers are suggested to take the following steps to strategize and contextualize every step:
	Cultural activities	First, Mention/Discuss/Reinforce dynamic, nonlinear, and motivating cultural issues at individual level
	L2 culture	
	State of motivation	
	Additive bilingualism	
Gardner's (1985) orientation theory	Sacred text	
	engagement in culture-related activities	Second, Encourage/Facilitate/Scaffold exchanging and introducing culturally motivating factors at group level
	Culture of learning a foreign language	
	Culture of the speakers of a foreign language	
	Cultural values of the foreign language	
Maslow's (1970) hierarchy of need	Cultural diversity	For example, to contextualize the concept of **Cultural events**, students' motivating cultural event is strengthened via describing the cultural event which is strategized according to the above steps.
	Cultural exploration	
	Cultural secrets	
	Cultural contradictions	
	Cultural clashes	
	Cultural supremacy	

Post-motivational stage of applying the NDMSs provides a nonlinear dynamic picture of the steps which should be taken (as far as nonlinearity and dynamicity allows us) to reach the final goal of motivating the L2 learners.
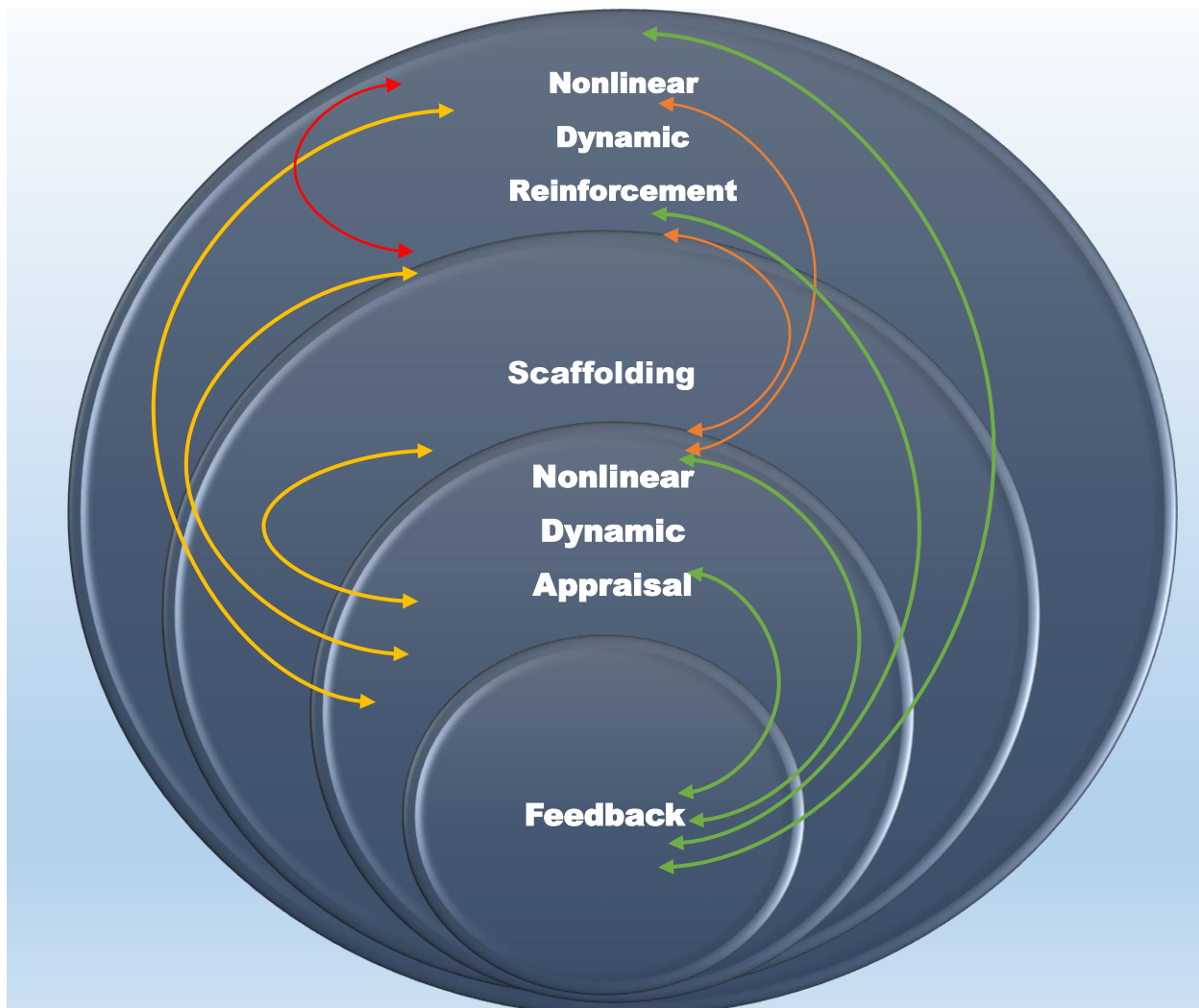

Figure 3. Post-motivational stage of applying NDMSs.

The identified motivational factors need to be nonlinearly and dynamically addressed to provide the L2 learners with required feedback with respect to identified goals, tendencies, preferences, desirability, etc. Individual learner differences need to be considered while giving feedback which is the focal point of the current study from identifying the motivational factors to the nonlinear dynamic motivational reinforcement. To this end, the NDMSs-based instructions for teachers (see table 4) provide a number of instructions to provide feedback in an integrative psycho-socio-cultural approach. Nonlinear dynamic appraisal aims at processing and organizing identified motivational factors in parallel groups (e.g. psychological motivational factors and social motivational factors) towards multiple dynamic the L2 teaching-learning goals (e.g. writing goals for some and speaking goals for some others). As the second step, nonlinear dynamic appraisal serves to activate action control strategies to facilitate the execution process. Drawing on sociocultural theory (Lantolf, 2000), scaffolding within the NDMSs encourages language construction through collaborative dialogue which is assisted (Basturkmen, Loewen, & Ellis 2002) and orchestrated by a motivational teacher by creating motivating interactions including triadic interaction as an optimal setting to integrate previously processed motivational factors by scaffolding and preparing them for reinforcement. Nonlinear dynamic reinforcement aims at conscious announcement of the identified, appraised, scaffolded, and feedbacked motivational factors at individual level. The conscious expression of nonlinear dynamic motivational factors at individual level not only reinforces this power in the learner but also creates a sense of self-recognition which is highly significant under the taxonomy of the NDMSs, where it is discovered and included in the L2 teaching-learning. At social level social cognitive theories were adapted

To integrate learners' purposeful relational activity was emphasized via learners' collaboration ongoing participation in social activities (Boo, Dörnyei & Ryan, 2015). To mediate learner's psychological functioning, learner-oriented L2 teaching learning was emphasized with a focus on nonlinearity and dynamicity of individual learner differences (Lantolf & Thorne, 2006). The previous studies have approached the L2 learning and motivation with respect to strategies (Oxford, 2017) or as a static factor (Moskovsky et al., 2016) or a learner-context interaction

subject or introducing influential factors without addressing the nonlinear dynamic nature of motivation (Ushioda & Dörnyei, 2012) in a single learning model. The advantages of the proposed NDMSs lies in several revisited aspects of motivational strategies which used to either solely overemphasize self-regulated organization without assigning an actual facilitative role for the L2 teachers or ignoring the highly significant concepts of nonlinearity and dynamicity which possess the potential to metamorphose traditionally established the L2 teaching-learning and assessment to a large extent. In contrast to cybernetic model of the self-regulation of behavior suggesting the hierarchical organization of goals where lower goals are less frequently functional compared to higher goals guiding more related behavior (Carver & Scheier, 1998) the NDMSs suggests a nonlinear-dynamic organization of motivational factors to ensure unlocking the potential of all motives regardless of their position in any proposed categorization. The proposed taxonomic structure can contribute the field theoretically as well as pedagogically by addressing the concept of nonlinearity and dynamicity of individual learner differences as a core concept of any learner-friendly curriculum. Accordingly the taxonomy of the NDMSs opens up a new research trend to develop theoretical and practical requirements of implementing and contextualizing L2 motivational factors with respect to identity types at individual level as well as nonlinear dynamic motivational factors (Bahari, 2020c). Managing the integration of these diverse factors into a functional energizing system of motives (Fiske, 2008) despite the apparent chaotic pattern (i.e. dynamic and nonlinear) will be a step towards a more learner-friendly L2 instruction.

Conclusion

Providing a comprehensive identity-oriented taxonomy of the NDMSs was the goal of the present study. Drawing on dynamic systems theory, a taxonomy of the NDMSs were introduced with respect to psychological, social and cultural aspects of the L2 learners' identity. Being arranged on the basis of the findings of the previous studies, the proposed NDMSs can potentially cater for the nonlinear and dynamic L2 motivation among the L2 learners with a variety of identity types. The NDMSs can potentially provide a truly learner-friendly L2 teaching via a flexible template of strategies which can be altered and adjusted to meet the motivational

factors at individual learner level. The taxonomy facilitates catering for learners' emergent and dynamic motivational factors by suggesting motivational strategies instead of unifying measures to push learners towards a single static goal such as scoring high. Such measures force all members of a learner group to produce similar performances regardless of the dynamicity and nonlinearity of motivational factors at individual level (Bahari, 2020d) and fail to include the impact of the diversity of identity both in the L2 teaching and assessment. Despite the chaotic nature of the taxonomy of the NDMSs which reflects its theoretical framework, it has the potential to meet the dynamic motivational needs of the L2 learners with diverse identities. Therefore, future studies are suggested to test its potential by contextualizing it among bilingual language learners.

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