

A Dual-Motivation System in L2 and L3 Learning

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This encyclopedia article explores the phenomena of second (L2) and third language (L3) learning, along with the motivational dynamics that underlie L2 and L3 acquisition, as intricate dynamic systems within the realm of multilingual education. The entry proposes a conceptual framework for a dual-motivation system, which aims to characterize the nature of L2-L3 motivational forces that can be utilized in the learning of additional languages.

Keywords: L2 motivation ; L3 motivation ; dual-motivation system ; L2 self ; L3 self

1. Introduction

The commonplace assumption that the majority of individuals possess only monolingual competencies is misguided. In fact, multilingualism or the potential for it is the norm, as noted by Hammarberg (2009) ^[1]. This article examines the phenomenon of second (L2) and third language (L3) learning, as well as the motivational dynamics that underlie L2 and L3 acquisition. Then, a conceptual framework for a dual-motivation system is proposed to capture the nature of the motivational forces that drive L2 and L3 learning. This framework is intended to inform the learning of additional languages within the context of multilingual education.

1.1. Multilingualism

The definition of multilingualism is debated, but it is commonly understood as the use of more than one language by a person or a community of speakers. Some European researchers distinguish between multilingualism and plurilingualism, but this article uses the conventional definition of multilingualism as a generic term at both the individual and communal levels. In the multilingual literature, the Contrastive Analysis approach to crosslinguistic influence (CLI) in language teaching was popular from the 1950s to the 1970s, but it has been criticized for oversimplifying the complexity of L2 acquisition. Other models of multilingual acquisition, such as De Bot's (1992) ^[2] bilingual model, have been proposed. CLI continues to dominate research in the field, with a focus on the mutual influence and interactions between different languages during the process of learning an L2. It is necessary to consider the influence of a new language on existing languages in addition to the influence of existing languages on a new language.

1.2. Defining L1, L2, and L3 in Multilingualism

Bloomfield (1935) ^[3] classically defined a first language (L1) as one learned from birth, also known as a native language or mother tongue. A person can have multiple L1s upon growing up in a multilingual environment. Lenneberg (1967) ^[4] proposed the concept of a critical period for language learning, arguing that native-level proficiency is more likely acquired before puberty. Meanwhile, some recent studies (e.g., Birdsong 1999 ^[5]; Bialystok and Kroll 2018 ^[6]; Singleton and Muñoz 2011 ^[7]) also challenge this view. The notion of a second language (L2) is more complex. An L2 broadly refers to any language learned in addition to one's native language, which could be one's third (L3), fourth (L4) language, and so on. Conventionally, an L2 is distinguished from a foreign language based on sociolinguistic significance.

The conventional L1-L2 distinction is debated. Hammarberg (2014) ^[8] proposed two L1-L2 differentiation criteria. The first concerns chronological order: an L1 develops first and an L2 is added later, based on priority and posteriority. The second criterion relies on cognitive maturity, distinguishing a native from non-native language encountered before versus after L1 development, respectively. The second criterion better applies to multiple early-learned L1s versus later-learned L2s based on age-related cognitive maturity. However, recent scholarship rejects this dichotomy and views a new L3 as distinct from existing L2s. Hammarberg (2010) ^[9] defined L3 as "a non-native language currently used or acquired where a person has one or more L2s in addition to one or more L1s" (p. 97).

1.3. Complex Dynamic Systems Theory (CDST) in Brief

Multilingualism requires learning and potentially ongoing learning of multiple languages, and the relationships between these languages are of central importance. The Complex Dynamic Systems Theory (CDST), a metatheory for understanding dynamic and complex systems, has become increasingly relevant in recent years for understanding language learning motivation and second language acquisition. While not dismissing the importance of object theories of language, CDST offers a systemic perspective for conceptualizing language-related theories. In CDST, a complex system is composed of a large number of agents that are constantly interacting with each other in a non-linear manner, leading to sensitive dependence on initial conditions and the emergence of an ever-changing state. CDST has been applied to language and its learning, with language development viewed as interconnected systems that depend sensitively on initial states. The emergence of an ever-changing state captures the language learning process within and among individuals.

1.4. L2 and L3 Learning as Complex Systems

While research in second language acquisition (SLA) has been extensively conducted, third language acquisition (TLA) is a relatively new field of inquiry and is considered more complex than L2 acquisition. This is because the product and process of L2 learning can potentially influence the acquisition of an L3. Additionally, the two-level distinction between L1(s) and L2(s) in one's multilingual repertoire is too simplistic since an L3 emerges as a different subsystem from previous L2s. Within a Complex Dynamic Systems Theory (CDST) framework, language learning is viewed as neither cumulative nor additive, but instead, when one piece is added, the whole system needs to be restructured. Therefore, an L3 as a new agent joining a linguistic repertoire is bound to influence current language systems and be influenced by these existing systems. L3 learning is different from L2 learning because of prior L2 knowledge and L2-specific learning experiences. Recent TLA research has shown that all prior non-native languages (NNLs) may become activated in further NNL acquisition, suggesting a specific role for a prior NNL in the linguistic background of multilinguals. The impact of the newly arriving L3 is more obvious for the current L2 system, leading to some degree of restructuring in the learner's linguistic system. This mutual influence between L2(s) and L3 is not limited to the linguistic level, as recent research on learner motivations in L2 and L3 among multilinguals also points to complex relationships.

2. From L2 to L3 Motivation

2.1. L2 Motivation and the Emerging Concept of L3 Motivation

The concepts of integrativeness and instrumentality (Gardner and Lambert, 1959 ^[10]; Gardner 1985 ^[11]) have had a significant influence on models of motivation for learning additional languages, but the validity and usefulness of these constructs have been challenged in the face of globalization and questioning of native speaker communities. As L3 is viewed as a distinct construct from L2 by many in the current literature, there is an emerging question of whether L3 motivation merits a separate status from existing L2 motivation. Recent research on L3 motivation has discovered that one's L3 motivational drive differs from its L2 counterparts (Bui and Teng 2021 ^[12]; Bonnet et al. 2018 ^[13]; Busse 2017 ^[14]; Busse et al. 2020 ^[15]; Henry 2011a ^[16], 2012 ^[17]; Man et al. 2018 ^[18]). L3 motivation denotes the inner drive that moves one to learn an L3, which will influence one's goals to achieve, issues to avoid, and the degree of efforts they will pay in the L3 learning process. However, L3 motivation differentiates itself from L2 motivation, as it is likely influenced by several factors. L3 learning is often a personal choice of interest, while an L2 is usually a compulsory school subject. L3 learning also entails previous L2 learning experiences, which may impact this L3 in a different way from an L1's influence on an L2. L3 motivation may suffer from a lack of pragmatic needs externally and may experience a high risk of sustainability. L3 learning motivation might have to be suspended at critical junctures, and it may or may not resume afterwards. Therefore, it is reasonable to reframe existing notions of L2 motivation and consider L3 motivation as a different construct.

2.2. Mutual Influence between L2 and L3 Motivation as Complex Systems

According to Navarro and Arrieta (2010) ^[19], behaviours such as affect and motivation show non-linearity and chaos, which means that longitudinal and dynamic analyses of work motivation reveal marked differences from those in cross-sectional design studies based on synchronic measures. Similarly, language learning motivation is not a static construct but a dynamic process that undergoes complex chaotic development. When learning an L3, the new language not only adds itself to the existing first and second languages but also reconfigures the whole linguistic repertoire, bringing in new motivation that breaks the motivational equilibrium reached after learning an L2. L3 motivation is a new agent that impacts other existing agents in the system. The most prominent other element in one's motivational system is L2 motivation, which is unlikely to remain undisturbed but rather becomes susceptible to the introduction of a new L3 motivational drive. The non-linear relationship between L2 and L3 motivation shows the complexity of L3 motivational influence on L2 motivation. The emergence of L3 motivation will unavoidably activate the existing L2 motivation given the affinity between

non-native languages. However, such activation quite often triggers competition between these two motivational systems. On the one hand, L2 motivation could exert a negative impact on its L3 counterpart, interfering with L3 learning. On the other hand, the rise of L3 motivation may undermine the current L2 motivation. The relative strengths of the two systems and one's motivational disposition determine the new state of their motivation. Therefore, it is crucial to develop a deeper understanding of the dynamic processes underlying L2 and L3 motivation to support effective language learning.

3. Existence of a Dual-Motivation System among Multilinguals

3.1. The Need for a New Conceptual Framework of Multilingual Motivation

From the previous discussion, it is apparent that L3 learning differs substantially from L2 learning, and therefore, L3 motivation should be considered a distinct construct itself instead of being seen as part of existing L2 motivation. However, as philosopher Paul Cilliers points out, the concepts of "inside" and "outside" a system are never simple or uncontested since everything is always interacting and interfacing with others and the environment organically (Cilliers 2001 ^[20], p. 142). Boundaries are necessary to talk about complex systems in a meaningful way, but it need to make strategic considerations when drawing them. It is out of this philosophical unification of "oneness" and "discreteness" that a dual-motivation system among multilinguals were propose.

A dual-motivation system is defined as a coexistence of two distinct yet related motivation systems within a learner of two additional languages learned subsequent to their first language. Man et al. (2018) ^[21] argue for the existence of this complex system based on empirical survey and interview data from a group of Hong Kong undergraduates learning Japanese as their L3 (with a long prior experience of learning English as L2). They observed two main characteristics from the data: discreteness, which denotes the separation of L3 motivation from L2 motivation, and oneness, which refers to the interconnectedness of the two motivational forces and their reciprocal influences. This new conceptual framework sheds light on the dynamic processes underlying L2 and L3 motivation, highlighting the need for a nuanced understanding of the complex interactions between these two systems.

3.2. Nature of a Dual-Motivation System

The study of L2 and L3 motivation has highlighted the distinctive nature of these two systems and the need for a nuanced understanding of their complex interactions. Man et al. (2018) ^[21] found that L2 and L3 motivational scales exhibited divergent trends in almost every aspect of motivational components, suggesting that they should be considered as separate constructs. Similarly, Henry's (2011a ^[16], 2012 ^[17]) findings supported the existence of a separate L3 motivation and identity from those associated with an existing L2. However, the relationship between L2 and L3 motivation is not only separate but also related to each other and can exert reciprocal influences as they take place within an individual learner. Man et al. (2018) ^[18] showed that L3 Japanese learners held a consistent attitude towards the languages being learned and the speakers and communities of these additional languages, indicating a global orientation rather than "integrativeness" in Gardner's terms. This research also points to a high affinity between L2 and L3 motivation in terms of instrumentality. However, learners have competing demands on cognitive resources and competing directions in which effortful behaviours can be channelled, leading to both collaborative and competitive mutual influences in this dual-motivation system.

If scholars agree to the proposed dual-motivation system, an imminent question arises as to which subsystem will become dominant in a specific situation. Markus and Nurius (1986, as cited in Henry 2014 ^[22]) believe that the individual possesses a range of different domain-specific possible selves, but only the possible selves that have been triggered by a particular situation and are contextually salient will get activated in cognition at any particular instance in time. Therefore, L2 and L3 subsystems of motivation may not work simultaneously but instead wait for contextual cues to mobilise them into generating and directing motivated behaviours. This dual-motivation system, where L2 and L3 selves coexist to generate a multilingual self-concept as a complex system, still has sensitive dependence on its initial condition.

The input of an additional L3 motivational drive is likely to induce comparisons between L2 and L3 learning experiences, which may lead to erosion of the vitality of the positive L2-self, and fuel negative attitudes towards the L2 previously learned. The growth and attrition of L3 motivation occur in a nonlinear fashion and show chaotic developmental trajectories when a diversity of contextual factors come into play. Therefore, it is necessary to gain a nuanced understanding of the complex interactions between L2 and L3 motivation to support effective language learning.

The last question is related to the terminology per se.>NNLs should be differentiated into two levels, i.e., L2s and L3s, based on cognitive maturity. It is, therefore, more sensible to make a two-level rather than a multi-level distinction between the complex multilingual learning motivational dynamics. However, it is important to recognize that such a division is made

in recognition of the dual-motivation system as a wholistic unity within an individual learner. The two subsystems of L2 and L3 interact to enable the formation of the dual-motivation system.

4. Implication of the Dual-Motivation System for Teaching Additional Languages

The discussion on the dual-motivation system has important pedagogical implications for multilingualism, particularly for L3 learning. Based on the work of Jessner (2008) ^[23], Henry (2014) ^[22], and this newly proposed dual-motivation system theory, some basic principles can be suggested to ensure harmony between the two subsystems of L2 and L3 motivation within this dual system and alleviate potential detriments on one another.

Jessner (2008) ^[23] provides four areas of recommendations for teaching L2 and L3 that may help generate harmonious L2-L3 motivational systems. Firstly, teachers must appreciate the fact that L3 learners do not start from scratch and should draw students' attention to the potential advantages of prior L2 learning experiences. Secondly, students should be encouraged to look for similarities between all NNLs, and teachers should provide guidance for developing approaches aiming at active cross-referencing between the L3 and other NNLs to identify similarities. Thirdly, teaching across languages should be employed, such as making use of L2 English usage as a didactic tool for the teaching of German L3. Finally, strategy training should be encouraged to transfer concrete strategies into instructed L3 learning.

Henry (2014) ^[22] further proposes how the two motivational forces, i.e., L2 and L3 motivation, that are conceptualized as a dual-motivation system, could be important for pedagogical development. He explains the importance of recognizing the challenge that an L2 may have a pernicious effect on L3 learning motivation when this L2 enjoys a higher social status or extensive societal presence. Therefore, L3 teachers should introduce the concept of possible selves to L3 learners and encourage them to develop an ideal L3 self as early as possible to mitigate the possible damage a prestigious or pragmatically more important L2 would induce on L3 motivation.

In connection with this, better harmonizing L2 and L3 motivations from the dual-motivation system perspective is essential. When learners develop a stronger motivation in learning a self-chosen L3 and make unfavorable comparisons with their existing L2 learning, L2 teachers can guide learners to transfer L3 learning motivation into L2 learning. Positive learning experience in an additional language can trigger better motivation for learning another, as argued by Bonnet et al. (2018) ^[24] and Busse et al. (2020) ^[25]. This argument is in line with the proposed framework that the L2 and L3 motivations can work for some learners as "connected, supportive growers" in CDST terms.

In summary, the pedagogical implications of the dual-motivation system involve balancing the learning motivations among all additional languages, including L2(s) and the newly added L3, to reach a complex yet optimal state. Teachers should be aware of how cross-referencing can result in negative and motivationally damaging appraisals of the L3 self-concept concerning a more "vital and phenomenologically robust L2 self-concept." Furthermore, L3 teachers should introduce the concept of possible selves to L3 learners and encourage them to develop an ideal L3 self as early as possible. Finally, L2 teachers can guide learners to transfer L3 learning motivation into L2 learning, triggered by positive learning experiences in an additional language.

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