

Loh, E.K.Y. (in press). What we know about expectancy-value theory, and how it helps to design a sustained motivating learning environment. *System*.

## **What we know about expectancy-value theory, and how it helps to design a sustained motivating learning environment**

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### **Abstract**

The expectancy-value theory (EVT) is widely used to explain and predict students' learning performance, persistence and aspirations. However, very few studies have examined how expectancy and subjective task values, the two constructs derived from the theory, are related to second language (L2) learning, and how the theory can be applied to daily teaching for the improvement of students' learning. Considering the rapid increase in the number of L2 students around the world, this article aims to, by reviewing key studies on the topic, propose possible applications of EVT to everyday L2 teaching and learning that should help create optimal and sustained learning environments. Suggestions for new directions for future research are also provided.

### **Keywords:**

Expectancy-value theory; second language; teaching and learning; formal education; pedagogy

## **1. Introduction**

Educational psychologists have spent much effort investigating why some students are more motivated in learning than others, as well as the factors affecting their academic related behaviours. Expectancy-value theory (EVT), one of the major approaches to the study of academic motivation, has been widely used to predict and explain students' task choices, learning persistence and academic performance (Wigfield & Eccles, 2000). Theorists in this tradition argued that students' expectancy for success and subjective task values directly influenced their achievement choices, effort, persistence and performance (Wigfield & Eccles, 1992; 2000) in different domains (Arens, Schmidt & Preckel, 2018), such as language learning (e.g. MacIntyre & Blackie, 2012), mathematics (e.g. Brisson, Dicke, Gaspard, Häfner, Flunger et al., 2017), and science subjects (e.g. Guo, Marsh, Parker, Morin & Dicke, 2017).

Unlike adults who can decide what to learn and achieve, students seem to have fewer choices and less autonomy. This is because school and national curricula have already determined their learning path and therefore limited their choices. Regular assessments of their abilities, highly competitive achievement-oriented learning environments, as well as social comparisons among the peers erode their perceived abilities, especially in subject domains they are experiencing learning difficulties (Archambault, Eccles, & Vida, 2010).

In the past decades, the globalization of economy and mobilization of population has resulted in the emergence of plurilingual societies. Learning a second language (L2) thus became a major goal for many students. Compared with first language (L1) learning language, L2 learning is a highly complex process which takes more time, effort and perseverance to develop near-native language proficiency. The differences between L1 and L2, particularly the multifarious linguistic principles underlying the target language, can induce learning difficulties (Shimanskaya & Slobakova, 2019) while impeding students' learning motivation and self-perceived academic abilities.

Other factors such as cultural environment and historical events (Loh, Tam & Lau, 2018), students' L2 identities, their assimilations to the target language society (Dörnyei, 2005; 2009; Taylor, 2013), as well as their prior learning experiences, achievement goals (Loh & Tam, 2017) and self-schemata, also contribute to students' perceived ability beliefs and subjective task values (Eccles, Adler, Futterman, Goff, Kaczala, et al., 1983). Therefore, in-depth investigation of factors affecting and predicting students' learning behaviours, persistence and outcomes is necessary.

This paper aims to explore the role of EVT in formal L2 learning, and how it inspires teaching design and instructional strategies based on the works of Wigfield and Eccles (Wigfield & Eccles, 2000) for a sustained motivating learning environment.

## **2. The teaching and learning of a second language (L2)**

L2 can be broadly defined as any languages learned later than the earliest acquired in one's childhood. It may be the learner's second language, or even his/her third or fourth language. L2 can be widely used for communication within the community, or a foreign language without any substantial daily usage (Mitchell, Myles & Marsden, 2013).

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Age has long been considered a major factor determining the success of L2 acquisition based on the critical period hypothesis (Lenneberg, 1967). Children are thought to be superior to adults in long-term L2 proficiency. However, there is increasing evidence that each age group has its own strengths. Young learners tend to be better at phonetics, whereas older learners acquire grammar faster (Krashen, Long, & Scarcella, 1979). Mayberry and Kluender (2018) indicated that L2 proficiency is affected by the learners' prior L1 acquisition experience during childhood, and the learning difficulties faced by young learners should not be neglected. Besides, cognitive and non-cognitive factors, and the exposure to L2 environment also affect their eventual success of language learning (Hu, 2016).

From the cognitive perspective, effective learning requires the learner to experience and be aware of the discrepancies between L1 and L2. The extent of such discrepancies will then determine the learning difficulty and the time to attain professional L2 proficiency (Cook, 2003). Due to the low L2 proficiency of the students, especially those emergent learners, they rely heavily on classroom teaching. Instead of offering the students explicit instructions to build up their sensitivity for distinguishing the L2 features, or providing meaningful ways for effective learning which are considered as prerequisites for successful academic achievement, the learning process is oftentimes made slow, laborious and boring (Tse, Marton, Ki & Loh, 2007).

This happens when the hugely popular bottom-up teaching sequence (i.e. starting from characters, vocabulary, sentences, paragraphs to the whole passage) is in use, or when the traditional methods of drilling (Kubler, 2018), copying, and assessing are adopted. It would undoubtedly disrupt the affective aspect of the students, which include: lowered learning motivation (particularly their academic expectancies), devaluing of related learning tasks, and increased learning cost. These are in turn reflected in their learning choices, behaviours and performance. The following sections will briefly review the expectancy-value theory (EVT) and its role in L1 and L2 learning from the burgeoning research in the language domain, and explore how it may inspire the teaching and learning of L2 in primary and secondary school education to create a sustained motivating learning environment.

### **3. Expectancy-value theory in language domain**

Originating from Atkinson's (1957) pioneering work, it was hypothesized that achievement-related behaviour is a multiplicative function of expectancy and values according to EVT (Feather, 1992; Trautwein, Marsh, Nagengast, Lüdtke, Nagy et al., 2012; Wigfield & Eccles, 2000). In other words, particular academic studies and achievements valued by the students would reveal stronger effect of expectancy on their learning motivation. However, although the extensive studies of EVT and its relations to students' learning performance provided numerous findings for later development of the theory, many of them are experimental research (e.g. Eccles et al., 1983; Eccles & Wigfield, 2002) and very few are observational studies (e.g. Trautwein et al., 2012).

Most of these studies employed the questionnaire as a tool for examining students' expectancy for success and subjective task values. For example, Arens et al. (2018)

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and Guo et al. (2015) used the Self Description Questionnaire II (SDQ II) (Marsh, 1990), whereas Trautwein et al. (2012) adopted SDQ III (Marsh & O'Neill, 1984) to assess students' expectancy beliefs in language and mathematics domains. The EVT model (Eccles et al., 1983) was also employed by Trautwein et al. (2012) to investigate German students' subjective task values in German as L1 and English as L2, by Guo et al. (2017) to examine how self-concept and value are related to achievement and coursework aspirations across science domains, and by Mori and Gobel (2006) to assess English as L2 among Japanese students. Plante et al. (2013) adopted the brief version of EVT model to investigate French-speaking Canadian students' expectancy and achievement goals in mathematics and language arts. One should be aware that students' academic behaviours differ between laboratory and real life environments. The findings, nevertheless, have provided a strong foundation for the investigation into how EVT predicts students' L2 learning behaviours.

### 3.1 Development of expectancy for success

Eccles and Wigfield (2002) defined expectancy for success as an individual's competence beliefs about achieving different learning tasks in specific domains, either immediately or in the future. It is a multidimensional construct also called *ability beliefs* and interchangeable with *academic self-concept* as they are all defined as students' perceptions of their academic competence (Arens et al., 2018; Marsh & Carven, 2006). Although expectancy and self-efficacy are both used to explain students' *academic self-concept*, they are subtly different. Whereas expectancy emphasizes one's expectation of ability, self-efficacy focuses on the believed outcomes (Eccles & Wigfield, 2002).

Wigfield (1994) pointed out that children and adolescents cannot differentiate immediate from long-term expectancy, but they would gradually develop a clearer construct across mid-elementary and secondary years, with more concrete domain-specific value beliefs. After controlling the effects of prior performance, expectancy for success has been found to be positively associated with students' intrinsic value and utility value (Wigfield, Eccles, Yoon, Harold, Arbretton et al., 1997), their language achievement and career intentions (Elliot, 2006; Harackiewicz, Braaon, Pintrich, Elliot, & Thrash, 2002; Plante et al., 2013).

However, a noticeable decline of expectancy for success leading to a decrease of students' subjective task values in different subject domains has been found across studies, including English as L1. Students' optimistic attitude about their academic ability and expectations in early elementary years (Williams, Burden & Lanvers, 2016) is gradually replaced by a more accurate estimation of ability (Eccles, Wigfield, Harold & Blumenfeld, 1993) developed in later primary (Wigfield et al., 1997) and secondary years (Jacobs, Lanza, Osgood, Eccles & Wigfield, 2002; Wigfield, Eccles, Mac Iver, Reuman & Midgley, 1991), and becomes more stable in late adolescence (e.g. Fredricks & Eccles, 2002). The reasons are that the learning content gets more difficult and complicated as one moves up to a higher level, and senior students are better able to interpret their teachers' feedback and to construe through social comparisons among peers (Bo, 2016; Wigfield & Eccles, 2000). The undermined self-perceived performance of the students in a subject domain, especially those struggling learners (Archambault et al., 2010), are more likely to underestimate related task values, particularly utility value and attainment value, in order to protect their self-

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esteem and self-worth (Eccles et al., 1983; Eccles et al., 1993). They show greater interests and feeling more competent in subject areas in which they have achieved well (Denissen, Zarrett & Eccles, 2007). Similar findings were also obtained in Chinese as L1 research. For example, Tse, Marton, Loh & Chik (2010) identified declining intrinsic motivation in Chinese reading among students upon starting secondary school, and senior secondary school students were found with lower perceived Chinese reading abilities than their junior counterparts (Lau, 2009a; 2009b).

Both cross-sectional and longitudinal studies found that expectancy for success has positive association with academic performance (e.g. Eccles, 1984; Marsh, Trautwein, Lüdtke, Koller & Baumert, 2005; Wigfield et al., 1997) while subjective task values help predict academic effort (Nagengast, Marsh, Scalas, Xu, & Hau, et al., 2011). Although expectancy for success has been shown to decline gradually across school years, previous research found that cumulative effects of expectancy, value beliefs, and their total effects might become stronger over a longer period of time (Neyer & Asendropf, 2001). This may explain the stability of expectancy in late adolescence (e.g. Fredericks & Eccles, 2002), especially when they are allowed to choose their major or those electives in which they performed well. It is worthwhile exploring further the accumulated effect and how it affects students' academic performance.

### **3.2 Development of subjective task values**

Subjective task values refer to the impetus and rationale for choosing to do a certain task or activity (Eccles & Wigfield, 2002), and can be operationalized as enjoyment or intrinsic motivation (Arens et al., 2018). It can be further divided into four separate facets, i.e. attainment value, intrinsic value, utility value and cost (Eccles et al., 1983), instead of forming a single factor (Arens et al., 2018).

Subjective task values and related expectancy for success are found positively correlated (e.g. Eccles & Wigfield, 2002) and interactively linked to students' achievement and academic choices in various domain-specific, cross-sectional studies (e.g. Buehl & Alexander, 2005; Eccles & Wigfield, 2002; Guo et al., 2017; Guo et al., 2015; Nagengast et al., 2011; Spinath, Spinath, Harlaar & Plomin, 2006; Trautwein et al., 2012).

Archambault et al. (2010) kept track of students' subjective task values across Grades 1 through 12, and found that literacy motivation of all students had declined at different rates. Motivation studies of L1 revealed that students are willing to spend more time, while showing enjoyment, on those tasks they performed well and felt competent, which leads to better performance (Bong, 2001; Marsh & Yeung, 1997; 1998; Lau & Chan, 2001). This has been identified as prevalent in assimilating domains like physics and chemistry, but not contrasting domains like physics and biology (Guo et al., 2017).

Nevertheless, a comparison study of self-concept, intrinsic and attainment values in both L1 and L2 discovered that Grades 5 to 9 students' learning interest and enjoyment in German as L1 were positively related to their later academic self-concept, whereas their academic beliefs of English as L2 were positively correlated with their later intrinsic value and interests (Arens et al., 2018). The relations between domain-specific expectancy for success and subjective task values from the

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developmental perspective remain inconclusive, and the differences between L1 and L2 learning are noteworthy for further investigation.

### **3.2.1 Attainment or achievement value**

Attainment or achievement value refers to the importance of doing well in a task, which is related to students' personal goals including mastery and performance goals (Eccles & Wigfield, 2002). Mastery goals are able to predict career intentions and academic aspirations, such as learning French as L1 (Plante et al., 2013). Research suggested that students' expectancy for success in L1 is positively correlated with their actual grades in school, whereas their performance goals could be a good predictor of their performance in a class or in a term (O'Neill & Thomson, 2013). It was hypothesized that students' previous academic self-concept and their later attainment value could be positively related, for they are likely to develop personal relevance and value those domains in which they feel competent and successful (Arens et al., 2018).

### **3.2.2 Intrinsic value**

Intrinsic value refers to the enjoyment and rewards the learner obtains from completing a task or participating in an activity with subjective interest (Eccles & Wigfield, 2002). Expectancy for success has been found to have significant positive correlations with both attainment value and intrinsic value in English as L1 (e.g. Conley, 2012; Trautwein et al., 2012). Possible reasons for such positive reciprocal relation include: (1) students value a certain domain they like; and (2) former intrinsic values can predict later attainment values.

Among the very few comparison studies on L1 and L2 learning, Arens et al. (2018)'s findings supported such phenomenon in German as L1, although contradictory findings were found in English as L2. The German secondary students featured in the study were more interested in, and enjoyed, doing the learning tasks in English as L2 (i.e. intrinsic value) in which they perceived themselves as performing well (i.e. attainment value), with higher perception of relevance with their mastery goals.

Learning motivation studies of Chinese as L2 also suggested that many beginning learners, including secondary school students (Cai & Lynch, 2017) and adult learners (Bo, 2016), have high attainment values but low intrinsic values. They were more willing to pay effort for maintaining their learning behaviours and achieving their learning goals, such as reviewing the learning materials to prepare for upcoming tests and examinations, but not interested in learning tasks unhelpful for examinations. A significant relationship between the students' L2 learning motivation and achievement was identified, and expectancy for success was strengthened when the students knew they performed well (Cai & Lynch, 2017). The findings of Cai and Lynch (2017) align with those from Arens et al.'s (2018).

Galla, Amemiyab, and Wang (2018) applied EVT to examine academic self-control in mathematics and science among middle and high school students in the U.S. They found that intrinsic value was a stronger incremental predictor of academic self-control when the students were facing motivational conflict in learning. For instance, students with high intrinsic value were more persistence in doing homework, and seemed to have a higher level of enjoyment in academic activities than alternative

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activities like going out with friends. The increasingly stringent requirements of the curriculum demand more of the students' time and effort, and such persistence would be essential for academic success.

However, some of the students may find it difficult to perform well in learning. The more effort they spend on L2 learning, for instance, the less effort they can afford to spend on other subjects. The fossilization commonly seen in L2 learning would obstruct the students' learning progress (Selinker, 1992). Such frustrating learning experiences sometimes make the students nervous (Cheng, 2017; Krashen, 1982), and negative emotions can lead to a higher cost and a lower intrinsic value. Therefore, many students tend to enjoy and reward L2 learning only when they have performed well in their studies.

Harter (1990) observed the avoidance behaviours of struggling learners, and suggested that one of the reasons could be maintaining their positive self-efficacy and self-esteem, as well as a successful image among their peers. These students usually have lower attainment value and low expectancy for success. Such phenomenon can be found from the weak students (Bo, 2016) and also the high achievers (Covington, 1992; Covington & Omelich, 1979). L2 learners are more willing to choose, and tend to enjoy, the learning tasks that they are confident of and performed well, which in turn helps the emergence of high expectancy in such domain (Arens et al., 2018).

### **3.2.3 Utility value**

Utility value refers to the usefulness of a task or a specific domain related to the students' current and future goals, such as career aspirations. Eccles and Wigfield (2002) proposed a broader concept of goal setting for students. Yet, in reality, students tend to adopt task specific or short-term domain specific goal setting which can help to maintain their persistence on learning. Older children and teenagers were found to be motivated by tasks demonstrating relevance and relatedness to their daily living (Nakijima, Dembo & Mossler, 2012; Pajares, 1996; Wigfield & Eccles, 2000). Hulleman, Kosovich, Barron and Daniel's (2017) intervention study showed that the more connections between the course material and the students' daily lives, the higher the utility value and the better the learning performance. The impact on low achievers is especially remarkable.

Students usually perceive tasks relevant to and helpful for facilitating their future goals with higher utility value, as well as those preferable to the social norm, even they are not interested in it. Such phenomenon is commonly found among Asian students for they want to please their parents by accomplishing certain goals set for them (Naumann, Guillaume & Funder, 2012). Therefore, utility value is about the extrinsic motives (Deci & Ryan, 1985; Harter, 1981) and relevant to the students' personal short- and long-term goals (Eccles & Wigfield, 2002).

When it comes to English as L1 learning, Durik, Vida and Eccles (2006) indicated that students' perceived attainment value has been found to predict their task choices and utility value of aspiration. For Chinese as L1 learners, Lau (2009a; 2009b) found that their perceived intrinsic value and utility value are more related to their task choices, as well as their persistence in completing the tasks in both primary and secondary schools.

### **3.2.4 Cost**

Cost is a critical component of value referring to the amount of effort, particularly the negative aspects of doing a task, such as time, effort, emotions (e.g. stress, anxiety, fear of both failure and success), as well as the loss of other opportunities resulted from choosing one task rather than another (Eccles & Wigfield, 2002; Jacobs & Eccles, 2000; Plante et al., 2013). When students are making decisions among various possible alternatives, they are also determining the extent of their motive and persistence for completing the given learning task. It is salient to students as a component independent of expectancy and value (Flake et al, 2015).

Students tend to lower the task values when they perceive the task to be difficult, in order to maintain a positive self-esteem and sense of efficacy (Harter, 1990) and to maximize their self-worth (Eccles & Wigfield, 2002). Fischhoff, Goitein and Shapira (1982) pointed out that students' perceived subjective task values change from time to time, and very much depend on the task requirement, and how familiar they are with the tasks. Their judgment may be affected by their affective memories, self-schema, cultural stereotypes and identity-related factors in terms of L2 learning (Eccles & Wigfield, 2002), and thus their task choices may not be a rational decision (e.g. Eccles, 1987).

Positive correlations between expectancy beliefs with both intrinsic value and attainment value were found in the domain of L1 learning and mainly in the English language (e.g. Conley, 2012; Trautwein et al., 2012), and that competency beliefs and interests are two synchronous ideas for many young students. Furthermore, the correlation between expectancy with both utility value and cost is relatively weak (Guo et al., 2015; Wigfield et al., 1997). Although it was hypothesized that expectancy for success could predict subjective task values, more recent studies have suggested that in reality students only value the tasks in which they can succeed and perform well (Wigfield et al., 2009). They tend to avoid difficulties which could lead to failure (Covington & Omelich, 1979). Such "failure avoiding strategies", which can be found among both high and low achievers (Covington, 2012), are more obvious in L2 learning whereby students might perceive higher subjective relevance when they feel competent (Arens et al., 2018). Students with higher expectancy of success and subjective task values are more willing to pay effort in taking tests, which would lead to better test performance (Penk & Schipolowski, 2015).

## **4. EVT and the role of sociocultural factors**

### **4.1 Identity**

The study of L2 motivation has, over the past couple of decades, moved from highly theoretical accounts to context-based research with special reference to sociocultural shifts, the contextual contributors to attitudes and motivation in language learning. Spanning from Foote's (1951) theorization of identification to Wigfield and Wagner's (2005) emphasis on the importance of adolescent identity development, which explains the relationship between the learner and the social world, with regard to development of competence and motivation. Kaplan and Flum (2009) further outlined the relationship between motivation and identity in educational context. They argued



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that reciprocal relations and integration of academic motivation and identity are apparent in the sociocultural dynamics of students' lives, and that personal and social identities provide valence to engagement and participation in school work, which in turn shapes students' self-perceptions and dispositions.

Rodgers (2008) compared gifted and non-gifted Black students, and found that they possess similar levels of self-concept. The study revealed that emotional states, vicarious experiences, and social persuasion are instrumental in influencing students' efficacy assessments, whereas social situations contribute to students' evaluations of vicarious experiences and social persuasion. The author suggested that Black students with strong racial identity, racial centrality tend to logically value the opinions of Black parents, teachers, and peers more than a students for whom it is not important or central; the gifted Black students, further, often feel that they need to address a separation between academic achievement (seen as achieved through acculturation) and cultural identification (being placed on another end of the spectrum; "opposite" to academic achievement a.k.a. "acting White"), which means dual identity has to be managed and juggled with caution.

Chen, Lam, Hui, Ng, Mak et al. (2016) conceptualized the psychological processes in response to globalization, and proposed the term "global orientation", i.e. individual differences in the psychological processes of acculturating in the globalizing world. While multicultural acquisition is considered to be promotion-focused and ethnic protection prevention-focused, the authors found that global orientation predicts English and Chinese oral presentation performance in multilevel analyses, as well as the frequency and pleasantness of intercultural contact in cross-lagged panel models.

Hoffman et al. (2019) looked into approach goal orientation in North African French adolescents, and claimed that strong ethnic affirmation / belonging has been posited as protective factor for ethnic youth that is positively related to academic outcomes. They also suggested that negative stereotypes and challenges to academic success and upward mobility may also weaken the value of schooling among students strongly connected to their own ethnic group. Language is recognized as a social practice which frames the learner's identity in their particular social context. L2 learners may struggle to learn and to use the target language in their own L1 identity in case of discrepancies between their value and culture. Norton (2013) found that a highly motivated language learner may have little investment, a kind of motivational behaviour, in language learning of a particular classroom or community. The existing wealth of research is an aggregate of studies on the relations between identity, motivation, and language learning.

## **4.2 Parental influence, gender, and mental health**

Against the backdrop of increasing focus on sociocultural dynamics in the study of motivation, there have been scholarly discussions on the roles of parental influence, gender, and mental health in the recent decade. Wu, Hou, Wang and Yu's (2018) study on the intergenerational transmission of educational aspirations in Chinese families in South China suggested that the expectancy-value model of academic achievement (Eccles & Wigfield, 2002) and the two-step model of value transmissions (Grusec & Goodnow, 1994) are particularly informative for

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understanding the parent-to-youth transmission process of educational aspirations. Parental aspirations may first translate into parental involvement in the youth's learning, which clearly conveys messages to youth that parents want them to achieve high educationally. It thus facilitates the youth's accurate perceptions of parental aspirations, which in turn internalized as the youth's own aspirations, maintain their self-esteem and self-generated value of learning. Parental warmth also serves as a potential moderating role, which is absent on the links from parental aspirations to the youth's perceptions of parental aspirations and involvement. The study also found that parental educational aspirations for the youth, as well as the youth's own educational aspirations, were associated positively with each other only when the youth reported experiencing high level of parental warmth.

Lee, Shin and Bong (2019) shared a similar interest in parental influence, whereas the focus fell on the utility value socialization in science in Korea. They found that boys are affected by their parents more than girls are. Moreover, parents' value beliefs did not predict their daughters' science motivation and achievement, but were highly predictive of their sons. Parents' perception of the utility value of science for their sons, which may have been directly communicated to and imposed on their children, predicted their sons' STEM career aspirations and science achievement. STEM career aspirations, but not motivation and achievement, were found to be gender-biased. The authors concluded that boys' parents act as both direct and indirect value socializers in science, and that value interventions targeting a diverse range of social agents (e.g. teachers, peers) should be able to enhance female students' motivation in science inside and outside the classroom. In light of this, they suggested that value interventions should also incorporate specific guidelines, so as to make sure the benefits are transferable to female students' academic and motivational outcomes.

Besides parental influence, gender is also a key factor that interacts with social agents and various values with regard to motivation. Fan (2011) discussed the application of EVT in terms of structural relations between social influences, task values, ability beliefs, educational expectation and academic engagement for both genders. The study examined the existence of latent factor mean non-invariance between boys and girls on multiple school motivational factors and social influences with reference to results from the multiple indicators multiple causes (MIMIC) analyses, and ascertained the significant role of social agents (e.g., teachers and peers) in student motivation. Partially confirmed prior findings that educational expectation and task values predicted student learning effort and persistence, the study suggested that utility value and intrinsic value in mathematics were evidenced to exert significant effects in predicting student engagement in academic activities across both genders. English intrinsic value, on the contrary, was only significantly linked to female students' academic engagement, whereas educational expectation for post-secondary education only had direct effect on male students' academic engagement. Students' ability belief in English was found with a greater effect on utility value than that in mathematics for both genders, and the results were consistent with previous research suggesting engagement to be more closely linked to task values than to educational expectations for high school students.

Wang and Degol (2016) placed their emphasis on STEM and offered six explanations for women's underrepresentation in the U.S., namely cognitive ability, relative cognitive strengths, occupational interests or preferences, lifestyle values or work-

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family balance preferences, field-specific ability beliefs, and gender-related stereotypes and biases. They called for a focus on ability and interest enhancement alike, early intervention for cultivating interest in mathematics and science, breaking down stereotypes about women and STEM, an emphasis on effort and hard work instead of talent, reinforced storytelling to STEM learning, communicating the relevance of STEM degrees to real-world applications, provision of more female role models for girls and women, and accommodation of women's familial obligation in the workplace. The authors' recommendations for policy, practice and future research are apparently relevant to other developed economies as well.

Mental health, an underresearched topic in relation to learner motivation, has attracted some though limited scholarly attention with the emerging awareness on student wellbeing in recent years. Dever's (2016) study on using EVT of motivation to predict behavioral and emotional risk among high school students posed a number of practical implications on enhancing student achievement. Based on the findings, efficacy negatively predicted both domains of risk, whereas attainment value negatively predicted the hyperactivity-distractibility task only. Besides, cost positively predicted both domains of risk, which implied the relative importance of cost in the prediction of behavioral and emotional risk.

Though motivation is considered as an individual phenomenon, it can be influenced by the other contextual or sociocultural factors. Future studies of EVT need to consider the intercorrelation of various sociocultural factors as well as their impact on the perceived expectancy for success and subjective task values of L2 learning.

### **4.3 Locale, feedback, and possible selves**

The context of L2 learning is more complicated than L1. Very few L2 learners, particularly those learn the target language in their home countries without sufficient language exposure, are able to successfully attain near-native proficiency (Cook, 2000; Larsen-Freeman & Long, 1991; Towell & Hawkins, 1994), not to mention the substantial linguistic differences between L1 and L2 such as those between alphabetic languages (e.g. English) and ideographic languages (e.g. Chinese) (see McBride, 2016), the complexity of the writing system (e.g. Japanese), and the distance from students' L1 (e.g. English and Arabic), all of which may create more learning obstacles (Tse et al., 2007; Kubler, 2018).

A number of research studies indicated that more experienced learners (i.e. mid-primary to junior secondary students) have relatively lower expectancy for success and subjective task values compared with less experienced learners (i.e. junior primary students) due to their increasingly accurate judgement of their own academic ability based on teachers' feedback and social comparisons (e.g. Eccles & Wigfield, 2002; Eccles et al., 1983; Jacobs et al., 2002; Wigfield et al., 1991). We, therefore, should not underestimate the influential role of students' affective memories and self-schema in the formation of their expectancy-value based motivation (Eccles, 1987) and the impact on their subjective task values (e.g. Marsh & Yeung, 1997; 1998).

Eccles and Wigfield (2002) assumed that students tend to choose more challenging tasks in which they will perform better, claiming that their high self-expectation would help to maintain their persistency and effort while overcoming the learning difficulties. Although persistency and effort are prerequisites of academic success,

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acts of devotion can make students feel their lack of ability and boost the cost, which would in turn lower their expectancy for success and subjective task values. They may even give up if the cost exceeds their ability beliefs, intrinsic value and attainment value. Therefore, teachers should consider these issues and carefully design their teaching. On the one hand, learning tasks assigned to the students should be achievable yet slightly more advanced than their current academic level, so as to boost them to the next stage of L2 learning. On the other hand, supportive learning experiences would help the students to maintain their expectancy for success and subjective task values.

In the face of rising multilingualism and multiculturalism due to intensification of ethnic diasporas and transborder movements, Dörnyei and Al-Hoorie (2017) explored the confounding interaction of self-images related to English and languages other than English (LOTE), and suggested that there are differences in terms of the nature / role of ought-to self, goals and visions, and unconscious motives between the study of English and LOTES. Two potential characteristics have been considered useful for overcoming the impediment of comparing LOTE against English, namely, the ownership of the L2 that is usually associated with a specific community, and the generation of positive attitudes towards this community that may be facilitative to fostering the motivation to learn the languages. Given that LOTES are usually acquired under the shadow of Global English, LOTE learners can gain support from the “ideal multilingual self” (Henry, 2017) and draw additional strength from it, as it is believed to be able to create increased stability and cohesion by helping to align the ideal L2 and L3 selves with each other within the identity of the multilingual learner. Therefore, the relation between L2 learners’ self-image and expectancy-value based motivation and how it affects their learning behaviours are worthy of further exploration.

## **5. EVT and the pedagogical implication of L2 teaching and learning**

In the teaching and learning of L2, teachers should be more sensitive to their students’ learning performance, their achievement behaviours and related emotions, so as to maintain their students’ ability beliefs and subjective task values throughout the possibly long and laborious learning process. In terms of daily classroom situation, the findings of EVT can be used to develop a sustained motivating L2 learning environment. A number of suggestions are proposed as follows.

### **5.1 Learning goals**

The learning goals set by the teacher for his/her students should be short-term, realistic and attainable. For struggling learners, setting short-term performance goals or giving them small scaffolding tasks may help to enhance their intrinsic value. This way, the teachers can measure or monitor their students’ progress more frequently, giving the latter opportunities to develop self-directed learning and to build up their ability beliefs (Sitzmann & Ely, 2011). It would in turn foster the students’ intrinsic value (Bandura & Schunk, 1981) for continuous learning.

Research on English as L1 indicated that task values are directly associated with students’ career intentions but merely predicted grades and academic aspirations;

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while academic aspirations is strongly associated with intrinsic value or mastery goals (Elliot, 2006; Harackiewicz et al., 2002; Plante et al., 2013) for the engagement in learning. Since junior secondary school students are asked to select advanced courses for their senior year of study, they are more likely to value courses helpful for achieving their future academic and career aspirations, in which they are more likely to maintain their persistence in learning. In light of this, teachers can present to their students a clearer learning path, for example, different levels of L2 qualification (i.e. mastery goal) that the students can possibly achieve, particularly those helpful for university admission. Such academic qualifications are symbols of recognition of their effort and achievements, and would contribute to their domain-specific expectancy-value based motivation (Hong, Shull & Haefner, 2012). However, teachers should be aware that extrinsic motivation can be a double-edged sword. On the one hand, they set clear goals for their students; on the other hand, some students may be settle for their achievements and stagnate in the status quo (Loh & Tam, 2017).

## **5.2 Learning materials**

Many students are unclear about the utility value of L2 learning. As informed by the findings of Hulleman et al. (2016), perceiving strong and direct connections between the learning materials and the students' lives can help to enhance their utility value, expectancy and interests. The connections between the latest and existing knowledge would lead the students to comprehend new information from a different perspective, and to perceive personal values in the topic while supporting deep learning.

Other than that, L2 learners' language identity (Dörnyei, 2005; 2009; Dörnyei & Clement, 2001) and their integrative motivation (Gardner, 1979; Gardner & Lambert, 1972) also affect their learning performance. Therefore, teachers need to review the appropriateness of the L2 textbooks that they are using. They also need to examine how relevant the content is to their students' life experiences and interests, and to facilitate intercultural communication in class. Furthermore, teachers may use examples collected from their students' daily lives to build up connections between the linguistic knowledge and their life experiences (Hulleman et al., 2016), and encourage the students to share their ideas and experiences with common interests. Teachers are also suggested to select and create more interesting and learnable learning content to magnify the enjoyment of L2 learning.

Application of user-friendly information technology to L2 teaching and learning, such as the use of Wikipedia (Kuteeva, 2011), blogging and forum discussions (Loh, Ki & Tam, in press; Miyazoe & Anderson, 2010), and e-learning platforms (Loh, Sun, Ki & Lau, in press), encourage students to create and contribute their own learning content for the enrichment of existing teaching materials, and to build up the connections between L2 learning and their daily lives more intentionally (Hulleman et al., 2016). This can open up learning space for students, provide them with collaborative learning opportunities, build up their sense of ownership and accomplishment, and beliefs of competency in L2 domain. This also aligns with the self-determination theory (Deci & Ryan, 2000) that students' three basic psychological needs of competence, autonomy and relatedness can be satisfied, so that they would be able to enjoy and engage in their learning.

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Compared with traditional L2 textbooks, such learning materials co-developed by teachers and students are found to be more lively and interesting, which more readily address the diverse learning goals and needs of individual students (Loh, 2016). They are also able to strengthen students' subjective task values, lower the cost, and boost the ability beliefs if used properly (Loh, Sun et al., in press).

### 5.3 Innovative pedagogy and differentiation

As mentioned earlier in this article, the linguistic differences between L1 and L2 require students additional time and effort to overcome their learning difficulties, which may damage their expectancy for success and subjective task values. Innovative pedagogy helping students to be aware of and discern such discrepancies instinctively (Marton & Booth, 1997), as well as effective learning strategies helping students to master the key concepts of the target language to lower the learning cost, would both be very useful.

Arab learners of Finnish in Finland reported learning difficulties with regard to the orthographic, syntactic, and morphological differences among their L1, L2 (i.e. English) and the target language (Naif & Saad, 2017). The differences between ideographic and alphabetic languages are even more striking. For alphabetic language speaking L2 learners of Chinese, character recognition and phonology are the most difficult and disconcerting challenges (e.g. Loh, Liao & Leung, 2018; McBride, 2016). Students' awareness of these unique features are, therefore, essential for successful learning. For instance, the *integrative perceptual approach* for character recognition (Tse et al., 2007) which emphasizes the decomposition and combination of radicals and components (Loh, Liao & Leung, 2018) that should help to develop students' visual-spatial skills, as well as to distinguish the phonological cues in the characters. Furthermore, teachers can teach their students to differentiate the lexical tones of vocabulary, in order to identify the segmental phonological and morphological features of the language important for early vocabulary acquisition and character recognition (Tong, Tong, & McBride-Chang, 2014). The adoption of such deep learning approach would better engage the students, and hopefully lead to a personal and meaningful understanding of the knowledge for a more sustainable learning interest (Trigwell, Prosser & Ginns, 2005).

Teacher may also find it challenging to cultivate a positive learning environment and to engage academically-diverse students in persistent L2 learning. Moranski and Henery's (2017) study suggested that the use of introductory video at the beginning of the semester adjusted students' expectations, especially L2 prevalence in a Spanish flipped classroom. A significant pre-post increase in students' comfort with the inverted pedagogical model was also found. Differentiation of their teaching, such as setting different attainable learning goals and designing learning tasks with various levels of difficulty (Tomlinson, Brighton, Hertberg, Callahan, Moon et al., 2003), can provide students with successful learning experiences, enhance their expectancy for success and intrinsic value yet reduce their perceived task cost and strengthen their academic self-control (Galla et al., 2018). Offering choices according to students' needs and interests would be helpful for promoting their utility value.

All of these special arrangements are possible measures for supporting L2 students' learning and building up their expectancy for success in completing various learning

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tasks. The enhancement of their self-efficacy and ability beliefs can help to maintain high attainment value, intrinsic value and extrinsic learning motivation (Ruan, Duan & Du, 2015), keep up their persistence while reducing avoidance behaviours, which will in turn contribute to their L2 performance.

#### **5.4 Assessments and feedback**

School tests and examinations are commonly used to evaluate students' learning progress. Feedback from teachers and social competition cause difficulty for students to maintain their ability beliefs (Covington, 1992; Covington & Omelich, 1979). Struggling learners are found to have obvious avoidance behaviours, such as making excuses, procrastination, avoiding challenging tasks, or even stop trying, so as to protect their self-efficacy (Bo, 2016). Therefore, assessment tasks set by the teachers and school should have optimal levels of difficulty, and the results should be used to improve teaching and learning (i.e. assessment for learning and assessment as learning respectively). Teachers are suggested not to compare students' academic performance would impede the latter's expectancy beliefs and perceived task values.

Concrete performance feedback with attributional comments from teachers regarding students' learning performance deem to be highly informative and helpful for improving students' learning performance. However, teachers' feedback should focus on students' effort and persistence, how well they have mastered the new knowledge, as well as their personal achievement across time. The situational attribution of students' failure experiences to external factors (e.g. the effort they have spent on their studies, as well as effective learning strategies being applied rather than their abilities) (Weiner, 1985), would allow students to maintain their ability beliefs, enhance their attainment value and intrinsic value. These would, in turn, strengthen their ability beliefs and prevent the "failure-avoiding" behaviours.

Teachers need to ensure that their students understand such feedback (Hyland & Hyland, 2006). Praising students for their good performance, encouraging them when spotting their mistakes, and providing guidance for corrections would also be helpful for improving their learning. Students who believe their teachers to be warm and supportive are generally more confident in their control over learning outcomes (Eccles & Wigfield, 2002). Fryer and Bovee (2016) supported a blended approach for student motivation during online learning, as perceived teacher support was found with a broad range of direct and mediated effects on students' motivations for e-learning. Effort beliefs were consistent predictors of task value and ability beliefs, and e-learning completion chiefly predicted by ability beliefs. Strong support from teachers in the first few weeks of the academic is crucial, with longstanding and substantial effects on students' experience and motivation.

#### **6. Suggestions for future studies**

L2 learning is influenced by many factors. Extensive prior experimental studies of motivation (Lazowski & Hulleman, 2016), including EVT and its relations to students' learning performance, provided very rich findings for later development of the theory. However, considering the complexity of the L2 classroom contexts, more intervention studies like pedagogical applications of EVT in real-world classroom

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settings would be beneficial for clarifying conceptual misunderstandings in psycholinguistics (DeKeyser, 2013) and the enhancement of students' expectancies, task values, and utility values (e.g. Hulleman et al., 2016; 2017).

Future research could adopt inquiry-based qualitative methods like design-based research (Anderson & Shattuck, 2012) for investigating the relations between EVT facets of the students and their L2 performance in different learning stages, as well as students' beliefs about the usefulness, relatedness and importance of different learning tasks targeting different L2 abilities (i.e. listening, speaking, reading and writing).

Learning an L2 and developing native-like proficiency is a long-term process. Students' expectancy for success and subjective task values determine their academic choices and behaviours, self-control, persistence and aspirations. Other than the distinguishing linguistic features between the L1 and L2, non-cognitive factors such as expectancy-value based motivation were found to be better predictors of their L2 learning performance (Wigfield & Eccles, 2000).

Previous EVT studies mainly focused on single value facets (e.g. Eccles et al., 1983), combined subscales of attainment value and utility value (e.g. Wigfield et al., 1997), or investigated the effects of expectancy beliefs and intrinsic and attainment values in L1 and mainly English as L2 (e.g. Arens, et al., 2018). The integration effects of expectancy with the four task values (Aren et al., 2018), particularly the two salient variables of utility value and cost in L2 learning, are worth further investigation. The implication of utility value and cost, such as investment and persistence, and how they affect students' task choices and aspirations, are yet to be examined in depth.

Boys were found to have higher competence beliefs and expectancy for mathematics than girls, whereas girls were considered to have higher competence beliefs and expectancies for English as L1 (e.g. Dörnyei & Clement, 2001; Eccles, 1984; Eccles et al., 1983; Gardner & Lambert, 1972; Wigfield, et al., 1991), German and French as L2 (e.g. Pritchard, 1987; Williams et al., 2002). The impact of gender stereotype on L2 learning is also worthwhile exploring in a systematic manner.

Further research could also examine other variables and contextual factors that may affect students' expectancy-value based motivation and L2 performance, namely: students' learning goals, specific task values, language identities, integrative motivation, parental influence and their educational aspirations, teachers' beliefs and expectations, their teaching style and instructional practices, and expectations of parents.

## **7. Conclusion**

This article reviewed the expectancy-value theory and explored how educators and practitioners can make use of this theory and the current empirical evidence in their L2 teaching. Possible ways to create an optimal and motivationally stable L2 learning environment for the promotion of students' expectancy-value of achievement motivation, as well as suggestions for new directions for future research, have also been discussed.



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Expectancies and subjective values are assumed to be influenced by students' subjective task values in different domains, as well as their personal goals, affective memories and self-schema, which in turn determine learners' performance, persistence and task choices (Eccles & Wigfield, 2002). Considering the important role of expectancy-value perspective in learning, the under-researched topic of language learning with EVT, and the growing number of L2 learners, a better understanding of the role of EVT in L2 learning is crucial.

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