ELIS RESEARCH digest
Vol. 2, Issue 3 September 2015

Role of Teacher-student Interactions within the Classroom in Developing Student Motivation in Language Learning

Summary

This issue of the ELIS Research Digest reviews the literature that focuses on how classroom interactions influence student motivation and the learning of English in school. The studies reviewed found that teaching practices that motivated student learning were largely related to classroom interaction and that the motivation strategies teachers used were specific to the learning situation. Studies on whole-class interaction have considered how student motivation and learning were influenced by the types of teacher questions and feedback as well as the teacher's epistemic stance and expectancy effect. In studies on small group interaction, the training of students in elaborated help giving, and the use of a dialogic framework have been found useful in developing productive discourse and raising student motivation. The literature reviewed has linked classroom discourse patterns to teachers' beliefs about teaching and learning, and shown that the teacher's epistemology affected students' beliefs about language learning, which in turn influenced how students interacted with their teachers and peers, and shaped their identity as learners of English. The issue ends with some suggestions as to how teachers in the professional learning community can be supported in developing discourse patterns that model the kinds of talk that they are asked to consider in their classrooms to promote student motivation in language learning.

Introduction

The first issue of this volume of the Digest reviewed empirical studies that focused on how the motivation of students learning English was affected by the instructional design, teacher, and learner characteristics as well as the classroom and school learning environments. In the second issue, the influencing factors in and out of the school context that affect student motivation in developing their language skills in the classroom were reviewed. The different influences that could affect student learning motivation across the pre-actional, actional, and post-actional stages of their development of goals and attempts to meet those goals were discussed. In this third issue of a four-part volume on motivation, the focus is turned to the role of teacher-student interactions within the classroom in developing quality student learning. While it is not difficult to understand why having better classroom interaction motivates students to learn better, a more important question that educational research can help to answer is how and to what extent teacher-student interactions within the classroom influence student learning. Much of current research starts from the Vygotskian approach and theorises a link between classroom interaction and student language learning (see, for example, Mercer & Howe, 2012). The sociocultural perspective views knowledge as co-constructed and 'the product of culturally-situated forms of social interaction' (Mercer & Howe, 2012, p. 12).

Three conceptual assumptions, grounded in the work of Vygotsky (1930-1934/1978) about how students learn, are used to frame the focus of this issue of the Digest. The first is the assumption that the sociocultural development of cognitive frameworks in students is underpinned by the relationship between their social activity and their individual thinking (Mercer & Howe, 2012). Vygotsky (1930-1934/1978) posited that all human cognition develops on two levels: 'first, on the social level, and later, on the individual level; first, between people (interpsychological) and then inside the child (intrapsychological)' (Vygotsky, 1930-1934/1978, p. 57). Vygotsky's (1930-1934/1978) idea that the development of all higher mental functions takes place within the process of social in-

teraction foregrounds the sociocultural context of the classroom learning environment as a significant influencing factor on student language development. Thus, how classroom interaction is orchestrated warrants the close attention of language teachers and educational policy makers.

Other than the fundamental assumption that the development of learning cannot be divorced from its cultural practice, the concept of the Zone of Proximal Development (ZPD) is also central to Vygotsky's (1930-1934/1978) ideas. Described as 'the distance between the actual development level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers' (Vygotsky, 1930-1934/1978, p. 86), the notion of ZPD foregrounds the important role of the more knowledgeable others in bridging the gap between what students already know at the start of the lesson and what else they can know through their interactions with teachers and fellow students in the classroom. In offering a prospective view of student development, the notion of ZPD theorises the link between interactions with teachers and more able peers, and students being able to achieve more and their feeling more motivated about language learning.

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Vygotsky's conception of a person as a social individual is related to his core concept of semiotic mediation understood as the way in which meaning is co-constructed between people via the 'psychological tools' in their environment (Vygotsky, 1930/1981, p. 137). These meaning-making tools include language, mnemonic techniques, writing, and other conventional signs which are viewed as the means through which higher cognitive processes are developed (Vygotsky, 1930/1981). Vygotsky regarded speech as the primary mediator, and described it as 'being initially the means of communication, the means of association, the means of organisation of group behaviour, [which] later becomes the basic means of thinking and of all higher mental functions, the basic means of personality formation' (Vygotsky, 1933-1934/1998, p. 169). The dual function of speech or word meaning as a means of social communication with others, and inner speech with one's self is closely tied up with the notion of the internalisation of learning (Miller, 2011).

While semiotics can refer to a variety of meaning-making signs, the focus of semiotic mediation in this issue of the Digest is concerned specifically with teacher talk as a mediating tool for student development. How teachers mediate student motivation and language development through dialogic interaction is of particular interest.

With this sociocultural perspective in mind, this issue of the Digest examines the literature on the different influences of classroom interaction on student motivation and their learning of English. To do so, two lines of inquiry have been undertaken to bring together the distinct, but related fields of study: motivation research on language learning, an emerging area of research nested within the more established field of motivation psychology, and classroom interaction research. The reviewed literature was limited to studies that have been carried out in English language classrooms.

A review of the literature on classroom interaction showed that while researchers have examined its impact on student language learning, the link to student motivation for learning English has often been assumed. Drawing on the theoretical and empirical bases of motivation research, how the question of motivation in language learning in schools has been approached will be addressed first. This section attempts to situate readers' understanding of the relevant motivational theories that can help frame the later discussion centred on the role of teacher-student interactions in developing language learning. Following that, the discussion on classroom interaction focuses on two main aspects: whole class face-to-face exchanges, and small group work. This issue of the Digest concludes by addressing the pedagogical implications for language educators, and by offering suggestions from the literature that support the professional learning of language teachers in extending their repertoire of practices that might help develop student motivation and learning.

Motivation and language learning

Building upon the earlier issues of this volume of the Digest, this section sets out to address the question of whether the motivational strategies reported in the literature are effective in the language classroom. While motivational strategies include student self-regulation strategies, the techniques discussed here are focused on the instructional practices that teachers employ to mediate student motivation (Guillauteaux & Dörnyei, 2008). This section draws upon a small, but emerging body of literature that has responded to the call by Gardner and Tremblay (1994) for more empirical research to test the theorised motivational strategies in the context of actual classroom settings. The discussion in the sub-sections that follow focuses on teachers' reported use of motivation strategies, the observation of teaching practices that motivate student learning, classroom intervention involving motivational strategies, teacher expectancy effects, and the epistemological stance of teachers that shapes their practice. Each reviewed study is presented in three parts: the aim of the study is first described, how the study was conducted is next explained, and finally the relevant research findings are highlighted for readers to judge the significance of the pedagogical implications of the study.

Teachers' reported use of motivation strategies

In a large-scale empirical study on teachers' beliefs and use of motivational strategies, Dörnyei and Csizér (1998) conducted a survey of 200 Hungarian teachers teaching English across various institutional contexts, ranging from primary schools to universities, to find out, through one questionnaire, how important they considered to be the techniques from a selection of 51 motivational strategies, and, through a second questionnaire to a different set of teachers, how frequently those techniques were used in their own classroom interaction. The hypothesis was that 'situation-specific motives', played a far more significant role in student language learning motivation than had been assumed earlier (Dörnyei & Csizér, 1998, p. 205).

The construction of the 51 strategies listed in the two survey questionnaires used in the study by Dörnyei and Csizér (1998) was informed by the earlier work of Dörnyei (1994) who had classified motivational components into three main categories: the Language Level, the Learner Level, and the Learning Situation Level. The Language Level was concerned with motivational processes related to Gardner's (2007) ideas of instrumental motivation and integrative motivation. An 'instrumentally motivated' learner is described as one who is driven by the perceived practical gain (or avoidance of a disadvantage) from language learning such as the opening up of opportunities for future work employment while an 'integratively motivated' learner is described as one who has a favourable attitude towards the language, its native speakers, and the language learning situation (Gardner, 2007, p. 19). For the Learner Level, motivational components were concerned with learner traits related to their learning motivation including the 'need for achievement and self-confidence' (Dörnyei & Csizér, 1998, p. 206). Finally, the Learning Situation Level was associated with three main sources of motivation in the classroom setting: course specific components related to student interest, relevance, expectancy of success, and satisfaction with learning outcomes; teacher-specific components related to teaching style and authority style; and group-specific components including 'goal-orientedness' and the 'group dynamics of the learner group' (Dörnyei & Csizér, 1998, p. 207).

Each participating teacher in the study was given only one of the two questionnaires to answer. The questionnaire on the importance of motivational strategies was filled in by 116 teachers while another group of 84 teachers completed the questionnaire on the frequency of use of the motivational strategies in their classroom. The survey was administered in this way as the researchers assumed that teachers who had identified a motivational strategy as important might be unduly influenced in their reporting of its actual use in their own classrooms. Based on the Hungarian teachers' self-reports, the study produced a list of 'Ten commandments for motivating learners' that ranked the 10 most important motivational macro-strategies, many of which were situation-specific, and largely related to teacher-student interaction. The macro-strategies are listed below in the order of decreasing importance:

- Set a personal example with your own behaviour.
- Create a pleasant, relaxed atmosphere in the

classroom.
- Present the tasks properly.
- Develop a good relationship with the learners.
- Increase the learners' linguistic self-confidence.
- Make the language classes interesting.
- Promote learner autonomy.
- Personalize the learning process.
- Increase the learners' goal-orientedness.
- Familiarize learners with the target language culture.

(Dörnyei & Csizér, 1998, p. 215)

Many of these macro-strategies, for example, the presentation of tasks, increasing students' linguistic self-confidence, and making classes interesting, are invariably connected with the orchestration of classroom interaction, and the unfolding of classroom discourse.

An important contribution of their study was the identification of motivational strategies that teachers had considered important, but were underutilised in classroom interaction. Among others, the underutilised motivational strategies, which the authors also suggested that teachers could develop in their classroom practice, included the following: ensuring that students experience success regularly, making tasks challenging, and giving clear instructions (Dörnyei & Csizér, 1998).

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Cheng and Dörnyei (2007) replicated the above study with some modifications in Taiwan in order to explore the suite of motivational strategies used by the teachers teaching English there. The two questionnaires were designed to explore the teaching practices of the teacher participants and, therefore, the questionnaire items focused on what the teachers did in orchestrating their classroom interaction. The interesting finding that the same strategies occupied the top five positions of importance in both countries suggested how 'at least some motivational strategies [were] transferable across diverse cultural and ethnolinguistic contexts' (Cheng & Dörnyei, 2007, p. 153). Cheng and Dörnyei (2007) also found that, while, unlike in Hungary, the strategies of 'promoting learner autonomy' and 'creating interesting classes' were considered unimportant by the 176 Taiwanese teachers of English surveyed on the 'importance' questionnaire, the Taiwanese teachers had strongly endorsed 'recognizing students' effort and hard work' in their teacher-student interaction as an important motivational strategy for student language learning (p. 169). As for the underutilised motivational strategies based on the self-reports of the 211 Taiwanese teachers who answered the 'frequency' questionnaire, the strategies included among others: showing students that their teachers cared about them; monitoring student progress and celebrating their victory; and encouraging students to develop products using the language skills they had learnt (Cheng & Dörnyei, 2007).

The low utilisation of the motivational strategies by the Taiwanese teachers was attributed to constraints in the particular schooling context, conditions of which also reflected those of schools in Singapore. One constraint was the large class sizes which limited the degree of close monitoring that individual students were able to receive from their teachers. The other constraint was the teachers themselves who 'tend[ed] to be hard pressed to cover the official curriculum established by the government, which [left] them little time to encourage students to create tangible products (as such project-like tasks tend to be time-consuming)' (Cheng & Dörnyei, 2007, p. 168). These findings on teachers' reported use of motivational strategies in classroom practice pointed to the adaptation process teachers undertook within the affordances and constraints of the contexts of their work in developing student language learning.

Although these research findings are of value, the studies reviewed above, in relying on only teachers' reflections to study student motivation, were limited by data that teachers had self-reported as opposed to more robust direct measures of student motivation.

Observation of teaching practices that motivate student learning

The studies reported in this section went one step further by examining actual teaching practices in the classrooms. The shift from a reliance on teachers' self-reports to structured classroom observation data in the study by Guillauteaux and Dörnyei (2008) was an important contribution to the field of research on language learning motivation. Their study, which examined 27 teachers teaching English across 40 classrooms involving a total of 1,300 students in South Korea, was aimed at investigating the motivational effect of teachers' actual pedagogical practices on their students as manifested in the students' classroom behaviour.

Various instruments were used to collect data: a classroom observation scheme to assess the quality of teachers' motivational teaching practices and the levels of the student motivational behaviour in class; a nine-item evaluation scale on the teachers' motivational practice assessed post-lesson by an observer; and a 20-item student questionnaire designed to measure their situation-specific motivational orientation such as their attitude towards the English course, their linguistic confidence, and classroom anxiety.

The design of the classroom observation instrument was informed by Dörnyei's (2001) motivational strategies framework that accommodated the macro-strategies which were organised across the four dimensions listed below:

- Creating basic motivational conditions by establishing a pleasant and supportive classroom atmosphere, and cohesive learner groups with appropriate group norms.
- Generating initial motivation by using strategies to increase the learners' expectancy of success and goal-orientedness, and making the teaching materials relevant for the learners.
- Maintaining and protecting motivation by making learning stimulating, presenting tasks in a motivating way, setting specific learner goals, protecting learners' self-esteem and increasing their self-confidence, allowing learners to maintain a positive social image, promoting cooperation among learners, creating learner autonomy, and promoting self-motivating learner strategies.
- Encouraging positive retrospective self-evaluation by promoting motivational attributions, providing motivational feedback, increasing learner satisfaction, and offering rewards and grades in a motivating manner.

(Dörnyei, 2001, p. 29)

From the data analysis, Guillauteaux and Dörnyei (2008) found a strong positive correlation between the observed teachers' practices that motivate student learning as a whole and the student language learning motivation in the classroom settings. The level of student motivation was measured in terms of the proportion of students who, one, paid attention by looking at the teacher and fellow students who were contributing to the classroom discourse, or who, two, actively participated in the classroom interaction, or who, three, volunteered for teacher-fronted oral activities. The statistical analysis indicated that together the two measures of (a) teachers' practices that motivated student learning and (b) the students' self-reported motivation accounted for 40% of the variance in the measure of the student motivational behaviour in class (Guillauteaux & Dörnyei, 2008, p. 70), indicating a strong link between these variables. The significance of the study lies in its strong empirical support in confirming the theorised links between teachers' motivational practices and their students' immediate classroom responses as well as the learners' general motivational orientation towards language learning.

Motivational strategies intervention

In a more recent study by Moskovsky, Alrabai, Paolini, and Ratcheva (2013), the researchers used a pre-post treatment quasi-experimental design to assess the effects of motivational strategies employed by 14 teachers teaching English to 296 students aged 12 to over 25 years in Saudi Arabia. The intervention involved exposure during classroom interaction for the 153 students in the treatment group to 10 pre-selected motivational strategies over a period of eight weeks while the 143 students in the control group experienced the conventional teaching methods. All the students in both groups completed a questionnaire on motivation at the beginning, and at the end of the intervention.

The formulation of the items in the learners' motivation questionnaire was informed by the ideas that motivation can either have a trait or state orientation, and learners' task motivation can be driven by the general motivational orientation defined by instrumental and integrative motivation (see the earlier discussion on instrumentally motivated and integratively motivated learners from Gardner, 2007) or the 'situation-specific motivational dispositions for learning English' (Moskovsky et al., 2013, p. 43). The construct of trait motivation was defined by Tremblay, Goldberg, and Gardner (1995) as the 'relatively stable motivational attributes while state motivation refers to motivational responses to the learning situation' (p. 356). Survey questions that captured the construct of trait motivation focused on learning anxiety, learning self-efficacy, positive attributions for learning, and intrinsic motivation for learning. State motivation, on the other hand, was captured by questions that focused on the evaluation of the teacher, teacher's teaching style and competence, teacher's personality, and learners' motivational self-evaluation.

Remind students of the importance of English as a global language and the usefulness of mastering the skills of this language.

The pre-selected motivational strategies used for the treatment group were derived from a pilot study conducted in Saudi Arabia in which 119 teachers of English were asked to evaluate the importance of a list of 53 motivational strategies informed by the earlier studies by Cheng and Dörnyei (2007), and Dörnyei and Csizér (1998). The following 10 strategies identified as the most important were then used in the experimental design of the main study:

- Break the routine of the classroom by varying learning tasks and the presentation format.
- Show students that you care about their progress.
- Show students that you accept and care about them.
- Recognize students' effort and achievement.
- Be mentally and physically available to respond to your students' academic needs in the classroom.
- Increase the amount of English you use in the language classroom.
- Make learning tasks more attractive by adding new and humorous elements to them.
- Remind students of the importance of English as a global language and the usefulness of mastering the skills of this language.
- Relate the subject content and learning tasks to the everyday experiences and backgrounds of the students.
- Consistently encourage students by drawing their attention to the fact that you believe in their effort to learn and their capabilities to succeed.

(Moskovsky et al., 2013, pp. 41–42)

An implementation guide comprising a range of more specific motivation techniques to operationalize those 10 motivational strategies in the classroom context was drawn up, and the teachers in the experiment group were given instructions on how to use this guide. An example of how the motivational strategy of 'show students that you accept and care about them' (Moskovsky et al., 2013, p. 41) was translated for classroom practice is shown below:

- Show respect for your students in the way that you address them or comment on their work and behaviour.
- Help your students get to know and appreciate you as a person by sharing some of your background, life experiences, interests, and opinions with them.
- Get to know your students: learn their preferred names quickly and use these names frequently as you interact with them.
- Show warmth to students (e.g., by greeting your students with a smile when you enter class or wherever you meet them).

(Moskovsky et al., 2013, p. 42)

The structured classroom observations showed evidence that the teachers in the experimental group adhered closely to the implementation guide and demonstrated at least some of the desired teaching practices that motivate student learning in class as opposed to those teachers in the control group.

At the end of the study, after controlling for the pre-existing differences in the non-equivalent ex-

periment and control groups, the study found a significant increase in the motivation of the learners who received the treatment over time. A significant change was reported in the trait motivation for the experimental group although the treatment effect for the state motivation variable was comparatively larger. The results from the quasi-experimental design provided robust empirical evidence that supported the assertion that teachers' deliberative motivational behaviours could not only raise students' engagement level and state motivation in response to the enhanced learning situation, but also increase their more enduring trait motivation for English language learning.

The lists of motivational strategies in the reviewed literature reveal a general consensus on how teachers in their orchestration of classroom interaction can cultivate a motivating climate in the classroom: by creating a culture of care and encouragement; by establishing clear learning goals to promote the expectancy of success; and by making learning interesting. The literature also indicated that teacher beliefs about teaching and learning, in particular teacher expectations and teacher's epistemological stance, shape the classroom learning environment. These influencing factors on classroom interaction are discussed in the sections that follow.

Teachers with higher class-level expectations for their students' reading performance spent more time providing a framework for student learning, offered their students more feedback, and questioned them using more higher-order questions.

Teacher expectancy effect

Research has shown that teacher expectations can positively and/or negatively influence student learning (C. M. Rubie-Davies, 2007; C. Rubie-Davies, Hattie, & Hamilton, 2006). When teachers perceive students to be of higher ability or lower ability, they interact with them differently. Students can pick up these cues from teachers' differential treatment of students, and respond accordingly to these motivating or de-motivating influences. This gives rise to what have been described in the literature as self-fulfilling prophecy effects (Rubie-Davies et al., 2006).

The work of Rubie-Davies et al. (2006) indicated how ethnicity may be a basis for teachers' expectations and how stereotypical beliefs may colour the expectations of some teachers. Their study explored the differences in teachers' expectations and the reading achievement of 540 Maori, Pacific Island, Asian, and New Zealand European primary school students in Auckland schools. Anecdotal evidence indicated that the teachers believed that Asian students were industrious, Pacific Island students had a strict upbringing, and Maori students came from less supportive home backgrounds compared to the other groups. The study found that the early expectations of final reading achievement of the 21 teachers in the study were significantly higher than the actual final reading achievement for students from all the ethnic groups other than for Maori students. It was found that, although the initial reading achievement of Maori students was similar to that of the other groups, by the end of the year, the Maori students had made the smallest gains.

The larger reading gains of the other ethnic groups were described as 'a positive self-fulfilling prophecy' (Rubie-Davies et al., 2006, p. 440), an effect that occurs when an initially erroneous belief creates change in student performance which leads to its fulfilment. The limited progress of Maori students was attributed to 'a sustaining expectation effect' (Rubie-Davies et al., 2006, p. 429) which underscored how teachers might have provided this group with learning opportunities that teachers believed to be at the appropriate level for these students but that merely maintained their reading achievement while the other groups were given more challenging opportunities to learn. The study made the case for the importance of understanding how teachers perceive students. Teacher perceptions could lead to teachers orchestrating their classroom interactions in line with their beliefs about student ability.

In a follow-up study, Rubie-Davies (2007) tested the hypothesis that teacher expectations that were more class-centred may be more significant for student learning and motivation than teacher expectations for individual students. The disparities in the way low- and high-expectation teachers mediate whole-class interactions offer another perspective on understanding how teacher ex-

pectancy effects may be played out in the classroom. In the study involving 12 primary school teachers in New Zealand, Rubie-Davies (2007) found that teachers with higher class-level expectations for their students' reading performance spent more time providing a framework for student learning, offered their students more feedback, and questioned them using more higher-order questions. Other than the mediation of the instructional discourse, differences between the classrooms of low- and high-expectation teachers were also observed in the socio-emotional domain. High-expectation teachers managed their students' behaviour more positively, for example, by placing the emphasis on feedback on task mastery rather than on performance goals as well as by re-phrasing the question for students, or providing scaffolding support for students to arrive at a correct response when they responded incorrectly.

The study by Kuklinski and Weinstein (2001) provided evidence that teachers' differential treatment of high- versus low-achieving students had direct effects on students' reading achievement as well as additional effects on students' self-expectations. In their study of 48 teachers and their 376 first- to fifth-grade American students, the authors reported that teacher expectations had significant effects on the reading achievement outcomes of students at all grade levels, with the strongest effects in the early- to middle-grade levels, particularly where the cues that teachers gave of students' ability were more salient. Students also rated what they thought their teachers perceived of their reading ability. When students' ratings of their teachers' expectations were analysed, significant effects on students' final reading achievement were found in fifth-grade classes, but not in the lower grade levels. The authors explained that the age-related differences could reflect the older students' increased awareness of performance comparisons with their peers, and their higher regard for teachers' feedback in forming their own expectations of themselves. In underscoring the significance of the students' interpretation of differential teacher treatment on their self-perceptions and performance expectations, the study supported the case for teachers having appropriate expectations that positively influence classroom interactions, and more importantly, shape the learning motivation and self-efficacy beliefs of their students.

Teacher's epistemological stance

Other than teacher expectancy effect, teacher's epistemological stance also influences teacher-student interaction. The construct of epistemology encompasses not only the notion of 'clusters of beliefs about knowledge and knowing, but also about authority and language' (Johnston, Woodside-Jiron, & Day, 2001, p. 223). The associations among the teacher's epistemological stance, classroom interactions, and student beliefs about learning, and learner identities were explored through the analysis of classroom discourse and interviews with four teachers with contrasting discourse patterns and their students, drawn from a large study of fourth-grade classrooms across five American states (Johnston et al., 2001).

The study was informed by the contrast between the monologic and dialogic patterns of classroom interaction. Student utterances and teacher utterances are treated as 'a means for transmitting information' in monologic teaching whereas, in dialogic teaching, these utterances are treated as 'thinking devices' to co-construct knowledge (Johnston et al., 2001, p. 224). Drawing upon the monologic-dialogic distinction, the authors spelt out the contrasting features between two epistemological orientations: received knowing and constructed knowing, which formed the theoretical framework that guided their investigations.

Briefly, 'constructed knowers view knowledge as constructed by individuals in interaction through language' while received knowers view knowledge as transmitted by those in authority and, thus, they do not regard discussions as particularly helpful for quality language learning (Johnston et al., 2001, p. 225). Using a list of identifying features of the received knowing and constructed knowing orientations, the researchers first identified the teacher participants' predominant stance. Then, the classroom discourse of the teachers was analysed to see how the teachers' epistemologies were manifested in their orchestration of the classroom instructional discourse.

While the qualitative study produced rich descriptions of the contrasting classroom discourse focusing either on the reception of knowing or the construction of knowing, the researchers nevertheless cautioned that the dichotomous con-

structs may not be able to fully capture the nuances of the field of practice. Essentially, the received knowing teacher demonstrated an 'emphasis on accuracy, singularity, and convention in her classroom practice' (Johnston et al., 2001, p. 226), which, in turn, influenced the received knowing student's view of language literacy that emphasized accuracy and 'convention more than […] sense-making' (p. 227).

For the constructed knowing classroom, several aspects of the interactions orchestrated by the constructed knowing teacher were found, including the following:

- Multiple sources of authority were validated, including students' self-belief, and other students' validation.
- Generating interesting questions was valued more than getting answers to someone else's questions.
- Students publicly responded to each other, looking at each other, suggesting that they took each other seriously.

(Johnston et al., 2001, p. 228)

Students in the constructed knowing classrooms were found to demonstrate 'a knowledge and interest in others' experiences, products and literate predilections'; this was manifested in their practice of 'borrow[ing] ideas' from classmates and conferencing about writing with peers, which the researchers suggested indicated that the students' 'literate identities included a sense of belonging to a particular literate community' (Johnston et al., 2001, p. 230). Juxtaposing the findings on the received knowing and constructed knowing classrooms helps to establish the link between teacher's epistemology and the ways classroom interactions are orchestrated, their influence on student epistemology about language learning, and the students' identity as language learners.

Classroom interaction and quality learning

In their review of research on the association between student engagement and classroom interaction, Kelly and Turner (2009) concluded that the way in which teacher-student interaction is orchestrated is more important than the form of the lesson activity structure, and that the categorical assessment of whole-class interaction and small group work as engaging or not for students 'may miss the mark' (p. 1688). The authors offered the perspective that when instructional discourse is 'rich in evaluation and foster[s] social comparisons among students, low-achieving students may become disengaged in an effort to avoid negative evaluations' (Kelly & Turner, 2009, p. 1665). With their perspective in mind, the present section reviews the literature on classroom interaction to consider the micro-level adaptations that teachers can make in their teacher talk, and the macro-level adaptations that teachers can make to the lesson activity structure, to promote student engagement in the context of whole-class and small group interactions. Each of the sub-sections discusses what is known about the link between classroom interaction and student learning, and the implications for the motivational practice for language teachers.

Whole-class teacher-student interaction

Through their synthesis of the literature, Cazden and Beck (2003) described the classroom discourse in 'traditional' lessons as characterised by a three-part discourse pattern involving teacher's initiation, student's response, and teacher's evaluation (IRE) (Mehan, 1979) or feedback (IRF) (Wells, 1993), in which the teacher selects a student to share, the selected student responds, and the teacher comments on the response. Research has shown that the IRE/IRF recitation script in which the teacher strictly controls the pace and direction of spoken interactions is pervasive (Nystrand & Gamoran, 1997; Vaish, 2008), and that the use of the traditional IRE/IRF lesson structure has been criticised for facilitating 'more of a testing than a teaching purpose' (Cazden & Beck, 2003, p. 173).

Nystrand (1997) proposed that instructional discourse may be usefully categorised by the extent to which it provides a dialogic space for student responses and accommodates multiple perspectives offered by the teacher and students to 'effect a transformation of shared knowledge' (p. 18). Dialogically organised instruction described as more collective, reciprocal, cumulative, and supportive validates students' contributions, 'communicates teachers' expectations for their students' thinking', and establishes a motivating cli-

mate for learning (Nystrand, 1997, p. 28). Volume 1, Issue 3 of the ELIS Research Digest on talk in the classroom in the context of disciplinary literacy presented a detailed discussion on dialogic teaching.

IRE/IRF sequence and monologic interaction

There is a general consensus regarding the importance of moving away from monologic questioning, which restricts students' responses, to more dialogic teaching. The study by Nystrand and Gamoran (1997) provided persuasive empirical evidence which showed that the pre-dominant use of the IRE/IRF, particularly the evaluative script, as an instructional discourse, negatively affected student language learning as reflected in their test achievement. Their longitudinal study involved the classroom observations of 58 eighth-grade and 54 ninth-grade English classrooms across 25 schools in America. Each class was observed a total of four times over a two-year period, with a focus on the dimensions of dialogic instruction in the question-answer sequences. The following two aspects were of particular interest: '(1) authenticity (whether or not questions had "prespecified" answers), (2) uptake (incorporation of previous answers into subsequent questions)' (Nystrand & Gamoran, 1997, p. 32). Specifically, the use of authentic questions which may 'include requests for information as well as open-ended questions with indeterminate answers' signal dialogically to students their teachers' interest in what they think and have to say (Nystrand & Gamoran, 1997, p. 38), which, in motivation research terms, may be an important motivational strategy that teachers could develop.

The use of authentic questions which may 'include requests for information as well as open-ended questions with indeterminate answers' signal dialogically to students their teachers' interest in what they think and have to say.

The study found that 85% of classroom discourse was spent on a sequence of instructional activity structures involving a class lecture, question-and-answer exchanges, and individual seatwork, with little discussion or small-group work thrown in (Nystrand & Gamoran, 1997). Only 12% of questions asked by the eighth-grade teachers were authentic, and only 11% of the questions involved uptake which incorporated students' earlier responses. Although half of the ninth-grade classes had 25% or more authentic questions and 26% exhibited uptake, the study revealed that the IRE/IRF script was still extensively employed in most of the classrooms observed at both grade levels.

The IRE/IRF recitation script was also observed to be more widespread in the low-ability classes which saw these students receiving 40% more lecture time, 50% less discussion time, and 21% more seat-work time than the students in the high-ability classes. Data from the summative test administered, in which the students answered questions based on a literature text they had previously read showed that the students instructed primarily through the IRE/IRF instructional discourse were found less able to recall and understand the topical content than the students who had experienced more reciprocity and responsiveness during their classroom interactions. While the assertion that the strict use of IRE/IRF as the instructional discourse accounted for the growing achievement gap between the high-ability and low-ability classes was made, the researchers nevertheless conceded that the use of 'authentic questions, discussion, small-group work and interaction, though important, [did] not categorically produce learning' as much as the 'underlying epistemology of classroom interactions' that shaped the degree to which the instructional discourse demanded student thinking as opposed to their regurgitating others' thinking (Nystrand & Gamoran, 1997, p. 72).

The IRE/IRF sequence was also found to be pervasive in the context of Singapore's schools. Vaish (2008) studied the classroom interactional patterns in 273 English language lessons in Primary 5 and Secondary 3 classrooms across 51 schools. At both the primary and secondary levels, the dominant characteristics of classroom interaction were teacher fronted and monologic and the author suggested these did not lend themselves to the development of students' critical thinking. Vaish (2008) argued for classroom interventions that focused on changing the questioning patterns of teachers to include more open-ended questions, and that encouraged extended oral responses from students through activities like student demonstrations as opposed to teacher-led whole class activities. Also put forward were professional learning activities that sensitized teachers to

the advantages of the uptake move in using students' responses to ask a further question and of the feedback move in commenting on rather than evaluating students' responses to open up talk in the classroom (Vaish, 2008).

Teo (2014a) reported on the preliminary findings on the study of classroom interactions in 36 General Paper lessons for pre-university students in Singapore, 'a subject that purportedly seeks to develop students' critical thinking and communication skills' (p. 211), to find out the extent to which 18 teachers in seven institutions were able to create a discursive space for students to explore issues more deeply or offer alternative points of view. Drawing on Cazden's (2001) classification of display and exploratory questions, the study reported that the teachers tended to use more display or closed-ended questions that test students' prior knowledge as opposed to more exploratory or open-ended questions that invite students to develop new perspectives. The analysis of lesson transcripts provided illustrative examples of how the teachers' mode of questioning suppressed student talk. For example, the use of 'fill-in-the-blanks' questions tended to elicit 'short, unelaborated answers' and signalled to students that the teacher was looking for 'fixed, predetermined answers' (Teo, 2014a, p. 212). The study also found that teachers' 'over eager intervention' by repeating the question, reformulating the question, and answering the question themselves, in anticipation of students' inability to respond, was counter-productive for student engagement (Teo, 2014a, p. 212). The study also provided evidence that teachers "merely acknowledged students' contributions with 'ok', 'yes', or 'ah huh'" after which they elaborated on their own point of view that seemed to diminish what the students had contributed (Teo, 2014a, p. 214). The author argued that teachers needed to be more cognizant of their questioning approach which necessarily reflects their underlying epistemological convictions about knowledge (see the earlier discussion on received knowing and constructed knowing from Johnston et al., 2001).

Teacher intervention would be needed to get quieter pupils to participate in class, and teachers should move away from the inclination to just call upon the students who raised their hands to answer questions and not rely on the top performing students to keep the class discussion going.

In the final report of the above study, Teo (2014b) discussed the findings from the interviews with 18 teachers and 18 focus group discussions with 71 students regarding their perceptions of active participation in class discussions. The study reported that while students were respectful towards teachers, they felt 'stifled by the monologic and asymmetrical discourse structures which privileged teacher talk' (Teo, 2014b, p. 6). Contrary to teachers' perceptions, the study reported that students were keen to ask questions or even challenge views raised, but felt discouraged due to the lack of opportunities and peer pressure. The author reiterated the need for teacher awareness of how initiation and follow-up moves 'open up' or 'close down' students' opportunities to actively and critically engage in class discussions. The author also made the call for educational policy-makers to consider how Singapore's 'current curricular content and existing assessment practices tend[ed] to privilege the products of student learning (i.e. written examinations) at the expense of the processes of student learning (via classroom talk, for instance)' (Teo, 2014b, p. 7).

IRE/IRF sequence and dialogic interaction

While the IRE/IRF sequence has its fair share of critics (see, for example, Nystrand & Gamoran, 1997; Vaish, 2008), the following studies have indicated that the interaction pattern could serve a pedagogical function and did not necessarily lead to monologic classroom interaction. In an Australian study of classroom interaction in the English classroom involving a class of 25 12- and 13-year old students, Hammond and Gibbons (2005) reported how the teacher used the IRE/IRF sequence for cued elicitation, and the third move in IRE/IRF exchange to increase prospectiveness, a term used to illustrate how classroom talk is prolonged and made more productive by handing back the responsibility for continuing the conversation to the student (Wells, 1996). Drawing on Mercer's (1995) concept of cued elicitation, the study described the teacher using strong verbal cues to elicit expected responses from specific students who would have otherwise lacked the self-confidence to contribute to the class discussion. The study also reported how the teacher

opened up the dialogic space when the third move in the IRE/IRF exchange was used to ask for clarification, and to probe student thinking, thereby 'pushing' students towards responses that elaborated and justified their point of view. This practice of increasing prospectiveness led to longer and more productive classroom interaction. Hammond and Gibbons (2005) suggested that the extended IRE/IRF exchange also gave students 'a greater voice in the construction of classroom knowledge' (p. 25).

A study by Kelly (2007) examined how, given the pervasiveness of whole-class instruction, the evaluative properties of IRE/IRF exchanges influenced the levels of student engagement among high- and low-achieving students, measured by student participation in classroom discourse, and their effort in class assignments. Classroom observational data was collected from two cohorts of seventh- and eighth-grade American teachers in language classrooms over a two-year period. Teacher questions that were 'likely to provoke student thought and analysis' (Kelly, 2007, p. 338) were tracked. Questions that characterised dialogic instruction included authentic questions, questions with a high cognitive demand, and those allowing multiple responses, which involved a lower risk of negative evaluation of students. Another measure of teachers' dialogic instruction was whether the teachers' evaluation was immediate or postponed. Evaluation was considered immediate when teachers 'close[d] down' student questions, sending the message that the questions were not appropriate or worth answering. On the other hand, evaluation was considered postponed when teacher feedback to student questions that used uptake or students' earlier reply to extend the dialogue was more elaborated, and included a rationale served to validate student participation, even if it was a negative evaluation.

The study found evidence that, when teachers focused on provoking student thought and analysis, and postponed evaluation during IRE/IRF exchanges by engaging in dialogic instruction, levels of student effort were more evenly distributed among the diverse groups of students. Less of a difference was observed in the level of effort put in by low- and high-performing students in classrooms where teachers incorporated dialogic instruction. However, the study did not find any effect of dialogic instruction in which student utterances were used to co-construct knowledge on the even distribution of participation in classroom discourse, a finding attributed in part to student agency. Kelly (2007) argued that teacher intervention would be needed to get quieter pupils to participate in class, and teachers should move away from the inclination to just call upon the students who raised their hands to answer questions and not rely on the top performing students to keep the class discussion going.

Small group interactions in large classes

In the study on the interactional patterns in Singapore's English classrooms described earlier (Vaish, 2008), it was found that only 20.7% of the instructional activities in the secondary classrooms involved small group work, while for primary classrooms, it was only 10.1%. The author pointed out the 'mismatch' between pedagogic practice and the goals of the English language syllabus which emphasized language for social interaction (Vaish, 2008, p. 375).

The arguments for small group interaction and learning is supported by theoretical perspectives (Vygotsky, 1930-1934/1978), and empirical findings such as a meta-analysis of 165 findings on effect sizes from 66 studies of within-class groupings across the primary, secondary, and postsecondary school levels (Lou et al., 1996). The meta-analysis defined small group interaction as involving a minimum of two students and a maximum of 10 students, and included studies in the English classroom (see, for example, Bejarano, 1987 and Sandby-Thomas, 1983). The results of the meta-analysis showed that there were small but positive effects of grouping students for learning. Compared to ungrouped classes, students placed in small group settings 'achieved more, held more positive attitudes, and reported higher general self-concept' (Lou et al., 1996, p. 446).

However, the literature also cautions that the organisation of small groups in itself does not engender the productive discourse necessary for quality learning (Fuchs, Fuchs, Kazdan, & Allen, 1999). Various studies have been undertaken to consider how small group interactions can be made productive. Two interventions that can enhance the small group discourse in the English classroom are reviewed below: elaborated help

giving, and collaborative reasoning. Following this, the role of teacher discourse in shaping the small group dialogue is discussed.

Elaborated help giving

Fuchs et al. (1999) examined how training students in elaborated help giving (p. 201) affected their helping behaviour in the context of collaborative reading activities involving retellings, paragraph summarising, and story prediction. The students were taught specific strategies involving sentence cues and asking one another questions that began with *what, who, where, when, why* and *how*, and that were directed at helping their peers figure out the correct responses on their own as opposed to giving them the correct answer.

The study reported that across Grades 2 to 4, the students who were given the learner training corrected more errors made by their peers, and engaged in more elaborated help behaviour. The finding that the younger students who had not received such learner training demonstrated no such helping behaviour indicated that such productive collaborative discourse was not simply 'a function of participating in peer-mediated activities' (Fuchs et al., 1999, p. 215).

Paying more attention to communicating how students should appropriately respond to one another's thinking and ideas would lead to a more conducive condition for collaboration amongst the students.

Collaborative Reasoning

Clark et al. (2003) examined the use of a Collaborative Reasoning (CR) framework for facilitating discussions about stories students read in fourth-grade classes in a three-year study. CR discussions carried out in small groups follow a series of procedural steps indicated below:

- After the class reads the story, a small group comes together for a discussion. (The teacher reviews the rules listed below.)
- The teacher poses a central question concerning a dilemma faced by a character in the story.
- Students freely explain their positions on the central question.
- They expand on their ideas, adding reasons and supporting evidence from the story and everyday experience.
- They challenge each other's thinking and ways of reasoning.
- At the end of the discussion, a final poll is taken to see where everyone stands.
- Finally the teacher and students review the discussion and make suggestions on how to improve future discussions.

(Clark et al., 2003, p. 184)

The study documented developments in the ways the students talked and reasoned using the facilitation framework. A student who was initially disinterested in the discussion, not only became more motivated himself, but 'invited someone else who had not had anything to say to include her ideas' (Clark et al., 2003, p. 189). Students were observed being able to use evidence from the story and their prior knowledge to make predictions and consider multiple scenarios. Students were also observed applying strategies of persuasion to convince other students to change their minds, for example, in asking 'how others would feel' questions (Clark et al., 2003, p. 191). Finally, as students learnt to challenge one another's points of view with counterarguments, they also began to respond to the counterarguments with rebuttals. In Vygotskian terms (Vygotsky, 1930-1934/1978), the communication and organisation of group behaviour within the small group became the basic means for thinking and higher mental functions of persuasion and argumentation.

In CR, the role of the teacher is to facilitate rather than lead the discussions. Facilitation skills taught at teacher equipping workshops include learning 'to challenge students' reasons, ask for clarification, or request evidence to support an idea' (Clark et al., 2003, p. 185). Success in CR is marked by the students' independence in carrying on a discussion with minimal teacher assistance.

The studies reviewed above have so far focused on student group work behaviours and learner training intervention. However, the role of the teachers' discourse in shaping the small group dialogue is invariably as important (see, for example, Curdt-Christiansen & Silver, 2013; Lwin, Goh, & Doyle, 2012). The distinction between instructional discourse and regulative discourse of-

fers a lens with which to examine the influence of teachers' discourse on small group interactions. Bernstein (2000) posited that 'the instructional discourse is embedded in the regulative discourse, and the regulative discourse is the dominant discourse' (Bernstein, 2000, p. 33). Applying Bernstein's (2000) perspective, the following sections examine the influence of teachers' discourse on two aspects of classroom interactions: the influence of teachers' transitions from whole-class interactions to small group work on the instructional discourse, and the influence of teachers' discourse in regulating the social organisation of small group interactions, which in turn mediates student motivation and learning.

Instructional discourse

Based on a study of classroom interaction, Lwin, Goh, and Doyle (2012) examined the frequency of group work and the quality of teachers' scaffolding instructions in the context of 12 English lessons conducted in two Primary 5 classes in Singapore. One was a high-ability (HA) class, and the other was of low-ability (LA). The focus of their study was on how teachers made the lesson transition from whole-class teaching to the orchestration of pair and group work, and the effect it had on the ensuing interactions. How lesson transitions are orchestrated can open up or close down the pathways to interthinking defined as the 'use of language for thinking together, for collectively making sense of experience and solving problems' (Mercer, 2000, p. 1). In the study, such transitions were marked by an interaction pattern change from IRF to 'the turn in which the teacher first introduced group/pair work to the pupils until the turn which indicated that pupils began working in groups/pairs' (Lwin et al., 2012, p. 23).

The study found many similarities in the instructional discourse in both HA and LA classes as the focus of the teacher discourse during the lesson transitions was mainly on organising the physical configuration, controlling student behaviour and posture, and explaining the task content and requirement of the finished product. When the instructional discourse in the orchestration of small group work was focused on classroom management issues and the specification of the end-product, the authors found that a 'closed context for group interaction' was created and it did not lend itself to opportunities for interthinking (Lwin et al., 2012, p. 26). The authors suggested that paying more attention to communicating how students should appropriately respond to one another's thinking and ideas would lead to more conducive conditions for collaboration amongst the students. The high percentage of teacher utterances in the LA class regarding thinking and/or interaction (21%) compared to the HA class (10%) indicated that explicit instruction to work together did not lead to more productive student exchanges if the task itself did not demand much student collaboration (Lwin et al., 2012, p. 27). This was the case for the LA class which was assigned the task of retelling the story using a fill-in-the-blanks worksheet with helping words provided, an activity which the students completed very soon after the teacher had finished giving the task instruction. Together, these findings illustrate how the nature of lesson transitions and the design of the instructional task can constrain productive interthinking in the context of pair/group interactions.

Regulative discourse

Research has indicated how the regulative discourse in which the instructional discourse is nested is shaped by how teachers position pupils in terms of the acceptable rules of speaking (see, for example, Curdt-Christiansen & Silver, 2012; Sripathy, 1998). A recent study which examined the enactment of the Singapore STELLAR (Strategies for English Language Learning and Reading) strategies in the elementary classrooms revealed 'the infrequency of opportunities for pupils to interact and engage in productive exchanges with teachers, although this is a primary goal of the new educational initiatives' (Curdt-Christiansen & Silver, 2013, p. 258). The primary grade teachers were observed to "persistently adhere to the traditional IRF structure seeking predetermined, 'correct' answers from the children" (Curdt-Christiansen & Silver, 2013, p. 258). The study attributed this observation to the dominant cultural framing of the role of teacher as the authority of knowledge and students as the recipients of knowledge. (See the earlier discussion on received knowing and constructed knowing from Johnston et al., 2001). The authors suggested that attempting to change the pervasive classroom interactional patterns through the STELLAR curricular changes was akin to pouring new wines into the old wine skins of 'tenacious cultural beliefs' (Curdt-Christiansen & Silver, 2013, p. 258).

The study highlights how teacher beliefs and cultural framing can define the social order of talk in the classroom, regulating the interactions between teachers and students. At the same time, the identification of the dominant discourse also points to the importance of directing the change in current classroom practice to the changing of underlying teacher beliefs rather than the provision of more teaching guidelines and resources.

Conclusion and implications

This issue of the ELIS Research Digest has scanned the literature to bring together insights from research about the influence of teacher-student interactions on student motivation and language learning. The reviewed literature has shown how a kind of 'motivational equity' (Kelly & Turner, 2009, p. 1688) can be fostered in the classroom by emphasizing mastery goals rather than performance goals (Rubie-Davies, 2007), learning rather than social comparison (Kelly & Turner, 2009), the reciprocity of ideas rather than 'prespecified' answers (Nystrand & Gamoran, 1997, p. 32), and the recognition of 'students' effort and hard work' (Cheng & Dörnyei, 2007, p. 169) rather than their academic ability. An important determinant of the motivational climate in the classroom learning environment is the nature of teacher talk that sets the tone of teacher-student interactions. How classroom interaction is orchestrated in the context of whole-class instruction and small group work is consequential for students' level of engagement, their language learning, and their identity as learners of English.

In the light of the reviewed literature, an important area for consideration is how the teacher beliefs that shape the regulative discourse in the classroom can be changed to better reflect the current research findings regarding teacher practices that motivate student learning and teacher roles in developing productive classroom discourse so as to engender quality learning. Guskey (2002) has argued that any change in teachers' beliefs or epistemic stance can only come about from their experiencing success from a change in teacher practice and not before 'seeing clear evidence of improvement in the learning outcomes of their students' (p. 384). However, even when teachers believe in a more dialogic classroom, they will need support in translating the idealized conception of what amounts to good teaching into actual practice. One suggestion for teacher professional learning is for teachers to examine the written transcripts of their own lessons. It creates a reflective space for teachers to evaluate particular patterns in their classroom talk. It also allows teachers to reconsider their habitual discourse patterns to support the pedagogic move towards more dialogic teaching (Culican, 2007).

Another suggestion for teacher professional learning is to incorporate a dialogic facilitation framework into school-based professional learning programmes to increase the opportunities for teacher reflection and practice towards orchestrating more dialogic discussion in the English classroom. The study by Adler, Rougle, Kaiser, and Caughlan (2003) has shown how teachers, in experiencing such a dialogic facilitation process with their colleagues and a more knowledgeable other, have worked to change the deeply entrenched discourse patterns in their language classrooms. During team discussions, teachers can participate in activities that they are asked to consider for their own classrooms and in which the facilitator models the discourse in thoughtful ways. Teachers can share their classroom observations, ask one another important questions, and co-construct knowledge about developing their classroom instruction further. Building a professional learning community that is characterised by dialogic facilitation 'works to make dialogic processes less mysterious' and helps teachers become aware of what can be done to open up classroom talk (Adler et al., 2003, p. 315). In describing how the teacher participants 'found it useful, for themselves as well as for their students, to work within a dialogic framework where joint contributions were valued' (Adler et al., 2003, p. 321), the study makes a persuasive case for a move towards a dialogic orientation to professional dialogue that models the kinds of talk that teachers are asked to orchestrate in their own classrooms.

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