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Challenges affecting the development of metalearning capacity in Taiwanese secondary school students

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ABSTRACT

This paper examines the challenges faced in the Taiwanese secondary school context during the development of the students’ metalearning capacity. During two rounds of action research over the 2011–2012 and 2012–2013 school years, 12 and 15 10th grade students respectively took full part in a metalearning programme as an EFL (English as a Foreign Language) elective course. The students’ reflective journals and interview responses were qualitatively examined through content analysis. The results showed that despite the effects of the programme on the students’ development of metalearning capacity, challenges remained, including (1) the cultural norms in education; (2) scaffolding difficulties; (3) assessment of reflection; and (4) linguistic challenges.

Introduction and rationale

This study was motivated by my personal learning and EFL (English as a Foreign Language) teaching experiences in Taiwan, as well as the emphasis of the latest education reform in Taiwan on developing students’ ‘learning-to-learn’ abilities. During my own learning and teaching experiences, I observed that secondary education in Taiwan often omits learning-to-learn skills, such as learning goals, strategies and self-assessment of strengths and weaknesses. Reflecting on my own education, I realised that I had been learning primarily for the purpose of obtaining the highest possible score on the Joint Entrance Exam. The learning environment I experienced as a student was rather monotonous and was often filled with various types of tests and exams, with excessive time allotted for mechanical practice to memorise subject content. Teacher-directed instruction was the norm, and prescriptive, teacher-determined answers were considered the only ‘standard’ answers. Soon after I started my teaching career, I began to feel increasingly dissatisfied with my teaching, because the
process appeared to be a reproduction of my own school experience. My students grew dependent on me for directions for learning. For example, they often asked me how to score higher on English tests, expecting me to provide a ‘single best correct’ answer.

The Taiwan Ministry of Education has updated the curriculum guidelines for senior high schools and placed a new emphasis on logic and critical thinking, creativity, reflection and learner self-management (Ministry of Education, Taiwan, 2009). Some researchers and practitioners in Taiwan have conducted relevant studies (e.g. Chen, 2012; Cheng, Yeh, & Su, 2011; Dai, 2011). However, studies have identified difficulties in implementing these guidelines (Chen, 2012; Cheng et al., 2011). Furthermore, newspaper reports (e.g. Chen, 2015) have added that, five years after the implementation of the curriculum guidelines, secondary school students in Taiwan remain weak in planning, monitoring and reflecting on their own learning practices.

My study proposes a programme for developing students’ awareness of how they learn and manage their own learning. However, context-specific cultural traits constitute a challenge. This paper briefly introduces the proposed metalearning programme and its effects, in addition to discussing the challenges affecting the development of the students’ metalearning capacity.

Theories informing the metalearning project

The metalearning project was intended to encourage secondary school students in Taiwan to be more reflective and to support the development of their metalearning capacity. This paper specifically asks the question: What influences changes in students’ metalearning capacity? Metalearning is a state in which students are aware of themselves as learners and take control over their strategy selection and deployment (Biggs, 1985). Following the pioneering works of Flavell (1976) and Biggs (1985), studies have characterised metalearning as a complex mixture of learners’ knowledge about learning, particularly their own learning and how they learn in different contexts, their belief that self-regulating is the appropriate approach, and their capacity and skill for thinking and acting on thinking in manners that deploy their self-knowledge (Jackson, 2004; Norton, Owens, & Clark, 2004). Moreover, cultivating students’ metalearning capacity can aid them in adapting successfully when studying becomes more difficult and demanding, and facilitate their development as independent
Numerous researchers have contended that metalearning capacity can be taught and is modifiable (e.g. Livingston, 2003; McCormick, 2003; Schraw, 1998; Tarricone, 2011; Wendem, 1998; Whitebread et al., 2009). Others (e.g. Lizzio & Wilson, 2004; Tarricone, 2011) have suggested that metalearning can be developed through reflection in contexts of problem-solving. Such contexts challenge and stimulate uncertainty about prior knowledge, understandings and experience, and thus foster reflection. Deeper, more critical reflection raises awareness of the self, tasks and learning strategies, which then becomes available for planning, monitoring and evaluating (Baird, Fensham, Gunstone, & White, 1991; Ertmer & Newby, 1996; Tarricone, 2011). Additionally, more sophisticated reflection develops learners’ focus beyond the immediate or personal level, to consider the broader contextual aspects of learning (Johnson, 2002; Kurtts & Levin, 2000; Ryan, 2012, 2013; Valli, 1997). Furthermore, reflection, including verbalisation, serves as a means of making formerly unconscious, implicit or tacit knowledge and processing explicit (Alanen, 2003; Desautel, 2009; McCormick, 2003; Schraw & Moshman, 1995; Tarricone, 2011). Reflection can originate from the learner or from other people. Reflection, which is supported by techniques such as journaling and discussion, involves a purposeful turning inward that mediates the transition from social to individual processing (Kuhn, 2000; McCormick, 2003; Paris & Winograd, 1990; Tarricone, 2011). Focusing the reflection of students on their own learning processes, however, is an alien way of thinking and practising for most secondary school students in Taiwan. This is because students traditionally do not claim ownership of their learning in school. Therefore, my research proposes a pedagogical framework for enhancing students’ reflection on themselves as learners: a coordinated sociocultural perspective on learning. The pedagogical principles employed in this study were informed by the following theories, which broadly agree regarding this aspect of learning. Notably, Dewey (1938) questioned the traditional scheme of education for its imposition of knowledge from above and from outside. He argued that education should be based on learners’ personal experiences. In addition to his emphasis on experience, Dewey (1933) acknowledged the importance of reflection in connecting the concrete and the abstract. When people observe a situation that is ambiguous, puzzling or necessitates alternatives, they require the postponement of immediate action to search for an intelligent response to the experience (Dewey, 1938). He argued that people
learn from reflecting on experiences more than they do from the actual experiences.

Consistent with Dewey’s emphasis on the role of experience in learning, a constructivist perspective generally holds that people make sense of the world on the basis of their unique experiences and interactions with the world. When familiar modes of thinking fail, people develop and test new forms of understanding and action. Thus, a more sophisticated concept is generated. In this sense, learning is a continual process of qualitative changes in thought, rather than a separate addition to facts or experiences (Ertmer & Newby, 1996; Schön, 1983).

In particular, a social constructivist approach to learning and teaching emphasises the role of social and interpersonal factors in knowledge construction (Vygotsky, 1986). Language is an essential tool, in that knowing and learning are constructed between people before it is internalised (Daniels, 2001; Vygotsky, 1979; Woolfolk, Hughes, & Walkup, 2008). People’s development, particularly of higher mental processes, emerges from their sociolinguistic processes at a social institutional level (Kanuka & Anderson, 1999; Wertsch, 1985). In addition, Vygotsky’s theory of the zone of proximal development emphasises the assistance of others in individual knowledge construction. People can achieve a greater learning capacity by co-constructing learning with significant others, such as teachers or peers, than they can independently (Vygotsky, 1978; Wells, 2000).

Finally, Freire (2000) proposed an emancipatory approach entailing a student–teacher relationship that is democratic, mutual and transformative. The democratic feature of the emancipatory approach to education involves teachers sharing class ownership with their students through dialogue and negotiation and emphasises students’ self-discipline and collaboration. Related to the democratic feature, the feature of mutuality refers to a refusal to give one-way lectures to students. From an emancipatory perspective, the content and materials of education are ingrained in students’ life experiences, and teachers provide problems derived from these experiences. Through such a process, teachers become more informed about their students’ characteristics and more effective in guiding their students to respond to their unique problems (Shor, 1993, 1999). According to Freire (2000, p. 96), such responses should occur ‘not just at the intellectual level, but at the level of action’, which links the democratic and mutualistic features to the transformative feature of the emancipatory perspective. Students are engaged in critically examining, questioning and interpreting their lives, discovering their meaning and value, and considering means of changing.
instead of accommodating, reality. The students are encouraged to act according to how they perceive the world to avoid dichotomising the relationship between reflection and action (Freire, 2000; Reilly, 2013; Shor, 1993, 1999).

Figure 1 depicts experience, reflection and interaction as three interlinked axes that support the principles of this research programme. Experience, compared with students’ prior knowledge and understanding, can lead to a state of uncertainty and stimulate reflection. A deeper, critical level of reflection potentially encourages a re-examination and reconstruction of students’ understanding and learning practice. Interaction among different groups of participants in an educational community enables this process to progress from the interpersonal to the intrapersonal plane.

Implemented programme

The pedagogical principles underlying this research programme are based on a theoretical...
framework that draws on the philosophy of experience as well as social constructivist and emancipatory theories. These principles advocate that students should (1) have real-time learning experiences and be encouraged to reflect on the experiences; (2) receive peer and teacher support through interdependent interactions; and (3) have decision-making autonomy and ownership of learning.

Part of the school-based EFL curriculum, the metalearning programme comprised termtime activities including an orientation session, a film viewing, the observation of teacher demonstrations, group teaching practices in class and in local churches, as well as a one-week service-learning experience carried out in a remote area in Taiwan during summer vacation. Throughout the programme, reflection activities, such as discussions and journaling, were assigned to aid the students in developing the habit of learning by examining their own and others’ experiences.

Grade 10 students who demonstrate a minimum proficiency in English at the CEFR-A2 Level were free to join this programme as a year-long elective course. I implemented two rounds of the programme in the 2011–2012 and 2012–2013 school years. In the first study round, 12 students participated fully in the term-time activities and summer service-learning experience, and 15 students did so in the second round. In addition to the students, two administrative staff members assisted in the coordination of the metalearning programme.

Research methodology

I contend that action research approaches learning and teaching in a manner that is coherent with the theoretical framework of this study, entailing a focus on experience, reflection and interaction. As a secondary school teacher and researcher, I found that this methodology assisted me in resolving an unsatisfactory state in my classroom, improved my understanding and practice, and ultimately produced a practical theory.

Qualitative data were collected in this study. Conner and Gunstone (2004) indicated that to explore metalearning processes, learners must be conscious of and able to identify the involved processes; in turn, they must be able to make the processes available to researchers. To record the changes in my students’ metalearning capability, I requested every student to keep a reflective journal with a partner, as I provided topic-related prompts each session.

The question prompts can be classified into two categories. The first category contains questions
that elicited knowledge about learning. The second category contains questions regarding control mechanisms of learning. The students in the 2011–2012 cohort each wrote 10 journal entries, while those in the 2012–2013 cohort wrote seven. Additionally, to ensure a richer data analysis, semi-structured in-depth interviews were conducted with the students after they held summer camps for children in remote areas in Taiwan. In the interviews, the students were asked to describe incidents that were critical to them during the summer service-learning experience, the impacts of such incidents on their own English-learning processes, and their attitudes and perceptions regarding the reflective activities. Additional questions, contingent on the students’ responses, were posed to encourage them to expand on their reflection. The interview durations ranged from approximately 30 minutes to 90 minutes.

A deductive approach to content analysis was employed. Frameworks drawn from existing theories of reflection and metalearning were used in framing the coding schemes. I based the coding scheme used to analyse the levels of students’ reflection on the framework of Bain, Ballantyne, Packer, and Mills (1999), and based the scheme for analysing different types of knowledge about and control over learning on the works of McCormick (2003) and Tarricone (2011). Before being put in use, my coding schemes were reviewed by academic colleagues; then, within the data I had gathered, I searched for cues related to a particular reflection level or component of metalearning, and interpreted them by adopting the coding schemes derived from the literature. To augment my analysis, I invited two colleagues to confirm the coding results. We discussed matters thoroughly when there were disagreements or difficult judgments.

In response to the quality and ethical criteria, I was mindful that I should build a trusting relationship with my students. I had taught all of them for at least one year, and I had taught some of them for three years. These long-term relationships presented both favourable and unfavourable possibilities: it was possible that I had developed sufficient confidence in the confidentiality of the class environment to allow the students to engage in honest dialogues with me. However, it was also possible that a hierarchical power relationship had formed between my students and me without my awareness. Only the students whose parents or guardians had consented to their participation were included as the participants for this study. The reflective journals were the course assignments; however, only when I received
consent from a student did I analyse and present her journal entries as research data. For the purpose of keeping track of changes in my students’ metalearning capacity, their names were included in their journals, but only I knew who provided the information. A code was given to each journal entry and interview to ensure anonymity and confidentiality.

Results and discussion

Table 1. Principles of the programme and their corresponding effects.

<table>
<thead>
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<th>Principles</th>
<th>Effects (The students)</th>
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| To support perceived autonomy and ownership of thoughts and practices regarding learning, the programme should eschew hierarchical student-teacher relationships. | • experienced responsibility for decision-making, and autonomy and ownership regarding their learning experiences  
• exercised greater control over learning activities  
• empathised more with their teachers and fostered approaches conducive to learning  
• became able to self-generate questions and challenged themselves regarding possible problems in specific contexts |
| To support learners in reflecting on their perceptions and practices regarding learning, the programme should develop a community that appreciates interdependence and connection. | • fulfilled the communal goal of assisting others through not only cooperation but also confrontation  
• reflected more frequently and critically  
• established a sense of empathy and group commitment  
• clarified vague and hazy ideas about their own learning  
• were scaffolded in appreciating analogical or contrastive relevance of learning for different people or in various contexts |
| To facilitate reflective practical experiences, the programme should provide opportunities for students to experience inner dialogue and sociolinguistic communication. | • were able to demonstrate and observe the embodiment of beliefs and values in learning  
• transformed their approaches to learning in reaction to the challenges and uncertainty introduced by the experiences  
• gained insight into how they understand their learning experiences  
• demonstrated more comprehensive control over their learning processes |

Table 1 presents a summary of the principles for designing and implementing the metalearning programme and their corresponding effects, which I derived from the philosophy of experience as well as social constructivist and emancipatory theories, and verified by data obtained from the students’ reflections. Despite the effects, challenges posed by culture, scaffolding, assessment and language remained to be addressed.

First, Taiwanese cultural norms, including role expectations and an emphasis on performance, could impede changes in students’ metalearning capacity. As shown in Table 1, the first principle of this programme was the fostering of a more equal relationship between the students and teacher. This aim is not unique to the present programme. However, its applicability in a culture with a high power distance between student and teacher has been
questioned by researchers such as Neuman and Bekerman (2000) and Phuong-Mai, Terlouw, and Pilot (2005). A specific example of this observation is the students’ uneasiness with the open-endedness of questions in this programme. In the 2012–2013 cycle, students S16 and S18 indicated that, at the beginning of the programme, the questions without standard answers made the reflective tasks difficult. This could be attributed to students’ obsession with the pursuit of standard answers that are generally provided by their superiors (Flowerdew, 1998; Ren, 2014; West, 2007). Studies have argued that, because students are culturally accustomed to the teacher-centred relationship, they tend to demand or depend on teacher direction. Closed-endedness may be perceived to be clear and comprehensible, whereas open-endedness may be regarded as unstructured (Chin & Kayalvizhi, 2005; Choi, 1997; Straubhaar, 2014).

![Figure 2](image_url)

**Figure 2.** Concluding implication of the study.

An expectation that students should be self-effacing could result in unawareness of or false knowledge regarding their learning processes. Analysing the 2011–2012 cycle indicated that several students could identify strategies involved in particular learning tasks. However, students commented that, for example, ‘[they] don’t really have methods or tips on studying’ (1st semester_S12_W4). This could be explained by a rejection of external attention, which might cause students to suppress potential contributions to meaning-making (Yeo & Marquardt, 2012). However, a particular incident suggested a solution to this challenge. After the final field teaching practice in the 2012–2013 cycle, the students were asked to write a
note to one of their peers to express their gratitude. A student indicated in her journal that, for a person with a feeling of inferiority like herself, receiving feedback from peers enabled her to learn more about her own strengths (2nd semester_S01_final). This observation agrees with the suggestion made by earlier researchers (e.g. Flowerdew, 1998; Fung & Howe, 2014; Raelin, 1997) that carefully structured, teacher-supported feedback provided in realistic terms may be a medium through which this cultural constraint can be overcome.

The emphasis on performance also appeared to be a cultural norm that could impede the students’ metalearning development. Analysing the 2011–2012 cycle indicated that, despite the dynamic and challenging character of field teaching practice potentially encouraging the students to become aware of and exert control over learning, the overemphasis on performance (as embodied by the numerous checks before the actual practice at church) tended to result in a technical or instrumental response to the students’ experiences. Therefore, in the second-round implementation, I consciously reduced the number of checks to counter such an effect. Nonetheless, a particularly high occurrence rate (61%) of reflections that demonstrated superficial, instrumental responses was observed in the journal entries kept after the students’ first experience of field teaching practice. One factor that could contribute to such a phenomenon might be the deep-rooted norm of performing well. A ‘below-standard’ performance may have been regarded as a threat to the face of the group (or even the school), and the students may have felt shame over failing to follow the norm (Ho, 1976; Lee, 1999; Shih, 2007). An oft-repeated reminder from the senior administrator that the participants were bearing the name of the school specifically represented the norm. Because the students were conscious of external standards or conventions, they tended to deal with immediate situations for the sake of performance enhancement. Such desperation might lead the students to overlook, or even avoid, alternative views and possibilities for change.

The second challenging issue concerned scaffolding. For example, one reason for the students to make a claim, without providing sufficient reason or justification, might be a lack of discourse to name or label their knowledge and control of learning. This argument appears to be supported by earlier studies of community of practice (e.g. Ding, 2008; Holmes, Schnurr, & Marra, 2007; Hung, Chee, Hedberg, & Seng, 2005). To induce the students to transform their identity to that of reflective metalearners, they must be encouraged to
develop a repertoire of discourse resources to communicate their reflective thoughts. Ryan (2012), therefore, introduced a set of discourse conventions that correspond to the scales of reflection. However, this argument is somewhat controversial. In the interviews with the students immediately after completion of the service-learning experience in the 2012–2013 cycle, some students (e.g. S16, S18) stated that they gradually became accustomed to the patterns of the question prompts. Although this could imply that they were becoming increasingly analytical and critical, they might merely have developed a state of dependency on teacher-led direction and followed certain procedures ‘automatically’, without deep reflection (Coulson & Harvey, 2013; Davis, 2000; Papadopoulos, Demetriadis, Stamelos, & Tsoukalas, 2011). Coulson and Harvey (2013) contended that as students’ level of agency and reflective capacity progressively increase, the amount of scaffolding should decrease. Future studies can investigate what factors affect the balance between detailed, structured guidance and flexible support.

Third, the issue of assessment posed one of the major challenges to the metalearning programme. Analysing the interview data revealed that the students preferred investing their time and effort in the assignments most directly associated with school achievements. Writing the reflective journal appeared to have the lowest priority in their work schedules. For example, a student enrolled in the 2012–2013 cycle said: ‘I stayed up until almost 3 am to write the journal after I finished other homework’ (S20_interview). Another commented: ‘I hardly had time to write the journal because I had other homework to do. I usually wrote on a computer in the school library during break time’ (S09_interview). Consequently, I would argue that assessment, more specifically giving a grade to the students’ journal entries, might be a strategy for encouraging the students to devote time and effort to reflective journaling.

The rationale behind the strategy is that grades can be used as a motivator for reflection (Creme, 2005; Dyment & O’Connell, 2010; Paget, 2001). The act of assessment signals recognition of the importance of reflection, which may elicit more student attention (Creme, 2005; Stewart & Richardson, 2000). From a practical perspective, high grades serve as a measure of success in the present context (Leung, Maehr, & Harnisch, 1993). However, this approach is not without downsides. The practice of teachers grading students’ reflection conflicts with the principle of the students taking responsibility for their learning. This is likely to reinforce the power distance between students and their teachers.
Furthermore, instead of facilitating the transformation to an open and questioning classroom culture, grading student reflections may result in other-generated criteria being forced on students. The dynamic nature of reflection can be jeopardised by superficial attention to meeting the criteria (Creme, 2005; Koole et al., 2011; Stewart & Richardson, 2000). Other factors that may cause the assessment of reflective journaling to be problematic include the personal nature of journaling and a misconception of the importance of writing skills. The content of reflective journals is mainly subjective because it relates to personal engagement in an experience. Whether people feel comfortable making their personal accounts public in complete detail is questionable, particularly if they feel that they will be judged. Furthermore, people may adopt artificiality to conceal or ‘varnish’ parts of their experience. Similarly, students may misconceive the assessment process and believe that their grades will be determined by their ability to write in a certain genre. This may engender a mechanistic or formulaic manner of reflection (Creme, 2005; Koole et al., 2011; Schutz, 2013; Stewart & Richardson, 2000; Sumsion & Fleet, 1996). Replacing teacher-assessment with self- or peer-assessment to reduce the stakes of assessment and support ‘the very principles of personal learning that reflective practice seeks to address’ was suggested by Stewart and Richardson (2000, p. 378). A study of the practicality of such a suggestion in the Taiwanese context is a possible direction for future research.

Linguistic challenges regarding the use of written or oral activities and of English or Mandarin in the process of reflection constitute the final point of discussion in this section. The question regarding the methods of reflection – namely written and oral – is intertwined with the aforementioned three challenges. Analysing the interview data indicated that emotional and practical factors may explain why written journaling received mainly negative reactions from the students. Emotionally, a general dislike of written assignments was expressed. Practically, time pressure and workload could lead the students to apply only perfunctory efforts in writing the journals. If assessed, students might be stimulated to invest more time and effort in writing journals. However, this would raise the stakes for students and discourage genuine reflection. In addition, the use of reflective journals as an assessment tool could lead to a production-oriented approach to journaling, which may enforce the pursuit of correctness and maintain the power distance between students and their teachers (Stewart, 2011; Stewart & Richardson, 2000). Students may also develop a misconception of
the importance of a prescribed writing genre as a result of overscaffolding (Creme, 2005; Koole et al., 2011; Schutz, 2013; Stewart & Richardson, 2000; Sumson & Fleet, 1996). The analysis revealed that the students’ preferred method of reflection was oral discussion. They attributed this preference to the nonverbal components, immediate peer support and collective character of oral discussion. These results agree with other researchers’ assessment of the advantages of oral reflection (e.g. Brooking, 2010; Collier & Driscoll, 1999; Naysmith & Palma, 1998). Despite these advantages, oral reflection can be critiqued for being too difficult to evaluate (Collier & Driscoll, 1999). Written and oral reflections have specific advantages and drawbacks and may be mutually complementary. A student enrolled in the 2012–2013 cycle stated that ‘It may be better to write a reflection in my journal first and then talk about it afterwards’ (S13_interview), which concurs with the view of Collier and Driscoll (1999) that a student’s written work may be subsequently developed and expanded in oral form. Further study may elucidate how different forms of reflection integrate with one another and interact with scaffolding and assessment methods.

The other controversy in relation to the issue of language concerns the use of English or Mandarin in the process of reflection. In the first round of this study, the students were encouraged to write their journals in English, because the metalearning programme was an EFL elective course. However, the use of a foreign language might jeopardise the capability of the students to reflect on their learning processes. Several empirical research studies (e.g. Abednia, Hovassapian, Teimournezhad, & Ghanbari, 2013; Adler-Collins & Ohmi, 2006; Varona, 1999) have recommended the use of learners’ first language in reflective journals, for the purpose of avoiding an obsession with the linguistic side of writing and to allow more explanations and clarification (Abednia et al., 2013). Because the goal of the present programme was to develop the students’ capacity to reflect on their English-learning processes instead of practising the language itself, allowing the use of the students’ first language was reasonable. Therefore, in the second-round study, the students were free to write their journals either in English or in Mandarin. Initially, most students chose to write their journals in English for the purpose of practising the target language. However, as the school year progressed, the students’ workload increased and the time available for journaling decreased; therefore, the students used their first language for the ease and speed of expression. A related question concerns whether transformation of the students’ conception of learning could occur if they
used their first language in their reflections. Wang and Byram (2011) argued that adopting a new term in an additional language could indicate a new concept developing. The most common equivalent Mandarin translation of the term ‘reflection’ is ‘fan si (反思)’; the students sometimes used related terms such as ‘fan xing (反省), ‘jian tao (検討)’ and ‘gan xiang (感想)’ interchangeably. Fan xing and jian tao are equivalent to the English expressions ‘to search oneself for mistakes’ and ‘self-examination’ and have a negative connotation, implying that an incorrect action has been performed (http://mario.arts.cuhk.edu.hk/Lexis/Lindict/search.html). This choice of expression may have its root in the value ascribed to correct performance, self-effacement and continual self-perfection through self-effort (Li & Fischer, 2004; Li & Wegerif, 2014; Mascolo, Fischer, & Li, 2003; Wang & Byram, 2011). The other term, gan xiang, denotes ‘feeling’ and ‘impression’ (http://mario.arts.cuhk.edu.hk/Lexis/Lindict/search.html) and is associated with a rhetoric that emphasises emotional and ethical appeals (Wei & Liu, 2012). This may explain why the students were more inclined to reveal their feelings towards a current experience. Because of the students’ use of varying terms with subtly different meanings, they might have had only a quasi-understanding of what reflection meant in this programme.

There is a strong view that people’s native tongue determines their way of thinking and behaviour (House, 2000). Learning a second language is described as a revolutionary activity of conceptualisation (Dunn & Lantolf, 1998; Lantolf & Aljaafreh, 1995). However, some researchers (e.g. Centeno-Cortés & Jiménez Jiménez, 2004; Ushakova, 1994) have expressed doubt regarding whether people can ever perform higher mental processes such as planning, monitoring and rational thought in a second language as they do in their first language. These researchers contended that such thinking processes are fundamentally supported by a person’s first language. Although distinctions in languages can affect perception, thinking processes and behaviour, House (2000) argued that these distinctions do not form an impenetrable barrier. A softer view is that taking cultural features into account enables a person to understand to a certain degree how speakers of other languages think and what they value (House, 2000; Kramsch, 2004). This view suggests that speakers of distinct languages who possess different notions of the self, express themselves differently, and view the functions of language differently, may engage in distinct forms of meaning-making. The term ‘reflection’ was foreign to the students in this study, as was the concept underlying it. One
means of addressing this challenge may be to socialise students into a particular worldview as they are taught reflective practice. Teachers should model for, and coach their students in, the practice of reflection (Atkinson, 1997). Another approach, which is based on the preceding discussion of the analysis, may be to involve students in comparing and contrasting their first and target languages, thereby capturing the conceptual similarities and differences among the terms in these languages.

Conclusion
The research reveals that a metalearning programme designed and implemented on the basis of a theoretical framework that draws on the philosophy of experience as well as social constructivist and emancipatory theories is effective in promoting changes in metalearning capacity when based on the principles that students should (1) have real-time learning experiences and be encouraged to reflect on the experiences; (2) receive peer and teacher support through interdependent interactions; and (3) have decision-making autonomy and ownership of learning. However, challenges posed by the issues of culture, scaffolding, assessment and language have yet to be addressed. Figure 2 provides a visual representation of the driving force of and resistance to the present metalearning programme, which was directed along the theoretical axes of this study.

On the basis of the results, implications can be discerned regarding teacher development. Teachers and school staff should participate in personal and collective reflective practice and adopt a more humane role in their interaction with students, in keeping with the theoretical axes of this study, namely experience, reflection and interaction. I argue that self-reflection reveals teachers’ pseudo-acceptance of a concept. This realisation may spur teachers to expand their frame of perception, and in turn encourage students to enlarge theirs. A person or a small group of teachers who have developed critical awareness through reflection and interaction can serve as agents of change and transformation, and involve other staff members in school in dialogue and discussion, thereby influencing the school culture and climate.

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