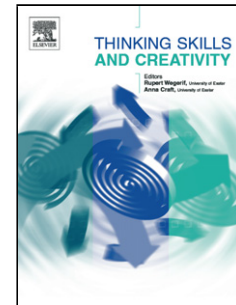


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Reflections on my experience of developing and implementing a metalearning program for an EFL elective course in a Taiwanese secondary school

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Highlights

- Teachers' self-reflection of their mind frames encourages students to do the same.
- Teachers' humane expression of authentic feelings sparks reflection and dialogue.
- Teachers having developed critical awareness become an agent of transformation.

ABSTRACT

This paper reports my personal reflection on the development and application of a metalearning program for a class of 10th grade (age: 15–16 years) students. Despite new government curriculum guidelines for senior high schools emphasizing critical thinking, creativity, reflection, and self-management by students, EFL teaching

in Taiwan remains exam-oriented. Learning typically involves mechanical practice to memorize subject content and prescriptive, teacher-determined answers that are viewed as the only “standard” answers. Inspired by the alternative to passive-receptive learning and direct instruction presented by the concept of metalearning proposed by Biggs (1985), I developed a study program that promotes metalearning capacity. The aim was to equip students to cope with difficult and demanding learning situations and develop their academic independence. Metalearning involves students being aware of themselves as learners and supervising their learning strategy and progress. I assigned reflection activities such as discussions and journaling to aid the students in developing a habit of learning through examining their own and others’ experiences. Students were encouraged to reflect on problem-solving and decision-making and to develop insight and control regarding the learning process. I used the action research methodology for the study design and applied a theoretical framework that was structured around the three axes of experience, reflection, and interaction. The recommendations of this study are that teachers should participate in individual and collective

reflection, adopt a more humane approach to student interaction, express authentic feelings, and engage in dialogue. Teachers who have developed critical awareness can catalyze beneficial changes in educational environments.

Keywords: Reflective practice; Metalearning; Secondary education; Practitioner research

1. Introduction

This is a personal reflection based on my experience of developing and implementing a metalearning program in a Taiwanese secondary school, which was the subject of my doctoral thesis. This program was motivated by my dissatisfaction with my English as a Foreign Language (EFL) teaching, in the Taiwanese context. Despite the launch of the latest curriculum guidelines for senior high schools, with a new emphasis placed on logic and critical thinking, creativity, reflection, and learners' self-management (Ministry of Education, Taiwan, 2009), it was identified that there were perceived difficulties in putting it into practice (Chen, 2012; Cheng, Yeh, & Su, 2011). Furthermore, newspaper reports (e.g., Chen, 2015) added that, five years after the implementation of the curriculum guidelines, secondary school students in Taiwan remained weak in planning for, monitoring, and reflecting on their own practices.

Reflection on the course of my learning and teaching experiences revealed that my teaching was a reproduction of my own study in school. Coming from an even more traditional generation, my time in school was filled with various tests and exams, with excessive time allotted to mechanical practice and memorizing subject content. Teacher-directed instruction was the norm, and prescriptive, teacher-determined answers were viewed as the only "standard" answers. The learning environment was rather monotonous. Soon after I started my teaching career, I grew increasingly discontent with the fact that I also crammed my students for various tests and exams, and I asked them to do excessive mechanical practice. In addition, my students grew dependent on me for directions for learning. For example, they often asked me how to score higher on English tests with the expectation that I knew the "single best correct" answer. Having been stimulated by the students' questions, such as "Why do I constantly forget the vocabulary I have learned?" and "How do I find the meaning of a text?" I began to think about how I learn myself. This is a question that I had

never explicitly thought about when I was a student. I had to ask myself how my students would be affected if they went through a similar experience to the one I experienced as a teacher.

As I reviewed the literature for my doctoral thesis, I encountered the concept of metalearning. I was excited because Biggs' (1985) concept was highly relevant to the question "How do people learn?" I set out with the idea of developing a program that promotes metalearning capacity. The idea of giving students a teaching role to encourage their reflection on their own learning grew out of my personal experience.

1.1. Theories that informed the metalearning program

The metalearning program aimed to provide an alternative to the predominant passive-receptive learning and direct instruction teaching in the Taiwanese context, to encourage my students to be more reflective, and to support the development of their metalearning capacity. Metalearning refers to a state in which students are aware of themselves as learners and take control over their learning strategy selection and deployment (Biggs, 1985). This can contribute to their success in difficult and demanding learning situations and their development as independent learners (Norton, Owens, & Clark, 2004; Ward et al., 2013). To enhance metalearning capacity, I encouraged my students to reflect on problem-solving and decision-making, as suggested by Lizzio and Wilson (2004) and Tarricone (2011).

Metalearning is a "sub-process of metacognition that refers specifically to learning and study processes in institutional settings" (Biggs, 1985, p.192). It "sits fairly and squarely within metacognition: that part of metacognition that is devoted to the act of learning" (Jackson, 2004, p.395). Following the pioneering work of Flavell (1976, 1979) and Biggs (1985), research has characterized metalearning as a complex mixture of learners' knowledge about learning, particularly their own learning, how they learn in different contexts, their

belief that self-regulating is appropriate, and their capacities and skills to think and act on thinking in a manner that makes use of self-knowledge (Jackson, 2004; Norton et al., 2004). Researchers have contended that metalearning capacity can be taught and is modifiable (Livingston, 2003; McCormick, 2003; Schraw, 1998; Tarricone, 2011; Wenden, 1998; Whitebread et al., 2009). Others have suggested that metalearning can be developed through reflection in problem-solving contexts (Lizzio & Wilson, 2004; Tarricone, 2011). These contexts challenge and stimulate uncertainty about prior knowledge, understandings, and experience, and thus, they foster reflection. Deeper, more critical reflection raises awareness of the self, tasks, and learning strategies, and this then becomes available for planning, monitoring, and evaluating (Baird, Fensham, Gunstone, & White, 1991; Ertmer & Newby, 1996; Tarricone, 2011). Additionally, more sophisticated reflection takes learners' focus beyond the immediate or personal, to consider broader contextual aspects of learning (Johnson, 2002; Kurtts & Levin, 2000; Ryan, 2012, 2013; Valli, 1997). Furthermore, reflection, including verbalization, serves as a mediational means of taking formerly unconscious, implicit, or tacit knowledge and processing, and then making it explicit (Alanen, 2003; Desautel, 2009; McCormick, 2003; Schraw & Moshman, 1995; Tarricone, 2011). Reflection can come from within a learner or from other people. Supported by techniques such as journaling and discussion, reflection involves a purposeful turning inward that mediates the transition from social to individual processing (Kuhn, 2000; McCormick, 2003; Paris & Winograd, 1990; Tarricone, 2011).

For most secondary school students in Taiwan, however, focusing their reflection on their own learning processes is an alien manner of thinking and practicing. This is because students traditionally do not claim ownership of their learning. Therefore, my research proposed a coordinated sociocultural pedagogical framework for enhancing the students' reflection on themselves as learners. Stetsenko (2008) contended that learning is necessarily

shaped by various social and cultural factors and exists at the intersection of individuals and their environments (Stetsenko, 2008). The following theories, which broadly agree on this nature of learning, were applied to inform the pedagogical strategies employed in my study.

Dewey (1938) argued that basing education on learners' personal experience is more sensible than imposing knowledge from above and outside and disconnecting the subject matter and methods of learning from the concrete experience of learners. 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 or puzzling or that necessitates alternatives, they require the postponement of immediate action to search for an intelligent response to the experience (Dewey, 1938). In addition, Dewey (1933) argued that people learn even more from reflecting on experiences 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 experience and interaction with the world and by incorporating new ideas and experiences into their existing knowledge. In particular, a social constructivist approach to learning and teaching emphasizes the role of social and interpersonal factors in knowledge construction (Vygotsky, 1986). Language is an essential tool through which knowing and learning are constructed between people before they are internalized (Daniels, 2001; Vygotsky, 1979; Woolfolk, Hughes, & Walkup, 2008). Personal development, particularly in higher mental processes such as "voluntary attention, logical memory, concept formation, and volition development" (Vygotsky, 1981, p. 163), emerges from sociolinguistic processes at a social-institutional level (Kanuka & Anderson, 1999; Wertsch, 1985). As people participate in a community of discourse, they make meaning out of the language the community has developed. This relates to Dewey's theory on learning through experience because both

language and experience are transactional, encompassing both internal and external realities (Wong et al. 2001). In addition, Vygotsky's theory of the zone of proximal development emphasizes the assistance of others in individual knowledge construction. People can achieve a greater learning capacity by coconstructing learning with significant others, such as teachers or peers, than they can on their own (Vygotsky, 1978; Wells, 2000).

Freire (2000) offered an emancipatory approach that entails establishing a democratic, mutual, and transformative student–teacher relationship. The democratic feature of this emancipatory approach to education involves teachers sharing class ownership with their students through dialogue and negotiation, and it emphasizes students' self-discipline and collaboration. Shor (1993, 1996) and Reilly (2013) replaced authoritarianism and teacher-centeredness with pedagogies that were dialogical and constructivist, thereby inviting students to participate in constructing their own learning experiences. The related 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 this process, teachers become more informed of their students' characteristics, such as their needs, conditions, speech habits, and perceptions, and they become more effective in guiding their students to respond to their unique problems (Shor, 1993, 1999). According to Freire (2000), such responses should be “not just at the intellectual level, but at the level of action” (p. 96), which links the democratic and mutualistic features to the transformative feature of the emancipatory perspective. In addition, students are engaged in critically examining, questioning, and interpreting the lives they lead; 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 dichotomizing the relationship between reflection and action (Freire, 2000; Reilly, 2013; Shor, 1993, 1999).

In summary, the pedagogical basis of my study suggests that teachers' roles must be transformed into supportive ones and that students must gain more autonomy. Learning should become a process shared by students and their teachers. It should take place in a community within which the members are constantly influenced by events and social processes and vice versa. In other words, both learning and teaching processes are characterized by continuous change and transformation. Fig. 1 shows that experience, reflection, and interaction are three interlinked axes that support the principles of my research program. Experience, compared to students' prior knowledge and understanding, can lead to a state of uncertainty and stimulate reflection. A deeper, critical level of reflection potentially encourages a reexamination and reconstruction of students' understanding and practice of learning. Interaction among different groups of participants in an educational community enables this process to progress from the interpersonal to the intrapersonal.

1.2. Methodology

My doctoral research was undertaken in the spirit of action research, and this paper reports my personal reflection on the development and application of the metalearning program. I had two reasons for selecting action research as the study design. First, the notion of action research closely corresponds to the theoretical framework of this research, which was structured around the three axes of experience, reflection, and interaction. Second, my role as an onsite practitioner placed me in a unique position to conduct action research.

In Taiwan, although "action research" has become a buzzword in schools, whether teachers are genuinely empowered to construct practical theories is questionable. Lin (2011) discovered some problems with regard to the implementation of action research in Taiwan. First, she observed that the teachers placed particular stress on mainstream academic subjects, such as Mandarin, English, and mathematics, mainly because of public interest in

international student assessments. In addition, a knowledge and authority hierarchy exists among administrators, experts, and teachers. School administrators tend to invite external research experts to supervise teachers' research. The experts offer guidelines for action research, while the teachers carry out research on protocols mostly for competition sake. What is more, the teachers' performance in such competitions is linked to school accountability (Lin, 2011). Finally, according to Lin (2011) and Ou (2012), action research in Taiwan tends to be a mere technical problem-solving strategy. Contrary to such a technical approach to action research, I am committed to a deeper level of reflection that, on the one hand, encourages my students to do likewise and, on the other hand, demonstrates the transformative potential of action research as a means of inquiry, challenge, change, and improvement.

By definition, action research is a form of self-reflective inquiry undertaken by practitioners in the hope of improving their practice and personal understanding. According to Somekh (2006), the researcher's self is an instrument for data collection. In recognition of the fact that my personal experience may have affected my students and to ensure that we formed a reciprocal relationship, I recorded critical incidents and reflected on them every time I completed a learning task with my students. My interpretations of my own reflections were associated with those of my students to identify what practices might have influenced the changes in the students' metalearning capacity.

The students who participated in the metalearning program were 10th graders (age: 15–16 years) in a girls' boarding school in the north of Taiwan. Their metalearning capacity was developed and examined through the contexts mediated by the school's EFL elective curriculum. These students demonstrated a minimum proficiency in English at the Common European Framework of Reference for Languages A2 level. Specifically, they could understand and communicate in English in the areas of most immediate relevance. In addition

to the students, the school personnel who assisted this program comprised two administrative staff members and three English teachers.

I was aware of my ethical responsibilities for the school principal, my colleagues, and my students. The principal provided verbal consent for the study, and approved the metalearning program as one of the elective EFL courses. My colleagues were informed of the purpose and progression of the study. They consented to the collection and use of all the information they provided. With the students who enrolled in this program, I made it clear the course requirements, the purpose of my study, and the fact that the course work would be used as research data. For the convenience of school administration, the students could choose to drop out of the course only at the beginning of each semester. They were free to transfer to any other elective course before the second lesson of the first semester, and they had another opportunity to transfer at the beginning of the second semester. They could also choose to opt out of the service-learning experience. Only the students who took full part in the metalearning program and obtained consent from their chaperones 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 analyze and present her journal entries as research data.

2. Implemented program

The metalearning program in my study was characterized by a rethinking of the roles of the students and the teacher, an interdependent and reciprocal partnership among the students and between the students and the teacher, a contribution to community service, an emphasis on practical experiences in relation to learning, and a focus on reflection on practices. This program was a year-long EFL elective course, which comprised term-time activities including an orientation session, a film viewing, observations of teacher demonstrations,

group teaching practices in class and in local churches, and a one-week service-learning experience conducted in a remote area in Taiwan. Throughout this program, reflection activities such as discussions and journaling were assigned to aid the students in developing a habit of learning by examining their own and others' experiences.

Although the program was an EFL elective course, because its goal was to develop the students' capacity to reflect on their English learning processes instead of practicing the language itself, it was reasonable to allow the students to use their first language Mandarin in their reflective narratives to facilitate clear and accurate communication. Initially, most students voluntarily chose to write their journals in English in order to practice the target language. However, as the school year progressed, the students' workloads increased and their time for journaling decreased; the students then began using their first language for ease of expression. The linguistic challenges affecting the development of metalearning capacity are discussed in my other paper.

3. Reflection on the experience

When I began this study, I pursued a teacher role that embraces reflective practice as well as equal and dialogical relationships between and among the students and staff members. However, as I reflected on the program, I found that I had been constrained by power and control relationships as well as the norm of performing well. I asked myself, "What changes would my colleagues and I need to make in our practices to promote the development of students' metalearning capacity?" The discussion involves two levels—the personal and the contextual. Critical incidents of my personal experiences with my students and colleagues served as starting points for the discussion.

3.1 Reflection at the personal level

Having been exposed to the academic studies and professional literature that informed

my theoretical stance, I thought I had become completely attuned to reflective practice and emancipatory action. Nevertheless, contingencies occurred that elicited a “traditional” response. For example, as the students were allocated to different locations for the summer service learning according to their performance in class, several students were disappointed with their allocation. One of them even asked her mother to write a letter of complaint. When my colleague passed the letter on to me, I was initially upset. I originally thought that I was unhappy because the student had not come directly to me. However, on reflection, I suspected that my emotional response was because of the student’s unwillingness to follow my instructions. I knew in theory that it was good that the student could voice her opinion; however, for the ease of management, the administrative staff members and I tried to persuade her to accept our decision. Although after a few weeks of discussion we altered our plan and took every student to the same area for service learning, a subtle rift seemed to have formed between the student and me. One consequence was that, after this incident, this particular student began to write noticeably shorter reflections than she previously had despite her decision to remain in the program.

This incident was critical to my own development because I realized that my action had not necessarily embodied what I professed to believe. My practice could be seen as contradicting the principle of breaking with the authoritarian tradition in the classroom; I retained control of decision-making and failed to openly listen to the students’ opinions. According to Straubhaar (2014), when student responses to an implementation of innovation do not fit teachers’ expectations, the teachers return to their accustomed teaching methods. As this incident occurred, I may have returned to a managerial frame of mind that prioritizes authority, control, and management (Achinstein & Barrett, 2004). The overemphasis on controlling the students could have compromised their opportunities to explore alternatives and reinforced existing power relationships that supported the status quo (Mezirow, 1990),

probably resulting in yet another hierarchy involving the students who would assume a teaching role and the children they would teach in the service-learning experience. I was not aware of such a limitation in my frame of mind until afterwards. The fundamental requirement of action research for reflection led me to recall this incident and identify possible relational needs (reasons for the students' negative reactions) and power differentials (reasons for the students' requests for parental help) between the students and me, and it aided me in reframing my role and responsibilities.

In addition, as I reflected on the aforementioned incident, I often asked myself, "How would communicating my unhappiness to my students affect them?" Contrary to my students' frequent mentioning of emotions in their narratives, I avoided or was unaware of my emotional reactions in teaching. However, Zembylas (2003) and Guzmán (2009) have suggested that issues of emotions and teacher identity are linked inextricably. Emotions can determine teachers' decision-making for practice and development (Day & Leitch, 2001; Guzmán, 2009; Hargreaves, 2000). In the Taiwanese context, there are certain rules regarding the perceived appropriateness of teachers' expressions of emotions, including "controlling emotions by concealment or maintenance, and purposefully instrumentalizing emotions" (Yin & Lee, 2012, p. 62). Teachers are expected to hide or suppress their negative emotions and maintain positivity. Their emotions are operated rationally, and the impacts of their emotions are calculated to leave a "professional" impression (Lee & Yin, 2011; Wang, 2003; Yin & Lee, 2012). This "emotional labor" (Hargreaves, 2000, p. 814), which concerns the appropriateness of the experience and expression of a particular emotion, serves cultural and social purposes such as the construction of power and identity and the emergence of a status quo (Guzmán, 2009; Hargreaves, 2000). Because teachers are expected to serve as role models and to be respected as authority figures, failing to conform to the culturally expected emotional display can make them appear vulnerable (Gao, 2008). By contrast, Warner and

Esposito (2009) indicated that teachers adopting a more humane role might contribute to their students' transformative learning process. "Connecting to the humanness in others resulted in emotional responses that were spontaneous and more freely expressed than they might otherwise be in the classroom" (Warner & Esposito, 2009, p. 513). In their study, teachers expressed their feelings to the students with whom they worked in service-learning courses. The students then responded to the teachers' feelings, leading to open discussions between the students and teachers as learning partners.

Regarding the aforementioned incident, I was unaware that my feelings toward the students' behavior might be embedded in "school culture, ideology and power relations" (Zembylas, 2003, p. 226). My seemingly rational attempt, first to convince the students and eventually to compromise with them, might be a demonstration of my mindlessness, as reflected by automatically embracing the expected and ignoring alternatives (Langer, 1997). It could also be criticized as a reaction to protect myself against vulnerability rather than a decision for the benefit of the students (Hargreaves, 2000). Teachers' revealing and discussing their emotions may appear counternormative in my context. Nonetheless, it can be an authentic experience that provides the necessary disequilibrium (role conflict) and group dynamics in transforming learning and teaching (Warner & Esposito, 2009). In reflecting on such an experience, teachers may be tempted to probe the nature of their emotions and how they are shaped and to challenge assumptions about teacher roles (Day & Leitch, 2001; Guzmán, 2009; Hargreaves, 2000).

Since I became aware of the alternatives made possible by the unconventional student–teacher interaction in this program, I have realized how the interpersonal domain of power might affect the dynamics between the students and me and the students' metalearning. Although I had not yet been able to comfortably embrace the emotional tension created by the more mutual and humane relationship, I did not consider it to make me vulnerable or to

portray a less “perfect” and less “powerful” image of the teacher. Although I was more experienced, I could still learn and improve, and an essential source of learning was from my students. When I had to collect the students’ feedback on the program, they were willing to “help,” because they were empowered as partners and peers of the teacher. This transformation of the teacher’s identity from that of an authority to that of a reciprocal learner participating in learning experiences enabled me to become more content with my job role, and it motivated me to return to secondary school instruction after two years of full-time study.

3.2 Reflection at the contextual level

Another incident prompted my reflection about the school culture and climate. Before proposing this program, the school had developed a reputation for students providing services to children in remote areas in Taiwan. To incorporate the service-learning component into the program of this study, I first had to convince the administrative staff who had long been in charge of community service for the school. At that time, because the service was always provided during the summer vacation, the administrative staff encountered difficulties in securing teachers to assist in the training of students. The senior administrator accepted my proposal because I convinced her that the students would be more able to serve the community after completing the term-time activities of the metalearning program. The administrative staff initially insisted on enforcing existing screening measures when admitting students into the program. Although we eventually agreed to suspend the screening, the administrative staff still demanded excessive checks and rehearsals. In contrast to the emphasis on reflective and dialogic processes of learning in the current study, this example illustrates a lack of such practice and interaction among the school personnel. Although I negotiated between the conflicting perspectives of the administrative staff and

myself, I arguably remained compliant with the school culture. I convinced the administrative staff to accept the course proposal by associating successful performance in community service with the effects of the program. However, the preserved requests of the administrative staff for screening, checks, and rehearsals demonstrated an absence of a confrontation with routines and customary practices and of a shared understanding. Furthermore, to my disappointment, although other teachers expressed interest in undertaking a similar intervention, they hardly passed beyond the “initiation” phase (Leat, Lofthouse, & Taverner, 2006) of incorporating the essence of the present metalearning program into their own subject areas. Some of them expressed disagreement with the performance-enhancing focus of reflection practiced in the program; the others tacitly adhered to the conventional community service practiced prior to the metalearning program. Clearly, there was an inconsistency between what I suggested in my research and how it was perceived by these teachers. I had a sense of powerlessness regarding this disagreement, because I had left my position at the school to write my doctoral thesis.

Wesley and Buysse (2001) contended that “the process of change should be approached as a common knowledge building process” (p. 117). This process should emerge from the individual and contribute toward community learning (Bullough & Gitlin, 1989; Larrivee, 2000; Wesley & Buysse, 2001). In addition, McCotter (2001) suggested that school staff should share and reflect on similar experiences. The method through which the students benefited from interdependence and connection might also be applicable to the school personnel community. Students’ engagement with a like-minded community to negotiate alternative approaches and attitudes could serve social-constructivist functions. Disagreement should be acknowledged as being almost unavoidable, and a balance between nonjudgmental listening to different opinions and clearly articulating a person’s judgment is necessary, thereby contributing to an enriched community (Bullough & Gitlin, 1989; Lomax, 1999;

Musanti & Pence, 2010; Wesley & Buysse, 2001). Similarly, the participation of school personnel in a critical colleague relationship should be promoted. Participants in such a relationship not only support but also challenge each other by questioning and providing alternative viewpoints. They may ultimately develop a full understanding of the differences among themselves (Grossman, Wineburg, & Woolworth, 2001; Manesi & Betsi, 2013). Grossman et al. (2001) and Mitchell, Reilly, and Logue (2009) have stated that this sense of community or collegiality among school personnel could raise awareness of their responsibility to influence the culture and climate of a school.

Regarding the current case, although I had temporarily left my position as a schoolteacher and was thus rendered powerless, this paper illustrates how I applied theoretical and pedagogical knowledge in practice, the uncertainty I experienced, a reflection on my own pedagogical action, and a modification of my behavior in the classroom. Despite the different perspectives and resistant culture in my context, manifested through routines of action and power structures, the teachers' and personnel's shared interest in teaching how to learn and serving their community could be used as a topic to initiate dialogue and discussion. Additionally, my observation that an emphasis on checks and rehearsals might not be constructive in encouraging deeper levels of reflection or a greater capacity for metalearning may induce uncertainty and invite further consideration and investigation into prevailing perspectives and routine actions. Although discussions and considerations may be initially inconsequential, as the participating staff critically discuss different perspectives on preparation and performance and become engaged in a reflective discourse, they are likely to share their newly acquired insights with other school community groups of which they are members, thereby leading from individual agency to collective engagement.

Finally, this experience of action research may have implications for the use of this methodology in the Taiwanese educational context. Action research is a practitioner's search

for potential solutions to the problems, puzzles, or ambiguities in his or her context through a reflection process to effect change. Thus, teachers are in a unique position to research the issues in their specific teaching situations. However, in the Taiwanese context, instead of resulting in change, action research tends to conform to the mainstream; instead of recognizing teachers' unique position, it is inclined to be dependent on external authority; and instead of critically reflecting on processes and results, it usually focuses on technical improvements or performance enhancement. Researchers in Taiwan have attributed these problems to the fact that teachers lack an understanding of the nature of action research despite government support (P. Lin, 2007; H. Lin, 2008; S. Lin, 2011). Teachers usually perform action research in response to external incentives or pressure rather than for intrinsic motives.

Action research is described as reflective practice for teachers. “[R]equiring [teachers] to conduct action research may pressure them to go through the motions but may not motivate them nor help them become more reflective” (El-Dib, 2007, p. 33). I suggest that a framework of reflection levels be used to guide teachers through the process of action research. More superficial levels of reflection can enable teachers to focus their attention on critical incidents with personal meaning to them, which may be more likely to generate intrinsic reasons for action research. In addition, deeper levels of reflection can facilitate the understanding of multiple perspectives and “assumption hunting” (Brookfield, 1995). Like my students, I suffered from making claims without adequate reason or justification when I examined the effects of the metalearning program of this study. I had to constantly remind myself to provide sufficient explanation, and furthermore, to consider alternatives. The evaluation of this program reveals that teachers should reflect on not only their pedagogical efforts but also their self-belief and identity so as to bring authentic change to their classrooms or schools. Reflecting beyond the surface level would help teachers transcend the

role of technician and one-sided dependence on external authorities. Instead, a reciprocal relationship may be developed, in which practice and theory complement one another.

4. Conclusion

In keeping with the theoretical axes of this study—experience, reflection, and interaction—the recommendations of this study for teachers include participating in individual and collective reflective practice and adopting a more humane role in their interaction with students. Although the aim of the metalearning program is to develop students' reflection on their learning, the action research on this program, especially the self-reflection component, empowers me to take a more active role in educational decision-making and even challenge my established perceptions and approaches to teaching. However, in this process of reliving personal experiences and transforming teacher thinking and practice, many difficult issues remain to be addressed, which regard teacher role and responsibility, school culture and climate, and the implementation of action research in the Taiwanese educational context.

Few of the participating students in the metalearning program gained their experiences of reflection outside this program through their teachers or curricula. It can be argued that teachers and school staff members will not be in an optimal position to encourage their students to think about their learning if they themselves do not cultivate a parallel reflective discourse. Action research, with an emphasis on critical reflection for teachers, reveals teachers' pseudoacceptance of a concept. This realization is able to move teacher-researchers beyond their conventional roles as specialized technicians or managers, to expand their frames beyond their own perspectives and thereby encourage students to enlarge theirs. In addition, the emotional tension I experienced from the unconventional student–teacher interaction in this program challenged me to consider alternative possibilities for constructing

student–teacher relationships. Instead of vulnerability, this awareness of the uncertainty about my thinking and practice as a teacher led me to adopt a more transformative and dialogic approach to teaching when I return to secondary school instruction. Finally, I definitely gained a sense of satisfaction with my teaching improved through action research, initiating an innovation and seeing the value of my implementation. However, I experienced another growing discontent with the school culture that prioritizes compliance over transformation, which would take me towards a new cycle of action research. I anticipate that an individual or small group of teachers who have developed critical awareness through reflection and interaction may serve as an agent of change or transformation and involve other staff members in dialogue and discussion to influence the school culture and climate.

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Figure caption**Fig. 1.** Theoretical framework of pedagogical design.