Jade’s transformation: A case study of teacher professional development in Taiwan

Bih-jen Fwu
National Taiwan University janefu@ccms.ntu.edu.tw

Hsiou-huai Wang
National Taiwan University wanghs@ccms.ntu.edu.tw

This case study explores the process of change in the instructional beliefs and practices of a science teacher participating in a university-elementary school collaborative science learning project in Taiwan. Multiple research methods were employed. Results show five stages of teacher change: (1) awareness of shortcomings of old strategy; (2) conviction of need for change and search for help; (3) powerlessness in chaotic classroom; (4) establishment of affective teacher-student relationship; (5) new way of teaching in a newly established order. Findings are further discussed in the local context: (1) processes of change are different from those of Western patterns; (2) extrinsic (social) and intrinsic motivation can co-exist; (3) collectively-oriented instruction is dominant in class practice; (4) the most satisfying growth for the teacher is to change from the traditionally authoritative figure of Chinese cultural tradition to a teacher who has established an affectionate relationship.

professional development, teacher change, science teacher, cultural analysis, case study

INTRODUCTION

It is widely accepted that for decades education in Taiwan has been dominated by a traditional teaching paradigm that stresses: (1) the realist perception of knowledge as an entity that should be delivered to students; and (2) the practice of using extrinsic incentives to motivate students to learn (Executive Yuan, 1996). This approach is especially detrimental to science education as science learning requires students to make sense of relevant concepts by themselves in order to “learn with understanding” (Bodner, 1986; Fleury and Swift, 1989). The outcome of the traditional mode of science teaching has been mixed. International competition shows that Taiwanese students score high in mathematics and science (National Center for Education Statistics, 1994; Mullis et al., 2000). However, a more detailed analysis of student performance in such competition indicates that while they perform well at such low-level cognitive skills as rote-memorisation, they are poor at high-level cognitive processes such as problem-solving, critical thinking and creativity (Yang, 1992, 1993). Being aware of the shortcomings of traditional teaching, science educators in Taiwan have made efforts to introduce new teaching methods based on the constructivist paradigm which emphasises that (1) knowledge is socially constructed and (2) students should be intrinsically motivated to learn (Guo, 1992; Guo and Jiang, 1993).
In line with this new trend, a one and a half year university-school collaborative research project called “The Science Learning Project” (SLP) was implemented and carried out in 1998-99 to develop new science teaching materials and strategies. This new project was based on four basic principles:

1. to provide a safe learning environment for children to think, ask, and perform freely;
2. to appreciate and nourish students’ curiosity so that children are delighted to think, find problems, and seek solutions;
3. to encourage intrinsic rather than extrinsic motivation so that children are delighted to learn actively; and
4. to inspire children to solve problems in creative ways (Chen, 2000).

Those participating in the SLP group consisted of 7 university experts in sciences (physics, chemistry, geology, atmospheric sciences, geography), psychology, and education from National Taiwan University and 5 science teachers from 5 elementary schools in Taipei City. The 5 school teachers were invited by the university science experts on the team to join the project. Among the 5 teachers, 4 had participated in similar projects with one taking part in this kind of project for the first time. During the project, the SLP group met every other week to develop new teaching materials and strategies characterised by the above four principles in the constructivist-oriented model. Each teacher was responsible for developing several lesson units, which were then brought to the entire group for discussion and refinement. Altogether, 9 lesson units in physics, chemistry, biology, and earth sciences were developed, implemented in the classroom context, and evaluated for their effects on student learning.

As teachers are the key to successful implementation of the SLP, it is extremely important to investigate how teachers who participated in the project developed professionally during the process. This study focuses on one science teacher who participated in the development process and experienced great change in her teaching beliefs and practices. The research reported in this present paper attempts to find out: (1) teacher belief and practice prior to participation in the SLP; (2) the process of teacher change; (3) teacher retrospection on self-growth and student learning. Findings will then be discussed in relation to the specific Taiwanese cultural context.

**RESEARCH METHODS**

**Selection of the Participants**

Among the five primary school teachers, Jade (pseudonym) was requested to participate as the subject of this case study. As it was the first time that she had participated in this type of research project it was assumed that she would experience greater challenge in the process. Jade, an experienced female science teacher, had been teaching in primary schools in Taipei City for 27 years following her graduation from a junior teacher college with an Associate Degree specialising in Chemistry and Biology. As a person who emphasised self-growth through continuous learning, she had been devoted to acquiring new knowledge and teaching methods to enhance her students’ learning. She had also tried to integrate scientific theories with practices in her teaching and encouraged her students to “learn science by doing.” She prided herself on accomplishments in instructing students who won numerous awards in science project contests at local and national levels. Owing to her outstanding performance, she had been invited to join the SLP. She felt excited at the opportunity to work with other science teachers and university professors.
Data Collection

In order to triangulate the authenticity of the data, multiple sources of data were utilised and collected throughout the one-and-half-year SLP process, including teacher interviews, teacher self-reports, classroom observation and videotaping, and observation of group discussions between the school teachers and university experts.

In-depth semi-structured interviews were conducted with Jade throughout the project. All interviews were audio-taped with Jade’s permission. During the interviewing process, the researchers sought to note important meaning-loaded words and used them as prompts to elicit deeper experiences and interpretations. In the case of inconsistencies, the researchers asked Jade to clarify or elaborate further. The technique of checking the consistency of Jade’s statements across different passages of an interview and among different interviews across time assisted the researchers in confirming the credibility of Jade’s narratives. It was found that, in general, there was high consistency in her statements across time.

Classroom videotaping was conducted on 4 lesson units, each unit lasting for 2 to 6 hours of teaching. Altogether, a total of 20 hours of videotaping was completed. In addition, the SLP periodic group discussion, meeting for a total of 43 times, was also videotaped to supplement interview and classroom data.

Data Analysis

All interviews were transcribed as a major source for data analysis. In reading the transcriptions of Jade’s narrative, the researcher grounded the codes in Jade’s actual language by tracking all the terms and phrases she used to describe her change in teaching beliefs and practices. Content coding (Miles and Huberman, 1994) was used to elicit important themes and stages of Jade’s professional development. To substantiate these emerging themes and stages, the researchers further analysed classroom teaching and group discussion videotapes, to see if what the interviewee expressed and reflected was manifest in the real context of the classroom and the group discussion. In this way, triangulation of multiple data sources was conducted to validate the change in teacher beliefs and practices prior to, during and after the project.

RESEARCH OUTCOMES

Teacher Belief and Practice Prior to the Project

With Jade’s past accredited accomplishments in science education, she had been fairly confident in her own teaching and was satisfied with her students’ performance. She prided herself on her ability to maintain an “orderly” classroom where students could engage in attentive discussion under her effective teaching. She considered herself a competent and effective science teacher. It seldom occurred to her that she needed to change her teaching style. The motivation for her to join the SLP was to learn “something new and interesting” rather than to redress an existing problem in her teaching.

Further, Jade believed that she was constructivist-oriented in teaching, as she had been very “open” in her teaching by offering opportunities for students to ask questions, engage in scientific activities, and “learn science by doing.” She had even opened up a full month of the course schedule for students to do science projects of their own choice. For the past twenty years when science education in Taiwan was still dominated by the traditional teaching paradigm, her teaching style was rare among her colleagues and had been recognised as fairly “progressive.”
At the same time, Jade also believed that a teacher should take a strong role in guiding students to learn. Even though she encouraged her students to brainstorm ideas for science projects, she was the one who decided for them which one to do. Moreover, in the process of class activities and project development, she tended to closely intervene and supervise their activities by offering advice, and stimulating discussion. Jade called this kind of practice a “semi-open teaching pattern.” She also held a “pragmatic” perspective on what counted for good scientific experiments. For example, among the numerous ideas that students proposed, she chose the “appropriate” ones based on the criteria of “whether the plan was executable in a real context,” rather than some “impractical ideas” sprung from “wild imagination.”

It is especially interesting to see that although Jade perceived herself as “progressively constructivist,” she nevertheless relied heavily on a traditional mode of teaching by using extrinsic incentives to motivate her students to learn. In her class instruction, she frequently utilised such extrinsic rewards as gifts, scores, and honours to maintain an “orderly classroom atmosphere” and create “attentive and fervent learning.” Another important element in the traditional paradigm, collectively-oriented control, was also apparent in her teaching practice. Jade developed a very elaborate “point system” based on group performance. She divided the class into several groups and evaluated students’ learning based on group performances. Whenever a group performed well, she would add extra points on their point card; if a group did not actively engage in activities, they would be punished by having points deducted from their card. Jade found this system extremely “powerful” as in using it, her class always did whatever she commanded them to do. She happily recalled that, “Whenever I asked them to discuss or do experiments in a group setting, everyone immediately got involved and took action or no one was fooling around, because his or her group members would not allow him/her to do that for fear of a point-deduction for the entire group.” She further employed “an honour scheme” based on the recording of this group point system. She let students themselves do addition and deduction of the points for their own group, so that “Everyone could immediately see how their group was doing, and this method created great peer pressure so that no one dared to fool around.”

In summary, after a 27-year teaching career, Jade, like many experienced teachers, had developed a sophisticated and integrated system of teacher beliefs and practices that she perceived as satisfying to herself, effective for her students’ learning, and which received the approval of many parents.

**Process of Change**

During the time Jade took part in the Science Learning Project, she underwent the following five stages of transformation in her teaching beliefs and practices.

**Stage 1: Awareness of the Shortcomings of the Point System**

As one of the project’s basic principles was to encourage intrinsic rather than extrinsic motivation in student learning, Jade’s most effective teaching strategy, the point system, faced a great challenge from the other SLP group members. As is clearly shown in the third group discussion videotape (VGD-5), when faced by a challenge from university professors, Jade’s initial response was to question the legitimacy of their challenge, as they had little experience in primary school teaching. In the video, Jade tries to convince the group of university experts that her point system is “so effective and powerful that all the students were attentive and concentrated on learning and doing experiments” in her class. However, the constructivist-oriented university professors reiterated the importance of intrinsic motivation and tried to persuade her not to “… be contented with the immediate effect that
students only learn for the ‘points’ in your classroom” but to “focus on inducing students’ interests in learning science in the long run,” because “once the so-called ‘powerful weapon’ is removed, the students will lose the motivation to learn.”

After a period of discussion and self-reflection on the issue, Jade began to see the problems inherent in her practice. She recalled how her students often asked if certain tasks she asked them to do would be counted to the point system, and how they were passive in learning and not used to thinking by themselves if the point system was not exercised. In fact, she understood she had vaguely been aware of this problem for some time and had not been comfortable about the fact that her students seemed to learn just for the points, not for science itself. However, she had tended to ignore this issue because the system worked so well that the slight discomfort she had felt was not strong enough to prompt her to make any changes.

**Stage 2: Convinced of the Need for Change and Seeking Help**

After the discussion and self-reflection described above, conceptually, Jade identified with the SLP principle of intrinsically motivating students, and was persuaded not to use the point system. She was convinced to face the weaknesses of the point system. The biggest problem for her, however, was that she did not know how to teach without this “effective tool.” She brought this dilemma to the SLP group and asked for advice on alternative ways of teaching. However, she received little help from the SLP university experts because while they were able to provide “abstract constructivist principles of learning,” they themselves had not developed any concrete “down-to-earth” teaching strategies appropriate in primary school. They could only offer moral support and continuous encouragement. As demonstrated in the group discussion videotapes (VGD-8; VGD-10), several professors repeatedly stressed the importance of “arousing students’ curiosity and intrinsic motivation,” and claimed that “although it’s difficult to for you to give up the point system overnight, but if you make a breakthrough on this point, you will immensely enjoy teaching students who will be learning for the sake of learning itself.”

Also manifest in the tape, the other participating schoolteachers tried to provide more concrete examples based on their past project experiences: “… instructional context should be provided to arouse students’ curiosity and intrinsic motives; for example, on the topic of combustion, one can start with asking students to burn a pile of paper and figure out how to burn it fast, and just let them play, in this way, they can gradually find out the relations between oxygen and burning.” However, it can be seen that Jade still seemed very puzzled at this kind of “laissez-faire” instructional approach that was very different from her strong guiding role in the classroom. Apparently she did not receive much help from the SLP group.

As Jade reflected in her interview, at this stage, she was left alone in her own struggle. She did think of looking for other resources outside the SLP group. Further, her colleagues in school could not help her either, because they were even more “traditional” than she was in teaching. She thought to look for books on new teaching methods; however, the heavy workload in school and in the project hindered her from realising this idea.

**Stage 3: Feeling Powerless in a Chaotic Classroom**

Jade finally gave up her point system for two reasons. First, she identified with the concept of “inducing students’ intrinsic motivation” and second, she felt constrained by the videotaping of her classroom instruction throughout the SLP. After she stopped using the point system, she found that she became a “powerless” teacher trapped in a “chaotic” classroom.
This disorder was reinforced by the extremely open instructional strategies built into the new SLP teaching materials that stressed “giving students space to think, explore, and discuss.” To create this kind of open atmosphere, Jade felt that she should not intervene too much as she had usually done. She also tried to give students more space to explore by playing. When students engaged in a variety of SLP-designed fun activities, the class tended to become more noisy. This is evidently demonstrated in various classroom teaching tapes during this stage (VCT-4 to VCT-7). It is observed that her class was like a “noisy and messy marketplace”: many students walked around, played with friends, and talked loudly with each other. Many students didn’t seem to concentrate on classroom activities. When Jade gave instructions, students appeared to be inattentive. She had to call their attention at the top of her lungs many times to resume her instruction from the chaos.

It seemed to Jade that without the immediate reward used in the points system, students lost their obvious and concrete goal to follow what she said. Moreover, Jade was restrained by the awareness that her attitude towards the students could affect the outcome of the SLP experiment. If she became angry at her students and wielded “the age-old weapon” of traditional Chinese teachers to “yell at, scold and beat” her students, the open and lively atmosphere of the class that was so critical to the success of the SLP experiment would be destroyed. Under this understanding, Jade had to spend a much longer time to wait for the students to quieten down than might have been the case under the point system. Jade felt that the class progressed very slowly and inefficiently. In consequence of this slowness, Jade frequently had to add additional hours of teaching to keep up with the course schedule.

In summary, lost in a disordered classroom, Jade could neither use her effective tool of the points system, nor could she assume the traditional role of an authoritative teacher. She could not even get angry. In this state of powerlessness and confusion, which lasted for almost a semester, Jade, like a defeated warrior who had given up her effective weapons, felt anxious: “I was nervous, confused”; “How could things happen like this?”; and incompetent, “I don’t even know how to teach!”

**Stage 4: Trying to Establish an Affective Teacher-student Relationship**

At this stage, Jade recalled that she could do nothing but “be patient.” She endured all the disruption and commotion in the class, stayed patient with the slow pace of instruction, and restrained herself from resuming her old pattern of teaching. Gradually, she was able to express her feelings more freely and frankly to her class. She found herself appealing for the sympathy of her students with warm and friendly expressions. As evidenced in the classroom tapes (VCT-7; VCT-8), she said to her students, “Your behaviour tells me that you’re not listening, and this really hurts my feelings - you know - my heart is broken!” and “I am getting old. I am not as energetic as I used to be. If you can be quieter, I will feel much better.”

At the beginning, Jade’s new approach seemed to have little effect on her students; but gradually, there appeared to be a subtle change in the student-teacher relationship. Students began to respond to her positively. They began to realise that she was “different” from other teachers, because they expressed that “she never scolded, yelled or got angry with us.” They appreciated her sincere concern for them, and were touched by her affective expressions. The students in turn developed a new sense of concern for their teachers’ feelings. Interestingly, this concern created a special kind of bond between Jade and the students. Later, this concern was further transformed into an interesting form of group sanction that if someone disrupted Jade’s instruction, other students would then stop him or her so as “not to hurt our dear teacher’s feelings.” In this long process of exploring a new way of teaching, Jade gradually established an affective relationship with her students that seemed to work.
However, this new relationship had not been the result of a well-planned strategy but an unexpected outcome of Jade’s “survival instinct” operating in an unprecedented and difficult situation.

**Stage 5: A New Way of Teaching in a Newly Established Order**

After many months of groping for a new order in a chaotic classroom, Jade recalled that she and her students slowly and gradually established a new anchor, which was no longer based on the concrete and immediate reward system, but rather on a subtle and invisible social relationship based on the mutual trust between teacher and students. She happily recalled that, “By then, the students knew that I cared about their learning, and if they didn’t learn, I would feel bad. Once they understood my caring for them, they felt obliged to learn. Later, I found that I only needed to give a hint, and the entire class would quiet down and be ready to engage in the SLP learning activities.” In this process of change, this newly established social relationship between Jade and her students had paved the way for students to gradually develop an intrinsic motivation to learn.

In addition, the innate attraction of the SLP activities aimed at arousing students’ curiosity strengthened their intrinsic motivation to learn. It is observed that students appeared to love to learn by playing, exploration and doing experiments. At the same time, Jade became more comfortable with giving her students more space for exploration and to intervene less to guide their activities. Moreover, while Jade previously used to ignore students’ answers if she thought the answers appeared to be “unrealistic,” “absurd,” or “unable to be implemented in a real context,” now she had developed a higher level of tolerance for divergent answers from her students and she refrained from neglecting or rejecting their “weird” or even “ridiculous” answers. For example, as she discussed with the SLP group (VGD-36), in an experiment on making ice, after students learned the principle that salt will decrease temperature, they began to question, “If salt can decrease temperature, is there any salt in the freezer?” or “If salt can decrease the temperature, why does Mom cook with salt? Will it take more time for the dish to be cooked well?” Instead of brushing these questions off as “ridiculous”, Jade responded with an exclamation, “What a fantastic question!” She iterated that the SLP student group had demonstrated many creative ideas on various occasions and she “had never seen such a high level of creativity ever before” during her 27-year career of science teaching.

In addition, Jade abolished her old group evaluation system in which individual differences were neglected and individual students who did learn were not identified. Since the SLP program stressed assisting individual students in constructing their own knowledge in a social process, Jade gradually developed a new assessment system that took both the group and individual performances into account. For example, in a group activity where students were asked to make fire, she asked each one of them to write down their own strategy and explanation for making a big fire in a quick way. These individual records, complemented by the group’s final performance, provided Jade with important information on how each student was learning in the social process of the group setting.

**Retrospection: Teacher Belief and Practice after the Project**

**Teacher Change**

A few months after the completion of the SLP, Jade retrospected on the impact of the project on her and her students. First, she realised that both her beliefs and practices in teaching had greatly changed. The most exciting change for her had been that she could “teach without being angry.” In her own words, “I never thought a teacher could teach..."
without yelling at the students and scolding them.” Before Jade had invented the “super powerful” point system to control group order, she had been like most school teachers in Taiwan, prone to anger at student misconduct, inattention or noise, and liable to resort to authoritative measures. After she had implemented the point system, the number of times for her to get angry in class decreased, but occasionally she still had to use the traditional way to maintain the class order. However, in the later period of the SLP implementation, she found that she did not have to resort to any such measure to push her students to learn. On the contrary, the students appeared to be very enthusiastic about the activities themselves. In addition to their obvious interest in learning itself, the newly established relationship between her and her students also facilitated a smooth and effective teaching and learning process in the classroom. Usually she only needed to softly remind them of some general guidelines or give them some hints, and the students would understand her and proceed with the learning.

Second, Jade perceived herself as more constructivist-oriented in her teaching:

I had thought that I was a constructivist, since I always gave students space to ask questions and do experiments. Now I realise I had intervened too much and given them too many suggestions. I used to be too easily satisfied by their answers if they fit in with the textbook version; now I demand them to search for more alternative and creative answers.

In the process of implementing the SLP, Jade considered that she gradually discovered the essence of constructivist principles to “… engage students in meaningful tasks in which their thinking is situated in physical and social context.”(Schunk, 1996) From this perspective, she was more willing to “let go”, thus allowing students to construct their knowledge in continuous social interaction with their peers during interesting and meaningful science activities.

**Student Change**

In addition to Jade’s own transformation, she was also amazed at how her students changed after participating in the project. She was “astonished” to see how her students became so “autonomous” in doing their own projects. They appeared to be much more responsible for their own learning; they would “… find their own topics, prepare the equipment, arrange the tasks to do, and look for their own solutions.” Due to the students greater autonomy, she felt so “relieved” this year compared with all the projects she had supervised in all the previous years. It seemed that her students were transformed into “… the real masters of their own learning”:

You know, every year when I advised my classes to do the science projects, they always depended on me—for everything—from the topics, to the equipment, and even the task assignment—they asked me for every detail. I was so exhausted. But this year, I just sat there, they seldom asked me for help. Even with one group which could not find a suitable topic, they did not come to me for help but discussed among themselves how to collect the necessary information to begin with.

Jade also found that her students were able to think from a greater range of dimensions and raised multiple questions related to the principles or rules which had been taught beforehand. Moreover, her students became more confident in risk-taking. They seemed to have developed a better sense of scientific inquiry and were more willing to face the challenge of the unknown. For example, “When faced with a question, they seemed to know where to start and they could ‘jump right into’ the experiment without much hesitation.”
DISCUSSION

Process of Teacher Change

According to the constructivist model of teacher change (Edwards, 1994a, 1994b; Shaw and Jakubowski, 1991; Sidani-Tabbaa and Davis, 1991), a cyclical model for teacher change can be seen as composed of the following stages: perturbation from dissatisfaction with the old practice, awareness of a need to change, commitment to change, vision of the new teacher role, realisation of the new vision by a role model, and finally emergence of cognitive and observable changes. Furthermore, with each disturbance the teacher encounters, he or she experiences the above cycle again from the first stage to the last. Throughout this process, teacher reflection is an essential integral element.

In our study, however, Jade went through a somewhat different process. At first, she was fairly contented with her old teaching practices without feeling disturbed. Instead of becoming aware of the problem by herself, she was “persuaded” by others to see the problems inherent in her practice. Rather than developing a self-motivated commitment to change, she was “driven” to change under the constraints of continuous monitoring and a sense of responsibility for the success of the project, both of which prevented her from going back and forth between her old and new practice. Without constructing a concrete vision for the new practice by herself or being provided with an exemplary new practice strategy, she was left struggling by herself in her class. Instead of actively seeking a strategy to achieve the ideal vision for teaching, she could do nothing but “endure” the situation “with her hands tied up.” Therefore, she was in a state of powerlessness for a long period of time. Rather than making a conscious effort to make cognitive and observable changes, Jade developed a new affective relationship with students in an imperceptible manner. Throughout the process, Jade was mostly focused on how to overcome the chaotic situation in her class, and seemed to have only little time and energy to reflect on how to improve her teaching. Only with her retrospection after the project was over did she fully appreciate the fruit of her painstaking changes in her own teaching and student performance.

Change in Student Motivation

Biggs (1995) classifies the ways in which teachers motivate students to learn into four types: extrinsic, social, achievement, and intrinsic motivations. Extrinsic motivation denotes that students learn for obtaining awards or avoiding punishment; social motivation means that students learn in order to please significant others including parents and teachers; achievement motivation refers to student learning in order to compete against other students; and finally, students may be motivated to learn by intrinsic interest and curiosity in the particular tasks or activities. Based on his research on Chinese teachers, Biggs found that Chinese teachers tended to use teaching strategies that stress the extrinsic, social and achievement motives to encourage students to learn. From the perspective of this theoretical framework, Jade’s process of change has illustrated how difficult it is for an experienced teacher in this socio-cultural context to give up the extrinsic reward system that worked so effectively. Furthermore, we see the process of how students were changed from motivation through an extrinsic reward system to social motivation based on a sincere student-teacher relationship. It is interesting to see that students can be socially motivated by their teacher to engage in activities that raise their intrinsic curiosity and interest in learning itself. Therefore, in this case, social and intrinsic motivation seemed to co-exist in the teaching and learning processes, in which social motivation serves as a basis for constructing a positive social learning environment while intrinsic motivation naturally arose from those engaging activities that were designed to induce their inner desire to learn.
Collective-oriented Instruction

Cheng & Wong (1996) and Cheng (1997, 1998) contend that collectivism, as an important component in traditional Chinese culture, has penetrated into many aspects of education, including the teaching practices in the classroom. Therefore, group control is frequently used by Chinese teachers to maintain class order so that they can exercise effective teaching. This group orientation also functions as a sanction mechanism for group members who do not comply, and provides a basis for comparison with others’ behaviour. Jade’s heavy reliance on group discussion and evaluation provided a good case in point. Moreover, her students seemed to be much more accustomed to this collectively-oriented instructional environment, from complying with the points system to obeying the group sanctions placed on those individuals who did not pay attention to instruction. In sum, collective orientation prevailed in Jade’s class.

Change of Teacher Attitude

Traditional Chinese teachers tended to use oral and corporal punishment to facilitate their teaching and classroom management (Wang and Lin, 1994). Therefore, to be authoritatively strict (xiōng) was not uncommon in Chinese classrooms. That was why, when Jade’s students found that she “never yelled at, scolded or beat” them and was very patient with them, they were touched enough to respond in turn with sincere concern for her, because she was “so different from other teachers.” On the other hand, for Jade, it was also a brand-new experience that she could finally “teach without being angry.” This was an unprecedented experience and previously had been a “mission impossible” for her, and maybe for many other teachers in Taiwan. However, in the SLP process, she had made it.

After Jade participated in the SLP project, she went through a difficult period of change over an extended time. Through undertaking this lonely journey, Jade has been able to see changes in her attitudes and practices. At the end of the SLP study, Jade considers that she has undergone a process of transformation and has become a “new-born person” who can now see through a new window to teaching and learning.

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