Teacher Professional Development Program: A Case Study on Appreciative Teacher Professional Development (ATPD) at Adventist Ekamai School (AES), Bangkok

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Abstract

This research aims to examine the applicability of Appreciative Inquiry (AI) and Whole Brain Literacy (WBL) concepts into designing an effective Teacher Professional Development/Transformation program. The study was conducted on Adventist Ekamai School (AES), a small private Christian school with the main objective to help AES develop/transform its teachers and increase their levels of Teacher Efficacy and Pedagogical Content Knowledge. An Action Research was employed in this study covering a combination of qualitative and quantitative methods was used for data collection, analysis, and interpretation. The subject of the study involved 36 teachers and 219 students at AES. The research findings indicated that, after ODI Implementation, AES teachers became more aware of the significance of Teacher Efficacy, Pedagogical Content Knowledge and Student Engagement towards their teaching role and various stakeholders of the school. They also voluntarily performed behavioral changes necessary for achieving the new set of shared goals that they collectively formulated during the ODI Implementation stage. In conclusion, the action research served as a tool that drives AES towards the first step towards transformational change. However, a long term commitment from the school management team would be vital in determining the success of this transformational process and goals achievement. Future studies may employ different activities such as ODI that are suitable in different contexts to test the applicability and extend the validity of the models developed from this study.

Key Words: teacher professional development, teacher efficacy, pedagogical content knowledge, student engagement**,** Appreciative Inquiry, Appreciative Teacher Professional Development

Introduction

It is currently the 'Era of Exponentialism' where rapid changes occur continuously over a very short period of time and are likely to continue its momentum at an incredible speed. The education industry is inevitably affected by rapid changes in socioeconomic environment.

To keep up with the changes, many countries have consequently undergone educational reform programs to ensure that all the citizens have equal access to high quality secondary education. The reforms also aim to provide students with knowledge and skills that are compatible with the current world's situation.

This research was a case study conducted on Adventist Ekamai School (AES) to facilitate the school to confidently undertake systematic change program, aiming to increase the level of teacher efficacy, pedagogical content knowledge, and student engagement within the school. The proposed change program did not only focus on the teacher who engaged directly in teaching but also involved other stakeholders of the school such as the school management team and the students. The purpose of involving everyone in the change program was to gain holistic perspective and consensus from them and to stimulate shared learning and help the school to develop knowledge and learn to change by itself after this study had finished.

Review of Literature

Teacher Professional Development refers to "the process and activities designed to enhance the professional knowledge, skills and attitudes of educators so that they might, in turn, improve the learning of students" Guskey, (2000, pg. 6). It is a systematic attempt to bring about changes in the classroom, the beliefs and attitudes of teachers and the learning outcome of students (Guskey, 1986).

Craig, Kraft & du Plessis (1998) outlined the following characteristics of an effective TPD program as a thorough and participatory assessment of teachers' needs; an effective TPD program must be designed in alignment with an overall strategic vision and framework for continuous implementation ;the planning and implementation of TPD should involve all the stakeholders of the school where possible ;the objective of TPD program should be to promote pedagogy and content knowledge of teacher rather than focusing on one or the other; and there should be a commitment from school leader to continuously implement and improve TPD through provision of guidance, monitoring and feedback

Teacher efficacy can be best described as "the teacher's judgment of his/her capability to bring about student engagement and learning, even among students who are difficult or unmotivated" (Tschannen-Moran & Hoy, 2001, p. 1

Previous literature has outlined the characteristics of teacher with high efficacy to include: develop greater persistence and resilience when facing difficult teaching situations (Ashton & Webb, 1986); are more enthusiastic about teaching (Guskey, 1984); likely to spend time on planning and organizing teaching (Allinder, 1994); less likely to criticize students when errors are made (Gibson & Dembo, 1984); less inclined to refer difficult students to special education (Soodak & Podell, 1993); willing to experiment new teaching methods that better meet the needs of students and welcome new ideas (Guskey, 1988); and exercise positive teaching behaviour, resulting in strong student achievement because students learn better from teachers with high self-efficacy (Gavora, 2010)

Pedagogical Content Knowledge (PCK) refers to a mixture of knowledge about the content and pedagogy that helps teachers to conduct their teaching of specific subject content more effectively. PCK is a mixture of Content Knowledge (CK) and Pedagogical Knowledge (PK) and hence the level of CK and PK both influence the level of PCK itself. The dimensions of PCK under this framework comprise of:

Knowledge of the learners/students' understanding. Teachers with deep level of PCK are capable of assessing and understanding the level of knowledge of students on the topic and identifying subject areas that students find difficult to learn.

Knowledge of the curriculum. Teachers should have a good understanding about how the topic taught relates and contributes to the curriculum of the subject area as a whole. In doing so, they would be able to teach students in the way that enables them to achieve such objective more effectively.

Knowledge of Instructional Strategies. Magnusson et al., (1999) explained that knowledge of instructional strategies consists of two categories of sub-strategies namely subject-specific and topic-specific. Subject-specific strategies refer to the common instructional approaches to achieve teaching objectives of a particular subject area. Topic-specific strategies are more specific to the teaching of particular topics of particular subject area.

Knowledge of how to assess the student's learning of subject matter. According to Shulman, (1987), teachers with high level of PCK are more capable of presenting the subject content using various methods that makes it easy for learners to understand. This can be supported by an empirical study conducted by Kopish (2011) and AP psychology teachers which found that student achievement increased where teachers utilized a variety of approaches and methods in giving instruction and representing content to students.

Accordingly, the students were reportedly engaged in the content-specific activities during class.

Student Engagement refers to "the quality of effort students themselves devote to educationally purposeful activities that contribute directly to desired outcomes" (Hu & Kuh, 2001, p.3). According to Astin (1993) student engagement can best predict learning and ultimately the personal development of a student. It also serves to predict whether the student will succeed in the academics, either one would graduate or dropout.

Appleton, Christenson & Furlong (2006) proposed a framework to suggest that Student Engagement can be shaped by the context surrounding the student including their parents, peers and the school environment. Once the context supports the creation of positive Student Engagement, positive outcomes from various dimensions of Student Engagement can be achieved and vice versa.

This framework also explains that Student Engagement can create outcomes that can be classified into academic outcomes, social outcomes and emotional outcomes. When the three outcomes are positive, it can serve as determinant of personal development for students in both academic and social aspects. Academic outcome includes grades, performance on class tests, and ultimately graduation. Social outcomes include social awareness and relationship skills with peers and adults. Emotional outcomes include self awareness of feelings, emotional regulation, as well as conflict resolution skills.

Whole Brain Literary (WBL)

The Whole Brain Literacy (WBL) enables individuals to adapt quickly to today's fast changing environment. The Whole Brain Literacy developed by Tayko & Reyes-Talmo, (2010) is based on the original work of Lynch (1984) on the brain model on human information processing skills (HIPS). WBL takes a step further by explaining that every individual should be able to connect all four quadrants of their brains (i.e. the different thinking styles) together and align them with their own personal goals and objectives. In doing this, each individual learns to manage one's feelings and thoughts more effectively while leveraging thinking styles and processing them as they are confronted with challenging, complex, and changing situations and opportunities

The Whole Brain Literacy as an iteration process for different thinking styles enables the persons to recognize the positive cause and effect (Tayko, 2011). The iteration of the WBL process has its framework from Lynch's brain model brain functioning model, which include I-Explore –orientation towards discovery and exploration; I-Pursue - orientation towards results and achievement; I-Control - orientation towards stability and certainty; and I-Preserve- orientation towards relationships and harmony

The process of iteration enable one to connect between the four thinking styles of brain functioning as one perceives and is aware of the reality while managing one's processing skills and attending to one's feelings, decisions ,and actions .

Appreciative Inquiry (AI)

Appreciative Inquiry (AI) is a change management process which focuses solely on positive aspects of an organization (Whitney & Cooperrider, 1998). As opposed to aiming to solve the problems, this approach seeks to build on the current strengths, opportunities and aspirations of an organization. Appreciative Inquiry (AI) represents a paradigm shift in the field of Organization Development (OD) from the traditional problem-solving based approach towards the utilization of positive aspects that people already possess in order to achieve higher performance or result. The concept of AI was introduced by David Cooperrider and Suresh Srivastva and is based upon the Constructionist, Simultaneity, Poetic, Anticipatory and Positive principles (Cooperrider, Whitney & Stavros, 2008).

An AI process typically encompasses the four stages known as the 4-D Cycle including D1: Discovery, D2: Dream, D3: Design and D4: Destiny. The Discovery Stage involves the asking of appreciative questions to seek for the 'high points' of the participants in the organization. The Dream Stage involves identification of the future direction/expectation that the participants anticipate to occur. The Design Stage involves the formation of strategy and action plan required to achieve the dream, identification of required resources to achieve the dream, and the Destiny Stage involves the implementation of action plan in the previous stage into action to achieve the dream

In practice, AI implementation involves the reframing what is going wrong into what is going right and then trying to leverage what is going right into new, higher level visions of a positive future. The AI concept has been applied to individuals, families, organizations and countries (Rogers & Fraser, 2003). AI has also been applied in change management (Bushe, 1998) and organizational development (Mantel & Ludema, 2000).

Bushe (2007) further proposed that successful AI implementation should involve a continuous change in organizational culture rather than merely involving people in the collective-problem solving activities, which do not necessarily change the culture. In this case, transformational changes are unlikely to be created.

Appreciative Teacher Professional Development

According to the literature, the design of TPD activities is flexible and can change to suit the appropriate context and needs. Hence, it would be interesting to examine the

positive effect that WBL and AI tools can provide to teachers and students when applied as part of the TPD program.

In this study, four ATPD activities are: Theoretical Knowledge Sharing, Appreciative Inquiry (AI) Training, Whole Brain Literacy (WBL) Training and Effective Communication Session. They were applied as the OD Interventions (ODI) in this action research work.

Therefore, the term Appreciative Teacher Professional Development can be defined as "a continuing process or set of activities designed to transform teachers in order to improve their knowledge and learning experience of students, based on Appreciative Inquiry and Whole Brain Literary concepts".

Within the specific context of AES, the concepts are operationalized as follows:

Pedagogical content knowledge: the knowledge of AES teachers about the readiness of different types of learners, how to apply a variety of teaching methods and assessment, s and how each topic taught contributes to the curriculum as a whole

Teacher Efficacy: the level of confidence of AES teachers in experimenting/applying new teaching methods, handling difficult/misbehaved students, and promoting students to value learning

Student Engagement: the quality of effort that AES students put into school activities. This reflects the level of their basic effort and persistence inside and outside the classroom, affection to the school , and their willingness to voluntarily exert extra effort into school activities that go beyond requests from the school

Appreciative Inquiry: a change management process which focuses on the peak experiences of AES teachers and positive aspects of the school which enables them to formulate shared goals

Whole Brain Literacy: a thinking process that enables AES teachers to utilize the 4 quadrants of their brain to collectively develop an action plan to achieve the shared goals formulated from Appreciative Inquiry

Appreciative Teacher Professional Development: a continuing process or set of activities designed to transform teachers in order to improve their knowledge and learning experience of students, based on Appreciative Inquiry and Whole Brain Literary concepts

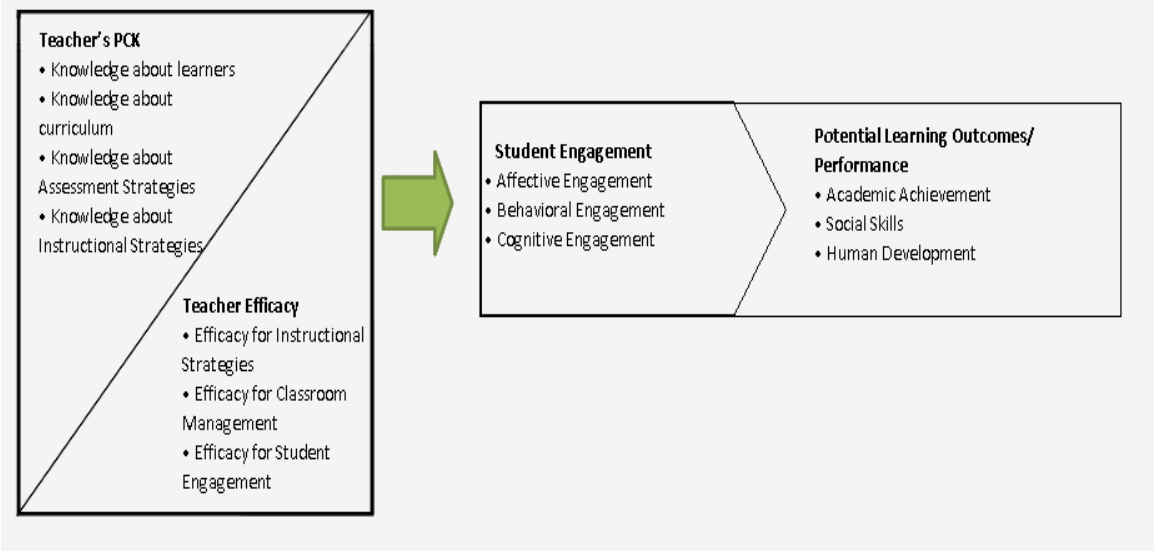

Figure 1. Theoretical Framework

Although previous literature has considered Teacher's Pedagogical Knowledge and Teacher Efficacy to be two different constructs, it can be argued that there is some interrelationship between the two variables in practice. This is because teachers with higher level of Pedagogical Content Knowledge (PCK) would know well about the subject content and learner's readiness. They would subsequently be able to apply appropriate instructional and assessment strategies that maximize learning experience of the learners. By doing this, the teachers become more confident in handling the teaching tasks. Meanwhile, teachers with a high level of efficacy would be willing to utilize and experiment with a variety of instruction and assessment strategies. In doing so, they would have directly/indirectly developed Pedagogical Content Knowledge. Either way, teachers with high levels of PCK and Teacher Efficacy should be able to enhance the learning experience of students and this can consequently lead to higher levels of Student Engagement which can potentially create various favorable outcomes for the students such as academic achievement, social skills and overall development of a person.

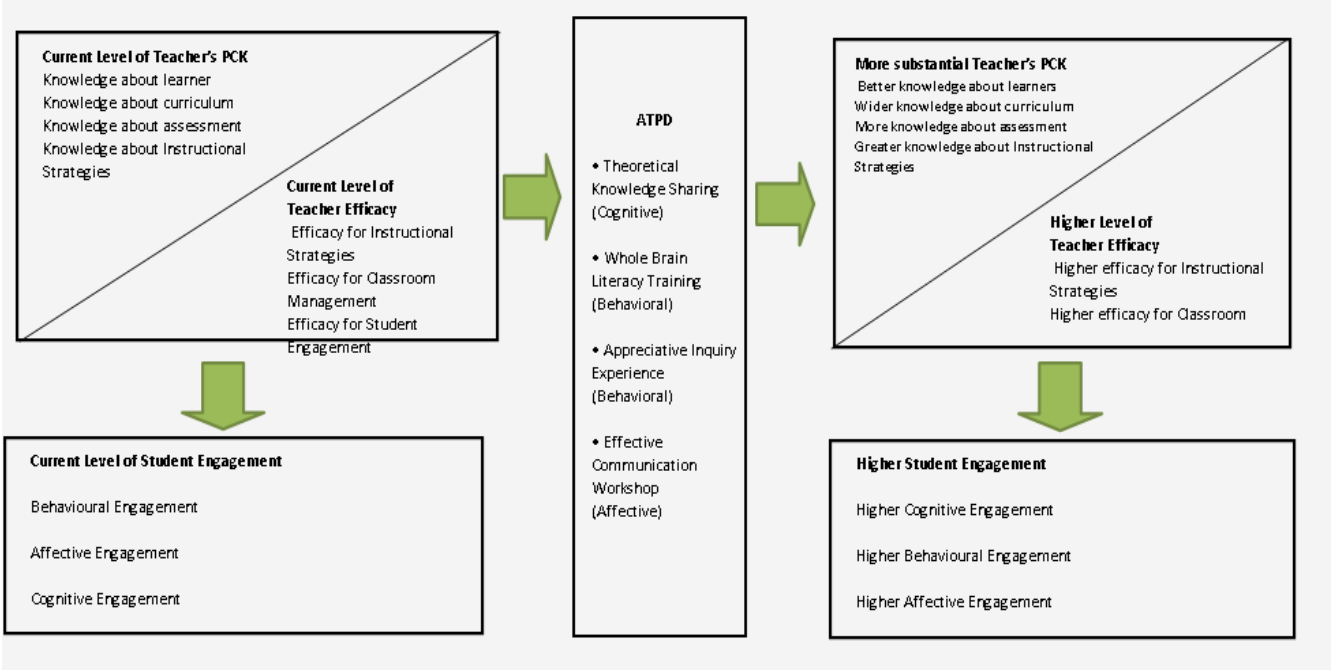

Figure 2. Action Research Framework

Research Questions

1. What are the current levels of Pedagogical Content Knowledge, Teacher Efficacy and Student Engagement at AES?

2. To what extent can Appreciative Teacher Professional Development program contribute toward the improvement of pedagogical content knowledge, teacher efficacy and student engagement at AES?

3. How successful can Appreciative Teacher Professional Development be applied to designing an effective Teacher Professional Development?

Research Hypotheses

Hypothesis 1

H0: Appreciative Inquiry tools cannot be used for designing an effective Teacher Professional Development for AES

Ha: Appreciative Inquiry tools can be used for designing an effective Teacher Professional Development for AES

Hypothesis 2

H0: Appreciative Teacher Professional Development program is not an effective vehicle for improving the level of pedagogical content knowledge, teacher efficacy and student engagement at AES

Ha: Appreciative Teacher Professional Development program is an effective vehicle for improving the level of pedagogical content knowledge, teacher efficacy and student engagement at AES

Research Method

This research employed a mixed method using quantitative and qualitative approaches in collecting and analyzing data. In the pre-ODI stage, the translated PCK scale (originally developed by Schmidt, Barab & Thompson, Mishra, Koehler & Shin 2009) was used in conjunction with interview questions modified from the PCK scale to assess the level of Teacher Pedagogical Knowledge at AES before ODI. The translated version of OSTES scale (originally developed by Tschannen-Moran & Hoy, 2001), adapted interview questions from the OSTES, and observations were used to assess the current level of Teacher Efficacy. Finally, a modified version of the Student Engagement in School Questionnaire (SESQ) scale (originally developed by Hart, Stewart & Jimerson (2011), adapted interview questions from the SESQ and observations were used to assess the current level of Student Engagement .

During the OD intervention implementation stage, the participants were provided with the Training Evaluation Form to evaluate the effectiveness of the ATPD, reflect on their learning from the activities, and obtain additional opinion about each activity in the ODI.

In the post-ODI stage, the various scales, interview questions and observation guides used during the Pre-ODI phase were applied again to assess the level of Teacher's PCK, Teacher Efficacy and Student Engagement after ODI. A set of questions for evaluating the effectiveness of Appreciative TPD program, adapted from the original version developed by Clair (2011) was used for answering a research question and hypothesis regarding the effectiveness of Appreciative TPD during the OD Intervention.

Research Instruments

In answering the research questions and testing of research hypotheses, both qualitative and quantitative methods were applied in data collection process for data triangulation purposes and ensure the credibility and validity of data.

Requests for permissions to use the questionnaires from original authors were sought prior to the modification and translation of the questionnaires. Furthermore, since the majority of the respondents and interviewees were Thai nationals, the various scales and questions used in this study were further translated into the Thai language. A peer and expert review were also conducted to ensure there is no misinterpretation in meanings of the items.

All the questionnaires were pre-tested with 29 teachers and 43 students at Srivikorn School prior to the actual data collection process at AES. The purpose of pre-testing was to ensure that every questionnaire used in the research possess reliability and suits the specific context of the study. Reliability refers to the ability of the level of consistency of the measurement tool and its ability to measure stability of results over time (Aaker, Kumar & Day, 2007). To test for the reliability of the items in the questionnaires, Conbrach's alpha tests were conducted on the translated version of the PCK scale, OSTES and SESQ. The Cronbach's alpha test results obtained for the OSTES (0.907), PCK scale (0.824) and SESQ (0.823) were all higher than 0.75 which suggested that the reliability of each questionnaire was considered to be relatively high, according to Coolican (2004). The peer and expert review were also conducted for testing validity and validity of open-end questions.

Participants of the Study

At the time this research was conducted, there were 45 teachers and 405 students at AES. Amongst the 45 teachers, 36 teachers (80% of total teachers) were directly involved in teaching activities on daily basis, therefore, collection of quantitative data was conducted based on this group of teachers. The working population consisted of four male and 25 female Thai teachers and three male and four teachers from the Philippines.

For students, the quantitative data was collected from a total of 219 students who represented all 12 class levels (31 students from Prathom 1-Prathom 2 and 188 students from Prathom 3-Mathayom 6) in the school. The working population of 219 students consisted of approximately 18 students per grade level as the aim was to have an equal number of representatives of students from each grade level in this research.

For qualitative data collection, observations were conducted on a total of 15 classes which represented a mixture of different subjects and grade levels (at least one class for each grade level was observed). Due to the policy of the school, details about the grade level and subject observed could not be disclosed.

Semi-structured interviews were conducted with 20 teachers consisting of four male Thai, three male Filipino, nine Thai female and four female Filipino teachers. For

students, a total of 96 students were interviewed in groups, consisting of four male and four female students from 12 different grade levels.

Findings

Research Question1: What is the current level of Pedagogical Content Knowledge, Teacher Efficacy and Student Engagement at AES?

Research Question 2: To what extent can Appreciative Teacher Professional Development program contribute towards improvement of Pedagogical Content Knowledge, Teacher Efficacy and Student Engagement at AES?

Hypothesis 2

H0: Appreciative Teacher Professional Development program is not an effective vehicle for improving the level of Pedagogical Content Knowledge, Teacher Efficacy and Student Engagement at AES

Ha: Appreciative Teacher Professional Development program is an effective vehicle for improving the level of Pedagogical Content Knowledge, Teacher Efficacy and Student Engagement at AES

Table 1
Pedagogical Content Knowledge: Quantitative Data Comparison

Dimension	Pre ODI	Post ODI	P-Value
Knowledge about Instructional Strategies	4.0694	4.222	0.285
Knowledge about Learners	4.1319	4.3194	0.147
Knowledge about Curriculum	4.3611	4.4583	0.417
Knowledge about Assessment Strategies	4.25	4.3889	0.244

Table 1 illustrates the T-test results of the mean scores of all the three dimensions of Pedagogical Content Knowledge constructs including Knowledge about Instructional Strategies, Knowledge about Learners, Knowledge about Curriculum, and Knowledge about Assessment Strategies during Pre and Post ODI Implementation. The mean scores of post-ODI (4.222, 4.3194, 4.4583, and 4.3889) are all higher than pre-ODI (4.0694, 4.1319, 4.3611, and 4.25). However, the p-values were all greater than 0.05 (0.285, 0.147, 0.417, 0.244). Accordingly, it can be concluded that the post mean scores for Pedagogical Content Knowledge are higher than pre mean scores but not statistically significant.

The t-test results also show an improvement in all 4 sub-dimensions after ODI implementation. However, the improvement in Pedagogical Content Knowledge (PCK) was not statistically significant. This could be due to the fact that PCK contained both elements of tacit and explicit knowledge. Since tacit knowledge is personalized, it cannot be easily transferred and is acquired through experience, which usually takes time to be developed.

According to Kolb's Experiential Learning Cycle Theory (Kolb, 1984), different people place different emphasis on each of the four learning cycles (Concrete Experience, Reflective Observation, Abstract Conceptualization and Active Experiment). The different type of learners could explain why only 10 out of 20 interviewed AES teachers admitted that they experimented the new teaching methods to teaching their students.

In addition, the fact that data collection after ODI implementation was conducted very soon after the ODI implementation had finished could also explain why tacit knowledge elements of PCK did not significantly improve because some teachers might

not have had the opportunity to apply the new knowledge gained into teaching their students.

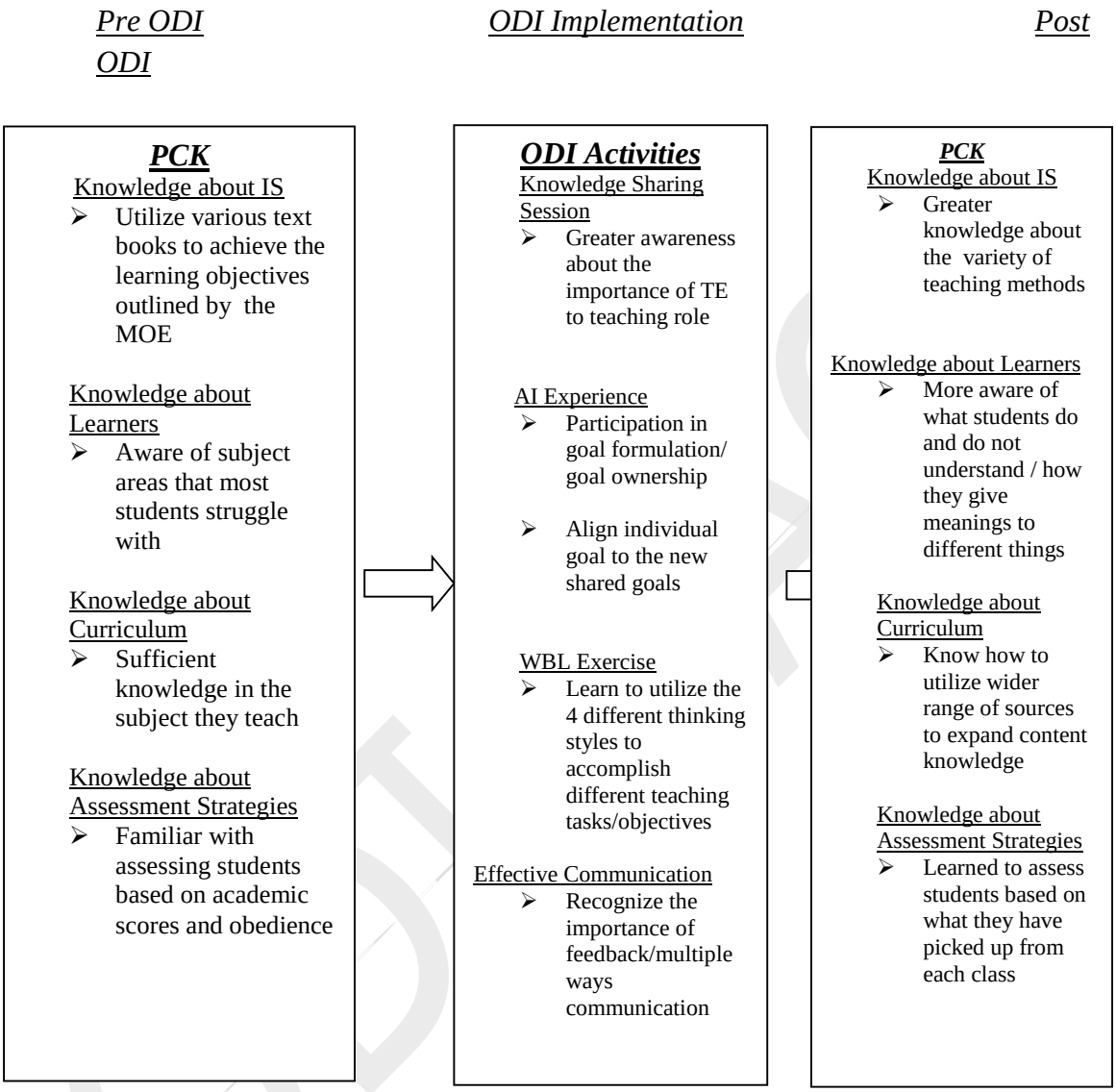

Figure 3. Pedagogical Content Knowledge: Qualitative Data Comparison

The qualitative results indicate that after ODI implementation, AES teachers had acquired and developed greater knowledge in all four aspects of Pedagogical Content Knowledge including knowledge about Instructional and Assessment Strategies, Learners and Curriculum.

For example, some of the teachers acquired new knowledge about teaching methods during the ODI implementation and voluntarily applied the mind-mapping/game playing activities into teaching their students. They had also learned to slow down teaching in class

to ensure students understand better and assessed students based on what they had actually learned from each class. In addition, they started to voluntarily expand their content knowledge by arranging sessions for sharing academic knowledge amongst teachers and attending academic forum.

Table 2.
Teacher Efficacy: Quantitative Data Comparison

Dimension	Pre ODI	Post ODI	P-Values
Efficacy for Instructional Strategies	3.941	4.2604	0.019
Efficacy for Classroom Management	3.9479	4.3194	0.018
Efficacy for Student Management	3.8715	4.191	0.010

Table 2 illustrates the T-test results of mean scores of all three dimensions of Teacher Efficacy construct including Efficacy for Instructional Strategies, Efficacy for Classroom Management, and Efficacy for Student Engagement during Pre and Post ODI Implementation. The scores of post-ODI (4.2604, 4.3194, and 4.191) are all higher than pre-ODI (3.941, 3.9479, and 3.8715). The p-values were all less than 0.05 (0.019, 0.018, 0.010) implying that the post mean scores for Teacher Efficacy Construct are significantly higher than pre mean scores.

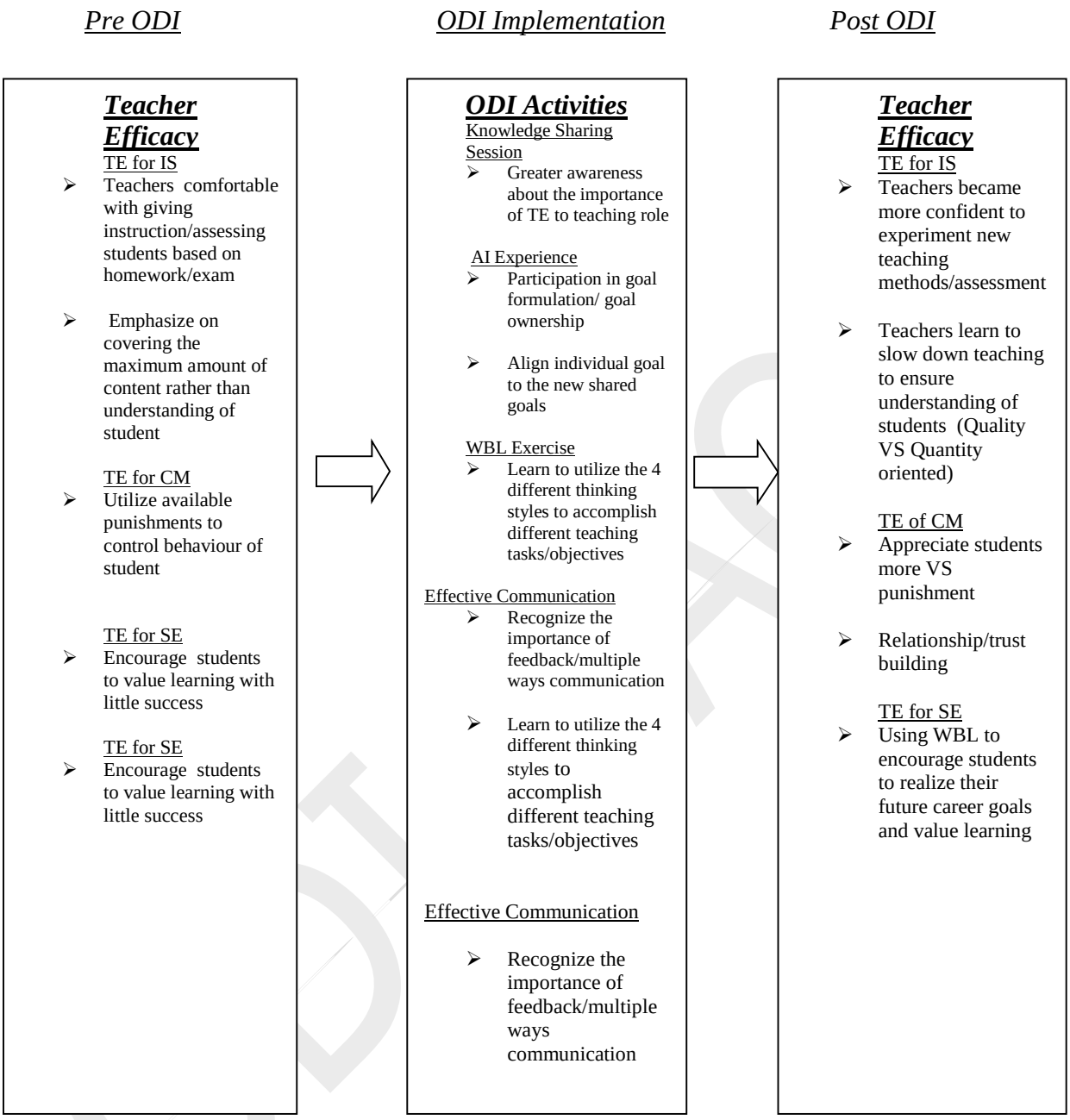

Figure 4. Teacher Efficacy: Qualitative Data Comparison

The qualitative results showed that after ODI implementation, AES teachers had learned to increase the variety of teaching and assessment methods. They had also become more empathic to their students and learned to apply positive approach for classroom management.

For instance, the teachers became more confident in applying the mind-mapping/game playing activities to teach their students after ODI implementation. They had also learned to control their emotions better and to appreciate difficult/misbehaved

students rather than punishing them. Furthermore, they had learned to apply the Whole Brain Literacy to help students realizing their future career goals and consequently value learning.

Student Engagement: Quantitative Data Comparison

Table 3.
Prathom 1 & 2

Dimension	Pre ODI	Post ODI
Behavioral Engagement	4.29	4.419
Affective Engagement	4.484	4.710
Cognitive Engagement	4.419	4.484

The mean scores for Student Engagement indicate improvement in all three dimensions of the construct.

Table 4.
Prathom 3- Matthayom 6

Behavioral Engagement	Pre ODI	Post ODI	T-Test
Effort & Persistence	3.2134	3.3286	0.015
Extracurricular Activities	3.4772	3.6375	0.004
Affective Engagement	**Pre ODI**	**Post ODI**	**T-Test**
Affective Liking for Learning	3.2905	3.6410	0.000

Affective Liking for School	3.2181	3.3965	0.000
Cognitive Engagement	**Pre ODI**	**Post ODI**	**T-Test**
Cognitive Engagement	3.487	3.7015	0.000

Tables 3 and 4 illustrate the T-test results of mean scores of all three dimensions of Student Engagement construct including Behavioral Engagement, Affective Engagement and Cognitive Engagement during Pre and Post ODI Implementation. The scores of post-ODI are all higher than pre-ODI. The p-values were all less than 0.05. The post mean scores for Student Engagement Construct are significantly higher than pre ODI mean scores.

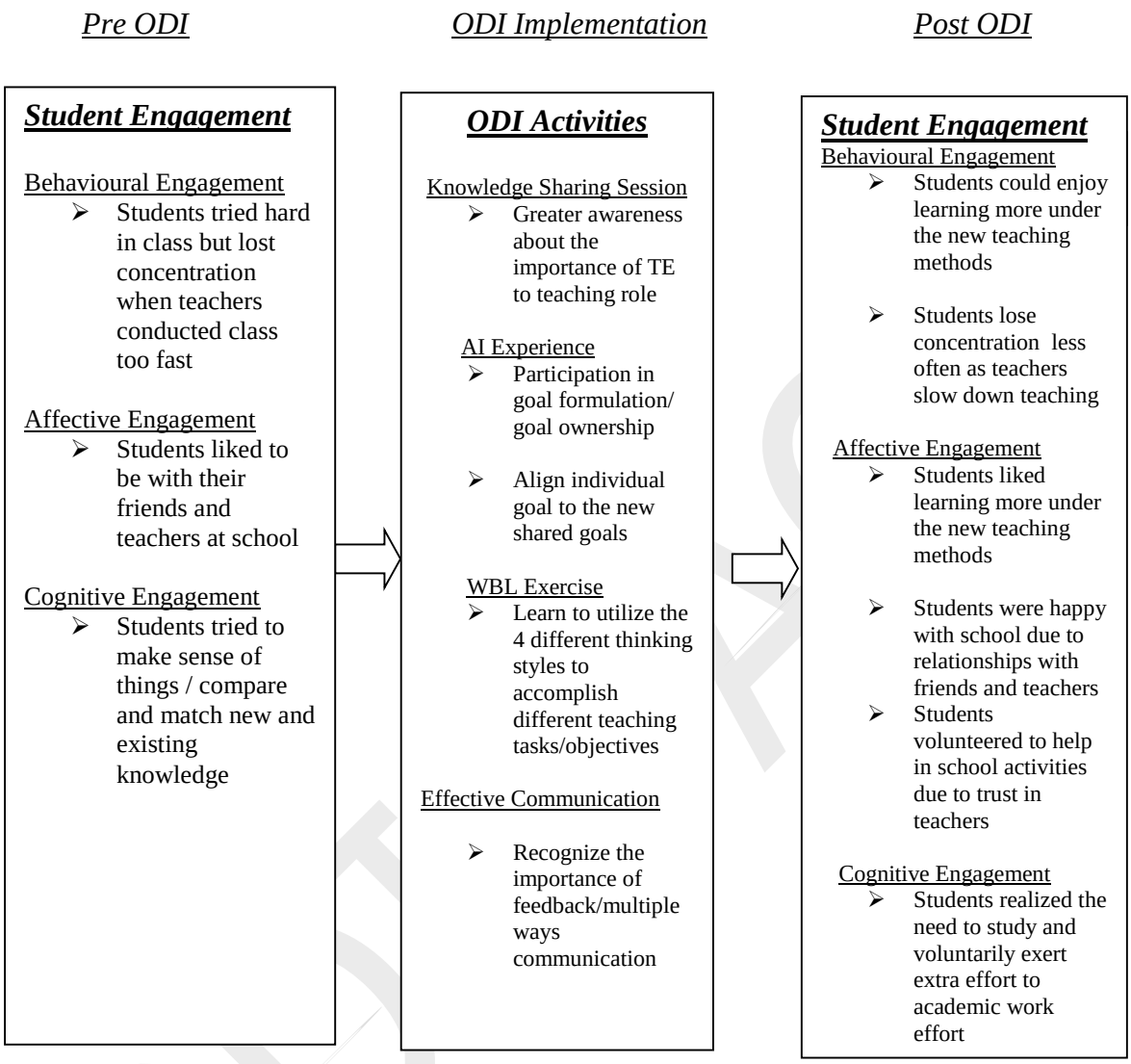

Figure 5. Student Engagement: Qualitative Data Comparison

The qualitative results showed that after ODI implementation, the students became more engaged behaviorally, affectively and cognitively with school activities. This was because the teachers had applied new teaching and assessment methods, slowed down teaching, helped the students to realize their future career goals, and recognize the value of learning.

Interview comments from AES students after ODI implementation revealed that they developed more trust and respect to the teachers who appreciate them rather than punishing. They could also enjoy learning better under the new teaching methods such as mind-mapping and game playing and became more confident in expressing their opinion in front of the class. They also enjoyed the Whole Brain Literacy session because it enabled

to realize their future career goals and recognized what subject area they need to improve upon.

In conclusion, the quantitative and qualitative data correspond with each other to indicate the improvement in all three variables, namely: Teacher Efficacy, Teacher's Pedagogical Content Knowledge, and Student Engagement after ODI implementation.

The t-test results, however, did not indicate a statistically significant increase in the levels of the Pedagogical Content Knowledge (PCK). This could possibly be explained by the different learning styles of the teachers as well as the limited time to develop tacit knowledge after the ODI implementation.

Accordingly, the null hypothesis is rejected, the alternative hypothesis is accepted and conclude that Appreciative Teacher Professional Development Program is an effective vehicle to improve the level of Pedagogical Content Knowledge, Teacher Efficacy and Student Engagement at AES.

Research Question 3: How successful can Appreciative Teacher Professional Development (ATPD) be applied to designing an effective Teacher Professional Development program?

Hypothesis 1

H0: Appreciative Inquiry tools cannot be used for designing an effective Teacher Professional Development for AES

Ha: Appreciative Inquiry tools can be used for designing an effective Teacher Professional Development for AES

Table 5.
Average mean for each ATPD activity

Activity	Average Mean
AI Experience	4.2683
WBL Session	4.3192
Effective Communication	4.6064

The quantitative results collected using training evaluation questionnaires indicated that, on average, the participants agreed that all three activities in the Appreciative Teacher Professional Development Program (ATDP) program were interesting, related to their

teaching role, as well as the helped to motivate and increase their confidence to perform their roles in the school. The qualitative results collected using the interview questions also suggest that all three activities satisfied the criteria of effective Teacher Professional Development as outlined by Craig et al., (1998) which included relevance to the needs of teachers, alignment with the overall strategic goals of the school, involving multiple (if possible all) stakeholders, and continuous commitment from the school leaders for successful implementation.

Accordingly, the null hypothesis was rejected and it could be concluded that Appreciative Inquiry tools can be used to design an effective Teacher Professional Development for AES.

Conclusions

The comparison of quantitative and qualitative results, before and after ODI implementation, indicates an improvement in all three variables. The t-test results showed that the levels of Teacher Efficacy and Student Engagement significantly increased and after ODI implementation.

Nonetheless, the t-test results also showed that the level of Teacher's Pedagogical Content Knowledge of AES teachers improved but not to the level that was statistically significant. This may be due to the difference in learning style of different people according to Kolb, (1984), as well as the timing of data collection after ODI implementation which could have limited the ability of AES teachers to develop various aspects of PCK knowledge which are considered mostly to be tacit knowledge.

The qualitative data also reflects that the teachers voluntarily performed behavioral changes in order to achieve the new set of goals of the school that they partially formulated. These actions taken directly and indirectly became sources of Teacher Efficacy, Pedagogical Content Knowledge and Student Engagement and helped to increase the level of all three variables accordingly.

All of the participants agreed that they found all the activities included in the Appreciative Teacher Professional Development Program to be effective for designing the Teacher Professional Development program and would like to be involved in the activities again but perhaps under different topics or different activities.

To conclude, the above feedback on ATPD satisfied the characteristics of effective Teacher Professional Development as outlined by Craig et al., (1998) that include relevance to the needs of teachers, alignment with the overall strategic goals of the school, involving multiple stakeholders and continuous commitment from school leaders for successful implementation.

Recommendations

Recommendation for the School

First of all, the School Management should be committed to continuously promote the achievement of the new shared goals formulated from the AI activity experience and translate the goals into the school policies because lack of commitment is one of the major barriers to successful Teacher Professional Development program (Darling-Hammond & McLaughlin, 1995). In translating those goals into an action plan or policy of the school, it could serve as an evidence of the management team's commitment and send a message to the teachers that their opinions have been recognized and valued.

Secondly, the School Management should continue to focus on raising the levels of Teacher's Pedagogical Content Knowledge and Teacher Efficacy by using the proposed frameworks for increasing both variables. Despite no/weak positive relationships were found between Teacher's Pedagogical Content Knowledge, Teacher Efficacy and Student Engagement, respectively. The correlation analysis indicates an improvement in the relationship after ODI implementation of both variables with Student Engagement, suggesting that Appreciative Teacher Professional Development Program could have some positive impact on Student Engagement. Adventist Ekamai School should therefore encourage their teachers to continuously acquire new knowledge, receive various types of training, and learn to communicate effectively with all stakeholders of the school in order to improve the Teacher's Pedagogical Content Knowledge and Teacher Efficacy.

Furthermore, Adventist Ekamai School should focus on developing the school around Student Engagement by continuing to use the proposed framework to increase Student Engagement which will be a competitive advantage of the school. Accordingly, Adventist Ekamai School can position itself as a Christian school with teachers who possess a high quality of content and pedagogical knowledge. Classes would be conducted with a variety of teaching methods and students would be more engaged and enjoy their classes.

Recommendation for Further Study

Firstly, the validity of results from this study is restricted to the specific context of Adventist Ekamai School. Therefore, future research should conduct the same study on other secondary schools in Thailand or other countries in order to further validate the results of the study.

In addition, future research could expand the range of activities performed in the ATPD to meet the different needs of teachers in other contexts. This would also help to increase its applicability of Appreciative Teacher Professional Development.

Also, future research could arrange for students to assess the levels of Teacher Efficacy and Teacher's Pedagogical Content Knowledge of their teachers and vice versa, in conjunction with self-assessment. This could help to minimize the effect of response bias that could arise from self-assessment. Response bias occurs when the respondents intentionally distort their answers for various reasons (Aaker, Kumar & Day, 2007).

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