The level of use of innovation by individual teachers at SLTP Perjuangan, SLTP Pembangunan 1 and SLTP Development 2 in Minahasa Regency

by Jeffry S. J. Lengkong

The level of use of innovation by individual teachers at SLTP Perjuangan, SLTP Pembangunan 1 and SLTP Development 2 in Minahasa Regency

Jeffry Sony Junus Lengkong
(Jeffrylengkong@unima.ac.id)

Harol Refly Lumapow
(Harolrlumapow@unima.ac.id)

Jolanda AM Rawis
(joulanda_rawis@unima.ac.id)

Richard DH Pangkey
(richardpangkey@unima.ac.id)

Brianne EJ Komedien
(brianne.komedien@unima.ac.id)

Viktory Nicodemus Joufree Rotty
(viktoryrotty@unima.ac.id)

Postgraduate Program of Education Management, Manado State University

ABSTRACT

This study aims to describe and explain: (1) the internal improvement process for individual teachers referred to at the stage of individual teacher awareness about innovation at the Struggle SLTP, Development SLTP 1 (one) and Development SLTP 2 (two) in Minahasa Regency, and (2) the impact of the internal improvement process. individual teachers on improving school performance which is referred to the level of use of innovation by individual teachers at the Struggle Junior High School, Development Junior High School 1 (one) and Development Junior High School 2 (two) in Minahasa Regency. First, the internal improvement process for individual teachers that took place at the First Level Advanced School (SLTP) of Perjuangan, SLTP Pembangunan 1 and SLTP Development 2 included four things, namely: (1) the teacher improvement process grew and developed gradually based on the intensity of the stages of concern about innovation,

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INTRODUCTION

School improvement (school improvement) is a generic term. Therefore, the word school improvement can be viewed as a multidimensional concept, as an intervention and as a process (Lezzote, in Banks & Banks, 1993) and can be viewed from an organizational and individual perspective. Hersey and Blanchard (1982) mapped the improvement of schools (organizations) in two related concepts, namely: (1) the continuum of successful and unsuccessful schools, and (2) schools that succeeded in giving birth to a continuum of effective and ineffective schools.

Hopkins and Wideen (1984) state that school improvement refers to development efforts that are focused on in-service, teacher professional development, implementation of educational innovation, school-based curriculum development, organizational development, the role of administrators, teachers and students in utilizing their knowledge.

Oliva (1984) mapped the concept of school improvement in the domains of curriculum improvement, teaching improvement and teacher (staff) improvement. Meanwhile, Hopkins as quoted by Joyce (1990) states that school improvement is related to changes in school internal conditions that affect student achievement.

In the version of the International School Improvement Project (ISIP), sponsored by the Organization for Economic and Cultural Development (OECD), the notion of school improvement can be formulated as follows:

"a systematic, sustained effort at change in learning conditions and other related internal conditions in one or more schools, with the ultimate aim of accomplishing educational goals more effectively (Reynolds, Hopkins & Stoll, 1993:41)".

The definition of school improvement according to the ISIP version has three essential aspects, namely: (1) school improvement is a systematic and continuous effort, (2) school improvement is aimed at improving learning conditions and other internal conditions related in the school. one or more schools, and (3) the ultimate goal of school improvement is to achieve educational goals more effectively.

The concept of school improvement is often also associated with 'what' will be improved. For example, Elmore (1990) as quoted by Joyce (1991) sees that school improvement can be referred to one of the following aspects: (1) technical, namely curriculum and learning improvement; (2) political/social, namely improving the client's relationship with the school; (3) the structure of the work of teachers, namely creating a collegial workplace or involving teachers in the education decision-making process in schools. Furthermore, Joyce (1991) introduced what he conceptualized as 'doors' for school improvement: (1) collegiality, namely the development of teacher

cohesiveness and professionalism as a capacity that every teacher must possess; (2) research, namely helping teachers learn research findings about effective school practices and effective learning alternatives that can be utilized in carrying out teaching assignments; (3) specific background information, which helps teachers collect or analyze data on student progress and school progress which is very useful as feedback and evaluation of teachers' teaching performance; (4) curriculum initiatives, namely introducing changes into subjects; (5) learning initiatives,

Table 2.1 Characteristics of School Improvement[1]

	1960s	1980s
• **Orientation**	From top to bottom	From bottom to top
• **Knowledge base**	Elite knowledge	Practional knowledge
• **Target**	Organization based	Process based or curriculum
• **Results**	Student results oriented	School process oriented
• **Objective**	Result as mana	Result as a given is problematic
• **Focus**	School	Teacher
• **Assessment methodology**	Quantitative	Qualitative
• **place (site)**.	Outside school	Inside school
• **Focus**	Parts of the school	School as a whole

(Reynolds, Hopkins & Stoll, 1993:40)

In the Indonesian context, the description of the tendency for school improvement in the 1980s above, has in reality been initiated with the desire to decentralize school management (eg school-based management), focusing on improving the teaching and learning process, the scope of school improvement as a whole and more pay attention to teachers in the classroom, especially in terms of improving their knowledge, skills and teaching behavior. With these improvements, a teacher capacity will be built that can be utilized to further trigger changes in students, so that from time to time the student achievement index will improve.

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3. School Improvement Approach

To find out to what extent the level of school improvement can be analyzed using the three approaches proposed by Robbins (1983). These three approaches can be explained as follows. First, the approach to achieving goals. This approach has long been used as a reference for measuring good organization. Likewise in the context of schools, this approach has long been used as a criterion for measuring good schools. The criteria most often used are student academic achievement as demonstrated through standardized achievement tests (Frymier, Cronbleth, Donmoyer, Gansneder, Jeter, Klein, Schwab & Alexander, 1984) or basic skills test results (Scheerens, 1992). Especially in Indonesia, which is often used as a reference is the Pure Ebtanas Score (NEM) and recently the National Final Examination (UAN) scores have been used.

The determination of school improvement criteria based on the approach to achieving the goals described above, in fact has a number of weaknesses: (1) the definition of the effectiveness of improvement is very narrow because it is only measured from one dimension, namely student academic achievement (Townsend, 1994) because according to Hersey and Blanchard (1982) an organization (school) that is classified as successful may not necessarily be classified as an effective school; (2) this approach pays more attention to student outcomes than process; (3) although the approach is based on logical assumptions and is considered important, its sustainability is highly threatened when viewed from the internal conditions of the schools that follow it (Sergiovanni, 1991). The goals of the school must be clearly identified and defined in order to be understood and agreed upon by the school

METHODS

As stated in the introduction, research on the school improvement process based on the individual teacher's perspective has unique characteristics because the nature of the data can be grounded in quantitative data and qualitative data that departs from the psychological inner process (Hall, Hord & Griffin, 1980). On that basis, researchers believe to combine (mixed) quantitative and qualitative approaches in the research process (Brannen, 1992). There are at least five basic views that support the reasons for combining the two approaches. First,

Second, departing from the view of Burgess (1982) about the use of various approaches in solving a research problem. In his opinion, a field research strategy that does not combine interviews with informants and sampling in research is seen as narrow and inadequate. Therefore, Burgess suggests that researchers should be flexible and therefore should choose an approach that is appropriate to the problem under study (Brannen, 1992).

Third, departs from the idea of triangulation as a term originally borrowed from psychological reports and developed by Danzin (Denzin & Lincoln, 1994). For Denzin, triangulation includes multiple methods and aggregated data sets.

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Furthermore, Denzin explained that method triangulation can occur between methods and can also occur within methods. The "within the method" approach includes the same method being used on different occasions. While the "inter-method" approach means the use of different methods in relation to the same object of study or a substantial problem.

Data triangulation can be understood in terms of different data sets, in addition to being obtained through the application of different methods, it can also be through the use of the same method at different times or from different sources.

Fourth, that among researchers on education such as Smith and Heshusius (1986) in their writings on Closing Down the Coversation: The End of Quantitative-Qualitative Debate among Educational Inquirer's published in the 15th edition of the journal Educational Research, have started the idea of combining quantitative research. and qualitative research, which was followed later by Fireston (1987) in his article on Meaning in Method: The Rhetoric of Quantitative and Qualitative Research published in the 16th edition of the journal Educational Research, and Howe (1988) in his article Against the Quantitative-Qualitative Incompatibility Thesis. or Dogma Die Hard, published in the 17th edition of the journal Educational Research.

Fifth, and what underlies the researcher's belief that the combination of quantitative and qualitative approaches in researching the improvement process (read: change) that occurs in schools in relation to the stages of concern about innovation and the level of use of innovation has been initiated by research and development experts at The Research and Development Center for Teacher Education, The University of Texas at Austin, United States (Hall, Hord & Griffin, 1980), which was followed later by several researchers such as Kolb (1983) who examined the stages of caring about the training of nurses, Barucky (1984)) which examines the stages of concern about leadership development to prospective officers and officers of the armed forces,and Jordan-Marsh (1984) who examined the stages of caring about improving health behavior in a nursing school, Los Angeles, United States.

After it is clear with the supporting reasons that underlie the combination of qualitative and quantitative approaches, the following beliefs that need to be sharpened by researchers are about the selection and determination of the appropriate model of integration. Now the question arises, namely how to model the combination of quantitative and qualitative approaches in the research process?

Bullock, Little and Millham (Brannen, 1992) proposed four models of combining quantitative and qualitative approaches in the research process. First, quantitative findings are explained by qualitative case studies. Second, use qualitative results to explain quantitative research findings. Third, using qualitative evidence to generate hypotheses that can be tested quantitatively. Fourth, using qualitative studies to produce quantitative evidence.

Referring to the four combination models mentioned above, researchers are more likely to choose and determine the first alternative, namely quantitative findings

explained by qualitative case studies. The selection and determination of this amalgamation model is relevant to the model proposed by Bryman (Brannen, 1992) in which the research data found are more dominant in quantitative and the approach or research method used is more dominant in qualitative.

2. Research Design

In selecting and determining the research design, in addition to a prior understanding of the approach used, a clear understanding of the focus/problem of the research which is concreted in the formulation of research objectives (Hall, Hord & Griffin, 1980; Bird, in Brannen, 1992).

This study aims to describe and explain: (1) the internal improvement process for individual teachers referred to at the stage of individual teacher awareness about innovation at the Struggle SLTP, Development SLTP 1 and Development SLTP 2 in Minahasa Regency, and (2) the impact of the internal improvement process. individual teachers on improving school performance which is referred to the level of use of innovation by individual teachers at the Struggle Junior High School, Development Junior High School 1 and Development Junior High School 2 in Minahasa Regency.

DISCUSSION OF RESEARCH FINDINGS

Although the main problem of this research is the individual teacher's internal improvement process and the impact of the individual teacher's internal improvement process, but after entering and interacting with the three research cases, it was found that several related aspects were considered important to be discussed in this chapter V. The aspects found were related to the dynamics of the relationship between the stages of caring and the level of use, the stages of caring for facilitators of improvement and the emergence of integration of school improvement and classroom improvement.

A. Teacher's Individual Internal Improvement Process

As previously stated, research on the internal improvement process for individual teachers at SLTP Perjuangan, SLTP Pembangunan 1 and SLTP Pembangunan 2 refers to the stage model of teacher concern about innovation. After analyzing the research data on a per-school basis and followed by a cross-school analysis, several research findings were obtained regarding the internal improvement process for individual teachers that occurred in SLTP Perjuangan, SLTP Pembangunan 1 and SLTP Pembangunan 2.

In terms of the improvement process, it was found that the profile of the individual stages of teacher care in the three schools grew and developed gradually and each stage of caring was a critical process. The understanding of individual teacher concerns about innovation that grows and develops gradually is basically closely related to changes that occur in each individual teacher towards improvement from one stage of caring to the next stage of caring. For example, individual teachers who begin

to initiate use of innovations, the intensity of their caring stage culminates in stage 3 (management). Individual teachers who have experience and are skilled at using innovations the intensity of their care varies at stage 4 (consequences),

Meanwhile, the understanding of the findings that each stage of caring as a critical process is basically closely related to the pattern of increasing and decreasing the intensity of each teacher's individual concern for innovations implemented in schools and closely related to the individual feelings of teachers that need to be built (arousal). and aspects of the teacher's individual thoughts that need to be resolved (resolution) through interventions carried out by improvement facilitators (Fuller, in Newlove & Hall, 1976 and Hall, George & Rutherford, 1979).

In terms of the profile of the form of a progressive wave motion, there seems to be a difference. In case 1, an experienced user profile was found. This finding is in line with the relatively long period of time (about two years) and the experience and skills in implementing the PTD curriculum. In case 2, it is found that there are non-user profiles and renewing users. For non-users, this finding is in line with the time when teachers have not been directly involved with the implementation of the contextual learning approach because they had just finished training when the researcher took the data. Research from Loucks and Melle (1980) shows the same result that the concern of teachers who have not used innovation is relatively high at stages 0 (awareness), 1 (informational) and 2 (personal). As for experienced users, this finding is in line with the relatively sufficient time (about one year) and experience and skills using a contextual learning approach. In case 3, an inexperienced user is found. This finding is in line with the relatively short time (six months) and the inexperience and skill in using team teaching. This finding is in line with the relatively sufficient time (about one year) as well as experience and skills using a contextual learning approach. In case 3, an inexperienced user is found. This finding is in line with the relatively short time (six months) and the inexperience and skill in using team teaching. This finding is in line with the relatively sufficient time (about one year) as well as experience and skills using a contextual learning approach. In case 3, an inexperienced user is found. This finding is in line with the relatively short time (six months) and the inexperience and skill in using team teaching.

In essence these findings answer a theoretical prediction (Newlove & Hall, 1976; Hall, George & Rutherford, 1979; Hall & Loucks, 1980; Hall & Hord, 1987) which states that if teachers have a non-user profile, then the intensity of concern is relatively high at stage 0 (awareness), stage 1 (informational) and stage 2 (personal). If the teachers have an inexperienced user profile, the intensity of concern is relatively high at stage 3 (management). If the teachers have a profile of experienced users, then the intensity of concern is relatively high at stage 5 (collaborative). Finally, if the teachers have a reformer user profile, then the intensity of concern is relatively high at stage 6 (refocusing).

In terms of the profile of the achievement of the awareness stage, there are profiles that are "single peak", "multiple peaks" and "second hights". The findings obtained in the three schools used as case study units appear to be different. In case 1, the profile of single-peak caring stages was relatively high at stage 5 (collaboration). Although in case 1, there are teachers who have been identified with relatively single peaks at stage 5 (collaboration), but on average the stages of caring are relatively at stage 4 (consequences). In case 2, the profile of the single peaked level of care is relatively at stage 3 (management), Double peaking was relatively at stage 3 (management) and at stage 6 (refocusing) and adjacent double peaks were relatively at stage 2 (personal) and at stage 3 (management). Whereas in case 3, the profile of the single peaked level of care is relatively at stage 3 (management).

According to Hall, Hord and Griffin (1980) the profile of teachers in schools who reach the caring stage culminating in stage 4 (consequences), stage 5 (collaboration) or stage 6 (refocusing) can be described as impact school. Meanwhile, the profile of teachers in schools who reach the awareness stage, culminating in stage 3 (management) can be described as school management. Thus, it can be explained that the profile of case 1 which has a single peak profile at the collaboration stage is included in the impact school category, while the profiles of cases 2 and 3 which both have a single peak profile at the management stage are included in the management school category.

Findings about the profile of teachers in schools that culminate in stage 3 (management) and stage 6 (refocusing) are in line with those found by Hall, George and Rutherford (1979). They interpret this finding by saying that if teachers have managerial problems under their control, then at the same time those teachers will have ideas about how to solve problems related to their management concerns.

Findings about the profiles of teachers in schools that are adjacent to each other (be adjacent) are also in line with the findings of Hall, George and Rutherford (1979). Although their findings are somewhat different from the stages of caring which have double peaks close together, namely at stage 4 (consequences) and stage 5 (collaboration), one thing is clear that the dynamics of teacher care in the improvement process can appear in the profile picture of contiguous double peaks. In fact, what the researchers found in this study actually answered their theoretical concept which states that if the individual teacher is high at level 3 (management), then the intensity of the teacher's individual concern will always be high at stage 2 (personal) or stage 4 (consequences). .

B. The Impact of the Teacher's Individual Internal Improvement Process

As previously stated, research on the impact of the individual teacher's internal improvement process on improving school performance in SLTP Perjuangan, SLTP Pembangunan 1 and SLTP Pembangunan 2 refers to the level model of the use of innovation. After analyzing the research data on a per-school basis and followed by a cross-school analysis, several research findings were obtained regarding the impact of

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the individual teacher internal improvement process on improving school performance that occurred in SLTP Perjuangan, SLTP Pembangunan 1 and SLTP Pembangunan 2.

In terms of the improvement process, it was found that the profile of the level of use of innovation by individual teachers in the three schools grew and developed in stages and each level of use was a critical process. The understanding of the process of improving the use of innovation by individual teachers who grow and develop in stages is basically closely related to changes that occur in teachers towards improvement from one level of innovation use to the next stage of using innovation. For example, teachers who start using innovation at level III (mechanical). As teachers experience improvement, the use of the innovation becomes routine (IVA) and eventually the innovation will be refined or refined (stage IVB) until it is integrated (V) and renewed (VI).

Meanwhile, the understanding of the findings that each level of the use of innovation by individual teachers as a critical process is basically closely related to the pattern of movement and non-movement from one level of innovation use to the next level of innovation use. The pattern of movement and immobilization of the level of use of teachers in the three schools is closely related to the behavior of teachers' decisions in implementing innovation. Theoretically it is explained that the progression of teachers' use of innovation from level I (orientation) to level VI (renewal) will always be shown through their decision behavior (Hall, Loucks, Rutherford & Newlove, 1975; Hall & Hord, 1987). . For example,

Furthermore, the findings on the profile of the level of innovation use by individual teachers in the three schools can be described and explained based on the distribution of innovation use. The distribution of the use of innovation is divided into: single and multiple distributions as well as user dichotomy. In case 1, the profile of the movement level of teacher use of the basic technology education curriculum (PTD) has relatively increased to the IVB (refining) level. In case 2, the movement profile of teachers' use of contextual learning (PK) has relatively increased to level V (integration). Meanwhile, in case 3, the profile of the movement in the level of teacher use of team teaching (MT) has relatively increased to the IVB (refining) level.

The profile of schools that have reached the refinement (IVB) and integration (V) levels is explained differently by Hall and Hord (1980:86) by stating that*teachers at level of use V make a commitment to use the innovation with other teachers. As at level of use IVB, changes are made to improve the effectiveness of innovation use*. The tendency for differences in the behavior of teachers at these two levels of use is evident in terms of making commitments and increasing the effectiveness of the use of innovations.

Another finding regarding the distribution of levels of teacher use of innovation is the dichotomy of users: typical non-users and typical users (use). This typical user profile is only found in case 3 (JSS Development 2). This finding regarding the user

dichotomy is in line with that found by Hall (1979), but differs in terms of the level of usage typical of users. If in this study the typical non-user is at level II (preparation) and the typical user is at the IVB level (refining), then in Hall's findings the typical non-user is at stage 0 (non-user), while the typical user is at level 0. use of IVB (distill). Typical definition of non-user and user is based on Hall and Loucks classification (1977). They mapped out a typical non-user classification covering usage levels: 0 (non-user), I (orientation) and II (preparation). Meanwhile, typical users include levels of use: III (mechanical use), IVA (routine), IVB (refining), V (integration) and VI (renewal).

C. The dynamics of the relationship between the stages of caring and the levels Use

Initially, the problem of the dynamics of the relationship between the stages of caring and level of use has not emerged as an issue raised in the dissertation design. At the time of the qualification examination, the problem of the dynamics of the relationship between the stages of caring and the level of use appeared, but the researcher had not determined it as a problem that needed to be formulated in the dissertation design. After being in the research location, especially when analyzing the data, the researcher began to find some data that could answer the problem. Based on the data found, the researcher finally made sure to examine in more depth the problem as one of the main research problems that emerged from the field.

Although this problem has emerged as a subject matter, researchers are still faced with what criteria should be used to describe and explain the dynamics of the relationship. Finally, around January 2003 the researcher returned to the PPS UM Malang campus to consult with the supervisor I to determine the criteria. From the results of the consultation, two criteria were determined as follows: First, the profiles of the stages of caring 0, 1, 2 and 3 were in the low category, while the profiles for the stages of caring 4, 5 and 6 were in the high category. The low category means teacher oriented and the high category means student oriented. Second, the level profile of use of 0, I, II, III and IVA is in the low category, while the profile of the level of use of IVB, V and VI is in the high category. The low category means teacher oriented and the high category means student oriented. After the criteria are set, then*at the end of February 2003 researchers returned to the field to continue research activities in the field*.

The dynamics of the relationship between the stages of teacher concern about innovation and the level of use of innovation by teachers in the three cases (schools) have similarities and differences. Based on the identification of similarities and differences, four combinations of teacher improvement profiles were found. The findings that underlie the construction of the four combinations of improvements are:

1. High Awareness Stage and High Usage Level Profile

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In cases 1, 2 and 3, a high level of awareness level profile was found at stage 5 (collaboration) and a high level of use at the IVB level (distilling). Specifically in case 2, we found a high level of awareness stage profile at stage 6 (refocusing) and a high level of use at level V (integration). In case 2, the level of concern was high at stage 5 (collaboration) and the level of use was high at the IVB level (refining).

2. Profile of High Awareness Stage and Low Usage Level

In cases 1 and 2, a high level of care profile was found at stage 4 (consequences) and a low level of use at level III (mechanical use).

3. Low Concern and High Use Level Profile

In case 2, we found a low level of awareness stage profile at stage 1 (informational) and a high level of use at level V (integration). In case 3, a low awareness stage profile was found at stage 3 (management) and a high level of use at the IVB level (refining).

4. Low Concern and Low Use Level Profiles

In case 2, the awareness stage profile is low at stage 0 (awareness) and the use level is low at level II (preparation). In addition, it was also found that the profile of the stages of low awareness at stage 2 (personal) and low levels of use at level II (preparation). In case 3, the profile of the awareness stage is low at stage 3 (management) and the level of use is low at level II (preparation). In addition, the profile of the stages of low awareness at stage 3 (management) and a low level of use at the IVA (routine) level were also found.

The findings obtained based on the four quadrants mentioned above, seem to be in line with the views of Hall and Hord (1987) which stated that the dynamics of the relationship between the stages of caring and the level of use were not simple. Likewise, if it is associated with the three models of the possible relationship between the stages of caring and the level of use that can occur, which are proposed by Hall and Hord (1987). The first model uses logical predictions, so it is expected that a linear relationship will occur. For example, someone who is at the IVA level of use (using mechanically), is expected to have a high level of concern at stage 3 (management). Someone who has a high level of concern at stage 4 (consequences), is expected to have a level of use at the IVB level (refining).

The second model uses limits for individual statistical predictions using group data. For example, teachers who are at use level 0 (non-user), I (orientation) and II (preparation) are categorized as non-users or orienting the use of innovation. Teachers who are at level III (using mechanically and IVA (routine) are categorized as mechanical or management of the use of innovation. Teachers who are at the level of using IVB (refining), V (integration) and VI (renewal) are categorized as having refined or integrate the use of innovation.

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The third model uses a relationship hypothesis based on field observations. If it is based on this third model, the possible relationships that will occur are closely related to how to build and complete the stages of awareness and progression of levels of use through interventions. For example, someone who is already at the IVA level of use (mechanical use) will have various possible relationships with informational, personal, management, consequence, collaboration or refocusing concerns.

If the findings obtained above are also related to the teacher improvement grid pattern (see Figure 5.1) which is used as a diagnostic tool or technique to assess the dynamics of the relationship between the stages of teacher concern about innovation and the level of teacher use of innovation, it seems that there are around 9 (nine) cross-point profiles that have been revealed from 14 (fourteen) individual teachers studied in this study.
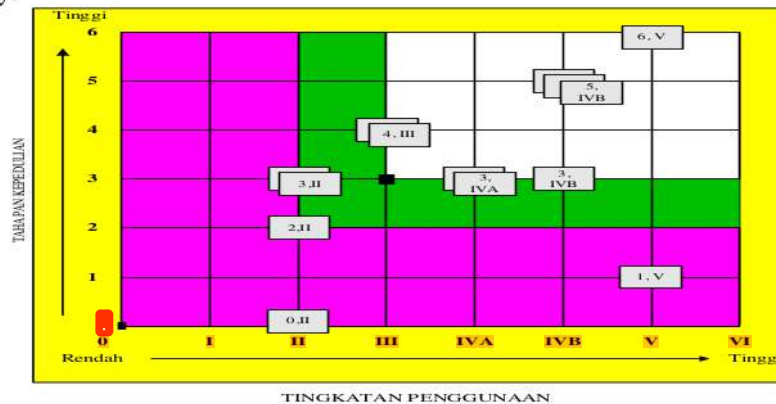
Figure 5.1 Profile of Crossing Points of Concern and Use Dimensions

Based on the nine-point profiles of crossing the dimensions of the awareness stages and levels of use, it is possible to formulate a teacher improvement program plan at the Struggle Junior High School, Development Junior High School 1 and Development Junior High School 2. 4 and level of use III) and there is 1 (one) teacher who is categorized as improved (profile of awareness stage 5 and level of use of IVB). Starting from the results of the categorization, it can be determined a teacher who needs to get priority for immediate improvement.

D. Stages of Individual Care Facilitator Improvement

The study of the principal's role as a facilitator is closely related to the concepts of school improvement management, school improvement leadership and school organizational change (Hall, George & Rutherford, 1979; Neale, Baikey & Ross, 1981; Hall & Hord, 1987; Sergiovanni , 1991; Fullan, 1991; Harris & Lambert, 2003). Based

on these concepts emerged the so-called improvement managers, improvement leaders, change agents and liaison agents.

The concept of facilitation is not something new, but has long been developed by experts on organizational change and school improvement. Currently, studies of facilitation are felt to be even more important when linked to studies of human resource management and staff development in organizations. Another thing that makes the study of facilitation increasingly important can be seen from the role of facilitators in facilitating individual improvement efforts within an organization, including individual improvement in schools.

In relation to the study of school improvement, the principal occupies a strategic position. Therefore, recent studies of principals' behavior have begun to relate the role of principals in facilitating improvement within schools. Thomas (1978), for example, researched more than sixty schools by focusing on the role of principals in managing educational programs. From his study, he identified three patterns or classifications of principals' behavior related to the facilitation of alternative programs, namely: the principal as a director, as an administrator and as a facilitator. Thomas found that schools under the leadership of a directive or facilitative principal had more success in implementing alternative programs than an administrative principal. Assessment of the effectiveness of the implementation of teacher improvement will be more complex when the student achievement index (student outcomes) becomes the criterion variable. A study conducted by Loucks some twenty-eight years ago (Hall & Hord, 1987) found that different innovations distinguished the relationship between levels of use and student learning outcomes. The application of individual learning innovations in reading shows that the level of teacher use is linearly related to student learning outcomes. Teachers who use individual reading innovations at high levels of use have students with high learning achievement scores. In contrast, teachers who have a level of mechanical use (level III) applying individual learning innovations in mathematics show a curvelinear relationship. That is, teachers who are at the level of mechanical use (level III) are associated with high student learning outcomes. The results of Loucks' research imply that more further research is needed before conclusions are formulated. But this example of Loucks' research is another illustration of complexity in terms of the difficulty and risk of making judgments about the relationship between predictive factors such as student learning outcomes,

CONCLUSION

First, the internal improvement process for individual teachers that took place at the First Level Advanced School (SLTP) of Perjuangan, SLTP Pembangunan 1 and SLTP Development 2 included four things, namely: (1) the teacher improvement process grew and developed gradually based on the intensity of the stages of concern about innovation, (2) the gradual improvement of teacher awareness is a critical process, (3) the intensity of the stages of teacher concern regarding single-peak, double-

peak and double-peaked-adjacent innovations, and (4) the process of teacher improvement has the opportunity to produce teachers who can be classified as non-users, inexperienced users, experienced users and update users.

Furthermore, the stages of individual concern for school principals as facilitators of improvement in SLTP Perjuangan, SLTP Pembangunan 1 and SLTP Pembangunan 2 can be understood in four ways, namely: (1) the principal is the main facilitator in improving teachers in schools, (2) the role of the principal as the main facilitator is assisted by a second facilitator, (3) the individual role of the principal as a facilitator of improvement is related to the progression of the teacher's use of innovation, and (4) the description of the interaction of the stages of the principal's concern as a facilitator and the level of the use of innovation by the teacher as an innovation user is formed in two stages. Variations in individual improvement profiles, namely: (a) high levels of concern for principals, high levels of teacher use, and (b) high levels of concern for principals, low levels of teacher use.

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