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## Assessing and Improving Reflective Thinking of Experienced and Inexperienced Teachers

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### Abstract

Observation, communication, team working, judgment, and decision making skills are important reflective thinking skills for teachers. The main purpose of the present paper is to identify the ways of improving teachers' reflective thinking skills. To achieve this goal reflective thinking skills between experienced and inexperienced teachers are compared in different levels of reflective thinking. The Profile of Reflective Thinking Attributes (PRTA) Instrument and Reflective Thinking Attributes (RTA) Instrument are introduced to identify teachers' reflective thinking levels.

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### 1. Introduction

There is much concern among teacher educators about the usefulness of teacher education programs. Richards (2004) mentions this growing concern relates to getting teachers prepared for educating the young. The dynamic nature of teacher education necessitates an ever leaning process. It is during this process that future teachers achieve competencies, abilities, knowledge and skills for effective and efficient teaching practice (Rosenberg, Sindela, and Hardman, 2004). Teachers' leaning process, as suggested by Harrison et al. (2006), must be related to teachers' practice and the experience gained from that practice. It is believed that "reflection" is a constructive teacher practice (Husu, Toom, and Patrikainen, 2006), which is provided by the teachers after experiencing something Harrison et al. (2006). Teacher reflection has two aspects, which are "how to reflect" and "what to reflect on". Thinking about these two components of reflection would expand and specify our understanding of the concept of reflection.

Education process also concerns over thinking and its modes such as, metacognition, critical thinking, analytical

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thinking, and creative thinking. Reflective thinking is a term which has similar qualities to the mentioned thinking modes in teacher education (Gurol, 2011). Nevertheless, reflective thinking could be different from the mentioned thinking modes as it is used as a solution to interpret, defer, translate, arrogate to involved parties, comprehend what has been thought, and establish expectations. Researchers have categorized reflective thinking based on thinking modes and the process of reaching a certain level of reflection. The latter is usually informed by context and individuals' background. The characteristics of critical thinking are also defined through modes of delivery.

Although there are controversies among scholars concerning the hierarchical nature of critical thinking, they agree upon the technical, contextual, and dialectical modes of it. (Van Manen, 1977). Technical relates to the characteristics and attributes gained from teachers whom get their knowledge from content, skills, and observing behaviours. Contextual represents teachers who concern themselves with needs and contexts and are interested in finding suitable approaches to meet such expectations. Dialectical reflections deal with morals, values, and socio-political considerations.

Observation, communication, judgment, decision making, and team working are applied as reflective thinking skills (Dymoke and Harrison, 2008). Observation is a tool through which teachers' feelings, and behaviours are recorded. It also engages the user in noticing, marking and recording the distinguished issues. Noticing in this explanation is briefly yet vividly recording the particulars of situations for further use of teachers. Communication tools is reflective practice are varied. Dymoke and Harrison (2008) mention that personal learning journals or diaries and formal professional portfolio, which could be monitored by mentors and led by tutorials are communication tools. Teachers need to be clear about the details and components of classrooms, events, and situations while analyzing. Teachers' analysis should be impartial when they are involved in the events and situations. Analyzing is not description, but it is critically synthesizing the details of events, relating theories, and put more explanations. As a critical analyzer, they need to be realistic and take into consideration any particular valuable idea. Decision making is taking action to gain a particular purpose. In decision making factors like teachers' understanding of their students and classroom events are important. Decision making is a precise skill for teachers that help them handle numerous group work situations that they may involve in. Dymoke and Harrison (2008) name subject/curriculum teams, pastoral teams, and cross-curricular groups works on specific such as, personalized learning and aspects of assessment as some possible teams that teachers may involve in.

Pre-service and in-service are the two common types of teacher training programs. Pre-service training programs, which are provided by educational institutions, are generally more academic than in-service programs and follow specific curricula (Carroll, Forline, and Jobling, 2003). Most novice teachers who need to gain knowledge on application of practical and reflective decision making in teaching contexts attend pre-service programs (Babion and Shea, 2005). They need to be trained in knowledge, teacher practice, and handling different students' needs and expectations including students' with specific needs (Brownell et al., 2005; Jenkins, Pateman, and Black, 2002). Carroll, Forline, and Jobling (2003) stated that pre-service training programs do not provide adequate field-based experience; as a result teachers after these programs do not have proper teaching skills. It is suggested that inexperienced teacher are supported by in-service programs, which provide practice and experience for them. In-service programs are important because they provide training and needed education for teachers who are serving teaching systems on one hand, and on the other hand they develop teachers' reflective thinking.

Previous studies have shown that teaching experience plays a significant role in experienced teachers' reflective thinking both as a teacher and learner per se. Studies have shown that different ways of communication, self-reflection and journal writing were used more by experienced teachers than inexperienced teachers. Experienced teachers have shown to be more reflective and deeper in understanding teaching than inexperienced teachers (Murnane and Phillips, 1981; Freiberg and Waxman, 1990; Ross, 1990; Surbeck, Han, and Meyer, 1991; Rivkin, Hanushek, and Kain, 1998; Curtis and Szesztay, 2005). It is also shown that teachers' reflective thinking can be influenced by teaching, cooperative, and teachers' beliefs. The findings of the reviewed studies support the competencies and skills of reflective thinking gained from practice and experience. Including such opportunities in teacher education programs may develop and improve reflective thinking among inexperienced teachers.

A great amount of research have been done on the reflective thinking of pre-service teachers (Van Manen, 1977; Lee, 2005; Hua, 2007; Jansen and Spitzer, 2009; Rodman, 2010; Goh, 2011; Gurol, 2011). However, little has been known about the differences between experienced and inexperienced teachers' reflective thinking. It is known that these two groups of teachers learn differently from experienced-based reflection. Those who make use of reflection

are distinguishable from their perceptions and creative in their problem solving and practice. Experienced teachers could develop great knowledge based on students, and different aspects and contexts of classrooms. These teachers are careful in planning and teaching practice and utilized instructional and management routines more often (Borko and Livingston, 1989; Borko and Shavelson, 1990).

The main purpose of this paper is to find the ways of improving inexperienced teachers' reflective thinking based on the five reflective thinking skills including observation, communication, team working, judgment, and decision making. To achieve this goal the ways of measuring teachers reflective thinking levels are put forward.

## **2. Measuring Reflective Thinking Levels**

Three levels of reflection have been determined from different frameworks (Van Manen, 1977; Zeichner and Liston, 1985; Lee, 2005; Muir and Beswick, 2007). Since the levels of reflective thinking in this study are based on the theory of Van Manen (1977) then the Profile of Reflective Attributes questionnaire is proposed to measure experienced and inexperienced teachers' reflective thinking levels. This instrument is designed by Taggart and Wilson based on the theory of Van Manen (1977). The instrument has high reliability and validity of scores from past uses of the instrument such as Savran (2008). Savran (2008) assessed the science pre-service teacher' level of reflective thinking and the analysis of the pilot study produced the Cronbach's alpha reliability coefficient of .91.

The profile illustrates three levels of reflection, Technical, Contextual, and Dialectical, as a self-evaluation tool designed to explore an individual's current level of reflective thinking. The instrument consists of 30 items presented in a four-point Likert-style format. For each statement, the teachers circle the number of the indicator that best reflects their agreement on a situation or preparing their lessons. To analyse the PRA questionnaire, tally the number of circled indicators, multiply by the indicator number, then add the subtotals to reach an overall score (Taggart and Wilson, 2005). Reflective thinking levels of the profile are described as dialectical level (from 105 to 120), contextual Level (from 75 to 104), and technical level (Below 75).

Farther to that for supporting the PRA questionnaire, Taggart and Wilson (2005) also conducted Reflective Thinking Attributes (RTA) questionnaire to measure the level of teachers reflective thinking. In this paper, we adapted RTA questionnaire to identify reflective thinking level among experienced and inexperienced teachers. The instrument consists of 34 items that contain three attributes of effective teaching. This instrument can be used after teachers completed the PRA. The instrument is intended to validate the attributes found in the profile and clarifies reflective thinking and levels of reflection (see Appendix A). Participants choose reflective thinking attributes that they applied in their classes. To analyse the RTA questionnaire the numbers of the reflective thinking attributes which teacher chose are counted for each levels. Then, the maximum numbers of items that participants used into each category should be consistent with their levels that were identified by PRA.

## **3. Supporting Inexperienced Teachers Reflective Thinking**

Reflective According to Lester (2005), a research framework is "a basic structure of the ideas that serves as the basis of phenomenon that is to be investigated" (p. 458). The research framework of this study is constructed based on the purposes of the paper, as shown in Fig 1.

The conceptual framework reflected the experienced and inexperienced teachers' reflective thinking skills such as observation, communication, judgement, decision making, team-working in three different levels of reflective thinking, namely Technical, Contextual, and Dialectical. In fact, first the different levels of reflective thinking are identified between experienced and inexperienced teachers. Then the skills that teachers use in each level are identified. Comparing the results of experienced and inexperienced teachers can help to find the strengths and weakness of inexperienced reflective thinking skills in each level.

Based on the differences of reflective thinking skills in different levels for experienced and inexperienced teachers, the ways of supporting reflective thinking skills of inexperienced teachers are identified. According to Dymoke and Harrison (2008), reflective thinking skills can be supported by different reflective thinking tools such as recording, writing, drawing, photography, learning journal, portfolio, lesson plan, co-teaching, collaborative practitioner enquiry and action research.

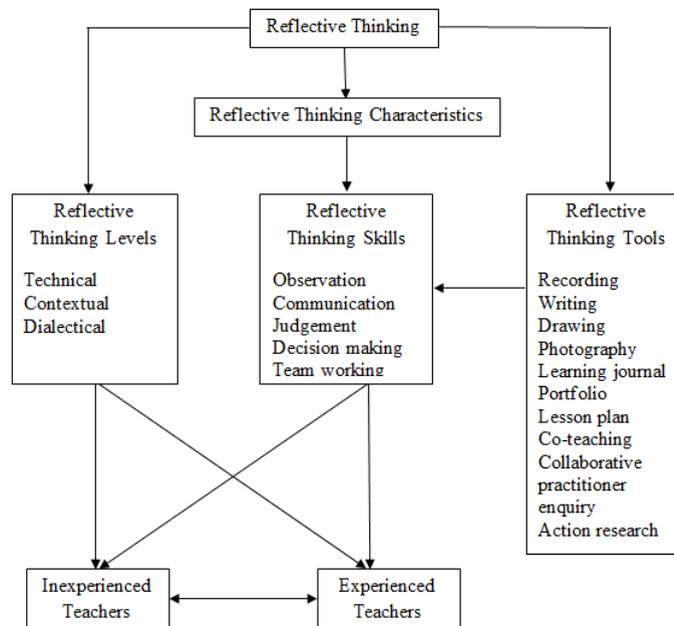


Fig. 1. Conceptual framework of the study

#### 4. Conclusion

The most important goal of this paper was to find the ways of supporting inexperienced teachers' reflective thinking. To achieve this goal the levels of experienced and inexperienced teachers' reflective thinking are identified based on the Profile of Reflective Attributes (PRA) questionnaire and Reflective Thinking Attributes (RTA). Understating the growth of reflective thinking among experienced and inexperienced teachers and the differences between them may help to find the ways of supporting and improving inexperienced teachers' reflective thinking. So, it is significantly important to know which reflective thinking skills experienced and inexperienced teachers use as well as the way of using them. Accordingly, may cause inexperienced teachers reflective thinking skills achieve experienced teachers reflective thinking skills. Using reflective thinking tools are important way to support teachers' reflective thinking skills. Teachers can use these reflective thinking tools during their teaching processes to develop their reflective thinking skills.

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#### Appendix A. Reflective Thinking Attributes (RTA) Instrument

Please answer Yes/No, if you do/don't the following reflective thinking attributes in your class.

Reflective Thinking Attributes (Characteristics)		Yes	No
1.	I identifies and analyses problem-solving situations		
2.	Use a rational problem approach		
3.	Looks at problems relative to educational, social, and ethical issues		
4.	Critically considers contextual and pedagogical		
5.	Makes creative interpretations and judgments		
6.	Experiences job satisfaction		
7.	Is metacognitively, analytically, and instructively intuitive		
8.	Views situations from multiple perspectives		
9.	Possesses self-efficacy, intrinsic motivation, and a desire for lifelong learning		
10.	Sets personal short-term and long-term goals		
11.	Is open to experimentation and new innovations		
12.	Make decisions consciously and carefully		
13.	Plans, monitors, then evaluates actions		
14.	Searches for alternative results		
15.	Has essential skills for mastering concepts and using information		
16.	Corrects understandings of underlying facts, procedures, and skills		
17.	Considers general characteristics of so-called best practice		
18.	Questions personal aims and actions		
19.	Uses evidence in supporting or evaluating a decision or position		
20.	Has a commitment to values (e.g., all students can learn)		
21.	Has a strong commitment to systematic and rational reflective thinking		
22.	Is a proactive force in education		
23.	Shows responsiveness to educational and instructional needs of students		
24.	Constantly reviews goals, method, and materials		
25.	Is intellectually receptive to multiple and novel ideas		
26.	Processes flexibility in thinking		

27.	Is committed to problem resolution (wholeheartedness)		
28.	Writes (journals) events reflectively		
29.	Commits adequate recourses to reflective thinking (times as well as mental, physical, and emotional energy)		
30.	Welcome peer review, critique, and advice		
31.	Commits to reaching objectives		
32.	Implements discipline system		
33.	Is task oriented		
34.	Focuses on lesson design and implementation		