

CHAPTER TWO LITERATURE REVIEW

This chapter reviews two major parts that form the mainstay of this study. The first part is the literature on teachers' beliefs. Major findings of research on teachers' beliefs are presented, including factors that influence teachers' beliefs, relationship between teachers' beliefs and practice, research on teachers' beliefs in Taiwan, and methodology of exploring teachers' beliefs. The second part is the literature on classroom assessment, including research on classroom assessment, the relationship between classroom assessment, teaching, and learning, and research on classroom assessment in Taiwan. Before discussing the findings of research in each part, the definitions of teachers' beliefs and classroom assessment in literature are presented in order to facilitate the understanding of relevant research.

Teachers' Beliefs

This section reports two major parts of research on teachers' beliefs: factors that influence teachers' beliefs and teachers' beliefs and practices. First, definitions of teachers' beliefs in much research are presented.

Definitions of Teachers' Beliefs

Research on teachers' beliefs constitutes the newest part in the studies of teachers' cognitions that thrive over the past two decades. This section presents different definitions used by researchers to conceptualize teachers' beliefs and the nature of teachers' belief found in literature.

A wide range of terms has been employed to refer to teachers' beliefs. Pajares (1992) draws on previous research and states that expressions such as beliefs, conceptual systems, teacher perspectives, conceptions, and implicit theories, among

others are used by different researchers to conceptualize teachers' beliefs, and these terms are often used interchangeably in the literature (Calderhead, 1996).

In Clark and Peterson (1986), teachers' theories and beliefs are defined as “the rich store of knowledge that teachers have that affects their planning and their interactive thoughts and decisions (p.258)”.

Teachers' beliefs may not be so isolated from teachers' working contexts. Tabachnick and Zeichner (1984) incorporate teachers' teaching contexts into the definition of teachers' beliefs. Tabachnick and Zeichner (1984) call teachers' beliefs “teacher perspectives”, defined as “the ways in which teachers think about their work (e.g., purposes, goals, conceptions of children, curriculum) and the ways in which they give meaning to these beliefs by their behavior in classrooms (p.28)”. The definition reduces the abstractness of teachers' beliefs and brings it to the situation where the teachers are in. Such definition is adapted by Goodman (1988). She thinks that teachers' beliefs incorporate how teachers interpret the situations in classrooms in light of their beliefs and previous experiences and how the interpretations are shown in their behaviors. Goodman (1988) contends that teacher perspectives originated from teachers' various images about teaching. These images are from their learning experience as students, their current experience in the teacher preparation program, and their expectations of themselves as a qualified teacher in the future (p.124).

Clark (1988) defines teachers' beliefs as “preconceptions and implicit theories”. These implicit theories “tend to be eclectic aggregations of cause-effect propositions from many sources, rules of thumb, generalizations drawn from personal experience, beliefs, values, biases, and prejudices (p.5)”. The term “implicit theories” connotes that these beliefs and thoughts are unclearly explicated or difficult to systematize by the teachers; rather, they are usually inferred by researchers (Clark, 1988). Since the teachers' theories are “implicit”, researchers' aim is to make the implicit theories

through which teachers interpret and process information explicit and visible (Clark & Peterson, 1986).

Despite the nuance in the meaning of these terms, these definitions share a common premise: “a teacher’s cognitive and other behaviors are guided by and made sense in relations to a personally held system of beliefs, values, and principles” (Clark & Peterson, 1986, p.287). There indeed exists systems of beliefs and perspectives in teachers’ minds and by which teachers interpret their teaching task and the context where they work, and these belief systems are guided by the teachers’ personal experience, values, and perspectives of students and curriculum. Therefore, a reasonable assumption can be made; that is, teachers’ decisions and practices in the classroom are guided by their belief systems. As Richards (1998) has put it, teachers’ beliefs systems, composed of attitudes, values, expectations, theories, information, and assumptions about teaching which teachers aggregate through time and experience, are major sources of their classroom practices. To understand teaching, we must understand teachers’ thoughts and beliefs and how these beliefs are accomplished in the classroom (Shavelson & Stern, 1981). In the following parts of this section, research on teachers’ beliefs including factors that influence teachers’ beliefs and on the relationship between beliefs and practices is reviewed to provide a more complete picture of the role of teachers’ beliefs in teaching.

Factors that Inform Teachers’ Beliefs

Research on teachers’ beliefs brings up different issues. One of these focuses on factors that influence teachers’ beliefs. McDermott et al. (1995), in their quantitative research on student teachers’ thoughts, find that student teachers’ thoughts about teaching are influenced by the practicum experiences before their teaching. Student teachers with practicum experiences express more thoughts about teaching and

children learning. Besides, their opinions and thoughts are more mature and more specific than those who do not have practicum experiences. The effect of teaching experience on teachers' beliefs is also found in Duffy and Anderson (1989). They find that more experienced teachers harbored more "content-centered" beliefs about teaching reading, and novice teachers tended to have "student-centered" beliefs about teaching reading. Brown and Rose (1995) indicate that factors influence elementary teachers' beliefs about learning most include the staff development opportunities, graduate courses, and the modeling by their fellow educators. Richards (1998) states that teachers' beliefs originated from "experience, school practice, personality, education theory, reading, and other sources (p.67)". Besides the factors, teachers' beliefs may be mediated by some contextual factors. Wood et al. (1990) contend that teachers' beliefs could be mediated by the difference in the nature of content areas and sometimes by the instructional materials available to them (cited in Kagan, 1992).

Some research has revealed the interconnection between different beliefs of a teacher. Munby (1984) contends that teachers' beliefs come from their own experiences, and the instructional principles in teachers' beliefs are pragmatic rather than theoretical. For example, a teacher in his study does not express a well-grounded theory of teaching. Instead, she upholds pragmatic views by saying that she wants to "making learning fun" and using "a different way of learning". This pragmatic view of teaching also influences her views of the curriculum and her evaluation of teaching. She evaluates her teaching from how much students have learned and remembered. This shows that different beliefs within a teacher are interconnected. Pajares (1992) reminds that when studying teachers' beliefs, it is important to consider the connections among beliefs, rather than regarding beliefs as independent systems. He further points out that research on teachers' beliefs should forge connections between different beliefs, beliefs and teacher practices, and beliefs and student outcomes.

To conclude, findings of previous research show that factors which influence or guide teachers' beliefs include practicum experience, teaching experience, some development courses, personality, education theory, reading, among others. In addition, contextual factors such as the nature of course and the availability of instructional materials may mediate teachers' beliefs. Furthermore, beliefs are interconnected, and we should attend to the interconnections between different beliefs when studying teachers' thoughts.

Teachers' Beliefs and Practice

Among a plethora of studies on teachers' beliefs, consistency or inconsistency between teachers' beliefs and practices have constituted a major part of researchers' interests. Mayer (1985) reviews recent findings of research on teachers' beliefs and find conflicting results concerning the relationship between teachers' beliefs and practices. Some research he reviews shows consistency between teachers' beliefs and practice, while others shows inconsistency between the two. Johnson (1992) delves into the relationship between ESL teachers' beliefs and their instructional practice of teaching literacy skills to non-native speakers of English. The results show that ESL teachers' beliefs of teaching and language learning reflect in their reading instruction. Marcelo (1978) reports a qualitative study on the beliefs of two math teachers at elementary schools in Spain. The two teachers' teaching activities are guided by their beliefs about teaching. She also finds that teachers' practices are influenced by their priorities for teaching. The first teacher prioritizes materials and contents in her beliefs about teaching; therefore, she devotes much of her class hours to establishing students' concepts of mathematics and enhancing their logical reasoning. The other teacher placed students' needs ahead of other things when teaching; consequently, she would spend time understanding students' comprehension of the content and give

different assignments according to the needs of different individuals.

Some research delves into constraints that impede teachers' beliefs from completely accomplished. Duffy and Anderson (1989) reported a four-year study of the beliefs about reading of teachers across different grade levels and in different school contexts. They had three major findings of the causes for the belief-practice inconsistency. First, aside from teachers' beliefs about reading, there are other factors influencing their reading instruction. These factors include teachers' beliefs about classroom management and routine, the way students learn, and students' proficiency levels. Second, among these factors, the most influential one was students' proficiency levels. Third, teachers tended to follow the textbooks rather than their expressed beliefs about reading in their instruction. Duffy and Anderson (1989) explained that this was because teachers' beliefs about the need to follow the textbooks are more potent than other beliefs in the classrooms. They further concluded that teachers obviously adjust their instructional decisions to these factors. They contended, "reading beliefs do not get applied until they have been filtered through the teacher's perception of contextual classroom conditions" (Duffy & Anderson, 1989, p.102-103). They conclude that teacher educators should help teachers implement their theories under the constraints. This research is inspiring in that it pointed out that when teachers face constraints to the implementation of their beliefs in classrooms, they do not relinquish some of their beliefs; instead, they prioritize their beliefs.

Another study by Brown and Rose (1995), focusing on elementary school teachers' beliefs about teaching and their practices, identifies four obstacles to these teachers' use of instructional strategies: conflicting parental and administrative expectations, extensive and increasing curricular demands, insufficient time allocations to meet expected instructional and curricular demands, and

heterogeneously mixed class. They also find that heavy curriculum demands impede teachers from using multiple assessment techniques in class (Brown & Rose, 1995). Sometimes some beliefs about something may supercede those about others within a teacher. Graden (1996) explores six secondary foreign language teachers' expressed beliefs about reading instruction and their classroom practices. It is observed that in most of the contexts, the teachers' beliefs are consistent with their instructional practices. Nevertheless, in some context, teachers' beliefs about students' needs may take precedence over those about reading instruction. For example, teachers' expressed beliefs may differ from their classroom practices because of students' low proficiency levels. Graden (1996) contends that the findings of the research pinpoint the need for teachers to be aware of the existence of multiple belief systems and the inevitable conflict between their beliefs and practices. He also contends that such awareness has two major advantages. First, it facilitates teachers' understanding of the complex nature of teaching and learning processes and comforts their frustration with having to compromise their beliefs. Second, the clarification of the conflicting belief system helps teachers and teacher educators develop better teaching practices and strategies to mitigate the inconsistency and maximize the effectiveness of teaching.

Dobson and Dobson (1983) further pinpoint the significance of studying the belief-practice congruency. They claim that having teachers experience the congruency between their beliefs and practices is the key to more effective teaching and schooling. Therefore, to spur effective teaching practices, teachers should search for belief-practice congruency by engaging in dialogs with their colleagues about their personal educational theory, knowledge, and practices. Through the process, teachers may detect possible factors that deter the belief-practice congruency, thus promoting teaching effectiveness.

This is similar to the notion of reflective teaching. Richards (1998) points out

that reflective teaching refers to “an approach to teaching based on a belief that teachers can improve their understanding of teaching and the quality of their own teaching by reflecting critically on their teaching experiences (p.43)”. In the reflections, teachers reflect on their decision-making, their beliefs and values of teaching through peer discussion, writing reflective journals, and the observation of their videotaped teaching practices (Richards, 1998). He further pinpoints the importance of teachers’ self-reflections by stating that these activities are the foundations of teachers’ professional growth and help improve teachers’ understanding of teaching and the quality of their teaching practices (Richards, 1998). The findings of research on and reflective teaching show that teachers’ beliefs and reflections influence the effectiveness of their teaching to a great extent. Thus, to have a deeper understanding of teaching, teachers’ self-reflections on their teaching should be explored.

Research on teachers’ thoughts and practices shows that many factors may cause the inconsistency between beliefs and teaching practices. What deserves special attention is that most of the time, the inconsistency is not caused by teachers’ abandonment of their beliefs; instead, it is caused by some contextual factors or teachers’ priority for their beliefs. Besides, teachers may engage in self-reflections on their beliefs and teaching practices to enhance the effectiveness of their teaching. Therefore, teachers’ beliefs and their self-reflections should be examined to promote deeper understanding of teaching.

Research on Teachers’ Beliefs in Taiwan

Research on teachers’ beliefs conducted in Taiwan usually focuses on teachers’ beliefs about teaching and the relationship between teachers’ beliefs and teaching practices. Lee (1996) investigates the beliefs of two high school biology teachers

through classroom observation, interviews with the teachers, and relevant documents. The analysis of the data shows that the beliefs about teaching and the subject of the two teachers guide their teaching practices. The author also identifies factors that influence the belief system of the teachers. Among them include the current educational system, the belief in the teacher's role, interactions between colleagues, teaching experience, her observation of other teachers' teaching, experience from joining clubs in the university, and the studies at graduate school.

Lee (1996) concludes that the study of teachers' belief may give insights into teachers' teaching and training. It helps us understand the teaching of effective teachers. Besides, teachers could improve their teaching through understanding their belief in teaching. Further, it is important for pre-service to express and understand their belief in teaching, which can facilitate effective teaching and the enhancement of their teaching practices.

Nien (2002) reports a case study on a high school English teacher's beliefs and the influence of beliefs on her classroom practice. The instruments of data collection include interviews with the teacher, teachers' belief inventory, and relevant documents. By comparing the teacher's expressed beliefs and their classroom practices, Nien (2002) concludes that generally, the teacher's expressed beliefs are consistent with her teaching practice. Some minor discrepancies caused by contextual restrains such as student variables are detected. However, when faced with these constraints, the teacher would bridge the gap by imposing some instructional strategies. At this moment, the teacher becomes a decision-maker to weigh between different factors and take actions to resolve the conflict.

Wu (2002) studies the beliefs about reading instruction and the reading instructional practices of high school intern English teachers. It is found that only a few of the subjects completely implement their beliefs in teaching practices. Factors

that impede them from successfully implementing their beliefs include time constraints, school exams, class size, students' motivation, their general competence, and their preference for teaching style.

It is obvious that research on teachers' beliefs has been mainly on teachers' beliefs about instruction and the relationship between their beliefs and practices. Very few studies have focused on teachers' beliefs about assessment. Thus, the relationship between teachers' beliefs and assessment is a frontier deserves studying. To forge a connection between teachers' beliefs about assessment is the purpose of this research, which may create a new perspective for the research on teachers' beliefs.

Methodology for Exploring Teachers' Beliefs

Qualitative research methods have been widely used in the research of teachers' beliefs. Munby (1984) claims that qualitative study is an appropriate approach to delve into "a particular, rather than generalizable" knowledge about a particular teacher in contexts. Among the qualitative methods, interviews and classroom observations of teachers' practices are most widely-employed measures. Calderhead (1996) claims that procedure such as observations and interviews frequently produced detailed and insightful documents of teachers' thoughts and practices. Mayer (1985) claims the advantage of interviews is that interviews allow the interviewee to conceptualize the beliefs in their own words and organization. Besides, interviews have the researcher obtain a richer and more complex view of teachers' beliefs. In this way, the researcher could "get a clearer picture of the subtle nature of beliefs and as a result explore how this effects instruction (Mayer, 1985, p.19)".

To elicit teachers' beliefs, classroom observation and interviews are mutually indispensable. Kagan (1992) points out that teachers' beliefs could not be inferred by observing teachers' behaviors alone, for teachers might have similar practices for

various reasons. Besides, asking teachers “direct” questions such as “What is your philosophy of teaching?” may be ineffective, for teachers are usually unaware of their own beliefs or do not know how to describe or label their beliefs (Kagan, 1992). Therefore, according to Kagan (1992), other indirect methods of eliciting teachers’ beliefs include asking teachers to think aloud while they are watching their videotaped teaching practices, conducting semi-structured interviews, or asking teachers to draw concept maps showing their understanding of particular terms.

The current study also employs interviews and classroom observations to gather more complete accounts of teachers’ beliefs about assessment. Besides, to obtain a more complete picture of teachers’ beliefs about assessment, related documents including students’ quiz sheets, journals, and in-class writings are collected for analysis.

Classroom Assessment

This part reviews major findings of research on classroom assessment, including the nature of classroom assessment and the relationship between classroom assessment and learning. First of all, definitions of classroom assessment in the literature are presented in order to facilitate the understanding of the discussion.

Definitions of Classroom Assessment

What comes to people’s mind when they think of the term “classroom assessment”? Airasian (1991) defines classroom assessment as “all the processes used by teachers for collecting information and for making interpretations and decisions based on this information on a daily basis in the classroom in order to improve teaching and learning (cited in Mavrommatis, 1997, p.381)”. In this sense, what teachers do in classroom assessment is to make decisions in the hope of facilitating

learning and teaching. Herman and Aschbacher (1992) point out that teachers' decisions based on the information provided by classroom assessment include "what students have learned, what grades are deserved, whether students should pass on to the next grade, what groups they should be assigned to, what help they need, what areas of classroom instruction need revamping, where the school curriculum needs bolstering, and so forth (p.95)". Stiggins (1991) states that classroom assessment serves at least three sets of purposes. First, it serves as a tool of informing decisions, and these decisions include diagnosing students' needs, grouping students for instructions, and assigning grades, etc. Second, it serves as a teaching tool. For example, through classroom assessment, teachers could communicate with students his or her expectations of their performance, provide students chances of practice, and have them engage in self-or peer-evaluation to help them become better performers. Third, it serves as a tool of classroom management and keeping students in line (Stiggins, 1991). From the definitions and the uses of classroom assessment and from the coverage of the decisions teachers make, we can see that classroom assessment is not simply assigning grades, and it permeates all stages of instruction (Brookhart, 1997).

A variety of formal and informal tools of assessment are used by teachers to collect information for decision-making in the classrooms (Mavrommatis, 1997). Formal tools of classroom assessment include paper-and-pencil quizzes and tests, standardized tests, and teacher-developed tests. Informal tools include teachers' observation, teachers' professional judgments about students' achievements, personal communications with the students, and oral comprehension check questions (Shavelson & Borko, 1979; Stiggins 1991; Herman & Aschbacher, 1992; Mavrommatis, 1997). Stiggins (1991) states that teachers use at least three kinds of tools to assess students' achievement in the classrooms. The first kind is "paper and

pencil assessment instruments”, including teacher-developed and text-embedded tests and quizzes, assignment, standardized tests, and questionnaires. The second kind includes teachers’ assessment of students’ achievement-related behaviors and performances by their own observations and professional judgments. The third kind is the direct communications with students, including instructional questions, interviews, and conversations with students.

Aside from the informal-formal continuum, classroom assessment can be formative or summative. Harlen and James (1997) clarify the differences between formative and summative assessment. Formative assessment helps teachers understand students’ existing knowledge about certain topics and how much they have achieved against the criteria set by teachers or schools, and this understanding would direct teachers’ next steps of teaching. Feedback to students from the teachers is central to formative assessments, for it informs both the teachers and the students of students’ “present understanding and skill development in order to determine the way forward (Harlen & James, 1997, p.368)”. In this sense, formative assessment is closely related to learning. Summative assessment, on the other hand, is to report the outcome of learning within a fixed period of time to parents, school governors, or other parties concerned. Formative assessment is more influential in day-to-day instruction and learning, while summative assessment represents the overall achievement of the students.

To sum up, classroom assessment, taking on a wide range of forms and serving different functions, may occur at any moment during instruction. Information collected from classroom assessment helps teachers decide on students’ grades and evaluate the effectiveness of their instruction, and students’ learning process. In order to promote deeper understanding of classroom assessment, in the following sections, the nature of classroom assessment and its relationship with learning are discussed.

Research on Classroom Assessment

Research on classroom assessment environment has revealed the nature of classroom assessment. The first important finding is that teachers have their preferred instruments of classroom assessment. Stiggins and Bridgeford (1985) analyze teachers' classroom assessment practices and study teachers' use, preferences, and attitudes towards classroom assessment. They find that teachers prefer to use their own objective assessments for all purposes in the classroom, and teacher-made objective assessments are used more often than performance assessment and published tests. Stiggins and Bridgeford (1985) state that teachers' preferred assessment instruments vary from grade level and subjects. Teachers tend to employ paper-and-pencil tests when teaching math and science but rely on performance assessment more when teaching speaking and writing. They further contend that the use of teacher-made assessments increase with grade levels. Besides the instruments of assessment, the study explores the way teachers assess students' performance and store the information obtained from the assessment. It is found that when assessing students' performance, teachers are the only raters, and "they tend to rely heavily on mental recordkeeping to store and retrieve information on students' performance" (Stiggins & Bridgeford, 1985, p.283). Similar result is found in Salmon-Cox (1981). In her study on elementary school teachers, she finds that teachers use observation most frequently when assessing students in classrooms. Mavrommatis (1997) finds that observations, oral questions, textbook tasks and teacher-made tests are most frequently used by primary teachers to collect evidence of students' performance. Obviously, assessment instruments most frequently employed by teachers in classroom assessment are not standardized, paper-and-pencil tests.

Another focus in the research on the nature of classroom assessment is teachers' attitudes towards classroom assessment. Stiggins and Bridgeford (1985) explore

teachers' concern about their own tests. These teachers teach 2, 5, 8, and 11 grades. The result shows that these teachers' most common concern about their own objective tests is the quality of those assessments. The other concern is the lack of time to use their own tests in the classroom, for fear of interfering with the instructional time. For these teachers, their concern about the quality of assessments and the lack of class time for assessments increase with students' grade level. This reflects that at higher grade levels, teachers need to tailor to assessment that met the unique instructional objectives (Stiggins & Bridgeford, 1985). Stiggins and Bridgeford (1985) also find that although teachers are concerned about the quality of assessment and the lack of time to manage assessment, they do not seem to take actions to improve their assessment methods. This is because they lack the opportunity, time, means, or motivations to improve their assessment procedures (Stiggins & Bridgeford, 1985). Impara, Plake, and Fager (1993) did a questionnaire-based study of teachers' beliefs about classroom assessment and their training background in assessment. They find that most of the teachers agree that classroom assessment could be an instruction tool. Although these teachers are positive about the effectiveness of classroom assessment, almost 30 percent of them had no training in assessment at all. Impara, Plake, and Fager (1993) conclude the study by suggesting that teacher education programs should provide teachers with knowledge and skills in assessing students in the classroom.

The most salient characteristic of the nature of classroom assessment is its complexity (Stiggins, 1985; Stiggins, Conklin, & Bridgeford, 1986; Stiggins, 1988; Stiggins, 1991; Mavrommatis, 1997). Stiggins (1988) contends that the nature of classroom assessment is complex, and it demands a lot on teachers. He states,

“Classroom assessment environments are complex, and they present teachers

with a demanding set of information-processing and decision-making requirements. Teachers must make decisions before, during, and after instruction, and they must filter available data as needed to select the information that will help them. In addition, they must make these decisions at an incredible pace (p. 364).”

Stiggins (1988) further states that teachers might spend 20 to 30 percent of their time on assessment-related activities. These activities include “designing, developing, selecting, administering, scoring, recording, reporting, evaluating, and revising such items as daily assignments, tests, quizzes, observations and judgments about student performance, and oral question-and-answer sessions (p.364) ”.

To cope with the complexity of classroom assessment, some frameworks of classroom assessment are developed. Mavrommatis (1997) approaches classroom assessment by the framework of “assessment episode (i.e. assessment activity)”. The framework is composed of four consecutive phases, including evidence collection, the interpretation of the evidence gathered, the teachers’ responses, and the impact of the teachers’ responses on students. In the phase of evidence collection, teachers use various formal or informal assessment tools such as standardized tests and classroom observations to gather information. In the phase of interpreting evidence, three major criteria are used to compare students’ performances. Teachers may compare the information collected in the previous phase with the target standards. The standards may be norm-referenced, criterion-referenced, or self-referenced, namely, compared with students’ previous performance. After the interpretation, the teacher may give verbal or non-verbal feedback.

Rea-Dickins (2001) presents a framework for understanding strategies used by teachers in ESL classroom assessment to inform their decision-making. The four-phase framework developed in the study is based on the data collected from classroom observation and interviews with the teachers. The model is descriptive,

detailing different phases of teachers' decision making in administering classroom assessment. The first stage identified in the process of teachers' decision-making in ESL classroom assessment is "planning", including three sub-stages, "identifying the purpose of assessment", "choosing a focus for the assessment", and "choosing assessment activity". The second stage is "implementation", which is sub-divided into "introducing the assessment", "scaffolding during assessment activity", "learner self and peer monitoring", and "immediate feedback to learners". The third stage is "monitoring", including "recording evidence of learning and achievement", "interpreting evidence obtained from an assessment", "revising teaching and learning plans", "sharing findings with other teachers", and "delayed feedback to learners". In the last stage, "recording and dissemination", the teacher makes formal record of students' progress towards the national curriculum or students' performance in large-scale formal tests (pp.438 - 451).

The two frameworks proposed by Mavrommatis (1997) and Rea-Dickins (2001) are descriptive and focus on teachers' decision-making process in classroom assessment. However, they do not explore a more insightful issue; that is, what contributes to these decisions about assessment? What beliefs underlie teachers' classroom assessment? Another framework posed by Brookhart (1997) takes teachers' beliefs and theories underlying their classroom assessment into consideration. After drawing on several studies (see Brookhart, 1997) on classroom assessment and teachers' beliefs, she conceptualizes classroom assessment by the notion of classroom assessment environment and classroom assessment event. The classroom assessment environment refers to the context in which classroom assessment events occurred. This environment is created by teachers' choices of the format, frequency, and instructional functions of assessment. These choices are based on "(a) a teachers' attitudes, orientations, philosophy and beliefs about students and the teaching-learning

process; (b) the teacher's training, knowledge and skills in educational assessment; (c) classroom climate; and (d) institutional policies (p.165)". In Brookhart's (1997) framework, classroom assessment events refer to "discrete sets of objectives and assessments of whether and to what degree the objectives are met (p.166)". What is presented to students in a classroom assessment event included the assigned learning or assessment tasks, standards and criteria underlying these tasks, and the given feedback. Brookhart's (1997) framework focuses on the observable parts of the classroom assessment. By incorporating teachers' beliefs about assessment and other factors that mold the classroom assessment environment such as classroom climate and institutional policies into the framework, Brookhart (1997) broadens the coverage of classroom assessment. Rather than merely describing the stages of classroom assessment, the framework explains why certain types of assessments are used and why certain students receive higher grades than others. The framework helps us understand teachers' classroom assessment more completely.

The Relationship between Classroom Assessment, Teaching, and Learning

Some studies illustrate how classroom assessment facilitates students' learning, teachers' professional development, and their teaching practices. The findings of these studies intensify the importance of studying teachers' classroom assessment.

Stiggins (1991) claims that the improvement in teachers' training in assessment promotes students' learning, and such improvement could be achieved by providing teachers with more training in assessment. He first points out some mismatches between the training of assessment offered to teachers and the teachers' perceived training needs. He poses a revised training course in assessment for practicing teachers. After training, those teachers report that their classroom assessment practices improve, and such improvement also promotes student' performance in writing,

speaking, higher order thinking, problem solving, completing tasks, or other target achievements. Besides, teachers are more apt in helping students obtain a more complete picture of the achievement target they are supposed to pursue. Further, after training, students' efforts and involvement in the learning process increase, and clearer understanding of the expectations in the assessment leads to reduced anxiety when taking tests. For teachers themselves, as the instruction becomes better through the improvement in the assessment practices, they feel a greater extent of self-accomplishment in teaching.

Eisenbach, Golich, and Curry (1998) illustrated how classroom assessment promotes teaching and learning across disciplines concretely in a university. Three classroom assessment techniques were used in three courses taught by different professors. The first one is the "pre/post self-confidence survey". It measured students' understanding of the content knowledge of the course. In the survey, students were asked questions about important points in each course at the beginning and at the end of each course respectively. The second classroom assessment technique was "teacher-designed feedback forms", in which students expressed their perceptions of the contents of reading materials of the courses at mid-semester. The third one was the "Minute Paper and Muddiest Point". In "Minute Paper", students were asked, "What information that we have covered today could have practical application for you outside the classroom?" In "Muddiest Point", students were asked, "What is the muddiest point in today's class session?" Students were required to answer the two questions at the beginning and at the end of a class period. The results show that the three classroom assessment techniques actually promoted teaching and learning. For the "pre/post self-confidence survey", students' confidence about the content knowledge increased significantly within the semester. Some students reported that the survey helped them to become more aware of the important terms

when they read the materials or helped them clarify the meanings of important terms. Students' response in "teacher-designed feedback forms" made professors know the strengths and the area require improvement in their instruction in the mid-semester. In the "Minute Paper" and "Muddiest Point", students' comments allowed professors to modify the pace of delivery and helped them understand students' learning process. In addition, it also facilitated students' learning. For example, one student said, "The anticipation of doing this (Minute Paper) helped me keep up with the readings (p. 64)." After analyzing the results of the three classroom assessment techniques, the three professors gathered together to share and discuss their assumptions about their teaching and students' learning. Through the sharing, the professors engaged in self-reflection on their teaching, thereby facilitating the professional growth.

Eisenbach, Golich, and Curry (1998) concluded that classroom assessment had both professors and student engage in self-reflection.

Guskey (2003) poses that classroom assessment could improve instruction and learning if teachers change their approaches to assessments to meet the following criteria: making assessments useful, following assessments with corrective instruction, and giving students second chances to demonstrate success. Guskey (2003) contends that to make classroom assessments useful, they should not be used to surprise students. Rather, these assessments should reflect important concepts or skills that teachers taught in class. Besides, useful assessments should measure important learning goals. For teachers, information collected from such useful assessment helped them identify the effectiveness of instructions. The second way to measure the washback effect of assessment is to implement high-quality corrective instruction following the assessments to remedy what students have not understood. In the corrective instruction, teachers should present new ways of instruction and involve students in more appropriate learning experiences. Third, after providing corrective

instruction, students should be offered second chances to demonstrate success. This second chance not only offers students another chance to experience success in learning, but also helps examine the effectiveness of the corrective instruction.

The three studies show that in order to link classroom assessment to instruction and learning, gathering information is not the end. Teachers should identify students' learning process or difficulty; afterwards, they should administer follow-ups such as providing different ways of instruction to meet students' needs. As Guskey (2003) states, to make classroom assessment beneficial for learning and teaching, the crucial point is that teachers must regard assessments as parts of their instruction. He says,

“When teachers' classroom assessments become an integral part of the instructional processes and a central ingredient in their efforts to help students learn, the benefits of assessment for both students and teachers will be boundless (p.11).”

From the findings of these studies, we can see that classroom assessment influences instruction and learning to a great extent. As Stiggins (1991) has put it, “We know that the quality of instruction and student learning is directly related to the quality of assessment in the classrooms (p. 11).” Therefore, it is important to do more studies in classroom assessment and to understand how it could be used to promote instruction and learning.

Research on Classroom Assessment in Taiwan

Research on classroom assessment is rare in Taiwan. Wu (1999) does a qualitative research on a university instructor's belief about teaching statistics and his beliefs in administering assessment. He finds that there are discrepancies between the teacher's beliefs about assessment and the actual practice of assessment. Two factors might be the causes of the discrepancies, namely, time limitation and the class size.

The instructor's beliefs about assessment guide the way he presents his subject matters and how he assesses his students. Such beliefs also guide the way by which he understands students' learning. Further, the beliefs influence his awareness of his role as a teacher.

Research on Teachers' Beliefs about Assessment

There is very little research which links teachers' beliefs and classroom assessment together, and our understanding of teachers' beliefs about assessment is still in its infancy. Reuda and Garcia (1994) report a research on the beliefs about reading assessment of three groups of teachers of special education. They use semi-structured interviews, a written survey of teachers' classroom assessment practices, classroom observations, and documents in relation to assessment to explore teachers' beliefs about reading assessment. There are two major findings in this study. First, teachers' beliefs about assessment are closely associated with those about reading. Second, great discrepancies exist between the subject teachers' beliefs and the beliefs constitute the backbone of the reforms of assessment and instruction. To be more precise, teachers seem to embrace the more traditional view that treats reading assessment as the display of the students' command of discrete skills through relatively formal and standardized tests (see Reuda & Garcia, 1994). Conversely, the studies of assessment are moving towards the orientation that regards assessment as a measurement of students' progress through informal and long-term procedures and further as guidance to instruction.

Reuda and Garcia (1994), in light of the findings, contend that teachers' belief systems should be under scrutiny, for the new initiatives of assessment would not be achieved without a better understanding of teachers' belief systems. They urge that more opportunities of self-reflection be provided to teachers in order to spur

meaningful changes in their teaching practices and assessment practices. The study further confirms the need and the importance of further exploring teachers' belief systems. Our knowledge about teachers' beliefs not only facilitates our comprehension of teaching, but also plays a key role in educational reform.

Conclusion

This chapter presents major findings of the literature on teachers' beliefs and classroom assessment. After reviewing the literature on teachers' beliefs and classroom assessment, it is found that our understanding of classroom assessment is still limited (Stiggins, Conklin, & Bridgeford, 1986). Research findings of classroom assessment fall into such categories as teachers' preferred assessment instruments in the classrooms, their concerns about using classroom assessment, teachers' task demands in classroom assessment, and how classroom assessment contributes to the improvement of instruction and students' learning. However, research on teachers' beliefs and attitudes about assessment is mainly quantitative-based. A detailed, qualitative research on teachers' beliefs about classroom assessment is demanded. In Taiwan, research on classroom assessment is seriously scanty. The current study aims to explore the beliefs about assessment underlying two university instructors of English. By employing qualitative research methods, including interviews and classroom observations, the finding of the current study may hopefully contribute to a more complete picture of research on classroom assessment and teachers' beliefs in Taiwan.

