

TEACHERS' CONCEPTIONS AND USE OF ASSESSMENT IN STUDENT LEARNING

Astuti Azis

SMP Negeri 4 Sungguminasa Kabupaten Gowa, Sulawesi Selatan

email: astuti.azis@vuw.ac.nz

Abstract: Education and schooling involve not only materials to be taught or how they should be taught but also how the teaching and learning are assessed. Studying teachers' conceptions is important, as it relates to beliefs which influence teaching practices, including assessment. This article reviews several studies on teachers' conceptions and practices of assessment conducted in six different countries. The objective of the study is to presents teachers' conceptions of the role of assessment in teaching and learning from different contexts. Data were obtained from a careful review of international articles on the study of teachers' conception of assessment using inclusion and exclusion criteria. The result of the review reveals that assessment relates to learning improvement and support the use of various strategies and tools in assessing students. However, the six different countries in the review interpret improvement in different ways which is influenced by several factors. Implications and suggestions for further study are also provided.

Keywords: assessment, conceptions, review, improvement, accountability

Abstrak: Pendidikan dan sekolah tidak hanya melibatkan bahan ajar atau bagaimana bahan ajar tersebut harus diajarkan, tapi juga bagaimana proses belajar dan mengajar dinilai. Mempelajari konsepsi para guru penting karena berhubungan dengan kepercayaan yang mempengaruhi praktek mengajar, termasuk penilaian. Artikel ini meninjau beberapa kajian terhadap konsepsi dan praktek penilaian para guru yang dilaksanakan di enam negara. Tujuan tinjauan ini untuk menjabarkan konsepsi para guru terhadap peran penilaian dalam proses belajar dan mengajar dari konteks yang berbeda. Data diperoleh dari tinjauan terhadap makalah internasional mengenai konsepsi guru terhadap penilaian dengan menggunakan kriteria inklusi dan eksklusi. Hasil dari tinjauan tersebut mengungkapkan bahwa penilaian berhubungan dengan peningkatan hasil belajar dan mendukung penggunaan berbagai strategi dan alat dalam menilai siswa. Akan tetapi, keenam negara yang dipelajari dalam tinjauan tersebut menerjemahkan peningkatan dalam belajar secara berbeda karena dipengaruhi oleh beberapa faktor. Peneliti juga memberikan implikasi dan saran untuk penelitian yang akan datang.

Katakunci: penilaian, konsepsi, tinjauan, peningkatan, pertanggungjawaban,

Teaching is complex; it involves elements such as curriculum, subject matter and epistemology, teaching and learning, and also assessment and evaluation. In other words, the core process of education and schooling engages the nature of what is taught, how that content is taught and learned, and how that teaching/learning is assessed and evaluated (Brown, 2008). Thus, the study of teaching relates to how these are understood and applied by teachers.

The complexity of effective teaching and learning relates to teachers' personal conception and theory of teaching practice (Kagan, 1992; Pajares, 1992). It is evident that teachers' conceptions of aspects in education process such as teaching, learning and curricula strongly influence their teaching and students' learning (Calderhead, 1996; Thompson, 1992). Conception, belief, perception will be used interchangeably through this review.

Conception or belief is part of the knowledge that every practitioner needs to have. Moreover, personal and professional knowledge of a teacher can be regarded as belief (Kagan, 1992). Belief also becomes personal pedagogy to guide teachers' practice of teaching. It helps teachers to define teaching tasks and organizing knowledge and information related to those tasks (Nespor, 1987). This implies that teachers' belief or conception influences their technique and practice of assessment (Kahn, 2000).

Researchers define assessment in various ways. The most general definition states that assessment is "evidence of performance" (William & Black, 1996, 540). It "involves making decisions about what is relevant evidence for a particular purpose, how to collect the evidence, how to interpret it and how to communicate it to intended users" (Harlen, 2005, p. 207). More specifically, Hattie and Timperley (2007) defined assessment as "activity used to assess students' level of proficiency" (p. 101). Thus, assessment can be grouped into formative and summative purposes. Formative assessment aims to improve learning

and is conducted during the learning process involving feedback to inform students' performance. The latter type of assessment (summative), which aims to certify student learning, is conducted at the end of a learning period and involves scoring and grading.

Whatever the differences of assessment, teachers are the leading actor in the learning process and first interpreter of assessment information and process into learning. Thus, it is important to investigate teachers' conception of assessment and how they make use of it. This study looks closely at teachers' conception of the role of assessment in teaching and learning.

To present evidence-based practice in the area of teachers' conception and use of assessment, I provide a review of studies on teachers' conception and practice of assessment from six different countries. The objective of this review is to present teachers' beliefs about assessment from different contexts, how they translate their belief into practice and what factors influence their conception.

This review is divided into five main sections. The first section explains the study. The second section describes the method used for the study, followed by an overview of the articles. Section four discusses and critiques the articles and closes with summary of the review.

METHOD

The review draws attention to the need for research that examines teachers' conception and practice of assessment from different parts of the world. In order to study this issue, I conducted a search to find studies investigating the conception of teachers about assessment and the implication of this belief for their teaching practice.

I searched the Educational Resources Information Center (ERIC) and ProQuest Education Complete, and used the internet search engine and Victoria library journal finder in the areas of belief, conceptions,

understanding, assessment, evaluation, test, learning, teaching, achievement, improvement, primary, elementary and secondary school level. The various literature searches resulted in 13 studies which led me to apply the exclusion and inclusion criteria.

To be included in this review, the article had to be a research study that examined teachers' conceptions and use of assessment to improve student learning. Criteria for inclusion cover studies conducted at elementary or secondary school level, accomplished in different contexts to present different beliefs and related factors, carried out in language learning context and completed within the last twenty years. Studies that focused on impact of assessment on teachers and student learning (Journell, 2011; Amrein & Berliner, 2002; Choi, 2008; Smith, 1991), sounded more analytical than research (Hargreaves, 2005), were conducted at tertiary level (Iqbal, Azam & Abdiollah, 2009), or evaluated subjects other than English (Adams and Hsu, 1998) were not included.

Overview of articles

From 13 potential studies, 7 studies were excluded, leaving 6 studies investigating elementary and secondary school teachers' conception and use of assessment in learning for summary and analysis. Before presenting the summary of the reviewed articles, it is advantageous to distinguish among the assessment conceptions used in Brown's study, as these conceptions are the bases of subsequent studies (Brown, Lake and Matters, 2011; Brown, Kennedy, Fok, Chan and Yu, 2009; and Bonner and Chen, 2009).

The **improvement** conception emphasizes the use of information to produce valid changes in teaching and learning (Brown, 2008). Teachers who view **assessment** in this way believe that assessment should improve students' learning and the quality of their teaching (Black and Wiliam, 1998; Black, Harrison, Lee, Marshall, & Wiliam, 2003). This conception requires teachers to make valid, reliable and accurate descriptions of

students' performance (Brown, 2002). Various strategies and techniques used in teachers' practice include informal teacher-based intuitive judgement and formal assessment tools. These techniques function to 'identify the content and process of student learning with the explicit goal of improving the quality and accuracy of instruction and/or enabling students to improve their own learning' (Harris & Brown, 2008, p. 2).

Brown's **school accountability** conception is used to account for the teacher's schools, or a system's use of society's resources. This assessment imposes consequences for reaching or not reaching required standards (Firestone, et al., 1998). It also demonstrates whether school or teachers are doing a good job (Butterfield, et al., 1999). To this end, teachers who equate assessment with school accountability emphasize two rationales: demonstrating school and teacher quality instruction (Smith & Fey, 2000) and improving the quality instruction (Linn, 2000).

The **student accountability** conception holds students individually accountable for their learning. Grading and scoring, criterion reference tests, awarding certificates or qualification based on performance are examples of this assessment in practice (Harris, & Brown, 2008). To fulfil the purpose of student accountability, certification of attainment is needed, which reveals that this conception is more about placing student through high stakes consequences such as graduation, selection or public reporting (Guthrie, 2002).

The conception of **irrelevant** is held when teachers reject assessment for a number of reasons. In these cases, assessment is seen to be separated from the teaching and learning process (Harlen, 1998). Teachers with irrelevant conceptions may feel that, assessment affects their autonomy and professionalism negatively and narrows the purposes of learning (Smith, 1991). Teachers may also believe that assessment is less valid and unreliable (Brown, 2002; Shohamy, 2001).

These four purposes of assessment underpin Brown's TCoA, which has subsequently been used and adapted in several countries. Among them were conducted in Queensland (Brown, et al., 2011), Virginia, USA (Calaveric, 2010), Ankara, Turkey, (Vardar, 2010), Hong Kong (Brown, et al., 2009), and China (Li and Hui, 2007).

The following is the summary of the topic, participants, methods and main findings for each of the six included studies. Brown, Lake and Matters (2011) conducted a study on Queensland teachers' conceptions of assessment. The participants of the study came from primary and secondary school teachers. Total participants were 1398 teachers from 92 state schools in Queensland Australia. Most teachers participating in the study taught at levels 1-10 (elementary) where no high-stakes test was applied. In short, the participants were 784 primary teachers and 614 secondary teachers. 65 of the participants had 4-5 years teaching experience and 52% of them had graduate diplomas. A questionnaire-based survey was the method of data collection and was conducted in 2003. The survey examined teachers' attitudes, beliefs and practices in the areas of curriculum, pedagogy and assessment. The instrument used was a 27-item conception of assessment inventory which was wrapped in a positively packed agreement rating scale with two negative options and four positive options. In addition, the study used four conceptions of assessment as the framework reflecting three purposes and one anti-purpose of assessment, namely assessment for improvement, assessment for school accountability, assessment for student accountability and irrelevant. This framework was supported with components clarifying the conceptions of assessment. The study found that primary school teachers agreed more than secondary teachers that assessment improves teaching and learning while the latter agreed more that assessment makes students accountable. It also contended that irrelevance and

students accountability conception were not related for primary school teachers. The fact that Queensland primary schooling was free from high-stakes test influenced teachers' conception of assessment. However, all participants contended that improvement conception was the opposite of irrelevant conception. It implies that assessment is bad if it is focused on students' accountability and is inaccurate to reflect students' learning or school accountability. The study also found that improvement was positively associated with demonstrating the school accountability and showed no systematic relationship with student accountability. The study concludes that teachers in this research believe in assessment as a tool to improve learning. The relationship is supported with the context of low-stakes assessment designed to improve classroom practice which allows teachers to improve learning in a self-manage manner. The study indicates that in the context of low-stakes test, teacher perceived assessment as improving learning and relied more on the practice of formative assessment where teachers can use numbers of assessment format and provide feedback to students.

Applying the same instrument to a different context, Brown, Kennedy, Fok, Chan and Yu (2009) revealed dissimilar findings in the second study. The researchers examined Hong Kong teachers' perceptions and practices of assessment. Two hundred and eighty-eight primary and secondary school teachers from 14 schools participated in the study. 80% of them were female and 87% were primary school teachers. More than half of teachers had taught for more than 10 years. **Generalization** of the study is limited to teachers who participated in APL (Assessment for Productive Learning) project developed by a team of researchers at the Hong Kong institute of education. Similar to Queensland's study, the research also used self-administered questionnaires with close-ended rating scales of two constructs: conception of assessment and assessment practice. The different context where the

study was carried out required the researchers to translate the framework and questionnaires into Chinese. This translation was reviewed and validated by a team of expert panel to ensure any technical terms had the right equivalent to English. The finding reveals that teachers believed assessment as improving learning. This exactly fits with findings from the previous study conducted in Queensland. Hong Kong teachers also perceived that students' accountability was related to learning improvement. However, the correlation between improvement conception and students' accountability conception was interpreted differently between the two groups. The low-stakes assessment context in Queensland supported teachers to use feedback in formative assessment practice. On the contrary, Hong Kong created a high-stakes assessment context which encouraged teachers to rely on test and examination as measurement of improvement. Hong Kong teachers believed that examination was the mirror of student competence. This issue is a culturally embedded value shared among Chinese and those with Confucian heritage among the Asian region. The value might become the constraints of assessment reform in this context. This report describes different conceptions of assessment which tells that different contexts might view assessment in different perspectives. Cultural factors and policy systems seem to be crucial components in forming people's belief and conception.

The third study investigates teachers' perception about teachers' assessment in relation to grading practices and learning views (Bonner and Chen, 2009). The participants were teacher candidates who were enrolled in 3 courses offered at the Hunter College City University New York. The total numbers of the participants were 222, which was representative of teacher candidates in the university in terms of gender, and ethnic diversity. Similar to previous studies, this research also used survey to probe teachers' concept of assessment practices and views of learning.

The survey examined teachers' perception and actual practice and asked teachers to reflect on the basis of final semester grades in a single class. In addition, the **questionnaires** focused more on perception rather than on practice. The study suggests that elementary and secondary school teachers were not supporting lax grading approach but supported the academic enabling approach to grading that relied on alternative assessment. However, elementary school teachers endorsed a constructivist approach more and believed in alternative assessment such as portfolio and project work as the source of information for students' performance. Conversely, secondary school teachers supported the behavioural management approach to grading and used more traditional approach and traditional management approach. This finding implies that secondary school teachers sometimes used assessment to punish their students. Interestingly, these teachers reported that they tended to change their perception of assessment after participating in assessment training. The findings reveal different conceptions and views of learning between elementary and secondary teachers in New York.

Conceptions of assessment held by trainee teachers who attended a post-graduate certificate in education at the University of Cambridge were also investigated in UK (Winterbottom, Brindley, Taber, Fisher, Finney, & Riga, 2008). Two hundred and twenty secondary trainee teachers participated in the study. Using 31-item questionnaire with Likert, the research found three major conceptions of assessment reported by participants. They were: (1) making learning explicit; (2) promoting learning autonomy; and (3) gaining better performance. The first two conceptions were related to learning improvement and rated as the most important purposes of assessment. However, although the third conception ranked lowest, participants reported that this purpose was the strongest feature of their practice. The findings revealed that there was a huge awareness among participants of

the importance of assessment for improvement. However, the learning environment and high-stakes policy system caused them to ignore their beliefs which Brown (2002) would describe as their holding irrelevance conceptions. This study reveals that although all teachers held and wished to practice improvement purposes of assessment, the difference in the teaching focus between the secondary schools and elementary schools tended to block their intention. Again, it is the matter of policy and educational system that teachers need to agree with and follow.

The influence of policy and education system was also captured in a qualitative study to seven upper secondary school teachers of different subjects in Finland (Degbey, 2009). The focus of the study was exploring teachers' conceptions of assessment tools such as portfolio, **performance**-based assessment, self and peer-assessment and observation. Teachers stated that these assessment tools had a positive effect on students' learning, motivation, performance and personal development. However, they also contended that preparing student for the school leaving examination contributed greatly to their teaching practices. These teachers held both improvement and accountability conceptions but needed to prepare their students for examination. Participants in the study preferred the assessment strategies and techniques suggested for improvement purposes; however, practices were inhibited to fulfil the policy demand for examination. This indicates that these teachers' conceptions related to the Finnish educational system and external assessment policy demands (Barnes, Clarke & Stephens, 2000). Their conceptions might have also been shaped by culture as those indicated by the study in Turkey (Vardar, 2010) and Hong Kong (Brown, et al., 2009).

The final study used in this review focused on upper primary level teachers' conception of assessment in Asian country. Noor, Muniandy, Krishnan and Mathai (2010) raised the issue of English oral assessment in Singapore. Similar to Finnish

study, this is also a qualitative research involving only 10 teachers who were teaching at primary 5 and 6 levels. These teachers were the examiners of English oral assessment in PSLE (Primary School Leaving Examination). Data were collected mainly through semi-structured interviews and were recorded. Before conducting the real interview, the researchers piloted the interview questions to validate them. The interview was conducted 2 weeks after the PSLE oral assessment. The questions mainly focused on teachers' conception of important components for oral skills, challenge in conducting PLSE oral assessment, and PSLE assessment format. In addition to the interview, teachers' confidence and competence in conducting oral assessment were also rated using a 5-point Likert scale. The study showed that there was variance in teachers' beliefs and perceptions of the extent that the PSLE English oral assessment is reliable to measure students' oral competence. The participants argued that PSLE only measured general pupils' oral skills and reflected the gap of oral assessment to assess students' life experience. The results also assert that the teachers had various perceptions of the challenges they faced in conducting PSLE, among those were unresponsive pupils and different interpretation of descriptors and rubrics between the examining partners. Remarkably, although the teachers perceived that PSLE was not reliable, they gave no specific suggestion on how to improve the test. This study confirmed that PSLE, which was summative in nature, although it did not reflect improvement in student learning, had an important position in describing student achievement. This was due to the policy of placing a high-stakes examination as the indicator of students' performance. Again, the conception of assessment reflects the cultural embedded values shared among people in the Asian region.

RESULTS AND DISCUSSION

This review focuses on elementary and secondary school teachers' conception and use of assessment in student learning from several contexts. All these studies were published between 2009 and 2011. Summary of these studies reveal that assessment relates to learning improvement. It meets the basic purpose of assessment in education to support learning (Black and Wiliam, 2006). The study by Brown et al. (2011) and Bonner and Chen, (2009) indicated that teachers used several assessment tools and focused more on formative purposes of assessment practice. They used feedback to inform students' performance, share the learning goals in teaching, and involve students in assessment. Teachers reported that these **activities** were conducted frequently and that these were how they used assessment to improve learning. The conception and practice of assessment in the two studies (Brown et al. 2011 ; Bonner & Chen, 2009) reveal that assessment is something to do *with* and *for* students and not *to* students (Green, 1998). It also matches with Hattie and Jaeger's (1998) claim that "assessment needs to be an integral part of a model of teaching and learning" (p.111). Adversely, the dominant use of high-stakes assessment especially in higher level such those reported in Finland and UK tend to influence teachers to hold irrelevant conception. In addition, studies in Hong Kong and Singapore lead teachers to conceive that an examination or test is the appropriate tool to measure students' achievement. Ranking and competition derived from examination are believed to increase students' tension and ego as well as motivate them to study harder to be recognized as good students. That is how assessment is perceived to improve learning. These four studies contend a huge gap between east and west, which needs further investigation.

It is evident in some countries that summative assessment results in negative impact such as lowering teachers' capability

to teach content and to use methods and materials that are incompatible with test format (Smith, 1991), creating gaps between high and low achieving students (Paris, Lawton, Turnet & Roth, 1991), and not really affecting student achievement (Amrein & Berliner, 2002). The condition motivates most western countries to focus more on formative assessment. However, this evidence is insufficient enough for an eastern context in terms of changing people's beliefs of the importance of examination to measure students' **performance**. Furthermore, the practice of feedback is hardly adopted in Asian classes due to the large number of students in one class (34-40) compared to smaller sizes in western countries. These differences imply that assessment provides tools that can be used in a variety of ways. However, the choice and deployment of the tools and the interpretation of the results depend on educational system, public and political influences (Black and Wiliam, 2005).

It is not reasonable to judge that one practice of assessment is better than the other. Great inequality between eastern and western in terms of teaching framework should be considered. Both areas adopt different views of learning as can be seen in the application of product approach versus process approach, learning by understanding versus learning by doing and focus on form versus focus on meaning (Senior & Xu, 2001). These differences significantly lead to different beliefs and practices and also systems of assessment.

The strong bond in culture is another issue in forming teachers' conceptions of assessment. The influence can be seen from Hong Kong study that, although the country was colonized by British, and English is emphasized in the language curriculum, the English education system had a very little influence on teachers' practice (Sweeting & Vickers, 2007). The huge numbers of refugees moving from China to Hong Kong after the Civil War in China in 1949 caused Hong Kong to adopt a screening mechanism for schooling (Berry, 2011). Up until now,

teachers, education officials and parents have believed that examination is the best qualification indicator and the main determinant for admission to either secondary or tertiary education in Hong Kong (Choi, 1999). As a result, even though Hong Kong for almost eleven years now has taken assessment for learning seriously, the high-stakes social function of assessment, either in teachers' conceptions or practice, tends to block the reform agenda (Kennedy, Chan, Fok & Yu, 2008; Brown, et al., 2008).

Lessons from these studies suggest a gap between interpretations of assessment in English speaking countries and non-English speaking countries and signify that the culture in different sites may contribute to dissimilar conceptions and practice of assessment. In response, Brown et al. (2009) have suggested that to be effective, a policy initiator should identify and respond to teachers' conceptions before implementing new plans for educational reform. Cultural factors may hold particular relevance given that assessment values among Confucian peoples and European countries may differ from those held in the West (Kennedy et al., 2008).

The studies in this review involved 2145 people in total. Participants were elementary and secondary school teachers and mostly had 5 years or more teaching experience. One of the studies had more than one thousand participants, three studies involved hundreds of participants and two other were small scale case studies involving only seventeen teachers. It implies that four studies were quantitative and two were qualitative. The large numbers of participants in the first four studies indicate the use of survey design and questionnaires as the appropriate instrument to use. McMillan and Schumacher (2010) argued that survey research presents accurate information from a large number of people. Moreover, survey research is the procedure to obtain description of attitudes, beliefs, values, behaviours, opinions, characteristics and other types of information of the population (Creswell, 2005; MacMillan and

Schumacher, 2010). To this end, survey research reflects the appropriate choice in investigating teachers' conceptions of assessment. In spite of this, a pilot test is the big concern in conducting survey research. It gives the researcher opportunity to revise the instrument and make it understandable, clearer and not ambiguous (Creswell, 2005). The fact that only two studies followed the procedure should suggest reflection for further research. In addition, the small scale studies in Finland and Singapore also mirror the right option of using interviews to collect data for measuring teachers' conception. However, it might be insufficient to echo the practice of assessment. Creswell (2005) asserted that "survey only describes trends in the data rather than offers rigorous explanation" (p. 351). He also insisted that Observation provides "the opportunity to record information as it occurs in a setting" (p. 211). Moreover, observation is needed to ensure that participants' statements match with what their action (Johnson and Christensen, 2008). Thus, more qualitative studies are needed for further research in the field as well as the use of observation and document analysis to support the **interpretation** of the result of the study.

The identification of themes and methodological issues in the studies of this topic suggest further investigation in eastern context, especially in the Asian region. Very limited study has been conducted within the area. Also, putting attention on certain levels of schooling will be beneficial to interpret data compared to analyzing it from both elementary and secondary schools. The latter issue is important because elementary and secondary schools applied dissimilar policies, which influence the different conceptions and practices of assessment and lead to difficulties in generalization and interpretation of data.

In terms of educational implication, this review suggests the importance of maintaining teachers' commitment to use assessment to improve learning. It also informs that teachers' conceptions of belief significantly relate to teaching practice.

Furthermore, the different findings resulted from different contexts should encourage policy makers to revisit their policy. Queensland and New York governments should stimulate teachers with a robust conception that assessment improves teaching and learning and demonstrate accountability. Furthermore, more careful consideration in the intervention of a new assessment concept is needed by policy makers in Hong Kong. This issue is crucial due to the fact that broader cultural norms and school culture might become the main hindrance factor for assessment reform in the region. In addition, there should be more rooms provided for feedback in English oral assessment like PSLE in Singapore. Assessment reform should also involve all elements in education system in order to produce friendly and effective assessment system. Overall teachers need continuous support and training on assessment.

CONCLUSION

This literature review presents teachers' belief about assessment from different contexts, how they translate their beliefs into practice and factors that influence their conception. It found that all participants conceived assessment as improving learning. However, this alignment was interpreted differently in practice.

Western context (represented by US, Queensland, UK and Finland) believed in the need of low-stakes assessment to meet the purpose. Furthermore, they also suggest that different curriculum level may lead teachers to have different conception due to different policy implemented in each level. On the other hand, Hong Kong and Singapore, which represent eastern context, imply that high-stakes assessment test informs students' achievement. Therefore, the examination is the appropriate instrument to measure student learning. This important difference entails that context, culture, view of learning and policy are

factors that manipulate teachers' conceptions and practices of assessment.

This simple review is definitely insufficient to generalize the issue of conception and practice of assessment that further and deeper exploration in the field is needed to address. Learning from the studies presented in the review, conducting similar research in the qualitative paradigm and using various data collection methods such as observation and document analysis seem to be useful to present more accurate data.

In summation, the literatures on teachers' conceptions of assessment suggest that teachers believe both that assessment improves learning, and that assessment relates to school accountability. Beliefs that assessment improves learning may lead teachers to the practice of formative assessment. However, where teachers report a strong belief in high-stakes examination, they may adopt different assessment practices. Remarkably, from the six studies reviewed, two of them attributed government policy on education and examinations as the main contributors to teachers' conceptions. Some of the studies reported that a teacher's level of teaching (elementary and secondary or early year and final year) was also crucial in shaping teachers' belief of assessment. This may be the result of policy which directs teachers to a different focus of teaching and if there is a highly mandated examination conducted in students' last year of schooling.

Another important note from these studies is how the experience of teachers may determine their beliefs and **conceptions**. Involvement in professional development program is reported by teachers as contributing positively to their conceptions and practices. Overall, a key difference from the studies found that culturally embedded assessment practices and educational policies determined teachers' beliefs about the purposes of assessment.

REFERENCES

- Adams, T. L., & Hsu, J.-W. Y. (1998). Classroom assessment: teachers' conceptions and practices in mathematics. *School Science and Mathematics*, 98(4), pp. 174-180.
- Amrien, A. L., & Berliner, D. C. (2002). The impact of high-stakes test on student academic performance: An analysis of NAEP results in States with high-stakes test and ACT, SAT, and AP test results in States with high school graduation exams. *Education Policy Studies Laboratory*.
- Barnes, M., Clarke, D., & Stephens, M. (2000). Assessment: The engine of systemic curricular reform. *Journal of Educational Studies*, 32(5), pp. 623-650.
- Berry, R. (2011). Assessment trends in Hong Kong: Seeking to establish formative assessment in an examination culture. *Assessment in Education: Principles, Policy & Practice*, 18(2), pp. 199-211.
- Black, P., & Wiliam, D. (1998). Assessment and classroom learning. *Assessment in Education : Principles, Policy & Practice*, 5(1), pp. 7-74.
- Black, P., Harrison, C., Lee, C., Marshall, B., & Wiliam, D. (2002). *Working inside the black box: Assessment for learning in the classroom*. London: Department of Education and Professional Studies, Kings College.
- Black, P., & Wiliam, D. (2005). Lessons from around the world: How policies, politics and cultures constrains and afford assessment practices. *The Curriculum Journal*, 16(2), pp. 249-261.
- Black, P., & Wiliam, D. (2006). Assessment for learning in the classroom. In J. Gardner (Ed.), *Assessment and Learning* (pp. 9-25). London: Sage Publication Ltd.
- Bonner, S. M., & Chen, P. P. (2009). Teacher candidates' perceptions about grading and constructivist teaching. *Educational Assessment*, 14(2), pp. 57-77.
- Brown, G. T. L. (2002). *Teachers' conceptions of assessment*. Dissertation. University of Auckland, NZ. Auckland
- Brown, G. T. L., Kennedy, K. J., Fok, P. K., Chan, J. K. S., & Yu, W. M. (2009). Assessment for student improvement: Understanding Hong Kong teachers' conception and practices of assessment. *Assessment in Education: Principles, Policy & Practice*, 16(3), pp. 347-363.
- Brown, G. T. L., Lake, R., & Matters, G. (2011). Queensland teachers' conceptions of assessment: The impact of policy priorities on teacher attitudes. *Teaching and Teacher Education*, 27, pp. 210-220
- Brown, G. T. L. (2008). *Conceptions of assessment: Understanding what assessment means to teachers and students*. New York: Nova Science Publishers, Inc.
- Butterfield, S., Williams, A., & Marr, A. (1999). Talking about assessment: mentor-student dialogues about pupil assessment in initial teacher training. *Assessment in Education*, 6(2), pp. 225-246.
- Calderhead, J. (1996). Teachers: Belief and knowledge. In D.C. Berliner & R.C Calfee (eds.), *Handbook of educational psychology* (pp.709-725). New York : MacMillan
- Calveric, S. B. (2010). *Elementary teachers' assessment beliefs and practices*. Doctor of Philosophy dissertation, Virginia Commonwealth University, Virginia.
- Creswell, J. W. (2005). *Educational research planning, conducting, and evaluating quantitative and qualitative research* (2nd ed.). New Jersey: Pearson Education.
- Choi, C.-C. (1999). Public examinations in Hong Kong. *Assessment in Education*, 6(3), pp. 405-417.
- Choi, I.-C. (2008). The impact of EFL testing on EFL education in Korea. *Language Testing*, 25(1), pp. 39-62.
- Degbey, M. (2009). *Using assessment to improve teaching and learning in upper*

- secondary schools*. Master thesis. University of Turku. Turku, Finland.
- Firestone, W. A., Mayrowetz, D., & Fairman, J. (1998). Performance-based assessment and instructional change: the effects of testing in Maine and Maryland. *Educational Evaluation and Policy Analysis*, 20(2), pp. 95-111
- Green, J. M. (1998). Constructing the way forward for all students: What are the essential determinants of a useful assessment system which can contribute to improve teaching and learning? *Education Canada*, 38(3), pp. 8-12.
- Guthrie, J. T. (2002). Preparing students for high-stakes test taking in reading. In A. E. Farstrup & S. J. Samuels (eds.), *What research has to say about reading instruction* (3 ed., pp. 370-391). Newark, DE: International Reading Association.
- Iqbal, H. M., Azam, S., & Abiodullah, M. (2009). Using assessment for improving students learning: an analysis of university teachers' practice. *Bulletin of Educational Research*, 31(1), pp. 47-59.
- Hargreaves, E. (2005). Assessment for learning? Thinking outside the (black) box. *Cambridge Journal of Education*, 35(2), pp. 213-224.
- Harris, L. R., & Brown, G. T. L. (2008). *New Zealand teachers' conceptions of the purposes of assessment: Phenomenographic analyses of teachers' thinking*. Paper presented at the Australian Association for Research in Education (AARE), Brisbane, Australia.
- Harlen, W. (1998). Classroom assessment: A dimension of purposes and procedures. In C. Ken (Ed.), *SAMEpapers* (pp. 75-97). Hamilton New Zealand: Centre for Science, Mathematics and Technology Educational Research, University of Waikato.
- Harlen, W. (2005). Teachers' summative practice and assessment for learning-tensions and synergies. *The Curriculum Journal*, 16(2), pp. 207-223.
- Hattie, J., & Jaeger, R. (1998). Assessment and classroom learning: A deductive approach. *Assessment in Education*, 5(1), pp. 111-122.
- Hattie, J., & Timperley, H. (2007). The power of feedback. *Review of Educational Research*, 77(1), pp. 81-112.
- Johnson, B., & Christensen, L. (2002). *Educational research: quantities, qualitative, and mixed approaches* (third edition ed.). Thousand Oaks: Sage Publication, Inc.
- Journell, W. (2010). The influence of high stakes testing on high school teachers' willingness to incorporate current political events into the curriculum. *The High School Journal*, pp. 111-125.
- Kagan, D. M. (1992). Implications of research on teacher belief. *Educational Psychologist*, 27(1), pp. 65-90.
- Kahn, E. A. (2000). A case study of assessment in grade 10 English course. *The Journal of Educational Research*, 93, pp. 276-286.
- Kennedy, K. J., Chan, J. K. S., Fok, P. K., & Yu, W. M. (2008). Forms of assessment and their potential for enhancing learning: conceptual and cultural issues. *Educational Research Policy Practice* 7, pp. 197-207.
- Li, W. S., & Hui, S. K. F. (2007). Conceptions of Assessment of mainland China college lectures: A technical paper analyzing the Chinese version of COA-III. *The Asia Pacific-Education Researcher*, 16(2), pp. 185-198.
- Linn, R. L. (2000). Assessments and Accountability. *Educational Researcher*, 29(2), pp. 4-16.
- McMillan, J. H., & Schumacker, S. (2010). *Research in education evidence-based inquiry* (7th ed.). New Jersey: Pearson.
- Nespor, J. (1987). The role of beliefs in the practice of teaching. *Curriculum Studies*, 19(4), pp. 317-328.
- Noor, N. B. M., Muniandy, M. K., Krishnan, S. k., & Mathai, E. J. (2010). Upper primary teachers perceptions of PSLE

- English oral assessment. *English Language Teaching*, 3(4), pp. 142-151.
- Pajares, M. F. (1992). Teachers' beliefs and educational research: Cleaning up a messy construct. *Review of Educational Research*, 62(3), pp. 307-332.
- Paris, S. G., Lawton, T. A., Turner, J. C., & Roth, J. L. (1991). A developmental perspective on standardized achievement testing. *Educational Researcher*, 20(5), pp. 12-20.
- Senior, R., & Xu, Z. (2001). East meet west: Language teachers from different context discover goals. *EA Journal*, 19(1), pp. 65-74.
- Shohamy, E. (2001). *The power of test: A critical perspectives on the uses of language tests*. Harlow: Pearson Education.
- Smith, M. L. (1991). Put to the test: The effects of external testing on teachers. *Educational Researcher*, 20(5), pp. 8-11.
- Smith, M. L., & Fey, P. (2000). Validity and accountability in high-stakes testing. *Journal of Teacher Education*, 51(5), pp. 334-344.
- Sweeting, A., & Vickers, E. (2007). Language and the history of colonial education: The case of Hong Kong. *Modern Asian Studies*, 41(1), pp. 1-40.
- Thompson, A.G. (1992). Teachers' belief and conceptions: A synthesis of the research. In D.A. Grouws (ed), *Handbook of research on mathematics teaching and learning* (pp.127-146). New York: MacMillan.
- Vardar, E. (2010). *Sixth, seventh, and eighth grade teachers' conception of assessment*. Master of Science theses, Middle East Technical University, Ankara.
- William, D., & Black, P. (1996). Meaning and consequences: A basis for distinguishing formative and summative functions of assessment. *British Educational Research Journal*, 22, pp. 537-548.
- Winterbottom, M., Brindley, S., Taber, K. S., Fisher, L. G., Finney, J., & Riga, F. (2008). Conceptions of assessment: trainee teachers' practice and values. *The Curriculum Journal*, 19(3), pp. 193-213.