

NICHOLAS SUN-KEUNG PANG & ZOE LAI-MEI LEUNG**PROMOTING QUALITY OF EARLY CHILDHOOD EDUCATION THROUGH ASSESSMENT FOR LEARNING: PREPARING FUTURE GLOBALLY COMPETENT CITIZENS****Abstract**

The concept of “Assessment-of-Learning” (AoL) has long been the tradition in most school assessment practices in Hong Kong. In view of the deficiencies in the assessment mechanism, the Education Commission (2000) recommended “Assessment-for-Learning” (AfL) as one of the major areas of action in the current education reform. This paper reports the outcomes of a research study designed to investigate the practice of assessment for learning by Hong Kong teachers. The project was a collaborative one, involving the School Development and Evaluation Team (SDET) of the Chinese University of Hong Kong and teachers from 20 kindergartens. In the project, central seminars, workshops and meetings were provided to the participating schools for the purpose of enhancing teachers’ Assessment for Learning (AfL) competency in their daily teaching. A questionnaire of 60 items was administered twice to teachers from the participating kindergartens at the beginning as well as towards the end of the project in order to assess their uses of the nine AfL strategies, namely, informing teaching objectives, informing success criteria, effective questioning, quality feedback, self-assessment, peer assessment, collecting learning evidence and teacher reflections in their daily teaching. Results indicate that there is a remarkable improvement regarding teachers’ habits in utilizing AfL strategies after the intervention. This research has pioneered a quantitative study of the practice of AfL in kindergartens and has validated an instrument for assessing such a practice. The framework, the instrument, the findings and insights generated from the study may have significant contributions to the improvement of classroom teaching in kindergartens.

Keywords: assessment-for-learning, early childhood education, teaching and learning, Hong Kong

Background

Traditionally, assessment has been used in ranking students’ achievement in learning (Connell et al, 1982, p. 185) and inevitably produces academic winners and losers ever since the children first enter their elementary class. Students, who succeed early, will build on winning streaks to learn more as they grow; whereas, those who fail early, will often fall farther and farther behind (Stiggins, 2007, p. 22).

According to Nisbet (1993), assessment has pervasive influence in schooling as it affects on how children learn and how teachers teach. It always impacts on the learning process through the wash back effect (Alderson & Wall, 1997), cramming and rote learning—to the extent that learning for assessment is almost as important as the genuine learning, which these assessments are originally devised to measure (Nisbet, 1993, p. 25).

Education today has shifted from its “sorter and sifter” role to a gap-bridging role for learning differences found in classrooms. Thus, the purpose of adopting assessments in the curriculum evolves from verifying learning to supporting learning, that is, Assessment for Learning — assessment which has learning as its object and through which, our students understand where they are and what they can do next in the process of learning (Connell et al., 1982, p. 200). Black and Wiliam (1998a, 1998b) advocated that formative assessments could improve students’ learning substantially through:

- provision of effective feedback to students;
- active involvement of students in their own learning;
- adjustment of teaching after taking account of assessment results;
- recognition of the profound influence of assessment on students’ motivation and self-esteem; and
- the need for students to assess themselves and understand how to improve.

Assessment for Learning

According to Black *et. al* (2004, p. 10), Assessment for Learning (AfL) “is any assessment serve the purpose of promoting students’ learning” through providing useful information in modifying learning and teaching. In order to promote better learning, schools are encouraged to put more emphasis on AfL as an integral part of the learning, teaching, and assessment cycle. This means that the curriculum is responsible for setting out what students should learn in terms of learning targets or objectives, while the assessment serves as a means to collect evidence of student learning by assessing both the learning products and the learning process. Most importantly, teachers should use the information collected by the assessment practice as the basis for decisions on improving learning and teaching, and informing students about their strengths and weaknesses. Hence, students’ motivation and interest of learning will be reinforced with teachers’ recognition of their achievements and provision of necessary steps for improvement (Curriculum Development Council, 2001; Curriculum Development Institute, 2002). Another important function of AfL is facilitating students’ self-evaluation so that they can become independent learners in the future.

Pang’s AfL-PDICE Model (2008)

Pang (2008) further elaborates the AfL concept and develops the AfL-PDICE model which consists of nine essential AfL strategies, namely, “informing teaching objectives”, “informing success criteria”, “effective questioning”, “quality feedback”, “self-assessment”, “peer assessment”, “observations in class”, “collecting learning evidence” and “teacher reflections” through five different stages.

In the planning stage, teachers need to identify certain learning and teaching objectives before they design their assessment tasks or activities. In designing the tasks, teachers should have a clear picture about the learning objectives of the lessons and set success criteria based on these goals.

During the implementing stage, teachers should share the learning objectives with students so that they can have a clear picture of what they are going to learn at

the beginning of the lesson. Similarly, teachers should share the success criteria of the assessment tasks with students in order to assist them to understand what they need to achieve and thus facilitating self and peer assessment after the task as well as enhancing their ownership of learning. In order to enhance AfL, teachers are required to use effective questioning techniques such as high-order thinking questions to encourage students to apply, analyze, synthesize or evaluate their knowledge currently learnt. During the learning process, students are asked to reveal their thinking processes and understanding so that teachers can make use of this evidence to inform their teaching and diagnose students' strengths and weaknesses. Then, with teachers' quality feedback, students are able to make learning plans for further improvement.

For self and peer assessment, it is based on the belief that encouraging students to self-reflect on their own work can enhance learning. Once students understand how to assess their current knowledge and the gaps in it, they will have a clearer idea of how they can help themselves to improve their learning. Thus, teachers should provide opportunities for their students to reflect on their own work. In addition, encouraging students to comment on their fellow classmates' work is essential in learning since they can understand both the learning objectives and the task requirement (or assessment criteria) while evaluating others' work. Moreover, looking at different answers or responses from peers can help students to understand the alternative methods they could have used to the task.

It should be noted that the collecting stage is not necessarily detached from the implementing stage as teachers are often required to collect evidence of students' learning by assessing both the learning product (i.e., the learning targets and content that students are expected to achieve) and the learning processes (i.e., how they learn) through their observations during lessons, rating students' worksheets, reviewing students' self/peer assessment forms and conferencing with students. Finally, in the evaluating stage, teachers can make use of the information collected by the assessment practice to form basis in evaluating how well the learning and teaching is being done and thus informing learning and teaching in their curriculum plan in future (Pang, 2008, pp. 1–2).

In the following section, the initiative of AfL in Hong Kong will be reviewed in more details.

Education reform in Hong Kong

Throughout the past decade, the concept of "Assessment-of-Learning" (AoL) has been adopted in most school assessment practices in Hong Kong (Pang & Leung, 2008); in which summative assessments have been used to confirm what students know, to check whether they have achieved the curriculum outcomes, and to show how they are placed in relation to their peers. However, this traditional rationale of AoL has been challenged vigorously since the expectation for education from society has shifted from ensuring our students to possess basic skills and knowledge to helping them become competent in critical thinking, problem solving, and effective communication for coping with the ever-changing society (Manitoba Education, Citizenship and Youth, 2006, p. 14).

The Education Commission (2000) recommended an education reform in Hong Kong after a comprehensive review of the education system. In view of the

deficiencies in the assessment mechanism, which are featured by the heavy emphasis on the products of learning while failing to reflect students' "learning to learn" competence in the learning process; the Education Commission (2000) recommended AfL as one of the major areas of action in the current education reform:

As part of the curriculum, the major function of assessment is to help teachers and parents understand the learning progress and needs of their students, as well as their strengths and weaknesses. Teachers could take into account the results of assessment in planning the teaching syllabus, designing teaching methods and giving guidance to individual students to help them learn effectively and exploit their potentiality fully. This will also enable students to have a deeper understanding of themselves. (Education Commission, 2000, p. 46).

In order to promote the AfL culture at the school level, teachers are encouraged to share the learning goals or assessment criteria with students at the beginning of their lessons. This gives the learners a clearer understanding of the standards for which they should aim at, thus enabling them to evaluate their own learning afterwards. With teachers' effective questioning techniques, quality feedback, and the comments from their fellow classmates as well as self-evaluation; students are able to recognize their strengths and weaknesses so that they will be able to improve their learning accordingly.

Although the rationale of AfL has been spelt out clearly by the Education Bureau since 2000, there is still room for improvement.

Quality Assurance Inspection Annual Reports—Kindergartens and Quality Review Summary Reports (Pre-primary Institutions)

The Quality Assurance Inspection Annual Report—Kindergartens (2004/2005) and (2005/2006) showed that the majority of kindergarten teachers lacked a full understanding of the importance of formative assessments in early childhood development and were weak in utilizing meaningful assessment data for informing learning and teaching (Education Bureau, 2006; Education Bureau, 2007). Similarly, the Quality Review Summary Reports 2010/2011 (pre-primary institutions; by regions) also indicated that:

- teachers generally failed to utilize the learning evidence or assessment data collected in lessons for informing learning and teaching;
- teachers needed to incorporate a wide range of questioning techniques and methods in the classrooms to tap children's deeper thinking (Education Bureau, 2011).

Pang and Leung's (2008) study on AfL strategies used in Hong Kong kindergartens and primary schools

Pang and Leung (2008) investigated teachers' habit of using AfL skills and techniques in 39 primary school and kindergartens in Hong Kong. During the study, School Development Officers (SDOs) conducted class observations ($N=78$) and recorded the frequencies of the AfL teaching strategies (i.e., informing teaching

objectives, informing success criteria, effective questioning, quality feedback, self-assessment and peer assessment). With respect to the 78 lessons being observed, the most frequently used AfL teaching strategies was “effective questioning”, whereas “quality feedback” and “peer assessment” were sometimes and occasionally found in the lessons observed respectively. Other AfL teaching strategies, like “informing teaching objectives” and “success criteria” strategies appeared to be rarely used by both the kindergarten and primary school teachers. It is worth noting that no teachers had ever adopted “self-assessment” in the lessons observed.

Pang and Leung’s (2008) findings indicated that the majority of the teachers failed to recognize the importance of informing teaching objectives to students at the early stage of their lessons or they did not have clear teaching targets when planning the lessons beforehand. Many of them did not acknowledge the importance of sharing success criteria before the task(s) so that their students were unable to understand what they were expected to achieve. Moreover, some of them appeared to have little knowledge about peer and self-assessment and their crucial roles in developing students’ learning-to-learn competence.

Aims of study

With the findings of Pang and Leung’s (2008) study on teachers’ habits of utilizing AfL techniques in Hong Kong classrooms in mind, the present research set out to answer the following questions:

1. What are the habits of kindergarten teachers’ AfL strategies in Hong Kong?
2. Are there any differences of kindergarten teachers’ habits in utilizing AfL strategies after their participation of the one-year EDF project?

Samples

The subjects of the study were all teachers from 20 kindergartens ($N=254$ in the pre-study, and $N=246$ in the post-study) participated in a school development project “The Quality Early Childhood Education: The Practice of Assessment for Learning and the Use of Portfolios in Kindergartens” in Hong Kong. This one-year project was sponsored by the Education Development Fund from September 2012 to August 2013, and was organized by the School Development and Evaluation Team (SDET) of The Chinese University of Hong Kong.

The EDF project

The EDF project consisted of the following components which aimed at changing the participating teachers’ assessment practice in the classrooms:

Central seminars

Five central seminars were organized to assist all teachers of the project schools to develop an understanding or knowledge of AfL strategies in the kindergarten classrooms, designing formative assessment, devising appropriate assessment tools and improving the existing student portfolio system in promoting young children’s learning.

School-based support

- a. Five school-based workshops

The school-based workshops aimed at helping kindergarten teachers to develop AfL competence and making effective and meaningful use of their school-based student portfolio system to inform learning and teaching.

b. Class observation

Peer observations and post observation meetings were organized to facilitate the reflection on AfL strategies and the assessment task(s) used in the lesson observed.

Parent seminar

As parents play a major part in their child's development, they were invited to a seminar to further their understanding the rationale of student portfolio system, particularly their roles in providing supports for enhancing their children's all rounded development.

Territory-wide sharing session

The participating pre-primary educators were invited to share their feelings and comments about the project (especially the impacts on their existing student portfolio system) with frontline kindergarten teachers in Hong Kong at the end of project.

Data Collection

A 60-item-questionnaire was designed to tap teachers' practice in using AfL strategies in their daily teaching. The questionnaire was compiled of nine components: "informing teaching objectives", "informing success criteria", "effective questioning", "quality feedback", "self-assessment", "peer assessment", "class observation", "collecting learning evidence" and "teacher reflection". A 6-point Likert scale (i.e., "1: never", whereas "6: always") was used to tap teachers' habits of utilizing the above AfL strategies in their lessons. The questionnaire was administered twice in September 2012 (at the early stage of the project) and June 2013 (at the end of the project). In the pre-study, 254 kindergarten teachers responded to the questionnaire while, 246 kindergarten teachers responded to the same questionnaire in the post study.

Findings and discussion

It is interesting to note that for both pre-study and post-study, "class observation", "effective questioning" and "quality feedback" were found to be the most frequently used AfL strategies in kindergartens. On the other hand, "peer assessment" and "self-assessment" were found to be the second least and the least AfL strategies used in the both studies.

"Questioning" and "feedback" techniques were the most frequently used AfL strategies by the kindergarten teachers, as they are considered to be the essential parts of instruction; therefore, it is not surprising to find that they were heavily used by the teachers in the study. "Observations in class" was one of the most frequently used AfL strategies in the study. It may due to the fact that continuous observations are recommended to be used by kindergarten teachers in collecting young children's learning evidence or progress (Education Bureau, 2009); thus it is rather legitimate for the pre-primary educators to incorporate this AfL strategy in their daily practice.

"Self-assessment" and "peer assessment" were the least utilized AfL strategies respectively in this study as teachers may assume that the toddlers are unable to

make comments on their own or their classmates' performance owing to their limited vocabulary. Furthermore, as most teachers have been brought up in the traditional education where self-assessment is almost absent in the classrooms; thus it is rather impossible for them to ask their students to engage in any "self-assessment" classroom activities (Pang & Leung, 2008).

The results also show that kindergarten teachers generally do not have a habit of sharing the teaching objectives or success criteria of the learning tasks with their students at the beginning of the lessons or tasks, thus making peer and self-assessment barely found in the lessons. This finding generally agrees with the literature that many students do not have a clear picture of what they are expected to achieve in each lesson or learning task (Black & Wiliam, 1998b). Another interpretation is that teachers themselves may not have any systematic ideas of lesson planning or overarching learning targets for their students. It seems that teachers do not have sufficient knowledge of AfL and thus failing to recognize the benefit of keeping their students informed about the teaching objectives in facilitating peer and self-assessment. They may also perceive that the young children have problems in comprehending the teaching objectives, and therefore determining not to inform the learning goals with them. It can be partially explained that kindergarten teachers generally have a deep-rooted view that it is unnecessary to inform the youngsters about the learning goals as to keep the lessons more mysterious in order to stimulate curiosity for learning. Some researchers raise the point that teachers normally give little attention in sharing the learning goals of the tasks with children (Dixon & Williams, 2003; Torrance & Pryor, 2001). As Dixon and Williams (2003, p. 106) states:

While most teachers discussed the importance of working with and alongside children; in the majority of cases their discussion did not include reference to sharing learning goals with children.

Most importantly, the present research shows that there is a general gain in all nine AfL strategies between the pre- and post-study indicating the EDF project exerted some kind of positive impacts on the respondents' daily AfL practice. It can be interpreted that teachers' awareness and competence of AfL strategies may have been promoted in a certain extent through the central seminars and the whole school workshops in the project. Many writers emphasize that it may take a considerable period of time to get teachers to switch their mindset from AoL to AfL as well as to take initiatives to put theories into practice (Black, 2000; Dixon & Williams, 2003), therefore, it is rather encouraging that teachers in the participating schools have showed somewhat of improvement in practicing AfL strategies in such a short period of time (i.e., one year).

It is worthy to note that there is a significant improvement ($p < 0.05$) in terms of frequencies in incorporating "informing teaching objectives", "informing success criteria", "self-assessment" and "peer assessment" teaching strategies in the classrooms after the intervention. It may due to the fact that the kindergarten teachers were advised to "make more explicit what was the purpose of certain activities" (Torrance & Pryor, 2001, p. 622) with their students at the beginning of each learning activities. For promoting peer and self-assessment, teachers were encouraged to demonstrate the task(s) or showing samples of students' work from

previous years to the toddlers so that they could have a clearer concept on their teachers' expectations of the activities (i.e. success criteria). Furthermore, as they young children were taught the necessary vocabularies/phrases by the teachers, they were more capable to take part in self- and peer assessment in the classrooms.

Conclusion

The present research explores teachers' use of AfL teaching strategies in in Hong Kong kindergarten settings. While the study pioneers a rather quantitative study ($N > 200$) in 20 kindergartens, more in-depth, qualitative research are needed to consolidate the findings of this preliminary research.

A major finding of the study is that kindergarten teachers have generally demonstrated a considerable improvement in their AfL competence after the one-year project. We posit that specific components of the project may play a crucial role in promoting these teachers' assessment practice in the classrooms:

Central seminars

The five central seminars appeared to provide the participating school heads and teachers a solid ground of concepts and theories about AfL in the kindergarten context. The pre-primary educators generally expressed a view that interactions and experience sharing with other participating schools during the central seminars was valuable for self-reflections as well as initiating changes regarding assessment practices in their kindergartens.

School based workshops

From the feedback given by the participating teachers, it appeared that the school based workshops served to provide opportunities for teachers to put the AfL skills and strategies learnt in the central seminars into practice. Additionally, through discussions and reflections based on the existing curriculum planning, teaching/learning process and assessment practice in their classrooms, the participating early childhood educators may have gained insights on how to make substantial improvement in their own school contexts.

Lesson observations and post observation meetings

It was the most popular component according the feedback from the participants of the project. For each post-observation meeting, teachers took turns to exchange their opinions about the strengths and weaknesses of the lesson observed. The most fruitful gist of the meetings was the suggestions made by the participating teachers, school heads and the SDO for improving their AfL teaching strategies and techniques in their daily teaching.

Parent Workshops

The parent workshops served to educate parents about their crucial roles in facilitating their children's on-going development by making full use of feedback given by their teachers, peers and even the children themselves by means of the school-based student portfolio system.

The EDF project appeared to be an excellent starting point for individual project schools to review their existing assessment practice in order to make appropriate changes according to their own needs and resources. However, in enhancing the development of new assessment practices, it is extremely important for the school management to take corresponding support measures such as revising the crammed timetable so that teachers can have adequate time in practicing the AfL

teaching/learning strategies in their classrooms. Moreover, reducing kindergarten teachers' workload may be another important issue to be considered (Black, 2000, p. 410). As almost all kindergarten teachers Hong Kong do not possess any free periods in their teaching calendar, therefore it would be feasible for the school heads to reschedule the school time table so that teachers can have more time to collaborate with their fellow teachers to reflect on their own teaching and assessment practice as well as to broaden and deepen their understanding of teaching and learning through peer dialogues in their school.

In sum, the essential role of school management to create more space for teachers is also an influential factor in facilitating pre-primary educators to "keep abreast of new developments, evaluate tried and tested ones and experiment with [their] own initiatives" (Brown, 2004, p. 88). Unless this happens, assessment will always sit outside of learning, and teachers and students will only play a passive role in the teaching/learning process (Dixon & Williams, 2003, p. 108).

References

- Alderson, J. C. & Wall, D. (1993): Does washback exist? *Applied Linguistic*, 14(2), 115–129.
- Black, P. (2000): Research and the development of educational assessment. *Oxford Review of Education*, 26(3&4), 407–419.
- Black, P. & Wiliam, D. (1998a): Assessment and classroom learning. *Education: Principles, Policy and Practice*, 5(1), 7–74.
- Black, P. & Wiliam, D. (1998b): Working inside the black box: assessment for learning in the classroom. *Phi Delta Kappan*, 80(2), 139–148.
- Black, P., Harrison, C., Lee, C., Marshall, B. & Wiliam, D. (2004): Inside the black box: Raising standards through classroom assessment. *Phi Delta Kappan*, 86(1), 8–24.
- Brown, S. (2004): Assessment for learning. *Learning and Teaching in Higher Education*, 1, 81–89.
- Connell, R. W., Ashenden, D. J., Kessler, S. & Dowsett, G. W. (1982): *Making the Difference: Schools, Families and Social Division*. Sydney: Allen & Unwin.
- Curriculum Development Council (2001): *Learning to Learn—The Way Forward in Curriculum*. Hong Kong: The Government Printer.
- Curriculum Development Institute (2002): *Basic Education Curriculum Guide—Building on Strength*. Hong Kong: The Government Printer.
- Dixon, H. & Williams, R. (2003): Teachers' understanding and use of formative assessment in literacy learning. *New Zealand Annual Review of Education*, 12, 95–110.
- Education Bureau (2006): *Quality Assurance Inspection Annual Report—Kindergartens, Primary, Secondary and Special Schools 2004/2005*. Hong Kong: The Government Printer.
- Education Bureau (2007): *Quality Assurance Inspection Annual Report—Kindergartens 2005/2006*. Hong Kong: The Government Printer.
- Education Bureau (2009): *List of Dos and Don'ts for Kindergartens*. Hong Kong: The Government Printer.
- Education Commission (2000): *Reform Proposal for the Education System in Hong Kong*. Hong Kong: The Government Printer.
- Manitoba Education, Citizenship and Youth (2006): Rethinking classroom assessment with purpose in mind: Assessment for learning, assessment as learning and assessment of

- learning. *Western and Northern Canadian protocol for collaboration in education*. Canada: Author.
- Nisbet, J. (1993): *Introduction. OECD—Curriculum Reform: Assessment in Question*. Paris: Organization for Economic Cooperation and Development.
- Pang, N. S. K. (2008): *QEF Proposal: From Assessment for Learning to Promoting Self-Regulated Learning in Early-Childhood Education (Kindergarten & Lower Primary Levels)*. Hong Kong: School Development and Evaluation Team, The Chinese University of Hong Kong.
- Pang, N. S. K. & Leung, Z. L. M. (2008): *The Practice of Assessment for Learning and Metacognitive Teaching in Hong Kong Classrooms (School Education Reform Series, No. 48)*. Hong Kong: Faculty of Education and Hong Kong Institute of Educational Research, The Chinese University of Hong Kong.
- Pang, N. S. K. & Leung, Z. L. M. (2010): The development and reform of educational assessment in Hong Kong. In H. S. Nakamura (Ed.) *Education in Asia* (pp. 121–137). New York, NY: Nova Science.
- Stiggins, R. (2007): Assessment through the student's eyes. *Best of Educational Leadership*, 64, 22–26.
- Torrance, H. & Pryor, J. (2001): Developing formative assessment in the classroom: Using action research to explore and modify theory. *British Education Research Journal*, 27(5), 615–631.

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