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State, Problems and Guidelines for Solving Problems in Implementing Student Portfolio Assessment in Elementary Schools in Thailand

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Abstract

Implementation of student portfolio assessment has gained more interest from school teachers, especially after the enactment of the National Education Act of 1999 and the educational reform policy in Thailand. The purposes of this study were to examine the state and problems in implementing student portfolio assessment, as well as to propose guidelines for solving the problems. A sequential mixed method design was employed. Questionnaires were used to collect quantitative data from two hundred and forty-two elementary school teachers on the state and problems in implementing student portfolio assessment. A focus group interview was conducted to collect qualitative data from three experts on the guidelines for solving problems in implementing student portfolio assessment in elementary schools. Descriptive statistics, content analysis, and analytic induction were employed to analyze the data. Results indicated that, overall, teachers implemented five main steps of the student portfolio assessment in a medium level. The common problems in implementing student portfolio assessment were (a) a lack of knowledge and deep understanding of teachers in implementing student portfolio assessment, (b) a poor attention and cooperation of students in creating the portfolios, and (c) a lack of materials and budgets to support teachers in implementing student portfolio assessment. Various guidelines for solving the problems were also presented in this study.

1. Introduction

Implementation of student portfolio assessment has gained more interest from school teachers, especially after the enactment of the National Education Act of 1999 and the educational reform policy in Thailand which includes curriculum reform, teaching and learning reform, and assessment reform. For assessment reform, employing a wide

variety of assessment methods including portfolio assessment has been encouraged. Portfolio is potentially one of the authentic assessment tools to assess student learning, which could practically be applied in a complex real-world situation (Benson & Barnett, 1999; Tangdhanakanond, 2006; Tangdhanakanond, Pitiyanuwat, & Archwamety, 2006a; Tangdhanakanond, & Wongwanich, 2012). Portfolio is an organized purposeful collection of evidences accumulated on a student's academic progress, achievements, skills, characteristics, and attitudes over time. Portfolios do not only give teachers information about student learning, but also make teachers understand individual students better. Therefore, teachers would be able to analyze students' strengths and weaknesses, as well as to explore students' preferences (Thanathananon, 1999). Moreover, it is evidenced that the process of creating a portfolio is also a learning tool that promotes a student's improvement in academic achievement (Soothipong, 2000, Chinnawong, 2000; Tangdhanakanond, Pitiyanuwat, & Archwamety, 2006b), achievement motivation (Chinnawong, 2000), critical thinking (Koraneekid, 2007), self-directed learning (Elango, Jutti, & Lee, 2005; Marianne, & Denise, 2010), self-confidence (Wiengkamol, 1999), and creative thinking (Sujarittanarugse, 2005). Furthermore, steps of processing a portfolio, e.g., selecting products and reflecting on selected products, could enhance a student's learning responsibility. (Danielson & Abrutyn, 1997; Tangdhanakanond, Pitiyanuwat, & Archwamety, 2005). Therefore, it is necessary that teachers implement student portfolio assessment properly and effectively for formative and summative assessment of student learning.

Literature suggests different steps in making a portfolio, depending on the learning environment and the portfolio purpose. Therefore, the portfolio process is flexible. However, based on the related literature (Burke, Forgerty, & Belgrad, 1994; Epstein, 2001; Educational Technique Department, 1996; Fina, 1992; Moonkum, 2000; Morin, 1995; Pearson Education Development Group, 2001; Poowipadawat, 2001; Prawarnpruek, 1997; Punngam, 2000; Saereerat, 1997; Siladech, 1997), there are five common essential steps in making a portfolio, i.e., planning for portfolio assessment, collecting created products, selecting products and reflecting on selected products, revising and evaluating products, as well as utilizing results from portfolio assessment.

Previously student portfolio assessment had not been used widespread in Thailand. Makmee (2000) did an analysis of the state and process of using portfolios for student assessment during the first decade of the education reform (A.D. 1999-2008) in Thailand. It indicated that 68.8 percent of teachers implemented student portfolio assessment in their schools. Most of them used all of the steps of student portfolio assessment. Since it is now in the second decade of the education reform (A.D. 2009-2018) in Thailand, it would be interesting to examine the state and problems, as well as the guidelines for solving problems in implementing student portfolio assessment. The objectives of this study, therefore, were (a) to examine the state of student portfolio assessment in elementary schools, (b) to examine problems in implementing student portfolio assessment in elementary schools, and (c) to propose guidelines for solving the problems.

2. Methods

A sequential mixed method design was employed in this study. Questionnaires were initially distributed to collect quantitative data on the state and problems in implementing student portfolio assessment. The questionnaire was divided into three parts. The part one collected demographic information of the respondents, which included genders, educational levels, as well as grades and subjects the respondents taught in schools. In the part two, a five-point rating scale was employed to ask the respondents about their perceptions on the current performance of student portfolio assessment in elementary schools. As for the part three, the respondents were asked to specify their problems in implementing student portfolio assessment in open-ended questions. The participants were 242 elementary school teachers (29 male and 213 female teachers) from all regions (northern, middle, northeastern, and southern parts) of Thailand, selected by a multi-stage random sampling. This number of teachers included 110 Thai language teachers, 120 mathematics teachers, 74 science teachers, 53 career and technology teachers, 46 art teachers, and 74 social study teachers. Ninety participants taught in the lower elementary school levels (i.e., grade 1 to grade 3), whereas 152 participants taught in the upper elementary school levels (i.e., grade 4 to grade 6). Among these participants, 131 teachers had 20 years of teaching experience or less, while 111 teachers had more than 20 years of teaching experience. One hundred and thirty-two participants had attended training sessions related

to student portfolio assessment. Subsequently, three experts in the field of educational measurement and evaluation were purposively selected to join a focus group interview session conducted by the researchers. Qualitative data on the guidelines for solving problems in implementing student portfolio assessment in elementary schools were collected from the three experts. Descriptive statistics, i.e., mean and standard deviation, were employed to analyze the collected quantitative data, whereas content analysis and analytical induction were used to analyze the qualitative data in the study.

3. Results

3.1 State of student portfolio assessment

The state of student portfolio assessment is shown in Table 1. We found that, overall, teachers implemented the five main steps of the student portfolio assessment in a medium level. Among these steps, planning for portfolio assessment was the most frequently used step (M=3.14, SD=0.75), followed by collecting created products (M= 3.07, SD= 0.85), utilizing results from portfolio assessment (M=2.93, SD=0.80), revising and evaluating products (M=2.81, SD=0.77), and selecting products and reflecting on selected products (M=2.78, SD=0.78), respectively.

Table 1. State of the use of student portfolio assessment in elementary schools

Use of portfolio assessment	Lower Elem (n=90)		Upper Elem (n=152)		Combined (n=242)	
	M	SD	M	SD	M	SD
1. Planning for portfolio assessment	**3.29**	**0.74**	**3.06**	**0.75**	**3.14**	**0.75**
1.1 Informing students at the beginning of the courses about the use of student portfolio assessment.	3.28	0.90	2.89	1.00	3.04	0.98
1.2 Allowing students to participate in setting the purposes of portfolio creation.	3.37	0.84	3.15	0.91	3.23	0.89
1.3 Informing students at the beginning of the courses about the numbers and attributes of products required to be produced.	3.32	0.86	3.15	1.00	3.21	0.95
1.4 Informing students at the beginning of the courses about the portfolio process.	3.24	0.94	3.12	1.04	3.17	1.01
1.5 Explaining to students how to use evaluation forms in the portfolio process at the beginning of the courses.	3.22	0.99	2.98	1.00	3.07	1.00
2. Collecting created products	**3.09**	**0.76**	**3.06**	**0.90**	**3.07**	**0.85**
2.1 Encouraging students to collect the created products in their working folders.	3.34	1.04	3.31	1.02	3.32	1.02
2.2 Encouraging students to make records whenever they collect the learning evidences in their working folders.	2.91	0.88	2.90	1.11	2.90	1.03
2.3 Providing students with opportunities to organize the products/ evidences in their portfolios to be consistent with the learning objectives.	3.02	0.89	2.97	1.08	2.99	1.01
3. Selecting products and reflecting on selected products	**2.99**	**0.65**	**2.66**	**0.82**	**2.78**	**0.78**
3.1 Providing students with opportunities to select the created products from their working folders to be kept in their portfolios.	3.00	0.95	2.64	1.05	2.77	1.03
3.2 Encouraging students to use the evaluation criteria or scoring rubrics as a guideline for selecting the qualified products in their working folders to be kept in their portfolios.	2.94	0.83	2.72	0.96	2.81	0.92
3.3 Providing students with opportunities to put new selected products/ evidences into their portfolios and take some previously selected products out from their portfolios.	3.13	0.86	2.76	1.02	2.90	0.98
3.4 Encouraging students to write down their opinions on the selected products in their portfolios.	3.00	0.90	2.57	1.03	2.73	1.01
3.5 Encouraging students to make plans for revising the products in their portfolios.	2.89	0.85	2.61	0.94	2.71	0.92
4. Revising and evaluating products	**3.04**	**0.66**	**2.68**	**0.80**	**2.81**	**0.77**
4.1 Providing students with opportunities to revise or improve the products/ evidences in their working folders.	3.27	0.87	2.91	1.08	3.05	1.02
4.2 Providing students with opportunities to revise or improve the products/	3.10	0.89	2.82	1.06	2.92	1.04

Use of portfolio assessment	Lower Elem (*n*=90)		Upper Elem (*n*=152)		Combined (*n*=242)	
	M	*SD*	*M*	*SD*	*M*	*SD*
evidences in their portfolios.						

Table 1 (continued)

Use of portfolio assessment	Lower Elem (*n*=90)		Upper Elem (*n*=152)		Combined (*n*=242)	
	M	*SD*	*M*	*SD*	*M*	*SD*
4.3 Providing students with a self-evaluation of their products.	2.94	0.78	2.80	0.96	2.86	0.90
4.4 Providing students with a peer-evaluation of their products.	2.90	0.88	2.50	0.94	2.65	0.94
4.5 Providing students with a teacher-evaluation of their products.	3.02	0.86	2.57	0.84	2.74	0.88
4.6 Providing students with a parent-evaluation of their products.	2.98	0.97	2.49	1.03	2.67	1.03
5. Utilizing results from portfolio assessment	**3.09**	**0.77**	**2.84**	**0.80**	**2.93**	**0.80**
5.1 Utilizing results from portfolio assessment as a feedback for improving their instructions.	3.03	0.98	2.75	1.01	2.86	1.01
5.2 Utilizing results from portfolio assessment as part of the grading in the taught subjects.	3.01	0.95	2.95	1.04	2.98	1.01
5.3 Utilizing results from portfolio assessment as a feedback for improving student learning.	3.22	0.95	2.81	0.95	2.96	0.97

3.2 Problems in implementing student portfolio assessment

We discovered that the problems in implementing student portfolio assessment could be divided into three aspects, i.e., teacher aspects, student aspects, and other aspects. Regarding teacher aspects, results indicated that the most common problem was a lack of knowledge and deep understanding of teachers in implementing student portfolio assessment (n=14), followed by an excessive time consumption in implementing student portfolio assessment (n=7). For student aspects, we found that the most common problem was a poor attention and cooperation of students in creating the portfolios (n=23), follow by a loss of portfolios (n=11). As for other aspects, the data demonstrated that there was a lack of materials and budgets that would support teachers in implementing student portfolio assessment (n=5).

3.3 Guidelines for solving problems in implementing student portfolio assessment

The guidelines for solving problems in implementing student portfolio assessment were concluded from the focus group interview of the three experts. Results are shown in Table 2.

> *"Teachers don't have a clear picture of the portfolio process. That may be because they don't understand the concept of the portfolio assessment. Teachers' misconceptions about student portfolio assessment should be analyzed."*
>
> Expert 1

> *"Workshop training in implementing student portfolio assessment could be another way to help teachers better understand the concept of student portfolio assessment. In addition, providing teachers with handbooks about student portfolio assessment could also help."*
>
> Expert 2

> *"Using student portfolio assessment during teaching and learning activities could save time for teachers in implementing student portfolio assessment."*
>
> Expert 3

> *"Students' behaviors should be adjusted, especially self-regulated learning. Parents should also*

take parts in student portfolio assessment .

<div align="right">Expert 1</div>

*"Teachers could create some activities, such as games or storytelling, to inculcate
the feeling of responsibility among students in taking care of their learning portfolios."*

<div align="right">Expert 3</div>

*"Available paper folders and other available materials can be used as student portfolios
to save costs. However, some financial supports should also be given when needed."*

<div align="right">Expert 2</div>

Table 2. Guidelines for solving problems in implementing student portfolio assessment

Problems	Guidelines
Teacher Aspects	
- A lack of knowledge and deep understanding of teachers in implementing student portfolio assessment	- An analysis of misconceptions and conceptual change of teachers in implementing student portfolio assessment should be conducted. - A workshop training session on portfolio assessment should be held to enhance teacher skills. - A handbook of student portfolio assessment containing steps, evidences, and assessment tools necessary for the portfolio assessment should be created.
- An excessive time consumption in implementing student portfolio assessment	- Student portfolio assessment should be integrated in daily learning activities in the classroom.
Student Aspects	
- A poor attention and cooperation of students in creating the portfolios	- Responsibilities and self-regulation behaviors of students should be adjusted by teachers. - Interesting and encouraging activities should be held to enhance student engagement in portfolio assessment. - Parents should also be requested to cooperatively facilitate and monitor students when they build their portfolios.
- A loss of portfolios	- Coaching and monitoring of student portfolio creation should be continuously conducted by teachers.
Other Aspects	
- A lack of materials and budgets to support teachers in implementing student portfolio assessment	- Existing files should be reused as student portfolios to save the budgets. - More budgets for necessary materials in implementing student portfolio assessment should be requested from the related sectors by school principals.

4. Conclusion and discussion

This study demonstrated that, overall, teachers implemented the five main steps of the student portfolio assessment in a medium level. Among these, the two steps that teachers used less frequently were (1) revising and evaluating products, and (2) selecting products and reflecting on selected products. This is consistent with results from the study by Sripijitworasakul and Tangdhanakanond (2012), which showed that the Thai language teachers less frequently implemented the step of revising products, as well as the step of self-assessment and revising products. Those two steps are actually important. While students revise and evaluate the products in their portfolios, they could examine their strengths and weaknesses, as well as take responsibilities for their own learning (Priest& Robert, 1998 as cited in McMullan, 2006; Tangdhanakanond, 2006). The problem regarding the teachers with a lack of knowledge and deep understanding indicated that their skills in portfolio assessment should be improved.

A workshop training session on portfolio assessment should be held in a hands-on format so that teachers could clearly understand each step of the portfolio assessment. It is interesting to note that student cooperation in creating portfolios is another key success in implementing portfolio assessment. Therefore, we recommend that teachers focus on student preparation in order for them to understand each step of the portfolio assessment and to continuously cooperate**.**

Acknowledgements

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