Learning conceptions of web-searching: a comparison between pre-service and in-service kindergarten teachers

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Abstract: In recent years, educational research showed an increasing interest in understanding learners' conceptions of learning in different learning contexts. However, few studies investigated the idea of learning conceptions about web-searching. In addition, most studies focused on understanding students' conceptions of learning, but few focused on teachers', especially kindergarten teachers'. Therefore, through a large-scale questionnaire, the aim of this study was to investigate pre-service and in-service kindergarten teachers' learning conceptions of web-searching and the differences between these two samples.

Keywords: web-searching, conceptions of learning, kindergarten teacher

1. Introduction

Internet had been widely used in the educational field. Therefore, more and more teachers nowadays were required to apply more technology skills into their teaching and professional development. Moreover, educational research showed an increasing interest in understanding learners' conceptions of learning in different learning subjects, and this idea had been applied in e-learning as well. Some studies investigated the students' learning conceptions in online discussions [1, 2, 3] and some explored students' conceptions in distance education in general [4]. However, few studies investigated the idea of learning conceptions about web-searching. In addition, most studies focused on

understanding students' conceptions of learning, but few focused on teachers'. Majority teachers nowadays had a dual identity. Being teachers, they used Internet to search for information related to their teaching and professional development; and being students, they used Internet to gather information to fulfill requirements of professional development programs. Therefore, it was important to find out teachers' learning conceptions of web-searching. The aim of this study was to investigate: 1) what were pre-service and in-service kindergarten teachers' learning conceptions of web-searching? and 2) what were the differences between pre-service and in-service kindergarten teachers' learning conceptions of web-searching?

2. Methodology

2.1 Sample

A sample of 391 pre-service kindergarten teachers and 204 in-service kindergarten teachers participated in this study. These pre-service teachers were currently studying in departments of Early Childhood Education or Child Care in three universities in Tainan. The in-service teacher samples came from 50 kindergartens in Tainan.

2.2 Instrument and data analysis

There were 20 five-point Likert-scale items in the questionnaire. The overall reliability (Cronbach's alpha) for conception was 0.95 for the pre-service sample and 0.94 for the in-service sample. As showed in Table 1, there were four scales in the questionnaire. The reliability coefficients within each scale were calculated both for the pre-service and the in-service sample.

Table 1. Cronbach's alpha values for the instrument

	Pre-service	In-service
Scale 1: Knowledge	0.85	0.85
Scale 2: Applying	0.86	0.75
Scale 3: Understanding	0.90	0.89
Scale 4: New Way	0.90	0.89
Composite	0.95	0.94

3. Results and discussions

The one-sample t-tests showed that both pre-service and in-service kindergarten teachers' held statistically strong learning conceptions about web-searching. Because most participating pre-service and in-service teachers in this study grew up and taught in this

technology era, it was understandable that they had positive learning conceptions about web-searching and considered web-searching as an effective way of learning.

Table 2. Descriptive information for learning conceptions of web-searching and differences between pre-service and in-service teachers' scale scores

	Pre-service		In-service		
	Mean	SD	Mean	SD	t
Scale 1	4.12	0.63	4.39	0.50	5.75***
Scale 2	3.98	0.62	4.27	0.58	5.71***
Scale 3	4.00	0.58	4.30	0.55	6.20***
Scale 4	3.98	0.57	4.26	0.59	5.53***

*** $p<.001$

Table 2 also showed that in-service teachers held more positive learning conceptions in all scales than pre-service teachers (t=5.75, 5.71, 6.20 and 5.53, $p<$ .001). This might be resulted from three reasons. First, in-service teachers had more experiences of using web-searching for professional developments. Second, in-service teachers had more opportunities to use web-searching to learn than pre-service teachers. Third, in everyday teaching practice, in-service teachers were more conscious of their limitations of knowledge and teaching skills than pre-service teachers; therefore, they had stronger needs to learn from web-searching for professional development.

In conclusion, results from this study indicated that both pre-service and in-service teachers had positive attitudes towards web-searching learning. And in-service teachers held stronger learning conceptions then pre-service teachers.

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