

# Pupils' Satisfaction in Using Netbook

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**Abstract.** E-learning is promoted in elementary school, and netbook is one of the equipment in e-learning. This study adopted questionnaire survey to discuss the pupils' satisfaction towards the usage of netbook. The data were analyzed by SPSS for descriptive statistics, independent sample t-test, and one-way ANOVA. The results are as follows: The order of the satisfaction degree of the pupils toward netbooks is portability, design, applications, e-learning, online search, keyboard, and screen. Except for screen, all other aspects are satisfactory. Regarding the influence of learning background and user experience on satisfaction, the degree of satisfaction of students who started to use computers early is lower, and that of students who had more experiences in using computers is also lower. The order of the influence degree of variate is gender, computer learning background, and computer using experience.

**Keywords:** Netbook, Satisfaction, Learning background, User experience.

## 1 Introduction

E-learning includes many kinds of electronically supported learning. It is promoted in elementary school, and netbook is one of the equipment in e-learning. This study adopted questionnaire survey to discuss pupils' satisfaction in using netbook. The data were analyzed by SPSS for descriptive statistics, independent sample t-test, and one-way ANOVA.

Customer satisfaction is generally defined as an evaluative response to the perceived outcome of a particular consumption experience [7, 10]. Anderson investigate the nature and strength of the link that between customer satisfaction and economic returns [9]. Churchill proposed an investigation into the determinants of customer satisfaction. The results suggest the effects are different for nondurable product and durable product [8]. There are several approaches for customer satisfaction in using netbook or notebook. Wu presents that brand image, service quality, product quality, price will have forward influence to customer degree of satisfaction [3]. Yushin presents that university Students would put more emphasis on quality, price, weight of the product, electricity-saving device, duration of battery, and the feel of using the input device in Tokyo [4]. Tseng wonder that what those consumers would consider base on purchasing behavior. When most consumers buy netbook, consider the

electricity, convenient, the brand, screen size and price [5]. The study results conclude that product design, product quality, and marketing methods are three major dimensions of the hierarchical framework for the KSF of netbook [6]. Wu presents four female consumer types through the process of segmentation. And there exists significant difference between market segmentation [1]. Pan presents that consumer prefer convenient and price of the netbook [2].

## 2 Method

This research aims to investigate the satisfaction degree of the use of netbooks by three-grade elementary school students. According to portability, design, applications, e-learning, online search, keyboard, and screen are the seven main aspects influencing the satisfaction degree of using netbooks. The students were divided into several groups according to gender, computer learning background and computer using experiences. The data were analyzed by SPSS for descriptive statistics, independent sample t-test, and one-way ANOVA. The students' satisfaction degree of the above seven aspects were surveyed. The Likert five-point scale was adopted to calculate the points.

The procedure of the research survey is as follows:

- a. Pre-test: Using Cronbach  $\alpha$  coefficient to examine internal consistency of the questionnaire.
- b. Analyzing the result of pre-test: After retrieving the questionnaire, we conduct reliability analysis and consult professionals' advice to revise the questionnaire. The ultimate questionnaire is formed.
- c. Formal test: Proceed with the survey of the 180 questionnaire.
- d. Analyzing the result: Proceed with statistical analysis.

## 3 Result

After retrieving the questionnaire, we go on to data analysis and presenting statistical data. The participants are 98 boys and 82 girls. In the item of computer learning background, 91 students have learned computer in kindergarten, and 89 haven't. In the item of computer using experiences, 123 students have using experiences of netbooks or notebooks, and 57 students have none of them.

Divided by gender, the average of boys toward satisfaction degree of netbooks are higher than that of girls, as shown by Table 1. Students with different gender have same identity order with the aspects. It is shown in Table 2 that there are significant difference in gender in the aspects of online search and screen by variant analysis of independent sample t-test.

Divided by computer learning background, except for the aspect of "screen", the average of elementary school students who have learned computer in kindergarten

toward satisfaction degree of netbooks are lower than that of the students who haven't learned computer in kindergarten, as shown by Table 3. Students who contacted computer in earlier ages have lower satisfaction degree toward netbooks. Students with different computer learning background have same identity order with the aspects. It is shown in Table 4 that there is significant difference in computer learning background in the aspect of portability by variant analysis of independent sample t-test. Students who haven't learned computer in kindergarten have much higher satisfaction degree in the "portability" aspect than those who have learned computer in kindergarten.

Divided by computer using experiences, students who have experiences of netbooks or notebooks have lower satisfaction degree toward netbooks, as shown by Table 5. In most aspects, students who have using experiences of neither netbooks nor notebooks have higher satisfaction degree toward netbooks. It is shown in Table 6 that experiences of using netbooks and notebooks make significant difference in factors of design, online search, and applications by variant analysis of one way ANOVA.

**Table 1.** The influence of students' gender on the satisfaction degree of netbooks

Aspects	Boy		Girl	
	Mean	SD	Mean	SD
Portability	4.59	0.30	4.54	0.29
Design	4.45	0.45	4.41	0.47
Applications	4.44	0.37	4.34	0.54
E-learning	4.33	0.42	4.26	0.45
Online Search	4.25	0.47	4.06	0.54
Keyboard	4.10	0.61	3.90	0.74
Screen	3.09	0.82	2.56	0.54
Total	29.25	3.44	28.07	3.57

**Table 2.** T-test of the difference of students' gender

Aspects	Gender (N)	SEM	T-test	P
Online Search	Boy ( 98 )	.415	5.074	.000**
	Girl ( 82 )	.296		
Screen	Boy ( 98 )	.191	2.539	.012*
	Girl ( 82 )	.239		

\*P < 0.05    \*\* P < 0.01.

**Table 3.** The influence of students' computer learning background on the satisfaction degree of netbooks

Aspects	The students who have learned computer in kindergarten		The students who haven't learned computer in kindergarten	
	Mean	SD	Mean	SD
Portability	4.52	0.31	4.61	0.27
Design	4.42	0.47	4.44	0.45
Applications	4.35	0.47	4.44	0.44
E-learning	4.24	0.47	4.36	0.39
Online Search	4.14	0.56	4.19	0.46
Keyboard	3.91	0.69	4.11	0.65
Screen	2.87	0.88	2.83	0.61
Total	28.45	3.85	28.98	3.27

**Table 4.** T-test of the difference of students' computer learning background

Aspects	Have learned computer in kindergarten ( N )	SEM	T-test	P
Portability	Yes ( 91 )	.130	-2.15	.033*
	No ( 89 )	.114		

\*P &lt;0.05.

**Table 5.** The influence of students' computer using experiences on the satisfaction degree of netbooks

Aspects	Students have using experiences of netbooks or notebooks		Students have none of netbooks and notebooks	
	Mean	SD	Mean	SD
Portability	4.57	0.31	4.56	0.27
Design	4.49	0.41	4.30	0.53
Applications	4.35	0.45	4.49	0.46
E-learning	4.26	0.45	4.38	0.40
Online Search	4.12	0.51	4.29	0.47
Keyboard	4.00	0.68	4.03	0.68
Screen	2.89	0.79	2.76	0.68
Total	28.68	3.60	28.81	3.49

**Table 6.** Variant analysis of one way ANOVA of computer using experiences

Aspects		SS	df	MS	F-test	P
Design	between groups	24.475	2	12.237	3.721	.026*
	within groups	582.075	177	3.289		
	total	606.550	179			
Applications	between groups	13.376	2	6.688	3.643	.028*
	within groups	324.935	177	1.836		
	total	338.311	179			
Online Search	between groups	51.956	2	25.978	6.584	.002**
	within groups	698.372	177	3.946		
	total	750.328	179			

\*P <0.05    \*\* P <0.01.

## 4 Conclusions

The results of the research are as follows:

1. The order of the satisfaction degree of the three-grade students toward netbooks is portability, design, applications, e-learning, online search, keyboards, and screens. Except for screens, all other aspects are satisfactory.
2. The influence of students' computer learning background on the satisfaction degree of netbooks and notebooks is as below. Students' who have learned computer earlier have lower satisfaction degree toward netbooks, and so are those who have more computer using experiences. It's possible that students who have learned computer earlier and have more computer using experiences are more familiar with computer, which make them more aware of functional limitations of netbooks.
3. Students who have learned computer in kindergarten have lower satisfaction degree toward the screen of netbook than those who haven't. It's possible that students who have learned computer earlier have better adaptation to smaller screens.
4. The order of the influence degree of variate is gender, computer learning background, and computer using experience.

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