

# Analysis on Results of Oral Health Education among Educators and Learners

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## Abstract

A school oral health program consisted of oral health education, oral health diagnosis, grouped tooth brushing, fluoride mouth rinsing, and incremental dental care, as well as that which was necessary for the oral health of other students. The purpose of this study is to increase satisfaction through field training among educators in performing the roles of a pre-educator and a dental hygienist by experiencing oral health education and on-site, and to increase the interest in oral health education. All data were analyzed by the statistics software package IBM SPSS 21. The significance level of all tests was 0.05, which was used to judge statistical significance. For reliability analysis tools, Cronbach alpha was used. The levels of the satisfaction of the respondents were analyzed by a one-sample-mean-analysis and ANOVA. This study also intends to use the survey results as a basis for developing oral health education programs and continuing an oral health care system policy by mandating the installment of oral health units within schools.

**Keywords:** Educators, Learners, Oral Health Education

## 1. Introduction

Oral health education is aimed at promoting oral health to individuals, including healthy people and patients, and groups, in order to educate them on how to maintain and manage oral health. The goals are also to promote knowledge of, attitudes toward and behavioral changes in oral health. These goals correspond to an oral health care course. The scope of this oral health education includes delivering the knowledge on oral health to participants and allowing them to recognize the same knowledge. In addition, it is most important to motivate participants so as to enable them to form correct oral care habits.

School oral health education is referred to as the education given in schools to improve the oral health of school populations. It is necessary to perform oral health projects efficiently and effectively in order to prevent dental diseases. In the primary and secondary school years, students experience active physical growth together

with mental and social changes, and acquire knowledge quickly and put that knowledge into practice. Therefore, to provide, improve and execute right knowledge of oral health through oral health education in schools not only helps to maintain the current oral health of students, but affects the overall health of their bodies in the future.



Figure 1. Field placement of oral health education.

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## 2. Materials and Methods

### 2.1 Study Subjects

160 high school students as educators and 1,357 high school students as learners were recruited.

### 2.2 Definitions of Terms

Educators: 160 sophomore students studying dental hygiene in Korea.

Learners: 1st and 2nd-year students in three high schools located in Korea.

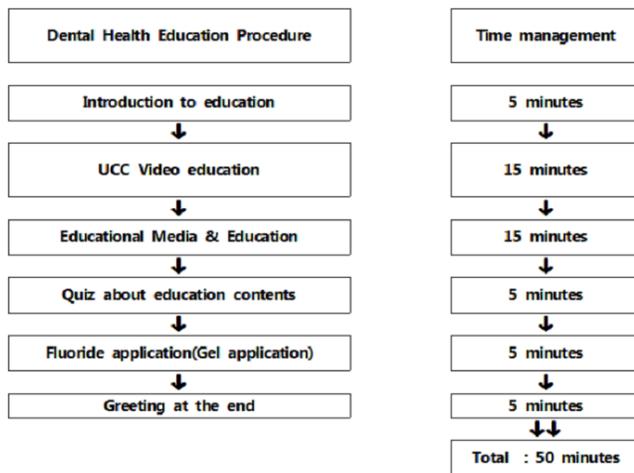


Figure 2. Contents and procedures of oral health education.

### 2.3 Oral Health Education of the Media

Oral health educational material designed by the students.



Figure 3. Teaching materials.

### 2.4 Tools for Educators

The tools for the educators consisted of a total of 17 questions, including 5 questions regarding the satisfaction

related to oral health education, 7 questions about the attitude of the educators after oral health education, 3 questions about gender distribution, and 2 questions about descriptive research. Answers related to satisfaction were ranked on a 5 - point- scale: 5 = “very satisfied”, 4 = “satisfied”, 3 = “neutral” 2 = “unsatisfied” 1 = “very unsatisfied.” The total scores ranged from the minimum of 13 to the maximum of 25, suggesting that higher scores mean higher satisfaction with oral health education. The Cronbach alpha value related to satisfaction was found to be 0.775, showing a high degree of confidence. Answers related to the attitude of educators after oral health education were also ranked on a 5 - point scale: 5 = “very much”, 4 = “yes”, 3 = “fair”, 2 = “not so”, 1 = “very not so.” The Cronbach alpha value of the state-related items was 0.848.

### 2.5 Tools for Learners

The tools for learners consisted of a total of 20 questions, including 5 questions regarding the satisfaction related to oral health education, 8 questions about dental recognition and attitude after oral health education among students, 4 questions about fluoride application, dental visits, and orthodontic experiences, 1 question about the number of brushings, and 2 questions about descriptive research. Answers related to satisfaction were ranked on a 5-point-scale: 5 = “very satisfied”, 4 = “satisfied”, 3 = “neutral” 2 = “unsatisfied”, 1 = “very unsatisfied.” The total scores ranged from the minimum of 12 to the maximum of 30, suggesting that higher scores mean higher satisfaction with oral health education. The Cronbach alpha value related to satisfaction was found to be 0.929, showing a high degree of confidence. Answers related to the attitude of educators after oral health education were also ranked on a 5 - point scale: 5 = “very much”, 4 = “yes”, 3 = “fair”, 2 = “not so”, 1 = “very not so.” The Cronbach alpha value of the state-related items was 0.820.

### 2.6 Analysis

All data were analyzed by the statistics software package IBM SPSS 21. The significance level of all tests was 0.05, which was used to judge statistical significance. For reliability analysis tools, Cronbach alpha was used. The levels of the satisfaction of the respondents were analyzed by a one-sample-mean-analysis and ANOVA.

### 3. Results

#### 3.1 General Characteristics of Subjects

There were 160 educators from the second year class of the dental hygiene department, and 783 and 574 learners from the first and second years, respectively. There were 530, 510 and 317 participants from High School A, B and C, respectively. Of the participants, 764 were male and 593 were female.

**Table 1.** General characteristics of subjects

Variable		Male	Female	Total
Unit: n (%)				
Educators	Grade 2 <sup>nd</sup>		160 (100.0)	160 (100.0)
Learners	Grade 1 <sup>st</sup>	385 (49.1)	398 (50.9)	783 (100.0)
	Grade 2 <sup>nd</sup>	311 (54.2)	263 (45.8)	574 (100.0)
	High School A	226 (42.6)	304 (57.4)	530 (100.0)
	High School B	330 (64.7)	180 (35.3)	510 (100.0)
	High School C	119 (37.5)	198 (62.5)	317 (100.0)
<b>Total</b>		<b>764 (56.3)</b>	<b>593 (43.7)</b>	<b>1,357 (100.0)</b>

#### 3.2 Education by School, Grade and Gender after Oral Education among Learners

Learners from High School C rated the highest in satisfaction with 4.37, followed by High School B with 4.49, and High School A with 4.31. Grade and gender were observed to have made no difference.

**Table 2.** Education by school, grade and gender after oral education among learners

		M ± SD	F	p
School	A	4.31 ± 0.59	16.732	0.001
	B	4.49 ± 0.56		
	C	4.37 ± 0.68		
Grade	1 <sup>st</sup>	4.37 ± 0.62	1.858	0.173
	2 <sup>nd</sup>	4.33 ± 0.62		
Gender	Male	4.38 ± 0.67	2.028	0.155
	Female	4.33 ± 0.58		

#### 3.3 Attitudes of Educators and Learners after Oral Health Education

Educators revealed 3.96 in “I feel the joy in student reaction,” the highest, followed by 3.91 in field education.

Learners had the highest attitude score of 4.31 in “I became interested in oral health education,” followed by 4.28 in “I want to receive the education again.”

**Table 3.** Attitudes of educators and learners after oral health education

Variable	M ± SD	t	p
Educator			
Positive feedback from students' reaction	3.96 ± 0.96	12.754	0.001
Field training is necessary.	3.91 ± 0.93	12.519	0.001
Pride as a dental hygienist	3.88 ± 0.87	12.955	0.001
Self-satisfaction	3.87 ± 0.94	11.785	0.001
Re-education	3.61 ± 1.152	6.733	0.001
<b>Total</b>	<b>3.84 ± 0.78</b>	<b>13.905</b>	<b>0.001</b>
Learner			
Interest in oral education	4.31 ± .075	69.697	0.001
Interest in dental management	4.24 ± 0.78	62.997	0.001
Importance of teeth	4.23 ± 0.78	62.467	0.001
Correct knowledge of teeth	4.14 ± 0.80	56.616	0.001
Re-education	4.28 ± 0.74	68.719	0.001
<b>Total</b>	<b>4.24 ± 0.63</b>	<b>79.206</b>	<b>0.001</b>

#### 3.4 Experiences and the Number of Brushings among Learners

The responses of the learners to their experience in oral health education were 0.65, experience in fluoride was 0.62, experience in dental visits was 0.55, orthodontic experience was 0.19, and experience in brushing teeth was 2.77.

**Table 4.** Experiences and the number of brushings among learners

Variable	M ± SD	Z	p
Experience in oral health education	0.65 ± 0.48	12.496	0.001
Experience in fluoride	0.62 ± 0.48	9.999	0.001
Experience in dental visit	0.55 ± 0.50	3.549	0.001
Orthodontic experience	0.19 ± 0.39	-31.272	0.001
Number of brushings	2.77 ± 0.65		

### 4. Conclusion

The installation of an oral health unit must be mandated so that the connection between educators and learners can be made well. In addition, programs for school oral health should be developed and policies for continued oral health care systems in school should be established. It

is also necessary to make the installation of an oral health room in school mandatory.

## 5. Acknowledgment

This paper is an excerpt from parts of the first author's proceedings<sup>1</sup>. (JW Jung, HS woo. Result Analysis on Educators and Educatees after Dental Health Education in High School. 2015. Proceedings of Hokkaido Workshop on International Conference on Convergence Technology.)

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