

Influence of an Image-Based Creativity and Personality Education Program Using Digital Curation on the Creativity · Personality and Ego-Resilience of Preservice Early Childhood Teachers

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Abstract

Background/Objectives: The purpose of this study was to examine the influence of an image- based creativity and personality education program using digital curation on the creativity, personality and ego-resilience of preservice early childhood teachers.

Methods/Statistical Analysis: The subjects in this study were 73 selected preservice early childhood teachers who majored in early childhood education. An image-based

creativity and personality program was offered for the experimental group of 38 students, and the control group of 35 students was provided with a creativity and personality program that focused on logic and essay education.

Findings: The instruments used in this study were Creativity and Personality Inventory for College Students and Ego-Resilience Inventory for College Students. After a pretest and a posttest were conducted by the inventories, a comparative analysis was made. The creativity and personality program in which the experimental group participated for 12 weeks consisted of an ad, an animated film and a documentary. As for data analysis, t-test and ANCOVA were carried out.

Improvements/Applications: As a result, the preservice early childhood teachers to whom "the image-based creativity and personality education program using digital curation" was provided showed better improvements in creativity and personality than the preservice early childhood teachers who took the course in logic and essay education.

Key Words : Preservice Early Childhood Teacher, Creativity and Personality Education, Curation

1 INTRODUCTION

Creativity and personality are competencies that individuals should have as global leaders or global citizens in future society. Creativity and personality education is to cultivate creativity and personality in every class or through a variety of creative hands-on activities. That is, creativity and personality education is not a mere combination of creativity education and personality education. That is to foster "moral and creative talent"¹. Creativity refers to "a competency to create new and valuable things," and personality can be defined as "a competency to manifest creativity in a significant way in society"². Creativity and personality education is especially mandatory for preservice early childhood teachers who should be creative and have a fine personality as early childhood teachers. That's why the kind of programs that aim at cultivating creativity and personality should be provided for preservice early childhood teachers³. Besides, ego-resilience is a meta-ability

to keep oneself in control properly to cope with the problem situation in a flexible and adaptive manner⁴. When it comes to earlier studies, 3's study that examined the effects of creativity education through general education courses on college students found that this education had an effect on openness, playfulness, curiosity, activeness or initiative. ⁵⁻⁶'s study found that creativity education composed of lectures, group discussions, presentation of creativity activities and performance of these activities exerted a positive influence on the divergent thinking of the preservice early childhood teachers and their attitude to divergent thinking. As for earlier studies related to ego-resilience promotion programs, a creativity education program that centered around parody of noted films using smartphones was found to have a positive impact on the ego-resilience of the preservice early childhood teachers⁷. Indeed, educational institutions that foster early childhood teachers should develop various teaching methods to provide creativity and personality teacher education for preservice early childhood teachers to cultivate their creativity, personality and ego-resilience.

The educational effects of creativity and personality education could be doubled when the kind of materials and media that are familiar to learners and preferred by them are widely utilized. Initially, media education referred to "education on media," and the concept of it is being enlarged as "media-aided education"⁸. The utilization of media of image in creativity and personality education is one of efficient ways to motivate preservice early childhood teachers to produce creative learning effects⁹.

The development of a system based on digital curation is indispensable for the creation of media-learning environments that can accelerate the interactions of learners such as sharing, cooperating, opening, participating or communicating. Learning based on digital curation serves to bolster the interactions and participation of learners¹⁰⁻¹¹, ensures smooth information sharing¹² and has an effect on cooperation and communication¹³. In addition, education based on digital curation facilitates the self-directed learning of ¹⁴ and is of use for relationship building between teacher and learner and between learners¹⁵.

The purpose of this study was to develop an image-based creativity and personality education program using digital curation and to examine its effects on the improvement of creativity, person-

ality and ego- resilience by providing it as part of the early childhood education curriculums of colleges of education in an effort to assess and improve the creativity, personality and ego-resilience of preservice early childhood teachers.

Two research questions were posed:

1. Does an image-based creativity and personality education program using digital curation have any effects on the cultivation of the creativity and personality of preservice early childhood teachers?

2. Does the image-based creativity and personality education program using digital curation have any effects on the improvement of the ego- resilience of preservice early childhood teachers?

2 Method

2.1 The Subjects

Two research questions were posed:

1. Does an image-based creativity and personality education program using digital curation have any effects on the cultivation of the creativity and personality of preservice early childhood teachers?

2. Does the image-based creativity and personality education program using digital curation have any effects on the improvement of the ego- resilience of preservice early childhood teachers?

2.2 Instrumentation

2.2.1 Creativity and Personality

The instrument used to assess creativity and personality was the Creativity and Personality Inventory that was used in ¹⁶'s study. The creativity section of the inventory is to measure problem-solving skills and creative disposition, and the personality section of it is to measure practical judgment. To be specific, problem-solving skills consisted of problem-solving planning and practice of problem solving. Creative disposition was composed of endurance, passion, humor, curiosity and enterprising attitude, and imagination was

excluded. Personality consisted of moral self-awareness, moral reasoning, habits of putting something in practice, empathy, reflective decision making and conscience.

2.2.2 Ego-Resilience

The instrument used to evaluate ego-resilience was ⁴'s Ego-Resilience Scale. This consists of four sub factors and 32 items, which are ten on positive thinking, 10 on emotional regulation, six on goal orientation and 10 on communication pattern. A five-point Likert scale was used for every item. The respondents were asked to choose one out the five answer choices from "absolutely not" (one point) to "very much" (five points). Recode was done in some of the items. A higher score indicates better ego-resilience.

2.3 Research

2.3.1 A Pilot Study

"The image-based creativity and personality education program" developed in this study was provided for 30 early childhood education students, who were in their second and third years at one of the two colleges, in 12 sessions every Friday from March 13 to April 10, 2015, two sessions at a time to make a pilot study. And then their interest in the selected footages and their needs for footage selection were reflected. The content of the activities was modified to provide better motivation, and what they had to prepare was changed as well. In addition, the teaching method was modified by including creative questioning.

2.3.2 Pretest an the Posttest

To determine the effects of the image-based creativity and personality education program using digital curation, a pretest was conducted to assess the creativity, personality and ego-resilience of the experimental group and the control group in the first week of September, 2015. The two groups took the test in group. This researcher handed out the questionnaires in person and gave a detailed explanation. It took approximately 30 minutes for them to take the pretest. A posttest was carried out in early December,

2015. The process, place, time and tester of the posttest were all identical to those of the pretest. After the pretest was carried out, the experiment was implemented in 12 sessions, and then the posttest was conducted.

2.3.3 The Main Study

The image-based creativity and personality education program was provided in 12 sessions every Friday from September 11 to December 4, 2015. The experimental group took a theoretical class in "early childhood logic and essay education" and participated for two hours in the program that was finalized based on the results of the pilot study. The control group took a theoretical class in "early childhood logic and essay education" like the experimental group, and then this group engaged in activities of creativity, logic and essay in accordance with the textbook of one of their major courses for about two hours.

2.3.3.1 Program Development

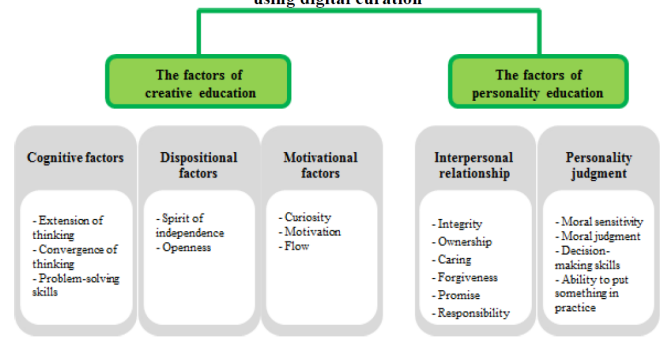
The image-based creativity and personality education program for preservice early childhood teachers that used digital curation was developed in the following way: First, earlier studies related to the creativity and personality of preservice early childhood teachers and early childhood teachers were analyzed to determine the basic concept and components of creativity and personality education. Second, a model of the program was set up based on the results of the earlier studies about needs for image-based creativity and personality education and related programs. Third, five footages that could be used in the program were selected on the basis of the results of earlier studies on the selection of footages for creativity and personality education. Fourth, the activities of the 12-session program were developed in consideration of the themes (occupation, religion, politics, philosophical lifestyle, friendship, dating, sex roles and leisure activity) of ego-resilience and the selected footages. Fifth, the content validity of the program was tested by two early childhood education experts and two creativity education experts. The image-based creativity and personality education program using digital curation that was geared toward preservice early childhood teachers was finalized after the 12-session program was pro-

vided for 30 preservice early childhood education teachers to make a pilot on-the-spot inspection.

2.3.3.2 The Components of the Program

As Table 1 shows, the independent functions and roles of creativity education and personality education were both stressed in the image- based creativity and personality education program using digital curation, and a mixed approach of creativity and personality was taken at the same time. The components of the program were selected by reflecting what’s suggested by a study on the revitalization of education for the promotion of creativity and personality¹⁶.

[Fig. 1] The components of the image-based creativity and personality education program using digital curation



As shown in Figure 1, the components of the image-based creativity and personality education program using digital curation. That is, the components of creativity education are cognitive factors, dispositional factors and motivational factors. And the components of personality education are interpersonal relationship and personality judgment.

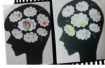
2.3.3.3 Footage Selection

The footages were selected based ⁶'s study of footage selection for the development of contents for image-based creativity and personality education using digital curation. After the interest and needs of the learners were investigated, five footages were selected,

which were a film, an animation, an ad, a cartoon and a documentary that dealt with six themes of ego-resilience respectively: occupation, philosophical lifestyle, friendship, dating, sex roles and leisure activity. Two themes of ego-identity that were religion and politics were excluded because the needs of the learners for these themes weren't great.

2.3.3.4 The Content of the Program

Table 2 shows the content of the program that was conducted in 12 sessions.

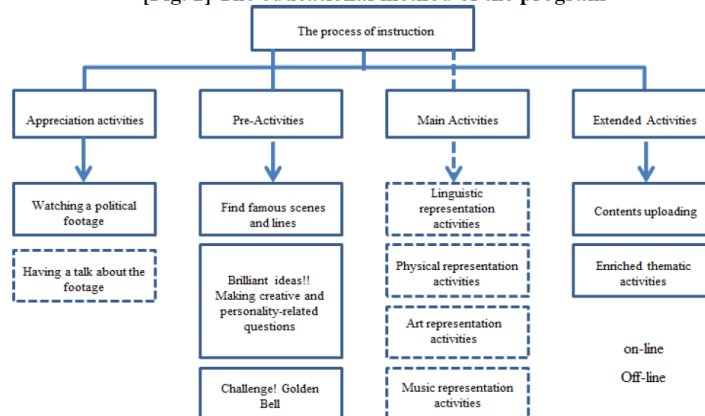
(Table 1) The activities of the program				
Footage	Factor of Ego-Identity	Footage Title	Activity Title	
Film	Dating	When Harry met Sally	1. Linguistic representation: Men are from Mars, Women are from Venus(the magazine of the inquiring life of man and woman).	2. Music representation: Reply, We are dating (making an article of dating)
			3. Art representation: Designing for an year-end party(designing a stage, an invitation letter, etc.)	
				
Animation	Friendship	Stormy Night	4. Linguistic representation: You who are not a friend but like a friend	5. Art representation: A lunch box and friendship
				
Advertisement	Occupation	Sorrow of An insurance salesperson	6. Art representation: A suspicious job	7. Physical representation: Please help the salesperson
				
Webtoon	Sex roles	What's made by heart	8. Linguistic representation: Brain structure test	9. Art representation: Making a webtoon of my life
				
Documentary	Leisure activity	Happy Otaku	10. Linguistic representation: A sketch of journey, sound leisure activity	11. Art representation: Finding a hobby
				
			12. Physical representation: Interview of leisure activity	

2.3.3.5 The Educational Method

Figure 2 shows the educational method of the image-based creativity and personality education program that was conducted in

12 sessions using digital curation.

[Fig. 2] The educational method of the program



2.4 Data Analysis

The Cronbach alpha coefficient of the collected data was calculated to analyze their reliability, and independent-samples t-test was utilized to see if the two groups were equivalent. To test the effects of the program, ANCOVA was used.

3 Results

1. The Influence of the Program on Creativity and Personality

(Table 2) Mean and standard deviation of the creativity and personality pretest and posttest scores

Classification			Creativity and personality posttest scores			Adjusted creativity and personality posttest scores	
			N	M	SD	M	SD
Creativity	Problem-solving skills	The experimental group	40	54.40	11.72	52.13	1.39
		The control group	39	42.36	10.61	44.69	1.41
	Creative personality	The experimental group	40	62.55	11.17	62.11	1.28
		The control group	39	49.21	11.22	49.66	1.40
	Total	The experimental group	40	116.95	21.88	114.35	2.51
		The control group	39	91.56	20.73	94.24	2.54
Personality		The experimental group	40	61.53	10.61	60.29	1.49
		The control group	39	54.05	10.96	55.32	1.51

As shown in Table 2, after this program implementation, the problem solving technique, creative personality, and total creativity

were higher in the experimental group than the control group, and the personality was also higher in the experimental group than the control group.

(Table 3) ANCOVA of the sub factors of creativity and personality

Classification		Source	Sum of Square	df	Mean Square	F
Creativity	Problem-solving skills	Covariance	4072.36	1	4072.36	55.60***
		Group	989.56	1	989.56	13.51***
		Error	5566.21	76	73.24	
		Corrected Total	12501.60	78		
	Creative personality	Covariance	3889.29	1	3889.29	51.33***
		Group	3050.26	1	3050.26	40.25***
		Error	5758.97	76	75.78	
		Corrected Total	13164.89	78		
	Total	Covariance	16158.97	1	16158.97	65.16***
		Group	7722.77	1	7722.77	31.14***
		Error	18846.52	76	247.98	
		Corrected Total	47731.22	78		
Personality		Covariance	2399.84	1	2399.84	27.79***
		Group	464.00	1	464.00	5.37*
		Error	6562.04	76	86.34	
		Corrected Total	10064.86	78		

As a result of analyzing these differences in Table 3, the problem solving technique, creative personality, and total creativity showed statistically significant difference between experimental group and control group after this program implementation. And the personality showed statistically significant difference between experimental group and control group after this program implementation.

2. The Influence of the Program on Ego-Resilience

(Table 4) Mean and standard deviation of the ego-resilience pretest and posttest scores

Classification		Ego-resilience posttest scores			Adjusted ego-resilience posttest scores	
		N	M	SD	M	SD
Positive thinking	The experimental group	40	34.23	2.84	34.68	.24
	The control group	39	33.44	3.32	32.97	.25
Emotional regulation	The experimental group	40	41.30	4.89	41.96	.54
	The control group	39	35.03	6.77	34.35	.54
Goal orientation	The experimental group	40	22.08	1.47	21.90	.32
	The control group	39	19.41	3.22	19.59	.33
Communication pattern	The experimental group	40	25.25	2.05	25.27	.31
	The control group	39	23.49	2.42	23.47	.32
Total	The experimental group	40	122.85	6.12	123.57	.76
	The control group	39	111.32	9.77	110.56	.78

As shown in Table 4, after this program implementation, the

positive thinking, emotional regulation, goal orientation, communication pattern, and total ego-resilience were higher in the experimental group than the control group.

(Table 5) ANCOVA of the sub factors of ego-resilience

Classification	Source	Sum of Square	df	Mean Square	F
Positive thinking	Covariance	556.80	1	556.80	204.77***
	Group	56.61	1	56.61	24.48***
	Error	175.76	76	2.31	
	Corrected Total	744.86	78		
Emotional regulation	Covariance	1811.33	1	1811.33	159.32***
	Group	1122.72	1	1122.72	98.75***
	Error	864.05	76	11.37	
	Corrected Total	3452.76	78		
Goal orientation	Covariance	167.85	1	167.85	41.10***
	Group	103.22	1	103.22	25.28***
	Error	310.36	76	4.08	
	Corrected Total	618.43	78		
Communication pattern	Covariance	90.58	1	90.58	23.36***
	Group	63.65	1	63.65	16.42***
	Error	294.67	76	3.88	
	Corrected Total	446.61	78		
Total	Covariance	3263.22	1	3263.22	141.30***
	Group	3255.67	1	3255.67	140.97***
	Error	1732.09	76	23.10	
	Corrected Total	7587.85	78		

As a result of analyzing these differences in Table 5, the positive thinking, emotional regulation, goal orientation, communication pattern, and total ego-resilience showed statistically significant difference between experimental group and control group after this program implementation.

4 Conclusion and Suggestion

In this study, the image-based creativity and personality education program that used digital curation was developed as one of possible ways to improve the creativity, personality and ego-resilience of preservice early childhood teachers. And whether the program had any effects on the improvement of creativity, personality and ego-resilience was analyzed by conducting it as part of the curriculums of colleges of education that were fostering early childhood teachers.

The findings of the study were as follows: First, the creativity and personality of the experimental group became significantly better than those of the control group after the activities were carried out. It implies that the program exercised a positive influence on the improvement of the creativity and personality of the preservice early childhood teachers. All the activities were designed to actualize student-centered instruction as much as possible. For instance, creative questions, finding famous scenes and lines and forced combination of images were included in the pre-activities. The main activities were comprehensive of art activities, movement activities and a quiz titled "Challenge! Golden bell," In the extended activities, making a portfolio was included. Every activity was implemented after being posted on the digital curation site in an effort to actualize student-centered instruction. Ultimately, creativity and personality education aims at fostering capable people who have both creativity and fine personality, and that should be student-centered instead of merely giving teacher-led lectures¹⁷. The interest-oriented, student-involved method of instruction that was attempted in this study seemed to contribute to the improvement of creativity and personality. Besides, footages including film are the perfect arts that are characterized by creativity and visual representation, which are unique benefits¹⁶. The elements of the footages seemed to be of use for the development of the creativity and personality of the preservice early childhood teachers by encouraging them to express themselves freely without any restrictions. Indeed, image-aided education has outstanding effects on the cultivation of human sensitivity and emotion¹⁸, and there should be more attempts to develop a wide variety of image-aided educational programs.

Second, the ego-resilience of the experimental group became significantly better than that of the control group after the activities were fulfilled. It signifies that the image-based creativity and personality education using digital curation exerted a positive influence on the improvement of the ego-resilience of the preservice early childhood teachers. Ego-resilience is an ability to adapt oneself well to changing environments, and that is an ability to solve problems in a flexible manner¹⁹. The benefit of the program is to enable students to set up a stable network as creative and self-directed learners who think and judge on their own.

There are some suggestions on how to make a more productive research in the future: First, only the selected preservice early childhood teachers were examined in this study. To produce more objective and generalizable results, college students whose majors are all different should be investigated. Second, the effective value of the program should be tested more extensively by examining a wide range of variables including stress coping, self-concept and teacher efficacy in addition to ego-resilience. Third, "culture" and "arts" are regarded as the core elements of future elite education in the world involving our country, and a lot of attention and research efforts are directed into these elements. In a broad sense, image education could be viewed as one of the areas of arts and culture education. Therefore image education should be conducted as part of arts and culture education, which is more macroscopic, in order for students to display their creativity and cultivate personality instead of simply sticking to the original concept of it.

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