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Design and Development of Customer Satisfaction Couse for Improving Creativity based on CPS Model

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Abstract

The talented human resource demanded by companies in the knowledge-based society is the person who has creativity and upright character. Currently, there are 10 basic vocational skills commonly sought in all workers nationwide, and one of them is the problem-solving skills. One of sub-factors of problem-solving skills is creative thinking. Under these circumstances, various teaching and learning models have been developed to develop students' creativity and upright character. However, there are not enough discussions on the optimized education programs. Customer satisfaction (CS) is defined as a condition where customers' needs, desires, and expectations are met or exceeded to result in the repurchase of products and/or services and repeat this to continue customer loyalty. CS skills include the competencies that promptly adjust to the fast-paced environments and resolve problems creatively. However, the existing CS training is mainly focused on the attitudes or functions of services, and there is limited effort on developing the abilities to flexibly respond to various real-life issues. Therefore, CS training should be developed in order to improve students' problem-solving skills. Additionally, the scope of CS training is expanding to the broad meaning as training for nurturing the upright character. With social demands for creativity and upright character, the purpose of this study is to develop a CS course that is based on the CPS model to develop college students' creativity and upright character. In this study, researchers developed Creative Problem Solving (CPS) model by adapting and modifying existing CPS model, and developed CS course based on developed CPS model. The significances of developed CS course are as follow: first, it will improve the creativity and upright character of college students who have participated in a CS course that applies the CPS model. Second, it can help professors teaching CS course in colleges teach image-making course based on the CPS model in schools. Third, it is expected to suggest study directions for the development of other CS courses in addition to image-making

Keywords*: Creative Problem Solving Model, Customer Service, Creativity*

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1. Introduction

With the rapid development of Korean economies, the talented human resource demanded by companies in the 1990s was those with strong educational backgrounds. However, the society bound to education has caused problems related to lack of human quality and problem-solving skills in the real world [1]. The talented human resource demanded by companies in the knowledge-based society of the 21st Century is the manpower with creativity and upright character, and these are the qualities sought after in recruitment. Currently, there are 10 basic vocational skills commonly sought in all workers nationwide, and one of them is the problem-solving skills. The subfactors of problem-solving skills valued in the basic vocational skills are the 'thinking skills' related to creative thinking, critical thinking, and logical thinking and 'task-processing skills' related to problem recognition, selection of alternatives, application of alternatives, and assessment of alternatives. Problem-solving needs to generate and select ideas for the best solution in order to resolve problems in various situations, but creative thinking should be applied in this process [2]. Under these circumstances, various teaching and learning models have been developed in the field of education to develop students' creativity and problem solving skills [3]. However, there are not enough discussions on the development of creativity and upright character [4-5].

CS (Customer Satisfaction) training contributes to develop abilities which everyone should develop with efforts for mutually satisfactory interpersonal relations [6]. CS skills include the competencies that promptly adjust to the fast-paced environments and resolve problems creatively [7]. Thus, CS training program should include contents and methods for comprehensive problem-solving in various situations. However, the existing CS training is mainly focused on the attitudes or functions of services, and there is limited effort on developing the abilities to flexibly respond to various real-life issues [4]. Therefore, CS training should be developed in order to improve students' problem-solving skills for service management, service performance assessment, service leadership, listening attitudes, communication skills, customer complaint handling procedures, MOT management, and image-making beyond the standardized courtesy training or friendly service training [4, 8]. With these demands for CS training, it is necessary to develop educational programs to improve both problem-solving skills and creativity through CS training for learners.

Creative Problem Solving (CPS) Model is the most popular model for development of creativity. CPS model has been used as the foundation for studies to develop creativity training programs in Korea and abroad [9]. Therefore, this study developed a CS course that applies the CPS model to develop the creativity and upright character for college students.

2. Theoretical Background

2.1. CS Training and Creativity

CS is defined as a condition where customers' needs, desires, and expectations are met or exceeded to result in the repurchase of products and/or services and repeat this to continue customer loyalty [10]. The consultative meaning of CS training is to improve the functions of courteous attitudes or services to make interpersonal relationships with others according to the ideologies or purposes of companies. Ultimately, it is to improve the overt attitudes and the technical skills. In the broad meaning for social education, CS training is learning the internal mindset and external courtesies one should make efforts to maintain mutual satisfaction for sound international relationships in the society [11].

CS training in companies has been conducted in consultative meaning with emphasis on the attitudes of employees to reform their awareness and improve their service skills. However, CS training focused on service attitudes or functions is not enough to nurture

the skills to flexibly respond to various problems that occur in the real world. It requires more multifaceted thinking in order to resolve the problems that occur in the complicated introversion of people [12]. Nowadays, the scope of CS training is expanding to the broad meaning as training for nurturing the upright character all social members should have. It should evolve to have a variety of contents and methods that occurs in the various situations of modern society. For this reason, CS training is evolving to improve various problem-solving skills for service management, service performance assessment, service leadership, listening attitudes, communication skills, customer complaint handling procedures, MOT management, and image-making beyond the standardized courtesy training or friendly service training [13].

Nowadays, colleges are offering CS courses for their students to grow into the images demanded by companies for better competitiveness in the job market. However, the training programs have not deviated from the existing standardized courtesy training. Therefore, it is required to develop alternative programs according to the educational demands for CS training. Above all, the programs should be developed for the learners to nurture both problem-solving skills and creative thinking skills to derive the solutions right for themselves to resolve various complicated problems that occur in the real world.

2.2. Creative Problem Solving (CPS) Model

Creative problem-solving is defined as the process of discovering problems through repetitive thinking process including divergent thinking and convergent thinking to resolve certain problems and searching for relevant resources to state the specific problems, generate ideas, and create new useful solutions [4]. The Creative problem solving (CPS) model is the most popular model which has been used to improve creative problem-solving skills. The CPS model guides the overall process to solve problems creatively. Isaksen and Treffinger [9] suggested the six steps of CPS (configuration of opportunities, discovery of resources, statement of problems, discovery of ideas, discovery of solutions, and construction of acceptance foundation) while emphasizing the dynamic balance of divergent thinking and convergent thinking which are not considered much with the existing CPS models. For this study, researchers developed CPS model based on the CPS model of Isaksen and Treffinger [9] and CPS teaching and learning model developed by Moon [3]. Figure 1 shows CPS model that we developed.

Table 1. CPS Model

CPS Stage	Teaching and Learning Activity
1. Discovery of Opportunities	1) Understanding the problem situation 2) Creating the opportunity for problem-solving 3) Selecting the key opportunity for problem-solving (area of interest)
2. Exploration of Resources	4) Searching for the related information 5) Selecting and evaluating related information
3. Statement of Problems	6) Guiding how to state the problems 7) Stating various problems 8) Selecting the key problems
4. Discovery of Ideas	9) Creating ideas for problem-solving 10) Elaborating ideas
5. Development of Solution	11) Creating the evaluation criteria for solution 12) Selecting the evaluation criteria for solution 13) Selecting the final solution

6. Acceptance Foundation	14) Planning for final solution 15) Elaborating the action plan for final solution

※ Source: [4] J. Kim, Y. Kim, J. Do and S. Heo, "Development of CS Couse for Improving Creativity based on CPS Model: Focusing on image-making", ASEHL, vol. 9, (2016), pp. 97-101.

3. Methodology

The purpose of this study is to develop a CS course that is based on the CPS model to develop college students' creativity and upright character. To achieve the purpose of this study, we identified the development process of CS course. Figure 2 shows the development process which was developed based ADDIE model, which is the most popular instructional design model [14].

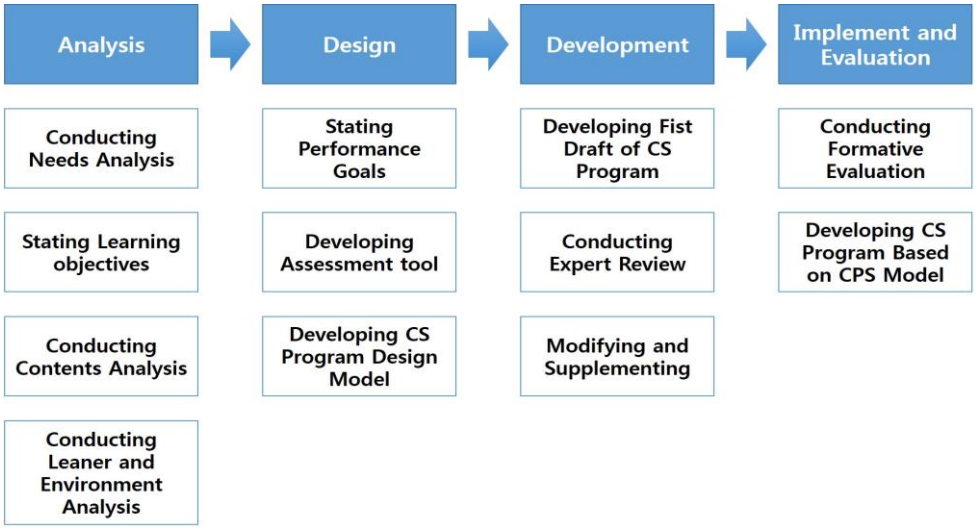

Figure 1. Development Process of CS Course

※ Source: [4] J. Kim, Y. Kim, J. Do and S. Heo, "Development of CS Couse for Improving Creativity based on CPS Model: Focusing on image-making", ASEHL, vol. 9, (2016), pp. 97-101.

In the analysis stage, first, the foundation for the development of a CS program was laid with the CPS model for college students' creativity and upright character by analyzing the situations of the current CS programs and the CS training activities demanded by the educational sector. Second, it stated the information which learners wish to achieve and the teaching objectives that result from the training after the program. Third, the subsequent functions were analyzed to achieve the teaching objectives. It determined the knowledge, skills, and attitude required to illustrate the sequence of learning and learning in the program. Fourth, it analyzed the learners and the learning situations.

In the design stage, first, the performance objective on what learners can do after learning based on the results of teaching analysis, learners, and situational analysis is stated. Second, it developed an assessment tool that can measure whether learners have achieved the objective. Third, it conducted a literature analysis of the CPS model to establish the teaching strategies. As a result, it derives the major process, stages, and teaching-learning activities of CPS model and developed 'a CS teaching model that applies the CPS model.'

In the development stage, first, the program draft was developed based on the CS teaching model with the CPS model developed in the previous stage. Second, the draft of program was evaluated by an expert group of two instructors teaching classes using creative problem-solving (CPS) and one image-making expert. Third, it modified and supplemented the course based on the results of expert evaluation.

In the implementation and evaluation stage, first, the modified course was applied to formative evaluation on a small group of 10 college students attending K College in Incheon. Second, the course was modified and supplemented based on the results of formative evaluation to complete the CS course that applies the final CPS model.

4. Results

4.1. CS Course Overview

The course information of developed CS course based on CPS model is as follow.

Table 2. CS Course Overview

Course Topic	Image-making for getting a job I want
Instructional Objectives	Students are able to set image-making plan for getting a job they want.
Contents of Each Module	Session 1: The components of image-making Session 2: The factors necessary for image-making Session 3: Establishing the plan for image-making
CPS activity of Each Module	Session 1: Discovery of Opportunities, Exploration of Resources Session 2: Statement of Problems, Discovery of Ideas Session 3: Development of Solution, Acceptance Foundation

The content of the first session is learning the components of image-making. The components of image-making are learned preliminarily for image-making for job-finding. Based on this, learners should contemplate the components of image-making which they should challenge and select the factors they deem important. The CPS stages that apply to the first session are the first stage for the discovery of opportunities and the second stage for the search of resources. Learners should have the opportunities to find the image components they should challenge for image-making suitable for the jobs they want to have and derive the key factors. For this purpose, they should first analyze the images the companies want and create the albums of images. Next, they compare the key factors of image they select and the results of resources to prepare the worksheet that compares what is common and what is different.

The content of the second session is selecting the factors necessary for my own image-making. The CPS stages applied to the second session are the third stage for the statement of problems and the fourth stage for the discovery of ideas. Learners are asked to prepare various derived problems using the bulletin board and select two image-making factors they are required to have. In this stage, learners can clarify the framework of problems they need to resolve and generate the ideas to suggest the solution. Learners share information with other learners who have similar problems through discussions to

generate a broad range of ideas. By doing so, they can finally derive the factors they need for their own image-making.

The content of the third session is establishing the plan for image-making. Specific plans are established to satisfy the elements required for their own image-making. The CPS stages applied to the third session include the fifth stage for deriving the solution and the sixth stage for building the acceptance foundation. Specific strategies for executing the image-making are prepared and evaluated by instructors and fellow learners for feedback.

4.2. Statement of Performance Objectives in Each Session

The objectives for each session to achieve the teaching objectives for image-making required for learners' job-finding are as follows:

Table 3. Performance Objectives in Each Session

Session	Objectives
1. The components of image-making	• Students are able to list the components of image-making. • Students are able to explain the image-making components most important for finding the right job. • Students are able to talk about the image of manpower pursued by one's desired company.
2. The factors necessary for image-making	• Students are able to set the image-making factors one needs to find the job he/she wants. • Students are able to derive ideas for problem-solving through discussion. • Students are able to draw a mind map for my successful image-making.
3. Establishing the plan for image-making	• Students are able to decide the final image-making method according to the selected standards. • Students are able to establish the plans for my own image-making.

4.3. Development of Draft of CS Course with the CPS Model

In the image-making course of a CS program, the teaching objective is to improve college students' image-making to be able to have develop image many companies demand. A universal image-making program was applied to the CPS model to develop according to a systemized teaching approach. A new program of three sessions was developed according to the stages of CPS and each session took two hours.

4.4. Results of Expert Review

The results of expert review of the draft of CS program that applied the CPS model showed an average of 4.2 points (out of 5 points). The results for each item of expert review are as follows: feasibility of achievement of teaching objectives (4.0 points), feasibility of content of each session (4.6 points), feasibility of teaching-learning activities (4.3 points), expressiveness of program (4.0 points), and attainability in classes (4.3 points). Based on the responses to open-end questions on what the program needs for overall improvement, it implied that it 'needs various creative thinking methods and specific guidelines for teaching/learning activities.' The draft of CS program that applied the CPS model was modified and supplemented based on this implication.

4.5. Results of Formative Evaluation

The results of formative evaluation of a small group on the CS program that applies the CPS model that was modified based on the results of expert review showed an average of 3.8 points (out of 5 points). The achievement of course objectives through learners' interests and final assignment in the program was 3.9 points. As a result of an open-end question on the improvement of program, the instructor's messages were adjusted to provide learners with enough activity time considering the opinion that 'there is not much activity time because the program has too much content' and that 'comprehension is limited because the course provides not enough examples.' The program was modified and supplemented with specific guide and additional examples for in-class activities.

4.6. Final Development of CS Program with the CPS Model

The program was modified and supplemented based on the results of expert review and formative evaluation and the following final CS program was developed based on the CPS model:

Table 5. Developed CS Program with the CPS Model

Stage	Teaching Activity	Student Activity	Teaching Tool
Discovery of Opportunities	**Attention** • Learners are asked to recognize the problem situation before the problem situation is presented.	• Learners liberally discuss the images that come to their mind with the instructor's question.	Individual worksheets "Image-making challenge for my change!"
	Explaining the 'components of image-making'	• Learners identify the components of image-making and understand the concept of each factor.	
	1) Understanding the problem situation. • Learners are guided to list and prepare the problems to resolve for image-making. • What is the image component which I should challenge for the right image-making for the job I want?	• Think about and list the image-making factors to challenge for the job I want.	

	2) Creating the opportunity for problem-solving • What is the image factor which I should change most urgently or seriously among the components listed?	• Learners select two most important factors among the image-making factors they have derived.	
	3) Selecting the key opportunity for problem-solving (area of interest) • Learners are guided to derive their areas of interests and key opportunities among the factors listed.		
Exploration of Resources	**4) Searching for the related information** • Learners are guided to search the resources on the images companies want.	• Learners search for the resources related to the image pursued by their desired companies.	Making an album of image.
	5) Selecting and evaluating related information • Learners select and evaluate the resources suitable for the key problem-solving opportunities (areas of interest) they have selected.	• Learners evaluate and select the resources suitable for the key problem-solving opportunities (areas of interest) among the various resources.	
Statement of Problems	**6) Guiding how to state the problems** • Learners are guided to state the specific problems.		Making the problem bulletin board.
	7) Stating various problems • "How should I make an image to join that company?" .		

	8) Selecting the key problems • Learners are guided to derive the key problems among various problems stated using the highlighting technique	• Learners state the problem, "How should I make an image to join that company?" Learners select the key problem among the problems they stated.	
Discovery of Ideas	**9) Creating ideas for problem-solving** ① Group discussion: Brainstorming among learners with similar problems. ② Individual activities: Writing a mind map	• Learners discuss with learners with similar problems to derive ideas for problem-solving. • Learners draw the mind map for successful image-making based on the ideas gathered through discussion.	Drawing my own mind map.
	10) Elaborating ideas • Learners are guided to specifically elaborate the ideas using the PMI method.	• Learners list the benefit, weakness, and interesting points of ideas to elaborate the ideas.	
Development of Solution	**11) Creating the evaluation criteria for solution** • Learners are guided to derive the evaluation criteria for the solution suitable for problem-solving among various ideas.	• Learners liberally brainstorm what the most important evaluation criteria are for image-making.	Preparing the chart of evaluation.
	12) Selecting the evaluation criteria for solution • Learners are guided to select the evaluation criteria right for problem-solving among the evaluation criteria they developed.	• Learners select the criteria most suitable for problem-solving among the evaluation criteria created before.	

	13) Selecting the final solution • Learners are guided to select the final solution using the evaluation chart based on the evaluation criteria.	• Learners use the evaluation chart to select the final image-making method (final solution).	
Acceptance Foundation	**14) Planning for final solution** • Learners are guided to establish the action plan for helpers, resisters, and potential action plans.	• Learners plan image-making suitable for their areas of job-finding.	Writing the image-making action plan.
	15) Elaborating the action plan for final solution • Learners are guided to create the action strategies to specify the plan and present their determination individually.	• Learners prepare specific strategies for the finally selected image-making action plan. • Learners present and share the image-making plan.	

5. Conclusions

This study developed a CS course by applying the CPS model in order to improve college students' creativity and upright character. In the developed CS course, learners will demonstrate convergent and critical thinking skills in the process of generating and evaluating problem-solving ideas for successful job-finding. Developed CS course made efforts to develop students' creativity by developing and applying several design strategies. First, this program discusses topics that are interesting for learners, but difficult to resolve in relation to themselves. Therefore, its biggest strength is that a liberal atmosphere can be created using the free association and heat methods for learners to generate creative ideas in the first stage of CPS model for the development of opportunities. Second, learners should be able to configure the framework of problems they need to resolve. To assist these activities, this study applied the highlighting method and provided a personal problem-solving bulletin board to students to expand their thinking. Third, from the literature review on existing studies about CPS model, most learners find it most difficult to develop the selection criteria to develop the solution in the CPS stages [13]. Therefore, this study used free association method for learners' divergent thinking that was required to generate evaluation criteria to supplement the problems for learners to think about the major selection criteria that affect image-making. Learners can use the evaluation chart to promote convergent thinking when the final solution is selected.

The characteristic of this study is that it developed a course for the CS training by integrating the CPS model for developing learners' creativity. It is an optimized course for nurturing learners' creativity and upright character. With this characteristic, the significances of developed CS course are as follow: first, it will improve the creativity of college students who have participated in a CS course that applies the CPS model. Second, it can help professors teaching CS course in colleges teach image-making course based on the CPS model in schools. Third, it is expected to suggest study directions for

the development of other CS courses in addition to image-making. In the future, a study is required to analyze the effect of developed CS course applying the CPS model in the real classroom environments.

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