ELSEVIER

ICEEPSY 2014

Creative strategy: A pilot evaluation of a hypothetical learning model through public speaking performance

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Abstract

To better develop thinking skills and creativity, students need to strategize their learning experiences that entail them to think and use their creative cognitive abilities. Bearing this in mind, a new learning model was developed by associating strategic thinking and creative thinking processes. We term this new model Creative Strategy Learning Model (CSLM), and we examined how the amalgam of both can provide new learning experience for learners. This study therefore measured the creative strategy learning model by employing an explorative approach, and we especially investigated its effectiveness to assist students perform better in public speaking. Researcher-developed strategic questionings and creativity checklist were used to help strategize 27 students' learning experiences in a public speaking course. Competent Speaker Speech Evaluation Form (CSSEF) was used to measure students' public speaking performance after the implementation of the creative strategy prior to an interview session with volunteered students. Analysis of the strategic questions and creativity checklist indicated that students performed better after each phase of the learning process. The strategic questions were able to help students to cognitively strategize their learning for a better performance in the next phase, and the creativity indicator has also motivated students to perform better. Results from the CSSEF indicated excellent overall competency of public speaking. The creative strategy learning model is shown to be essential to help students develop their thinking skills and creativity for better performance in public speaking. Constant and organized feedback on their performance at each phase of the learning experience proved to positively encourage them to perform better. Nevertheless, a thorough study with increased number of participants will strengthen the findings of this pilot evaluation.

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1. Introduction

How can we assist students to cognitively strategize their learning process for better learning performance and creativity development? Students evidently should be engaged in learning experiences and process which entail them to think and use their cognitive abilities (Black & Deci, 2000). Students should also be cognizant of the importance of creativity and their own creative values. We therefore investigate the question by developing a creative strategy learning model. This model looks at how students can cognitively strategize their learning through a process-oriented learning experience and a continuous creativity check.

Creative strategy model has been applied in the advertising field (Golan & Zaidner, 2008; Mior Harun, Teo, Fitri Hussin & Nasir, 2013), business and management (Martensen & Dahlgaard, 1999), and nursing education (Duane & Satre, 2014; McAllister et al., 2013). In its implementation, creative strategy has been used in business and advertising fields to improve performance, innovate new ideas and products and ultimately to increase sale (Canavan, Scott & Mangematin, 2013; Golan & Zaidner, 2008; Mior Harun et al., 2013). At the educational setting, the nursing education has employed creative strategy to improve nursing skills and enhance learning experiences of students (Duane & Satre, 2014; McAllister et al., 2013). At both levels of application, information and knowledge are considered as its core, and tools such as computer technology has been used to carry out the strategy and achieve the project objectives. And as a relatively new application and learning model, creative strategy has been found to be effective to assist learners enhance their skills (Duane & Satre, 2014) and organizations improve performance (Canavan et al., 2013).

Deliberating on this evidence and taking into account the importance of creativity today, we put together strategic thinking and creative thinking theoretical framework to develop a Creative Strategy Learning Model (CSLM). Previous studies have presented the evidence of their capacities (i.e. strategic and creative thinking skills) and importance to help students construct knowledge, solve problems, perform in real-world scenario and keep adept with the changing of technology (Kozbelt, Beghetto & Runco, 2010; Torrance, 1993; Simonton, 2000). This paper therefore introduces the new model, and presents the analysis of a pilot study which was conducted to assess the model by looking at students' performance in a public speaking course.

2. Theoretical framework of Creative Strategy Learning Model (CSLM)

The Creative Strategy Learning Model (CSLM) emphasizes cognitive processes and continuous assessment of the learning experience. It is developed by taking into consideration the importance of a systematic instructional process to help students use their thinking abilities effectively, and enhance their creativity. Through a systematic process, students' learning can be operated to manipulate their thinking skills in order to construct knowledge and perform in their learning. CSLM was developed based on the exploration the theoretical framework of strategic thinking and creative thinking processes.

2.1. *Strategic thinking*

Strategic thinking has been researched in numerous fields, and due to this, researchers provide varying definitions of strategic thinking depending on the fields and its focus. Most researchers associate strategic thinking to elements such as systematic and continuous cognitive process (Liedtka, 1998), a capacity for innovativeness and visions (Graetz, 2002) and problem solving (Bonn, 2005). Generally, strategic thinking is a systematic cognitive process which continually reviews its processes, strategies and missions relative to the vision to be achieved or problem to be solved (Liedtka, 1998; Moon, 2014), and it is a skill that can be learnt and trained (Beyer, 1987). In learning process, the application of strategic thinking involves strategy-making processes where systematic learning instructions are able to guide learners to control their cognitive efforts for successful learning. The systematic instructions include monitoring the learners' progress, and evaluating and assessing their works (Bonn, 2005). In CSLM, the metacognitive functions of strategic thinking are applied where the strategy-making processes play an important role.

2.2. *Creative thinking*

In creativity studies, creative thinking is discussed and studied as creative cognitive process. It is a learning process, which can be both cognitive and behavioral (Richards, 1999). Creative cognitive process has been researched from numerous perspectives which include its relation to problem solving, other thinking skills namely critical thinking skills, or involvement in creative activities (Kozbelt, et al., 2010; Runco, 2004). The creative cognitive process is defined as largely an unconscious process, which involves processing of information leading towards construction of knowledge (Armbruster, 1989; Gardner, 1988; Guildford, 1975; Wallas, 1926). Elements of information can be remotely, flexibly and divergently associated and connected to produce mental structures that are novel and useful. In this way, knowledge is constructed, and new knowledge can be used to generate creative ideas, innovate and make creative products (Runco, 2004). Creative process also emphasizes the importance of verification, a process of assessing, correcting, modifying and revising the creative outcomes of the process (Wallas, 1926). In CSLM, the importance of knowledge and the process of verifying the creative outcomes are highlighted which are aligned with the conceptual framework of creative thinking.

2.3. *The Creative Strategy Learning Model (CSLM)*

The Creative Strategy Learning Model (CSLM) brings together the strategic thinking and creative thinking processes. It puts emphasis on the importance of a systematic instructional process to assist students to cognitively strategize their learning for better learning performance and creativity enhancement. A creative strategy model was developed which is depicted in Fig. 1. The model shows that in learning process (e.g. completing a task); there are four main continuous stages namely: Learning, Metacognition, Verification and Products.
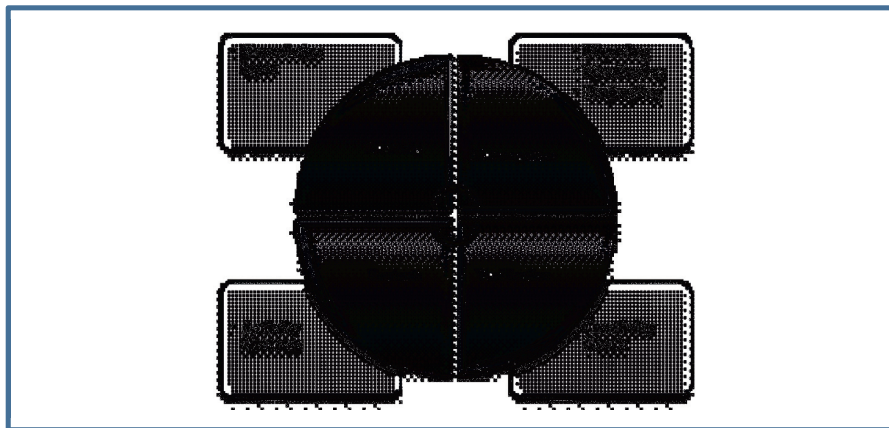

Fig. 1. The Creative Strategy Learning Model.

2.3.1. *Learning*

CSLM proposes that in any learning process, it should start with Learning, a stage where information is acquired and knowledge is constructed. This is a significant phase because this will determine the quality of the learning outcome. However, this process does not stop at this stage. Knowledge needs to be continuously constructed throughout the learning process. An important criterion of this stage is that background knowledge should be constructed so that learners have sufficient prior knowledge to proceed to the next phase. As emphasized in the creative thinking literature, this is an important phase in this model because "…knowledge construction is a key element in learning…" (Kassim, 2011: p.48).

2.3.2. Metacognition

CSLM purports Metacognition as the second stage. At this stage, students' learning is strategically and continuously guided, monitored and evaluated. One way teachers can do this at the cognitive level is by asking students to answer critical questions on their tasks. In this way, students are required to reflect on their own cognitive processes, assess the outcomes of their task and work on to change and improve their work. Constant and systematic cognitive reflection of their task will also assist students reassess knowledge that they possess, and possible strategize their learning in order to improve their work.

2.3.3. Verification

The third stage of the CSLM is Verification. At this stage, students' works are assessed especially taking into consideration its creative values. Though evaluation of students' works has been done at the Metacognition stage, this evaluation is done in order to assist students reflect on the quality of their work and give opportunities for them to improve. The Verification stage is therefore a stage where students need to judge and value their work, and verify that they have achieved the objectives of the learning process. One way this can be done is for teachers to assess and provide creative evaluation on their students' work.

2.3.4. Product

Product is the last stage of the CSLM. This is where the final product of the learning process is produced. This is not the end of the learning process; product of this process can be the new knowledge constructed which can be utilized for other learning processes.

3. The Present Study

The present study aims to assess the newly developed Creative Strategy Learning Model (CSLM). This is a report of a pilot study. We decided to test the learning approach on public speaking performance since most previous studies on thinking have focused on written abilities.

4. Methodology

4.1. *Participants and research design*

Third year undergraduate students ($N = 27$, 63% female) from different engineering faculties of a technical-based university who enrolled in a public speaking course agreed to participate in the study. The course is an elective course open to all third and fourth year students, where students of all faculties can enrol. The students were briefed in the introductory class of their involvement in a research to test a learning model, and all students stated their agreement to be part of the research.

This study employed an exploratory research design where the students' learning processes were carefully guided and observed in order to assess the newly developed learning model.

4.2. *Instruments*

Three research instruments were used in the study.

4.2.1. *Competent Speaker Speech Evaluation Form (CSSEF)*

The Competent Speaker Speech Evaluation Form (CSSEF) was used to measure participants' competence in public speaking. The CSSEF was developed by Morreale et al. (2007) to measure public speaking competency at the tertiary level, and it assesses eight public speaking competencies: Competency One: chooses and narrows a topic appropriately; Competency Two: communicates the specific purpose appropriately; Competency Three: provides appropriate supporting materials; Competency Four: uses an appropriate organizational pattern; Competency Five: uses appropriate language; Competency Six: uses vocal variety to heighten and maintain interest; Competency Seven: uses appropriate pronunciation, grammar, and articulation, Competency Eight: uses physical behaviors that

support the verbal message. The CSSEF was chosen for the study because the competencies measured are similar to the learning activities of the speech planning process. Each of the eight competencies was assessed at three levels of performance: excellent – scale 3, satisfactory – scale 2, and unsatisfactory – scale 1, and the overall scores to depict student performance are as follow: excellent: 17 – 24, satisfactory: 9 – 16, and unsatisfactory: 1 – 8.

4.2.2. Researcher-developed creativity checklist

A creativity checklist was developed in order to assess participants' creativity performance at the end of each phase of their learning process. The creativity checklist was used with the objective that participants were made aware of the creativity level of their work, and strategically they were able to improve their work based on the results. The creativity checklist, which was developed based on the creativity literature, consists of 10 items measuring elements of creativity. Each element is assessed based on four scale, 1 – 4, where a description of creativity level is provided. Table 1 depicts an example of one item in the creativity checklist.

Table 1. An example of an item in the creativity checklist.

	1	2	3	4
New	The work consists of ideas which are very outdated and overused.	The work consists of ideas which are rather outdated and overused.	The work consists of ideas which are quite up-to-date and fresh.	The work consists of ideas which are very up-to-date and fresh.

4.2.3. Semi-structured interviews

Semi-structured interviews were carried out with eight volunteered participants. The purpose of the interview was to (1) find out the participants' opinions of the learning process, and (2) investigate the effectiveness of the creative strategy learning model in assisting participants with their public speaking performance.

4.3. Procedures

The study was conducted in 10 weeks where the participants attended a 2-hour class every week. In the first two classes, the participants were lectured on the basic concepts of public speaking and communication (i.e Learning Process of CSLM), and to familiarize them with the learning process of the creative strategy learning model. Participants were also briefed at the beginning that for an effective public speaking performance, the speech has to be carefully planned, and it follows a planning process. There are six phases in the speech planning process:
1) Topic selection
2) Audience analysis
3) Information research and evaluation
4) Outline development
5) Presentation aid selection
6) Practice and use of delivery strategies

Participants' learning process is strategized based on this process.

4.3.1. The strategic learning process

For each of the phase, the following tasks and feedback were given to the students in order to help them strategically think of their learning process and its outcomes.
Student's Task: First, students needed to record their task for the phase, for example, stating their chosen topic of the speech. Questions: Once they stated their task, they had to answers a few questions relating to the task. The purpose the questions were posted was assist students with their metacognition process of the creative strategy model. Critical questioning is essential to help students evaluate their learning and develop their creativity. For example, at phase one, questions asked included 1) why do you choose this topic?, and 2) How does the topic help you improve your public speaking skills? Teachers have the freedom to ask any questions, but in order to develop creative strategy, questions related to the creativity of their work and thinking and those that can help them

strategize are essential. <u>Teacher's Remarks</u>: Once their task and questions were submitted, teachers would provide their feedback on the students' task by cross-checking with the answers provided. <u>Creativity Checklist</u>: The final step was for teachers to evaluate the creativity of the students' task using the creativity checklist. Students were able to check the scale given to them for each of the creativity elements and the overall creativity scale of their task. Fig. 2 summarizes the strategic learning process where students and teachers need to go through for each phase of the speech planning process.
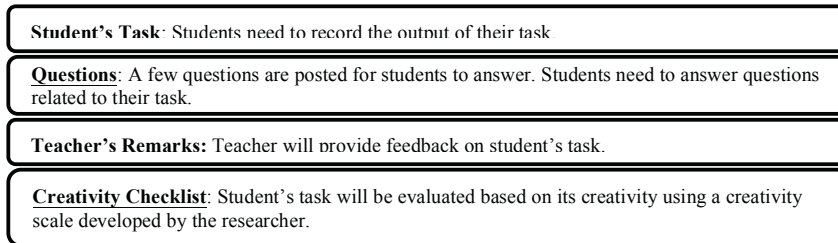
Student's Task: Students need to record the output of their task

Questions: A few questions are posted for students to answer. Students need to answer questions related to their task.

Teacher's Remarks: Teacher will provide feedback on student's task.

Creativity Checklist: Student's task will be evaluated based on its creativity using a creativity scale developed by the researcher.

Fig. 2. A summary of the strategic learning process.

After receiving the teachers' feedback on their task and its creativity level, students had a choice of continuing to the next phase or made amendments to their task. If students decided to resubmit their work, the processes of the strategic learning process resumed.

As part of this process, an e-learning platform, i.e. Moodle, was used for students to submit their works, which is also part of the data collection.

5. Results

An example of the creative strategy learning process will be provided before the results collected from the research instruments are presented.

5.1. *Creative Strategy in Public Speaking*

As stated earlier, the Creative Strategy Learning Model (CSLM) is developed to assist students strategize their learning for improved creative performance. In this study, the CSLM is tested in the speech planning process in order to help improve students' public speaking performance.

Table 2 illustrates an example of how the CSLM was able to assist Student A improved her topic selection. Her first submission showed that her topic was very general, and her justification to the topic selection was rather personal. With a rather low creativity score, she decided to resubmit. We can see an improvement in her task, and her answer to why she chose the topic also indicated an increase in her thinking. Her resubmission has also increased her creativity score.

Table 2. Application of the CSLM in the topic selection phase by student A.

	Task	Task Resubmission
Topic Selection	My Favourite Music	How Music Inspires Us
Why do you choose this topic?	Music is my hobby. I love music very much.	Music is a great inspiration. Music has inspired me, and I want to share this experience with my friends.
Creativity score	45%	77.5%

Fig. 3 on the other hand showed students' answers to one of the questions they had to answer for the information research and evaluation phase. The first task submission showed a few students who copied information from the

Internet into their speech outline. However, the second submission indicated that more students opted to conduct research or use their experiences.
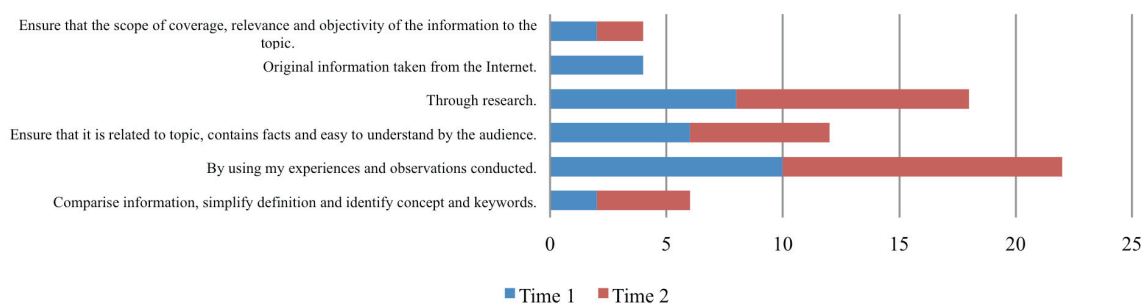

Fig. 3. Students' answers for the information and research evaluation phase between task submission and resubmission.

In brief, these findings indicate that the application of the CSLM was able to help students strategize their learning process, make them think of making improvements to their work in terms of quality and creativity.

5.2. *Public Speaking Performance*

Results of the Competent Speaker Speech Evaluation Form (CSSEF) are presented. Fig. 4 shows the overall performance of all students (*N*=27). Generally, 77.78% of the students (*N* = 21) scored excellent result indicating that the application of CSLM managed to assist students to become competent speaker.
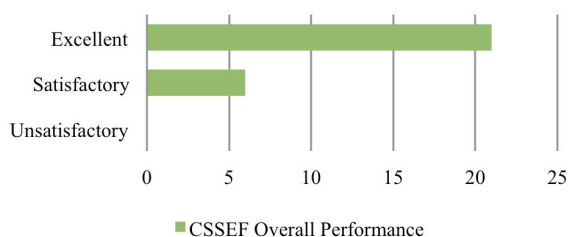

Fig. 4. Students' overall public speaking performance according to the CSSEF.

Fig. 5 illustrates the students' public speaking performance according to the eight competencies as assessed by the CSSEF. Since the range of scores between each level of performance of the CSSEF is rather large (i.e., 8), these results provide a more detailed analysis. For example, two students who obtained an excellent score for the overall performance might obtain different scoring according to the eight competencies. As shown in the figure, for competencies one and two, which is similar to the topic selection phase of the speech planning process, most students scored excellent results. Result of the competency four shows the least number of students (*N*=8) who obtained an excellent score indicating that though they might have obtained excellent for the overall performance, but for this competency, some students might have just obtained a satisfactory result.
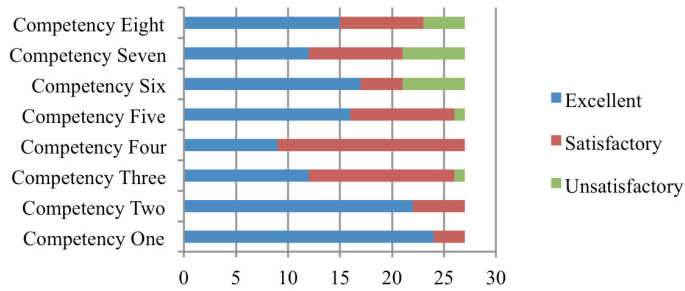
Fig. 5. Students' performance differentiating between the eight competencies according to the CSSEF.

5.3. *Interviews*

A number of students claimed that the application of the CSLM was able to help them strategize their learning.

R1: *I enjoy the whole process. It is systematic, and I can see my progress.*

R5: *It guides me from the beginning til the end. After the first phase, I know what I should prepare in the next phase.*

A few students also claimed that the use of the creativity checklist assisted them to think deeply of the importance of creativity and how they can improve their creativity.

R1: *I always look forward to my creativity score. If it is low, I will try to resubmit my task.*

R4: *The descriptions in the creativity checklist are very important. I know what is creativity, but the checklist really helps me understand why creativity is important.*

R6: *The creativity checklist makes me think twice before I submit my task. I like to get a high score.*

They also stated the importance of answering the questions after submitting their task.

R4: *At first I didn't like to answer the questions. But after the feedback from my teacher on my task, I understand how the answering the questions can help me submit better task.*

Regardless, a few students seemed to have a different view about applying CSLM in their lessons.

R2: *The system is rather complicated actually. I need to spend a lot of time to answer the questions.*

R8: *Everything about the system is ok. But I don't really like to answer the questions. I need to think a lot.*

In brief, most of the students who were interviewed agreed on the positive effects of using the CSLM in order to help them in their learning process.

6. Discussion

The results presented in section 6 show that the application of the Creative Strategy Learning Model (CSLM) was able to help students cognitively strategize their learning in the speech planning process of public speaking. Most of the students' task resubmissions illustrated an improvement in their thinking skills which directly affected their creativity scores. The strategic questions in particular were able to guide students to critically think of their tasks, how they can approach the task and improve them. Students were generally able to apply higher order thinking skills in completing their tasks with the guidance of the strategic questions. Despite the scarce in literature, this finding is similar to the findings by Duane and Satre (2014) who also found that creative strategy was able to help students improve their critical thinking skills. The utilization of the creativity checklist is also an important strategy to help students enhance their creativity. The creativity score is an indicator of their creative performance, and from the

interviews some of the students favored its use because they were able to work on improving their level of creativity. Within similar context, Duane and Satre (2014) and McAllister et al. (2013) also found that the application of creative strategy was able to help students improve their creative thinking and demonstrate more of their creative talent. This has somehow supported the objective of CSLM to assist students to cognitively strategize their learning for better learning performance and creativity enhancement.

As a consequence of better learning experiences in utilizing the creative strategy, findings also show that most students obtained an excellent overall competency for their public speaking performance. However, the detailed analysis of the CSSEF indicated that for Competency Three: provides appropriate supporting materials; Competency Four: Uses an appropriate organizational pattern, and Competency Seven: uses appropriate pronunciation, grammar, and articulation, most of the students actually achieved a satisfactory level of competence despite obtaining excellent in the overall competency result. Since Competency Seven was not made part of the speech planning process, the implication of the results will not be discussed. This competency however will be included in future studies. On the other hand, for Competency Three and Competency Four, data of students' resubmissions of their tasks showed that students only made little change to the materials used. This might be the probable factor the satisfactory performance, but sufficient for the students to obtain an overall excellent performance. Despite this factor, it can be generally assumed that the CSLM is able to help improve students' public speaking performance.

7. Conclusion and Recommendations

The discussions thus far have indicated positive outcomes of the utilization of the CSLM in the public speaking course. Although there were no conclusive results, there were evidences that the strategy used to guide students were able to cognitively improve their learning experience and learning performance. Since the nature of this pilot evaluation is exploratory, there is a need to further conduct a thorough and experimental-based research to test this learning model. Most importantly, the structure of the strategic questions, the description and measurement used in the creativity checklist and the utilization of the e-learning platform should be further researched and reviewed in future studies.

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