The Instructional Strategies of Competency-Based Curriculum: The Role of Teachers

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Abstract

Background/Objectives: This paper has examined some case studies to exemplify the teachers role in competency-based instruction for the competency-based instructional model.

Methods/Statistical analysis: To ensure saturated data for a profound analysis, two elementary school teachers and five middle school teachers living in Korea were randomly chosen as the subjects for the present study. The data was compiled mostly through interviews of participants and class observations that were conducted for six months.

Findings: When teachers plan for competency-based instruction, the very first thing under consideration is to analyze the possibility that the curriculum can be reorganized to reflect the competencies. When planning each subject’s curriculum, the teacher should clearly analyze the nature of
the contents that the learners should learn. Moreover, the teacher should know how to modulate the degree of cooperative and inquiry-based learning by considering the level of individual learners, including their prerequisite learning level. To efficiently lead the curriculum in the desired direction, teachers should actively elaborate supplementary aids. Supplementary materials might be planned in a convergent way to present the curriculum and contents while teachers proceed with inquiry-based instructional methods.

**Improvements/Applications:** Teachers should put more emphasis on systematic analysis of curriculum, contents, and core competencies as well as deeper understanding of learner characteristics.

**Key Words:** instructional model, core competency, curriculum reorganization, competency-based instruction

1 Introduction

The concept of competency sheds light on a new direction in education. Since modern society requires numerous competencies such as creativity, communication skills, and problem-solving ability, it is evident that curriculum content, instructional practices, and evaluation methods should be changed in ways to enhance student competency. Discussion on this topic began receiving substantial attention in the early 2000s, and the concept of competency addressed by the Definition and Selection of Key Competencies (DeSeCo) of The Organization of Economic Co-operation and Development (OECD) report affects the curriculum of many countries through various studies. The sudden rise of interest in competency-based curricula is closely related to rapid changes in modern life. Indeed, the DeSeCo report inquires about what competencies are needed to overcome the complex challenges of people living in modern society.

The Australian Curriculum seeks the concept of competency as the answer to the question “What is needed for learners to live successfully in the 21st century?” In Alberta, Canada, the curriculum states the need for competency development to prepare learners for “living in the year 2030,” and in Korea, it presents key competencies in the 2015 revised national curriculum and aims to foster competency learning in each subject. Although there are many
different viewpoints on competency-based education, one common viewpoint of experts and institutions is the focus on developing learners' abilities to selectively accept and apply knowledge.^

No matter how innovative a curriculum may be, however, it is useless unless it leads to real changes in the field of education. While documenting competency-based curricula is undoubtedly an important task, it is even more important to implement them through appropriate instructional methods and strategies. That is, competency-based curricula should be widely accepted, not just in curriculum-dimensional views but also in comprehensive approaches concerned with the teaching and learning process.

Teaching and learning is the process through which students gradually develop and cultivate new skills. During this process, teachers and students will inevitably interact with each other, depending on the aspects and nature of the lesson objective. The traditional educational model has been primarily concerned with the transmission of knowledge from teacher to student, and traditional teachers have thus been regarded as providers of information, suppliers of textbooks, and controllers of learning.

However, modern learning approaches based on competency show a different view of the teachers' role in education. Teachers are regarded not as key sources of information but as way-showers to various sources of information. This means that teachers are helpers or facilitators of learning. Therefore, in presenting the content and knowledge of the subject, elaborating a conceptual framework, and fulfilling the objectives and requirements stated in the curriculum, teachers do more than just manage learning. They should be able to excavate and organize a variety of teaching strategies, methods, and techniques to expand student competencies in addition to the curriculum. Thus, in order to pursue a curriculum based on the competencies, study of appropriate teaching and learning methods and practical strategies is required.

This study thus aims to determine the characteristics of appropriate teaching and learning methods to develop competency and suggest the role of teachers in this process. It is primarily based on case studies in Korea, a country which has been engaged in competency-based curriculum development for a relatively long time.

The research questions addressed in this paper are as follows:
2 Materials and Methods

2.1 Participants

To ensure saturated data for a profound analysis, two elementary school teachers and five middle school teachers living in Korea were randomly chosen as the subjects for the present study. The data was compiled mostly through interviews of participants and class observations that were conducted for six months, from March 2012 through September 2012. First, the researchers asked teachers to participate in interviews at the beginning and end of the study in order to find out their motivations for using a competency-based curriculum in their classes, their perspectives on the competency-based curriculum, and meaningful changes they had accordingly made in their teaching methods. Each participant was asked to submit 10 to 30 pages of reference materials before the interview, which were reconstituted for two hours of in-depth interview. Interview data provided by the participants was recorded and transcribed, and used constructively for this study.

Additionally, the researchers spent many hours watching and video recording the classes of participants, writing field notes to describe the main features of the teaching methods, and student progress and response observed in the classroom. The recorded data was compiled and analyzed in order to compensate for the shortcomings that might occur during participant observation in the class. In addition to interviewing and video recording data, materials describing curriculum, syllabus, and evaluation methods were collected and compared in terms of triangulation to ensure research validity.

2.2 Theoretical Framework for Data Analysis

This study adopted two methods of qualitative research: case study and grounded theory \(^6,^7\). Some modifications were made for theoretical and practical considerations. Case studies are used to understand why or how a phenomenon happens in a specific context or when there are few accumulated cases \(^8\). Considering the current scarcity of previous research on the topic of teaching and learning methods for developing core competencies, the case study method is
an appropriate approach for providing teachers with the knowledge of how put competency-based curricula into practice. Grounded theory was developed as a research methodology in sociology and it grew out of opposition to the theoretical hypotheses based on the deductive method. Grounded theory methodology targets specific and applicable theorizing through identifying and conceptualizing patterns based on data rather than on previous research. This study utilized methodological procedures of grounded theory such as open coding, conceptual coding, and conceptualizing. The analysis did not include theorizing, but focused instead on the steps of presenting the concept and modeling. Thus, case study and grounded theory approaches were both adopted as the main source for qualifying data. After case observation, reorganization of data was performed on the basis of grounded theory to propose meaningful results regarding instructional models and the role of teachers in competency-based learning.

2.3 Research Procedures

To interpret and validate the data collected, three major steps were applied to the research. First, materials and references were repeatedly reviewed in light of the research questions. Through this process, it was possible to identify the type and manner of seven teachers’ instructional methods when implementing competency-based curriculum in the classroom.

Second, the theoretical models were explained in accordance with the implications derived from the common practice of each teacher. Although generalization is not the purpose of this study, it is noteworthy to propose a model based on this context. Third, characteristics of the seven cases were reconstructed with an emphasis on the role of the teacher through the cross-cases analysis. Last, in this entire process, researchers tried to ensure the validity of the analysis by continuously comparing the interview data, class observation data, and the literature data. Moreover, four out of seven participants were asked to review and modify the final results of this study to improve the reliability and validity of the interpretation.
3 Results and Discussion

Every teacher has a professional responsibility to plan and execute the teaching and learning methods that are most appropriate for competency development based on the curriculum contents. In this process, the teacher needs to have a deep understanding of the teaching method, appropriate instructional materials, and good time management. The teacher also needs to be able to effectively implement these lesson plans in class. In this section, the role of the teacher in the lesson plan and execution phase will be presented and practical strategies in competency-based class will be suggested.

3.1 Reconstruction of teacher-level curriculum based on competency.

When teachers plan for competency-based instruction, the very first thing under consideration is to analyze the possibility that the curriculum can be reorganized to reflect competencies by teacher. Additionally, the extent to which, if at all, the curriculum can be reconstructed is also an important factor to be considered. The extent to which it can be reorganized may vary according to subject, student age-group, and teaching unit. For instance, it is easier for elementary school teachers, who are responsible for a variety of subjects, to integrate different subjects into the competency-based curriculum. While for junior high school teachers, it may be more challenging to find a balance between the integration of subject knowledge and competency-development, when introducing themes and activities from other subjects, because they are often solely responsible for one particular subject that is taught relatively separately from other subjects.

Teacher A analyzed the elementary curriculum for each grade and reorganized achievement standards that students should learn within a year. In the process, he put more emphasis on themes regarding learners’ interests rather than the curriculum and course outline predetermined by the curriculum. For example, the teacher picked the theme of true and false and selected drama from the subject of language as related content. He intended to encourage discussion among students by separating the real world and the virtual world through drama. He planned to naturally introduce
the concept of native language and foreign words to students during this learning procedure. He also organized the contents that were possible to connect to water safety, a topic covered in the subject of physical education.

As the example above shows, reorganization of the curriculum by the teacher can encourage student participation because the context of the learner is taken into consideration during its design. Since the class expands on assessable, experiential concepts, not just those presented in textbooks, it can easily be utilized to promote inquiry-based learning. Meanwhile, there are some subjects, such as physical education, that have comparatively less flexibility in terms of the curriculum. In this case, it was possible to enhance the student’s competency by introducing other activities in addition to the content of the main subject. The following case shows the reorganization of a lesson about relay running using collaborative and inquiry-based teaching and learning.

Teacher C was thinking about how to improve student problem-solving and social cooperation skills along with physical competency. Especially for lessons about relay running, it is important to plan that every student, including students who are often left behind, should find a way to contribute to the group. Therefore, Teacher C put four students in a group, and rather than deciding the running order himself, he let the students decide on their own running order to find the perfect running team.

Members of each group discussed who was going to run first or last, longest or shortest, based on each member’s personal running time. When their discussion ended, each group performed an actual relay run to check in which combination they could shorten their time. The teacher planned that the students would learn not only how to run fast, but also how each group could achieve their best time according to different combinations. As a result, students discussed how to shorten their relay time, and also they paid attention to other groups’ records and actual relay run to check time.

3.2 Setting the level of cooperative, inquiry-based learning from course contents.

Much research that has studied competency-based teaching and learning states that one should encourage learners to cooperate and
guide them in inquiry-based learning. However, if as discussed earlier, the level of the learners are not sufficiently considered, the method will become a meaningless prescription.

When planning each subject’s curriculum, the teacher should clearly analyze the nature of the contents that the learners should learn. Moreover, the teacher should know how to modulate the degree of cooperative and inquiry-based learning by considering the level of individual learners, including their prerequisite learning level. For example, in the case of a gifted learner, the teacher might give more weight to competency-based inquiry learning when planning his/her differentiated learning outcomes. In this case, by integrating various subjects, learners can develop creative and divergent thinking skills. Furthermore, through discussion-focused lesson content, learners can improve their discussion ability and problem-solving skills.

On the other hand, when introducing an unfamiliar type of concept, the teacher should start with a familiar subject to scaffold the learners in their approach to the new concept. If pressure is applied to the learners to simply memorize facts related to the concept, it might lead to a reservoir of wrong knowledge.

When planning a competency-based curriculum, the teacher should teach the goals of the curriculum, including the direction of teaching and learning methods to improve learners familiarities. Accordingly, the teacher should decide the degree and depth of cooperative learning utilized, and classify the contents between what should be presented by the teacher and what should be inquired by the learners.

The difference of degree and depth should be modulated according to the contents and contexts rather than the curriculum and departments or schedule. The whole period cannot only be composed of learner-driven, inquiry-based learning. If there is a necessity of creating understanding of a complex and difficult concept, then teacher-centered instruction may be more suitable. In other words, when the teacher is teaching a certain concept, he/she should decide whether the concept is best approached through student-centered or teacher-centered instruction. When deciding on the ratio of each method, the contents and learners should be the criteria.

The following example demonstrates how a teacher decided to teach a rather difficult concept to learners. Instructional strategies
according to various types of teaching methods and notes of caution when selecting instructional methods will be discussed based on this example.

Teacher A judged that learning about the three characteristics of light would be difficult through cooperative learning. Therefore, as is shown in the picture, the teacher chose a teacher-centered approach so that he/she could teach while the students gathered around him/her. In this case, the teacher should be careful not to become a simple transmitter of knowledge. Instead, the teacher consistently acted as a scaffolder and systematically presented familiar examples and concepts to the students. The teacher cooperated with the students by giving clues so that the students might gradually reach the learning objectives on their own.

By using this method, students freely made announcements during the lesson. When Teacher A asked a question, students freely replied with their ideas. During the process, if a student gave a wrong answer, rather than giving the right answer him/herself, teacher A questioned another student about his/her idea to give time to the former student to think about the mistake. The important skill in this process was questioning with gradual clues to stimulate the students inquiry skills. The teacher gave similar clues between wrong and right answers to allow the students to arrive at the correct answer by themselves.

In teacher-centered instruction, the teacher should lead the lesson but should cooperate and encourage inquiry with every student. The teacher should help every member of the class to assume the role of teacher by conducting independent inquiry-based learning while assisting the learning of others.

The interesting point in this example is the method of including inquiry-based learning within the framework of teacher-centered instruction. By providing clues with leading questions, the teacher prompts the students to be learners and teachers at the same time. It is widely known that the teacher-centered instructional method has benefits such as delivering a substantial amount of information and knowledge to the learners in a short time. However, it is often difficult for the students to apply this knowledge or to share what they have learned with their peers. As long as the teacher can act as a mediator in the class, the teacher-centered instructional method might deliver information and knowledge while encouraging student
participation.

On the other hand, student-driven learning methods might induce active student participation, but when the students do not have sufficient knowledge and abilities to perform the lessons independently, it is difficult to achieve the lessons objective. Moreover, if the lesson has a certain amount of knowledge to deliver, teachers may have difficulties in balancing the ratio of teaching and student participation.

Teacher E expressed concern about the tendency of competency-based curriculum to stress unconditional cooperative and inquiry-learning, and emphasized the role of teachers professional development as below.

"If the general history of the Chinese Ming dynasty is to be delivered in one lesson, it is not only difficult to teach this vast amount of history in a short time, but to add discussion and competency development on top of this is too much. When the contents of the lesson are important, improving students' problem-solving skills and creativity must not be the first things to consider. Unexpected situations like failing to reach or accomplishing the lessons too fast might happen. That is why in such lessons, teacher-centered instructional methods should be utilized. However, the teacher should still be aware of not being a simple transmitter of knowledge. The teacher should be a participant in discussion and lead the lesson. In the process, the teachers role is to plan the proper level of questions to give the students to improve their thinking ability." (Teacher E)

Domestic and foreign studies suggest utilizing numerous types of teaching and learning strategies, such as collaborative learning, project-based learning, and inquiry-based learning, as components of the competency-based learning model. Especially student-centered, collaborative learning to develop problem-solving skills, communicative ability, and creativity is proposed as a competency-improving strategy. To emphasize student-centered learning as the one and only method, however, should be avoided. Instructional methods should be chosen according to the lesson content and context. When planning, the teacher should consider the knowledge and information to be delivered and the students competencies to select the most appropriate instructional method.
3.3 Improving competency by developing and utilizing supplementary aids.

Competency-based curriculum should not only teach the course contents but should also improve critical thinking, communicative ability, and creativity. According to the curriculum's contents and altered instructional methods, the thinking and communicative abilities are developed. To efficiently lead the curriculum in the desired direction, teachers should actively elaborate supplementary aids. Supplementary materials might be planned in a convergent way to present the curriculum and contents while teachers proceed with inquiry-based instructional methods. On the other hand, divergent materials to give supportive knowledge during proceeding inquiry-based learning might be used.

Depending on the curriculum, contents, and depth, the Teacher E's instructional choices may vary, and moreover, each teacher's curriculum materials and abilities might influence these choices. Consequently, the educational outcomes might vary according to the teacher's teaching method. Therefore, one should carefully and concretely plan his/her curriculum, and conscientiously check the plans. The teachers cooperated by choosing supplementary materials based on the lesson contents.

Activity sheets: Teachers frequently used activity sheets to improve student competency. The activity sheet not only acts as a simple supplementary material, but also as a way to encourage inquiry-based learning. There are various types of activity sheets, however the primary purposes are to (1) give the learning goal, (2) revise, (3) understand the class's key contents, (4) induce inquiry-based learning, and (5) encourage creative divergent activity. Utilizing an activity sheet enables prediction of the course worksheet, helps students to concentrate on the lesson goal, and restates the lesson objectives.

When utilizing activity sheets, teachers should be careful not to make the students think that completing the worksheets is the lesson goal. Teachers should be aware of the purpose of the worksheets, so that they can plan the exact degree to which the worksheet should be included in the lesson, or whether the worksheet will be used as an individual or group activity. It is also important to allocate an adequate amount of time to allow the students to un-
derstand and complete the worksheet. Proper use of activity sheets thus enables teachers to deliver lessons smoothly while altering the teaching method naturally.

Digital media: Active use of digital media can be a useful tool for two reasons. First, it can be used to stimulate participation in cooperative learning by students who lack prior knowledge of the subject. Second, it can be helpful to improve problem-solving skills by realizing a divergent inquiry-based learning environment. With the following examples, we will take a look at how to take advantage of digital media and what should be taken into consideration when using it.

Teacher B encourages students to participate in inquiry-based learning and cooperative learning using tablets in the class. Functional aspects of using tablets in the classroom are as follows. First, tablets are designed to project both teachers’ and students’ presentations onto large screens instead of simply using blackboards. Second, it is possible to share the screen for collaborative learning with the students’ devices. Teacher B is actively using digital media to improve inquiry-based learning and cooperative learning methods. Facilitating the use of digital media in the classroom, which readily diffuses instructional contents, helps to integrate opportunities for inquiry-based learning with ease. Also, tablets provide teachers with an effective and immediate way to check for student understanding, with questions that students answer on their tablets. Additionally, it is easy to monitor the progress of students with learning difficulties during group work because digital media makes data collection easy. Use of digital media has positive effects on collecting data via the Internet, organizing information on the inquiry topic, and presenting in student learning groups.

However, we must also address several considerations when integrating digital media into the classroom. First, teachers need to have strong classroom management skills in order to keep students on task. Because of the infinite amount of materials that can be accessed with a tablet, teachers need to set clear rules for students when selecting and reorganizing information. Second, teachers should ensure that neither the competencies nor the course contents are overlooked when using digital media in the classroom.

When completing an investigation with a tablet, it is easy to select and organize the appropriate content, but it is also easy to
ignore the acquisition of essential knowledge in the process of pasting the retrieved data. Teachers need to facilitate learner acquisition of the intended content knowledge naturally in the process of organizing the information.

4 Conclusion

This paper has examined some case studies to exemplify the teacher's role in competency-based instruction for the competency-based instructional model. Innovative methods that do not take into account existing models may be taken out of context. Therefore, it is important to present case studies on the role of teachers that are applicable to the current educational context, and for teachers, to establish their own teaching and learning strategies that are suitable for their own classrooms.

Competency-based teaching and learning methods should provide opportunities to explore real-world problems and their solutions as well as develop cooperative learning skills for community participation. Instructional models of cooperative learning and inquiry-based learning put more emphasis on the active learning competencies that allow learners to obtain necessary information from their surroundings, reorganize, and reprocess it into useful forms of advanced knowledge rather than to simply accept given information. Thus, the role of teachers in cooperative and inquiry-based learning methods should differ from their traditional role of a source of information, a knowledge transmitter, and a solver of problems. The teachers role in competency-based learning should not only be preventing and correcting conceptual and methodological errors during learning activities, but as to assume the role of an a priori inquiry-based learner, who provides the learners with problems to solve and reconstruct within the level of cognitive development of the learner.

Although both cooperative learning and inquiry-based learning are equally well-managed using a variety of materials and cross-curricular topics, the same class activities and strategies cannot be applied to all learners in all subject areas. However, there are a few essential things to consider. This includes various factors such as the cognitive and developmental level of learners, general
competency in the class, achievement standards for the subject and its contents, class size, and the personalities of the class members.

It is not necessary that all levels of inquiry learning should be completed through collaborative learning. Students will be able to participate in inquiry-based learning as an independent learner depending on the difficulty of problems, the level of cognitive development and the specific areas of the subjects or their contents. Similarly, collaborative learning does not just mean that it is accomplished by the students themselves or through cooperative effort between the students. It demands not only learner-centered collaborative inquiry but also teacher-centered instruction because the teacher must first provide basic knowledge and guidance before allowing the students to work together. Moreover, it is unnecessary to use every strategy covered by the two models in each lesson, or in every subject or all of the competencies. However, teachers of competency-based learning should put more emphasis on systematic analysis of curriculum, contents, and core competencies as well as deeper understanding of learner characteristics. Given that teachers can expand the range of materials for classroom activities and improve efficiency by integrating curriculum across the subjects, students will be afforded many more opportunities to acquire and use knowledge through various learning activities and well-planned instruction.

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