

Practice of the Instructional Design Class for 1st Year Medical Students by Blended Learning

Yoshikazu ASADA^{a*}

^aMedical Simulation Center, Jichi Medical University, Japan

*yasada@jichi.ac.jp

Abstract: In this research, the introductory course of instructional design was attempted for freshpeople to examine the reaction of the theory and how they want to use it. The class was done by blended learning style, using classroom activities and Moodle. From the questionnaire that was done at the last class, it showed that students' motivation of and interest in instructional design was very high and they wanted to use the knowledge about it. However, some students understand the verbal information incorrect. To improve the class, using the flipped classroom style for enhancing their discussion.

Keywords: medical education, blended learning, instructional design, moodle, freshpeople education

1. Introduction

Most of the physicians are lifelong learner and teacher. They have to learn latest medical knowledge. When they learn medical procedures or non-technical skills by simulation-based training, the curriculum was designed based on instructional design theory. On the other hand, they teach their juniors and colleagues as a healthcare professional. In addition, they educate patients as a part of the treatment. Thus, the knowledge of instructional design theory is important for both situations.

In Japan, medical university is started just after the high school graduation as well as the other department. Therefore, there is little chance to learn the liberal arts for medical students. In this research, the introductory course of instructional design was attempted for freshpeople to examine the reaction of the theory and how they want to use it.

2. Methods

2.1 *Learners and the theme of the class*

Learners were opened at the first term of 1st year of our university students. This class was elective and limited to 30 participants. There were no preconditions for attending class.

Instructional design is basically the study of teaching method and theories, but some of the knowledge such as ARCS model (Keller, 2010) about the learner's motivation is useful and able to use for the position of a learner. Therefore, the objectives of the class were following two things: (1) to learn basic, essential ideas of instructional design such as ARCS model or Gagne's nine levels of learning (2) to discuss the idea of the usage of this knowledge for own learning (and for mutual learning, if possible) activities.

2.2 *Design of the class*

There were ten classes in the term, and each was 70 minutes. There were about 25 classes in a week (5 classes per day). Since instructional design is unfamiliar to students and there is a little association with medicine, it is a little hard to understand instructional design only from lecture. Therefore, the class was by blended learning style: classroom activities and e-learning assessment by moodle.

2.2.1 Classroom

In the classroom, lecture time was about 15 to 20 minutes and the remaining time was used for discussion with students or self-learning using some worksheets.

At the end of the class, students wrote the reflection sheet of the class. The sheet had 3 free description questions: (1) "What did you learn and think in today's class?" (2) "If you have question or comment about today's class, please write it." (3) "If you have any questions, comments or suggestion for the class, please write it." The question (1) was essential and for attendance check. The teacher wrote feedback comments on their sheet by the next class and give them back. In addition, some important comments or questions were covered at the beginning of the next class. The question (3) was to assess the satisfaction of the students.

2.2.2 Learning Management System

To enhance students learning, not only the classroom activities, but also the e-learning was used. Moodle is installed on the university's web server, so in this research Moodle was used as LMS.

In the class, Moodle was used for two purposes: (1) providing reference materials of each class, such as the PDF of keynote slides, paper materials, and video clips of YouTube (2) assessments with the forum. Students had to post at least one topic and to make more than one comment each other. The assessments were tracked by "Activity completion" of Moodle, and students were able to find their own completion status.

Most assessments were used for review and reflection of the previous classes, but some assessments were used as a preparation of the class for trying the flipped classroom (Bergmann & Sams, 2012) style.

2.2.3 Final Report

There were two final report of the class: (1) to write "how to use instructional design knowledge for their own future learning activities" as a reflection of the class (2) to make their own "course syllabus" by filling the worksheet. Some parts of the second to the last class and the last class were for writing these reports as self-learning.

2.2.4 Questionnaire with Mini Quizzes

At the end of the last class, questionnaire with mini quizzes was done. The questionnaire had 4 parts: (1) question about their motivation based on ARCS model (2) question about their self-learning style based on Gagne's nine levels of learning (3) question about their learning outcomes and reflection based on Gagne's five categories of learning (4) the total impression of the class.

In the question (1) and (2), each sentences has two meanings: questionnaire and quiz. For example, there were sentences such as "Was learning requirements set?" in part (1). Students answered the question by 7-point Likert scale and then wrote the adequate domain of ARCS. Question (3) and (4) was done by free description.

3. Results

3.1 The Results of Final Reports

All students submitted the reports and passed criteria.

All students wrote about ARCS model in the report (1). Some students mentioned about mutual learning to encourage their self-confidence and satisfaction, or about simulation-based training to enhance the relevance of the basic medicine.

3.2 From the Questionnaire

Table 1 shows the result of the students' motivation about the class. There were 16 questions with ARCS model, but here shows only the top categories of ARCS.

Table 1: Students' motivation about the class

< Question >	< Average >	< SD >
Attention	6.6	0.5
Relevance	6.0	0.8
Confidence	5.6	1.4
Satisfaction	6.3	0.8

From the free description comments, some students answered that there was a lot of time for discussion each other compared to other classes so they were very motivated. Other students wrote that the time was too short to discuss and they wanted to join extra class if possible.

4. Discussion

From the questionnaire, students thought that this class was motivated and they were interested in instructional design. It shows that the purpose of the class is partially achieved. However, some students answered that the discussion time was very short and they wanted to learn more. The class was only 70 minutes per day, so it was too short to learn new things and to discuss each other.

One idea to improve the class and to solve the problem is to use flipped classroom. In this research, flipped style was used only a few times. The flipped style of learning was the first time to students so this time was only for trial. Although there are some problems to use flipped classroom, such as the internet accessible environment for each students, the flipped style was not so hard for students.

The final reports showed that students understand the basic concept of instructional design to some extent. On the other hand, there were some mistakes in the mini quizzes. It shows that students know the meaning of the concepts but their understanding and connections between terms and meanings is not correct. To bring in the flipped classroom style and make some preposition assessment will be useful to enhance their learning, especially learning verbal information or basic intellectual skills.

5. Conclusion

The introductory class of the instructional design was done for the freshpeople of medical school by blended learning. From the questionnaire, the motivation of students was very high. To improve this class and motivate students more, using the flipped classroom style will be one of a possible idea.

References

- Keller, J.M. (2010). Motivational Design for Learning and Performance: The ARCS Model Approach. Berlin: Springer.
- Bergmann, J. & Sams, A. (2012) Flip Your Classroom: Reach Every Student in Every Class Every Day. Washington: ISTE.