Verifying the Effects of Active Learning Patterns
on Knowledge and Motivation for Active Learning

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Abstract: In Japan, the government points out that it is necessary to change how to teach by using Active Learning. However, teachers don't understand what Active Learning is. And, teacher can't practice Active Learning. To solve this program, Iba (2017) developed Active Learning Patterns. The purpose of this research is verifying the effects of Active Learning Patterns on Active Learning practices.

INTRODUCTION

Educational situation in Japan

In a society that is changing drastically around the world, the Japanese government points out that it is necessary to change how to teach in school by using Active Learning (AL). And, recently companies need students who have other competencies. But, school teachers have taught students to study by memorizing. For this reason, the Japanese government required schools to introduce AL as a student competency. In this way, a word, Active Learning is spreading in Japanese schools. However, many teachers do not practice AL, because of lack of understanding and low self-confidence.

Teachers learn AL from obscure definitions. Sunaga (2010) pointed out that "since what the "activeness" which is the aim of active learning is not clear, it is the present condition that teachers have to depend on trial-and-error adjustment and local knowledge in the each process of a design, implementation, and evaluation of active learning." Teachers understand that "activeness" is important. However, teachers do not understand what "activeness" is. Teachers need a deeper understanding of AL.

What is Active Learning Patterns?

To solve this problem, Iba (2017) developed Active Learning Patterns (ALP). He interviewed teachers who are good at to practice Active Learning to get tacit knowledges and rules of thumb of Active Leaning. After that, he put many tacit knowledge and rules of thumb into word, and he organized 45 techniques. 45 techniques consist 3 categorizes. 3 categorizes consist 15 techniques. So, numbers of ALP are 45. Each ALP consist of a title and a learning context, a problem in that context, and a solution for that problem. And, Iba made learning context along actual class context. In this way, school teachers can easily image AL than they image AL from obscure definitions.

And, Iba developed ALP to aim at to use ALP as a group. Iba recommends that at first teachers make common recognitions using ALP in a group. If teachers use ALP in a group, they start to talk about AL using same word and thinking of AL. And, teachers can easily share tacit knowledges and rules of thumb in a group across subjects or experiences.

The purpose of this reserch

The purpose of this research is verifying the effects of ALP on AL practices. To practice AL, the author thought that knowledge and motivation is indispensable. So, the author verified the effects of ALP on knowledge and motivation.

RESERCH DESIGN & METHODS

The target of this research was 43 teachers who attended a program to update their teacher's license. This program started to make common recognitions of each ALP in a group. After that, they implemented ALP into actual classes. At both beginning and end of this program, teachers answered questionnaires including descriptions and scale types.

In the description type, a question was "How do you think students learn, and what should teachers do in a class that practiced AL. "Teachers wrote about their image about a class that practiced AL. In addition, the author used text mining with their answers to clarify their understanding of AL and how it changed throughout the program.

In scale type, the author categorized the increase and decrease of amount of knowledge and understanding of AL or motivation to AL into four scales, 1: Strongly agree, 2: Agree, 3: Disagree, 4: Strongly disagree. Teachers answered the six questions in Table 1. Questions No. 1 ~ No. 4 showed the increase or decrease of amount of knowledge and understanding of AL. In addition, No. 5 and No. 6 show the increase and decrease of amount of motivation to AL.

Table 1. Questions of scale type.

	Questions
A	I can explain a behavior of students in an AL.
B	I know what teachers need to do to practice AL.
C	I understand the AL course of study.
D	I have my definition of AL.
E	I have an anxiety or an antipathy to AL.
F	I can talk about AL with my colleagues.

RESULT

In the description, at the beginning of this program teachers wrote many important points of AL, more than the author presumed. For example, there were answers like a "Student's activeness," or "Teacher's role as a learning manager." It is evidence from these answers that teachers learned about AL. In addition, at the end of this program, teachers could write many more important points than at the beginning. It is difficult for teachers to recognize what AL is, because teachers just learned from an obscure definition of AL. Because teachers got specific images about AL from learning context of ALP, teacher not only learned about AL but also noticed that by learning AL through ALP, the teacher could see how they taught in a new light. As a result, teachers noticed that what they did was AL.

Figure 1 shows the results of scale type. It is evidence from the result of No. 1, No 2, No. 3 and No. 4 that ALP have an effect in increasing knowledge of AL. In this program teachers used ALP in a group and learned how to use ALP in groups. So, teacher learn what they should talk about with their class when they practiced AL with their colleague. There was not big change in the result of No. 5. A teacher wrote "I have not an antipathy, but I have an anxiety," in the corner of the questionnaire. It is presumed that teachers have motivation to use AL, but they do not have self-confidence. It is very interesting opinion for me.
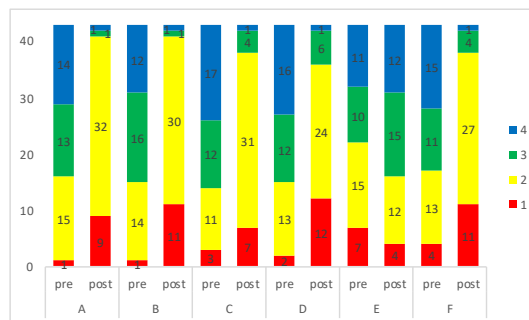

Figure 1. The result of questioner.

CONCLUSION

First, this study confirmed that the effect of ALP is to increase knowledge of ALP, because teachers can obtain specific images about AL from ALP. Second, teachers started to discuss how a class that practiced AL can become classes better with ALP. This result will connect a lot of teachers to practice AL.

If teachers make common recognitions of ALP, many teachers can talk about a class practiced AL using same word and thinking of how to make classes better by using ALP. Currently, many teachers do not practice AL, because they lack knowledge of AL or self-confidence in using AL. However, if all teachers in Japan understand and use ALP, teachers will get knowledge of AL from ALP and other teachers around them. In addition, teachers will have more self-confidence than when they practice AL alone.

To use ALP in a group, teachers can get a lot of knowledge from ALP. And, to use ALP in a group, teachers can discuss about AL. That increases teachers motivation for AL. The author hopes that more teachers practice AL and spread the use of ALP.

REFERENCES

Sunaga, K. (2010). Several understandings and practical tasks of active learning: Focusing on the concept "activeness". Kansai University Kouto Kyouiku Kenkyuu (Higher Education Research in Kansai University), 1-11.