

Differences in the Usage of GIGA-Tablet Among Elementary and Junior High School Teachers

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Abstract

This study is based on 12 kinds of usage of GIGA (Global Innovation Gateway for All) tablets in classes extracted from expert teachers in Tokumoto (2021). The usages were classified into 6 categories. How frequently teachers used the tablet and want to use it was investigated in each category. It divided the teachers into two groups according to the frequency of experience in "creative" and "academic ability in Tokumoto (2022). In both "Creative" and "Guarantee of academic achievement," teachers with higher frequency of experience also had higher aspirations to utilize the system in that category. Therefore, since it was suggested that the experience of utilization has an influence on the level of desire, a T-test was also conducted for each of the remaining types of utilization in this study.

Keywords: GIGA tablets, expert teacher, GIGA school concept, creative, academic security

Introduction

According to the Ministry of Education, GIGA (Global Innovation Gateway for All) tablets were provided to the almost of elementary and junior high school students in Japan in 2020 under the GIGA School package. The introduction of GIGA tablets was accelerated to prepare for remote classes in the wake of the covid-19, however the original purpose was to improve classes and make students to prepare for an advanced digital society. To achieve this original purpose, teachers are expected to make effective use of GIGA tablets in the classroom. However, is the direction of this class- improvement sufficiently widespread? The image held by teachers toward GIGA tablets is important for the new education required. Akita (1996) states that image of the class held by teachers is important, and Zheng (2018) states that image correlate with behavior. According to these findings, differences in the image of GIGA tablet utilization can have a significant impact on teaching. It suggested that utilization experience affects the level of aspiration in Tokumoto (2022).

Purpose

The purpose of this study is to clarify the differences in the images of GIGA tablets among teachers. For the purpose, the images of GIGA tablets and the way of using them held by expert teachers was clarified, and categorized to make the standard for the use of GIGA tablets. Expert teachers in this study refer to those who have been leading ICT teaching from conception to practice for many years. They have made many reports on advanced practices with tablets published books on tablets in the classrooms, made lectures and training to other teachers, and so on. Based on interviews with them, the images of the use of GIGA tablets were drawn and compared with those of ordinary teachers.

Method

Tokumoto (2021) figured out twelve images of classes using GIGA tablets from interviews with expert teachers. This study was built on the images. Table 1 is a checklist of these 12 images used in the Questionnaire Survey. Figure shows the procedure of Tokumoto (2021) 77 teachers were responded to each image in four-point-likert-scale in frequency of practice (i.e., how often they have practiced the utilization method) and five-point-likert-scale in the degree of willingness to use tablet in the image in the survey. The twelve images were chunked into six ones and the average responses were calculated. Depending on the frequency, 77 teachers were grouped into two groups: frequent practitioners and non-frequent practitioners. Then, the differences in the degree of willingness between the groups were examined. Figure 2 shows the frequency in each category and Figure 3 shows the degree of willingness. This study focuses on, It covered all the utilization methods other than the two types (creative and academic skills) that were put forth in Tokumoto (2021).

Table 1

Check list Items Used in the Questionnaire Survey

1. the more stress on expression and presentation of students' claims,	7. the more opportunities to share claims among students,
2. the more frequent recording and documenting of students' works,	8. the more stress on encouraging meta-cognition of students,
3. the more stress on students' inquiry under give tasks,	9. the creative activity in a virtual space,
4. the more opportunities to share information among students,	10. the self-regulated learning,
5. the more opportunities to create movie producing by students,	11. the improvement of students' achievement, and
6. the movie portfolio taken by students themselves,	12. the analysis and utilizing of each student's learning.

Figure 1 process of Tokumoto' study (2021)

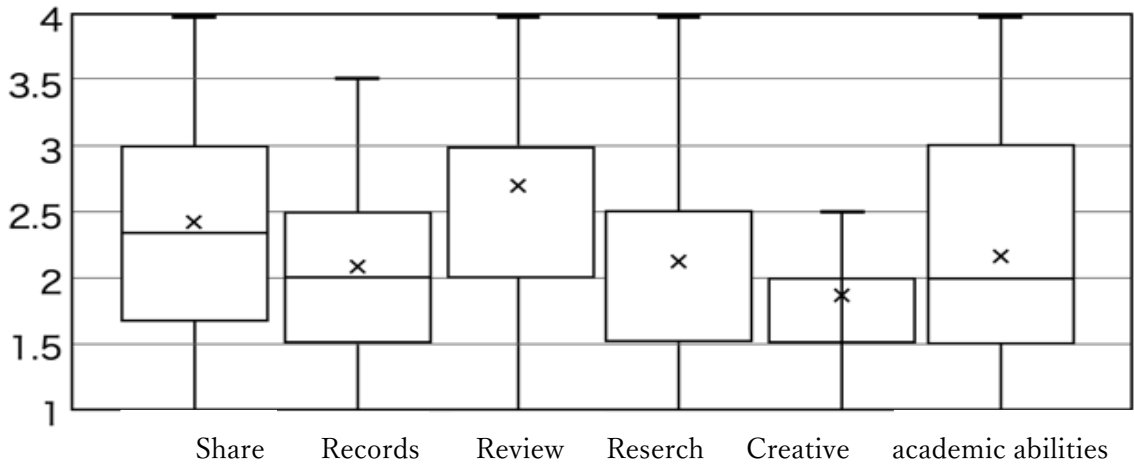


Figure 2. Degree of classroom practice for each image of the GIGA tablets

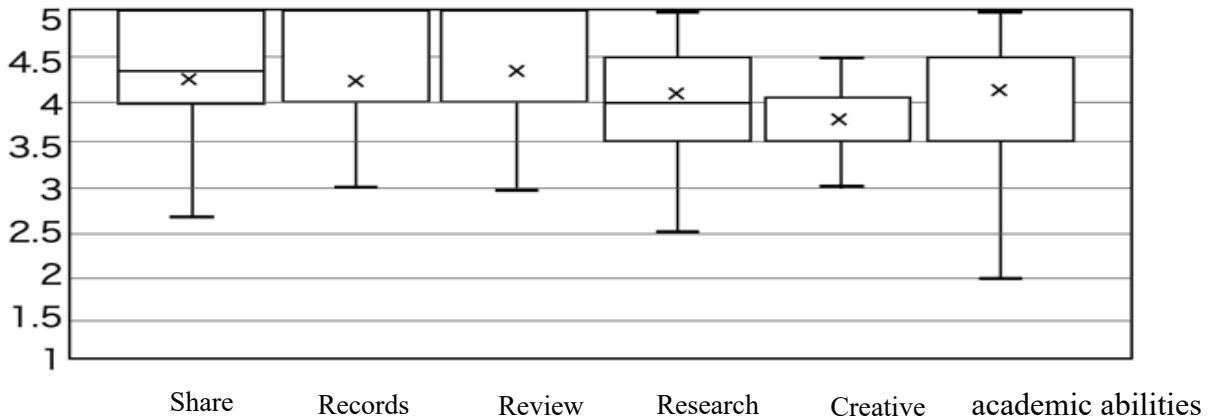


Figure 3. interest of degree Degree of classroom practice for each image of the GIGA tablets

Results

Figures 4 and 5 show the aspirations for Utilization 6 and 7. Utilization 6 and 7 refer to the items in Figure 1 respectively.

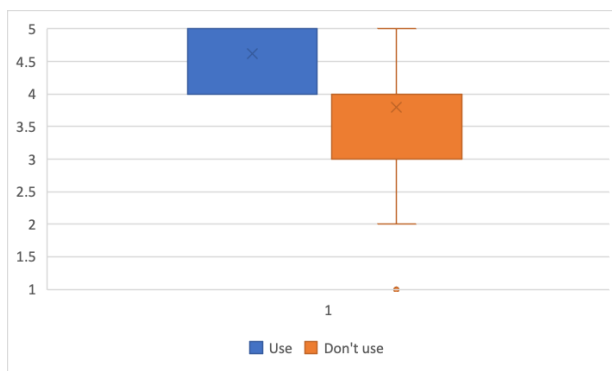


Figure 4. interest of degree of usage of utilization 7

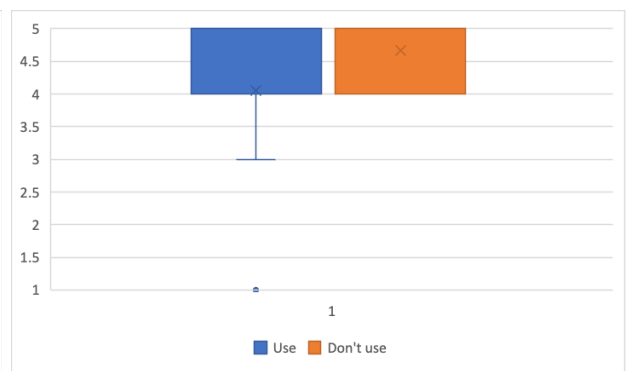


Figure 5. interest of degree of usage of utilization 6

In "utilization 7", there was a significant difference in the degree of willingness to utilize tablets between teachers who use tablets frequently ($m=4.6$) and those who do not ($m=3.8$), $t(75) = 4.64$, $p < 0.01$. With the exception of Method 6, there was a trend toward agreement in all methods of utilization. Furthermore, all of the teachers who had experience in using the system showed a high level of willingness to use it, indicating that they would like to continue to use it in the future. However, there was a difference among teachers who had no experience using the system, suggesting that the presence or absence of experience is one factor that influences the level of willingness to use the system.

"utilization 6" between teachers who utilize tablets frequently ($m=4.04$) and those who do not ($m=4.7$), $t(75)=-2.8$, $p < 0.01$. And, utilization method 6 yielded different results from those mentioned above. Seventy-five percent of the teachers who had experience with utilization tended to want to continue to utilize it, while 25% of the teachers were undecided. On the other hand, all of the teachers who had no experience with utilization method 6 tended to want to use it in the future. The experience of each teacher is considered to be one of the keys to spreading the use of GIGA tablets in the future.

Discussion

Since the survey was conducted online, there was a possibility of the existence of bias in the respondents' attitude to utilize tablets. In order to obtain more reliable results, further questionnaire survey should be considered. In addition, it is feared that the high level of the creative category had an impact on the level of aspiration.

In the future, it would like to clarify the factors that led to the difference in the level of aspiration of teachers with utilization experience in utilization method 6 this time.

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