

Student training at Okutama Practice Forest of Tokyo University of Agriculture

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Department of Forest Science (former name: Forestry established in 1947) of Tokyo University of Agriculture (TUA) practices “Forest training” for freshman and sophomore students every year. 140 students annually attend on the training. Forest training on sophomore is consisted of silviculture curriculum and programs. The training is practiced by dividing three schedules (3 days 2 nights each) and groups (45 students each) during annual summer vacation. Students study every tree survey (tree height, diameter at breast height: DBH), canopy projection drawing, soil cross section drawing, tree identification, and thinning on the training days. Questionnaire results after practices showed the most impressive training for students was thinning and the most difficult training was tree identification. Male students tended to weak at calculation and female students tended to weak at forest walking on gender difference. Many students recognized their lack of physical strength and being insect weak.

Keywords: silviculture, sophomore, thinning, tree identification

I Introduction

Forest training is one of the important programs in the forest science departments (1, 5, 6). Department of Forest Science (former name: Forestry established in 1947) of Tokyo University of Agriculture (TUA) practices “Forest training” for freshman and sophomore students every year (2, 3). About 140 students annually attend the each training. Forest training on sophomore is mainly consisted of silviculture curriculum. The training is practiced by dividing three schedules (3 days 2 nights each) and 3 groups (45 students each) during summer vacation. Students study every tree survey (tree height, diameter at breast height: DBH), volume calculation, canopy projection drawing, soil cross section drawing, tree identification, and thinning cut on the training days (Fig.1) (4).



Fig. 1 Training at Okutama Practice Forest (2019)

This study aimed to survey sophomore students’ reactions and consciousness about the forest training by a

questionnaire in August of 2019.

II Questionnaire for the students

I asked the questions listed below after the practice (Table 1). In addition, I asked how students feel about the practice elements by rank estimation. Totally 137 (97males and 38females) valid answers were retrieved. I considered the gender difference on training elements, too.

Table 1. Questionnaire

1. What was the most interesting training?
2. What was the most understandable training?
3. What was the most difficult training?
4. How many people are suitable for a single group?
5. Which training best applies to your department?

III Results of the questionnaire

The result of “what was the most interesting training?” is shown in Fig.2. Students answered that the thinning cutting practice was the most interesting training out of the performed trainings. Before the practice, I asked all participants their experiences of cutting trees and the number of the students who had the experiences was only 9.

Next, the result of “the most understandable training” is shown in Fig.3. Students mainly identified four trainings, which were thinning practice, tree identification, canopy projection, soil cross-section drawing were easy to understand. On the contrary, volume calculation was not estimated understandable so much.

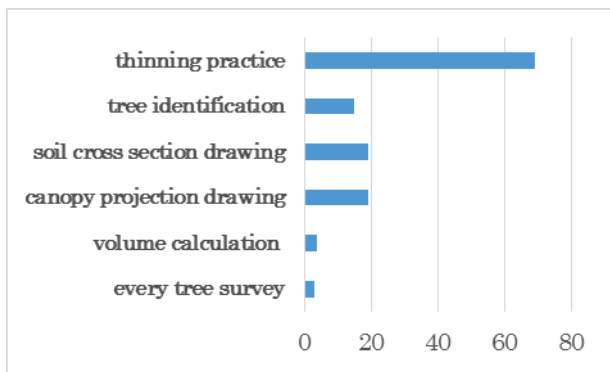


Fig. 2. "What was the most interesting training?" (numbers)

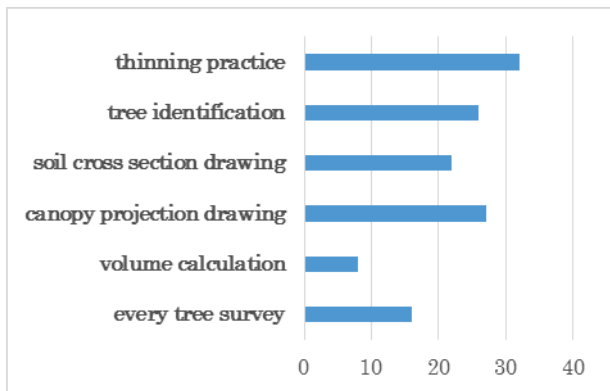


Fig. 3. "What was the most understandable training?" (numbers)

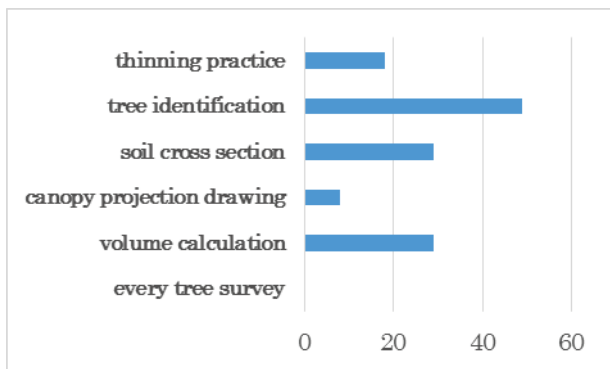


Fig. 4 "What was the most difficult training" (numbers)

Third, "the most difficult training" is shown in Fig.4. Tree identification was identified as the most difficult training. Approximately half of the students answered that this training was difficult. Nobody estimated every tree survey was difficult.

Gender difference about the difficult training is shown on Fig.5. Male students identified tree identification was more difficult than female students did.

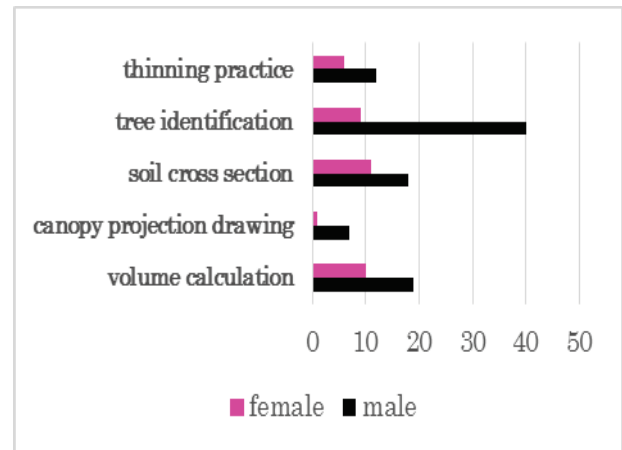


Fig.5 Gender difference about the difficult training (Response %)

Next, gender difference on practice elements are shown on Fig. 6 to 12. Each figure shows that 5 ranks from the bottom to the top on the graph bands. Low numbers indicate difficulty and high number indicate easiness.

Horizontal distance conversion is shown on Fig.6 and surveying with coordinate survey plot is shown on Fig.7.

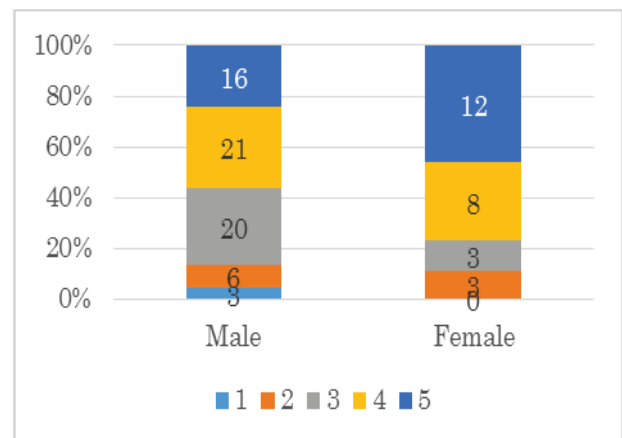


Fig. 6 Horizontal distance conversion (Response %)

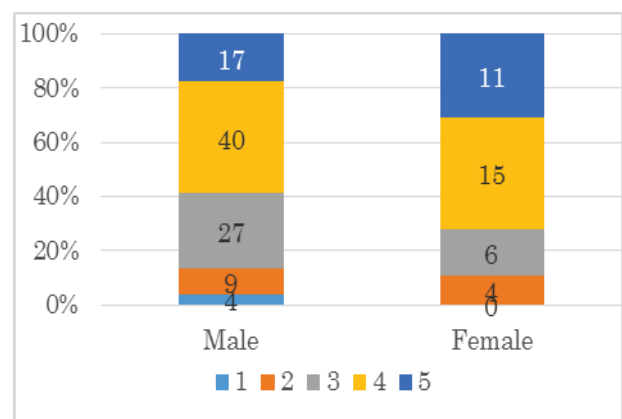


Fig. 7 Survey plot coordinate (Response %)

Gender difference about conversion for hectare is shown on Fig.8. Male students identified difficult slightly more females did.

Next, gender difference about stand density figures is shown on Fig.9. Male students identified more difficult than females did.

Gender difference about thinning practice is shown on Fig.10. Female students identified more difficult than males did.

Gender difference about forest walking is shown on Fig.11. Percentage of positive identify was almost same. Male identified neither of positive and negative was more than twice than female did.

Gender difference about group life during forest training is shown on Fig.12. Female students identified more positive than males identify.

The number of suitable group members is shown in Fig.13. Most of students answered that 4 or 5 members are suitable for a group.

“Which training best applies to your department” is shown in Fig.14. Tree identification was the biggest response and more than half of the students reported it was useful. Students identified volume calculation was lower than 10 %.

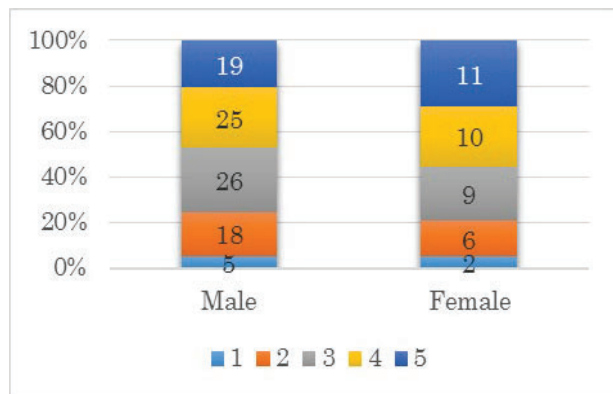


Fig. 8. Conversion for hectare (Response %)

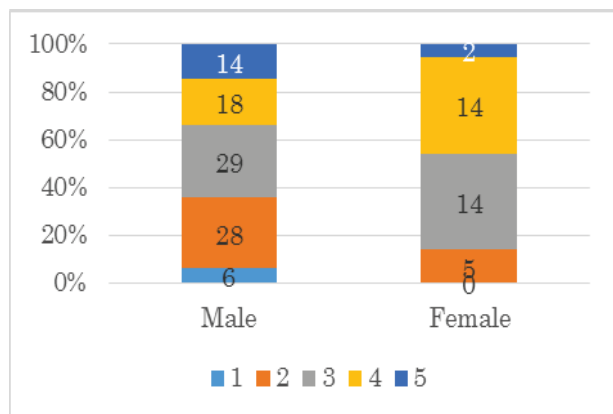


Fig. 9 Stand density control figure (Response %)

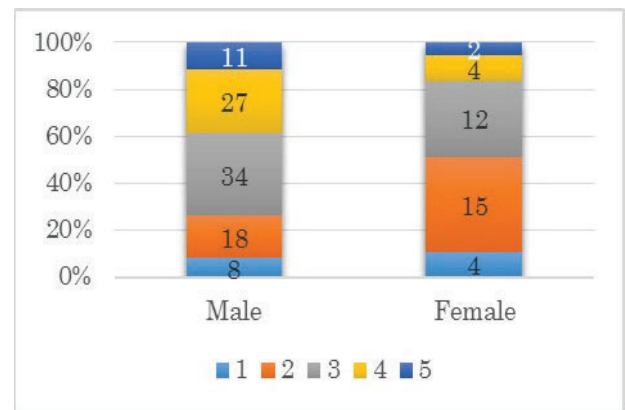


Fig. 10 Thinning cut training (Response %)

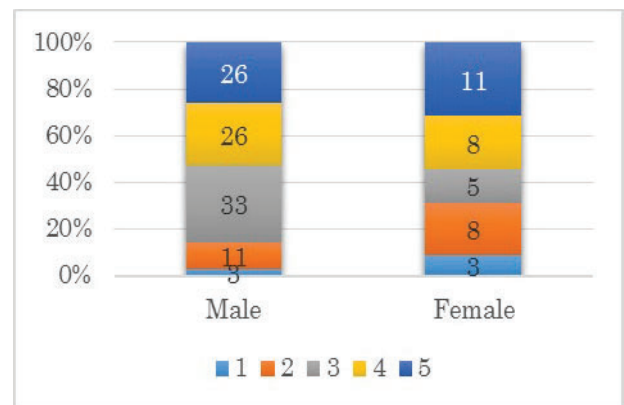


Fig. 11 Walking in the training forest (Response %)

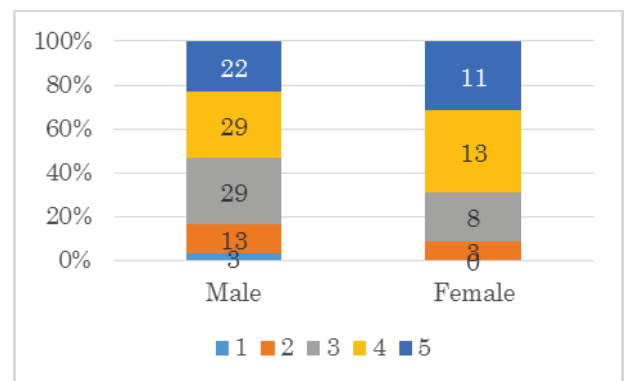


Fig. 12 Group life during forest training (Response %)

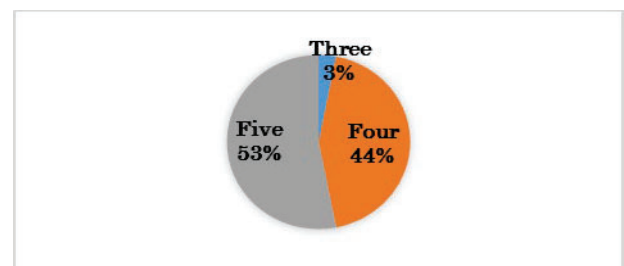


Fig. 13. “How many people are suitable for a single group?” (Response %)

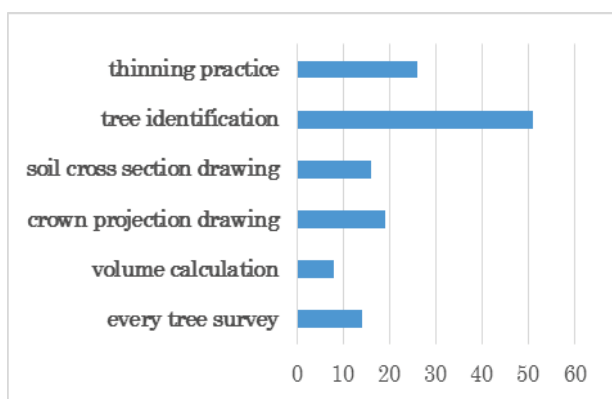


Fig.14. “Which training best applies to your department?” (numbers)

VI Discussion

Students answered that the thinning cutting practice was the most interesting training out of the performed trainings (Fig.15). However, this result also suggested that most of the students had no experiences of tree cutting. They also identified thinning practice, tree identification, canopy projection were easy to understand and volume calculation was not understandable easily.



Fig. 15. Practice of thinning cutting

The most difficult training” was tree identification (Fig. 16). Half of the students answered this training was difficult. However, half of the students estimated tree identification was very useful in forest science department, too. These contradictory results suggested that tree identification was easy to understand but also difficult to practice.



Fig.16. Tree identification training

Free answer writing showed that many students recognized their lack of physical strength and being insect weak

On instructors’ views, individual differences in learning were not so small. It is always necessary to stimulate students’ motivation.

On revised practice views, it should consider to introduce planting, weeding, and pruning (4). However, on same time, it needs to keep certain forest area that is suitable for students training.

In addition, two teachers and three senior students have guided and practiced this training. This small instruct group always has to be careful for preventing sudden accidents and injuries.

It needs to deal with these problems and keep attempting to practice better training.

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