

Efficient Course Management using Moodle Meta Course and Collaborative Teaching Assistant Support for Information Literacy Education: A Case Study of 13 Classes

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Abstract

Many universities have established compulsory subjects related to information in the first-year experience to acquire information (media) literacy. At Ochanomizu University, quarter classes “Exercises in Information Processing (1)” and “Exercises in Information Processing (2)” are compulsory subjects for all students. There are a total of 13 classes with the same subject name, and they are organized and implemented for each department. The total number of participants was approximately 500. In the present study, we report a case study of class management using the Moodle meta course as an efficient use of common materials for 13 classes. In addition, each of the 13 classes is supported by a different teaching assistant, and we also considered methods for class management to ensure collaborative support among teaching assistants.

Keywords: collaboration among teaching assistants, common material(s), course meta link, Moodle

1 Introduction

The purpose of the first-year experience at universities is to allow students to acquire basic knowledge; thus, in many cases, common materials are used in all faculties. Particularly due to the impact of the COVID-19 pandemic, almost all universities currently use learning management systems (LMS) to upload class materials and accept assignments. Ochanomizu University also uses Moodle as an LMS in numerous classes [1]. Regarding information education for the first year, which is the subject of this study, compulsory subjects are “Exercises in Information Processing (1)” and “Exercises in Information Processing (2).” Since 2022, one teacher oversaw all 13 classes; therefore, all classes used the same teaching materials. In the 2022 fiscal year, we prepared for classes by creating a template course, backing it up, and restoring it to other courses. However, to update the class materials to the latest version the week before the class, it was necessary to replace the materials of all 13 courses, which required considerable time and effort. Therefore, in FY 2023 [2][3], we used Moodle’s course meta link [4][5] (standard plugin) to upload common materials in one place in the meta course (parent course). By linking it with 13 courses (child courses), we adopted a method of seamlessly utilizing the materials in the meta

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course. In the present study, we report on the case of using the Moodle course meta link as preparation for classes in the first semester of 2023. Using meta course(s) has the advantage that it allows parent-child relationships between courses. For example, if a user is deleted from a child course, the user is also deleted in the parent course (meta course), and so on. Other events are also inherited. Even if there are multiple courses, user management can be done in one place. In addition, because common materials are used in all classes, we propose a system that would allow the teaching assistants of the 13 classes to share information about questions and answers from students. We consider methods of class management that allow for collaborative support for teaching assistants.

2 Related Work

Considering relevant work, we introduce universities using the functions of the course meta link and the development of tools related to the course meta link. First, the course meta link is explained on the Moodle Docs page, which states that “The Course meta link plugin makes it possible for one course, called a meta course, to bring in enrolments from other courses. The Course meta link plugin needs to be enabled both on the site level by the site admin and has to be enabled within the course” [4][5]. Next, we introduce a representative university website that utilizes a course meta link. On the Kumamoto University website, two course meta link types are provided: “unified management” and “user links” used according to the course management method [6]. Table 1 shows the types of course meta links on the website of Kumamoto University. Regarding “unified management,” child courses are set to be hidden so that only meta courses can be accessed. For “user links,” only user association is performed, and both meta courses and child courses can be used. Further, “unified management” cannot have multiple meta courses, whereas “user links” can. In “unified management,” each group can be managed by “visible groups” and “separate groups.” If a new group is created when registering a child course as a course meta link, a group is automatically created for each child course in the meta course. Oxford Brookes University also has a specific example on the page “How do I meta link Moodle courses?” [7]. In addition, the author has conducted classes using information security and morals teaching materials using meta courses at Yamaguchi University, and many universities have utilized the functions of meta courses. Furthermore, the development of tools related to course meta links has been underway for several years. For example, a tool called “Meta-course group synchronization” has been developed and is compatible with the latest versions of Moodle, indicating user demand [8].

Table 1: Type of course meta links at Kumamoto University [6]

Type of course meta link	Show / Hide		Multiple / One
	(a) Meta course	(b) Child course	Number of meta courses
(1) Unified management	Show (Available)	Hide (Not available)	One
(2) User links	Show (Available)	Show (Available)	Multiple

This table was created by the author based on the website of the course meta link at Kumamoto University.

3 Practical Use of a Meta Course in Class

In this section, we focus on 13 classes of “Exercises in Information Processing (1)” held in the first semester of 2023 at Ochanomizu University and report a case study on effective operation.

3.1 Examples of Meta-linked Courses

Figure 1 and Table 2 show a comparison of the use of the meta course in 2022 and 2023 in “Exercises in Information Processing (1).” Figure 1 shows the structure of the courses in 2022 and 2023. In 2022, we created one meta course for teaching materials for all classes and used links from 13 courses. Considering the enrolment method, “self-enrolment” was used without the registration function of “course meta link.” In 2023, we added a new meta course in addition to the 2022 meta course. Common materials were posted in the added meta course. Using the course meta link function to automatically access the material of the meta course from the child course, seamless access to the meta course from the child course was enabled. As shown in Table 2, by uploading common materials for all classes to only one place in the meta course, it became unnecessary to do the same for 13 child courses, which ensured efficient operation. Because the deadlines for submitting assignments differ for each class, they were set for each child course. As shown in Table 2, the number of courses to edit was substantially reduced. Specifically, the number of man-hours for detailed manual work decreased from 39 in 2022 (the number of courses that need to be edited in (a), (b), and (c) of Table 2) to 15 in 2023 ((a), (b), and (c) in Table 2 plus the number of courses that need to be edited).

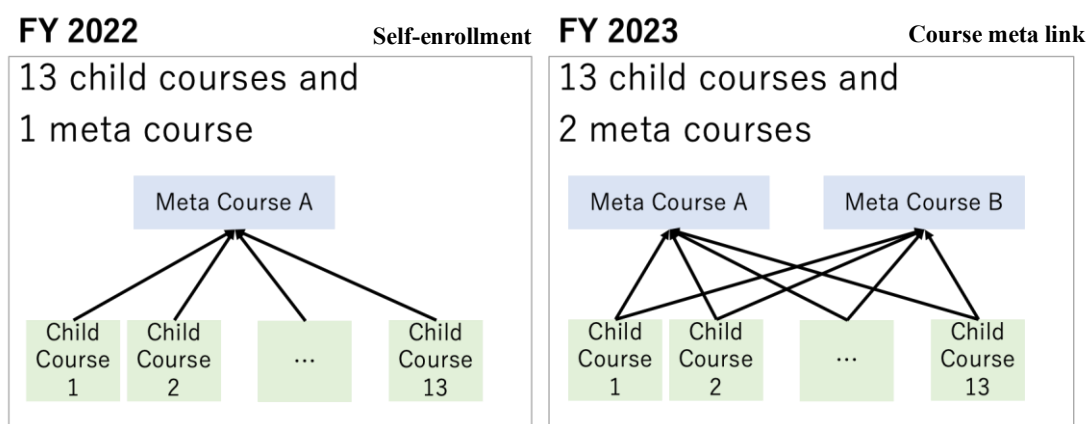


Figure 1: All courses of “Exercises in Information Processing (1)” (left: FY 2022, right: FY 2023)

Table 2: Usage of meta course(s) and child courses

Moodle module	(a) File or URL	(b) Assignment	(c) Questionnaire
FY 2022	Child courses (13)	Child courses (13)	Child courses (13)
FY 2023	Meta course(s) (1)	Child courses (13)	Meta course(s) (1)

The numbers in parentheses in the table show the number of courses that need to be edited.

3.2 How to Create a Moodle Course Meta Link

This section explains how to use the course meta link. Figure 2 shows a screen for setting 13 child courses as course meta links in the created meta courses. By selecting “Create a new group” and registering, users registered in the meta course are automatically registered as a child course group (e.g., Child course 1, Class A). Various settings are possible utilizing “visible groups” and “separate groups.” Figures 2 and 3 show the course meta link setting screen for setting 13 classes as child courses in the meta course.

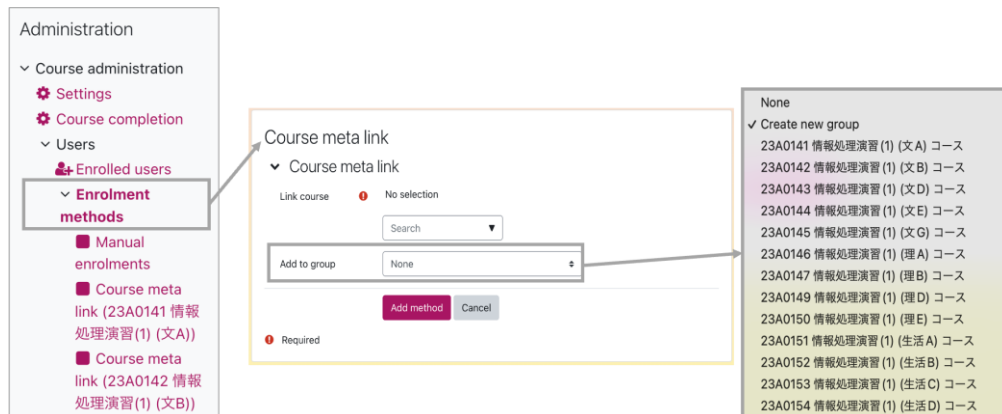


Figure 2: Screen of “Course meta link”

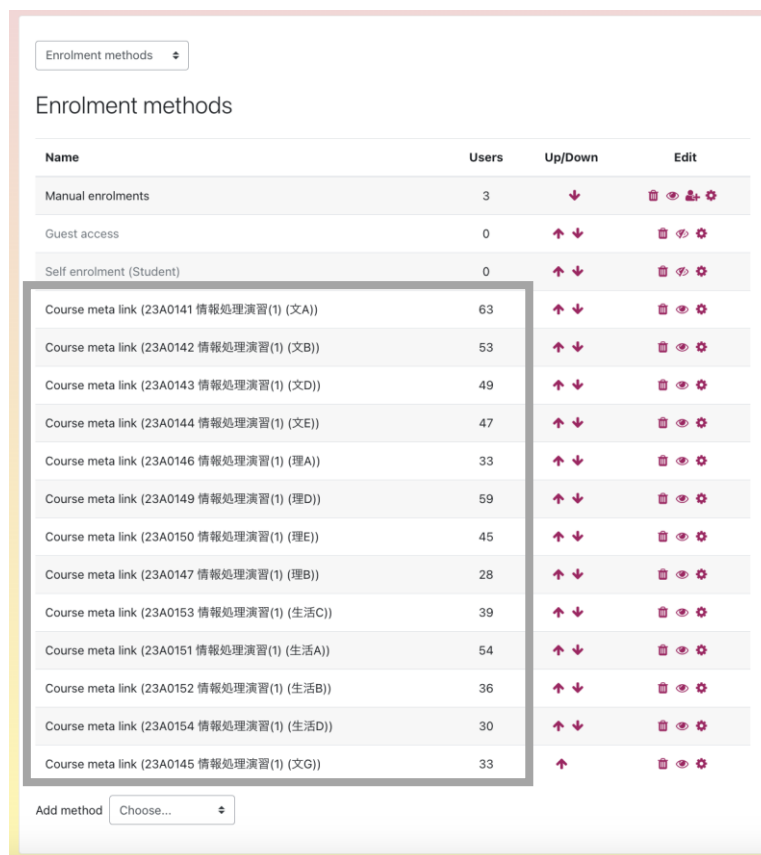


Figure 3: Example of course meta links

3.3 Method of Class Management for Collaboration among Teaching Assistants

Since the common materials are used in all 13 classes, we often receive the same questions from students in each class. At present, the teacher (author) communicates to the teaching assistant in each class, and the teacher verbally communicates questions from students in other classes, so the communication is limited to the teacher and the teaching assistant. However, in the future, it will be necessary to create a system that enables information sharing among the teaching assistants of the 13 classes. Recently, there are many previous studies on the effects of collaboration with teaching assistants [9][10]. Effective mutual learning is expected through cooperation between teaching assistants, between teaching assistants and students, and between teaching assistants and teachers. Therefore, in FY 2023, we set up a bulletin board that can be shared among teaching assistants in the newly created meta course (Figure 4). By setting it in the meta course, the user of the child course is automatically registered, and the role is also inherited. Therefore, 13 classes of teaching assistants are automatically registered in the meta course.

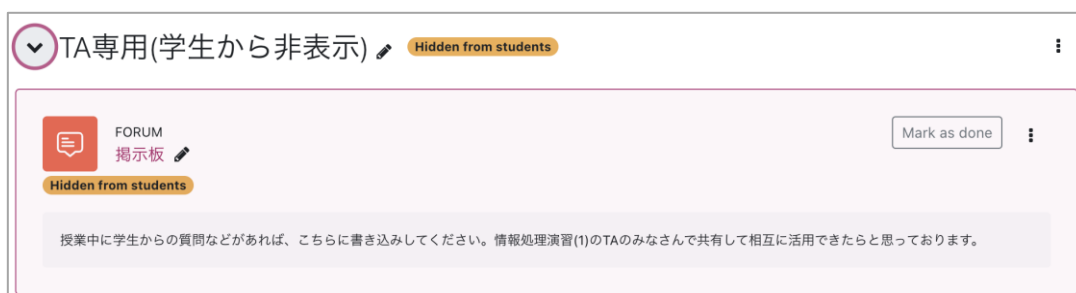


Figure 4: Bulletin board (forum) for teaching assistants created in a meta course

4 Conclusion

In the present study, we used the course meta link for “Exercises in Information Processing (1)” and uploaded common materials in the meta course. By linking with 13 courses (child courses), we practiced seamless utilization of the materials in the meta course. In addition, because common materials are used in all classes, a mechanism for sharing information about questions and answers from students among the teaching assistants of the 13 classes would considerably enhance efficiency. Therefore, we set up a bulletin board in the meta course as a method of class management that allows collaborative support among teaching assistants. The Moodle forum function (bulletin board) is also used as a function for mutual learning, and we plan to verify whether it can support cooperation between teaching assistants.

In the future, we plan to consider a method that can be managed more efficiently with a single meta course even if the deadlines for submitting assignments differ depending on the class. In addition, by operating child courses (13 courses) as usual, class content that makes use of the characteristics (expertise) of each class (each department) can be added. The content of classes will also become more flexible. Moreover, the use of the expertise of each teacher will be enabled.

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