# Moodle: The Ubiquitous Teacher

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**Abstract**

This article describes how Moodle is used in a Medical English course at a Japanese university to increase the time, the quality, and the effectiveness of students' preparations outside of the class. It also highlights how different settings can influence student behaviour and motivation. The examples and the discussion of the settings serve the purpose of encouraging teachers to make the big leap from giving homework in the traditional way to this digital platform. The author also shows how the "virtual extension" of the teacher, Moodle, can control students' home studies in ways that would be impossible with the traditional homework on one hand, and how much insight the teacher can get about the students' behaviour based on information automatically saved in the computer system on the other. Finally, the results of a student survey carried out after the first semester answered the author's question that motivated this research: "How satisfied are the students with the use of Moodle for homework assignments?"

## 1 Introduction

Learning a language, even one's own, takes many years. Obviously, an activity with such a long span requires perseverance, persistence, and very regular practice. No wonder that language learning is very often compared to learning to play a musical instrument or achieving a high level in sport. Aspiring athletes, musicians and polyglots need a lot of grit. Although talent and grit will certainly lead to above average performance, teachers and coaches play an important part in supporting some individuals to raise far beyond average, to achieve the extraordinary. In other cases, professional guidance can help the not-so-talented to get just as far as the gifted. Learners, athletes or musicians may never reach their full potentials without dedicated, consistent, passionate, and understanding coaches or teachers.

However, no matter how excellent the teachers might be, motivation remains the key to success in becoming a person speaking a foreign language fluently. Far too often, the lack of motivation leads to a lack of studying outside of the class. The author believed that by using Moodle for homework assignments, she could extend her control and presence beyond the classroom, which would result in a positive effect on the overall quality of the students' preparations for classes. In this article, the author examines how Moodle was set up and used as a "virtual extension" of the teacher outside of the classroom for a Medical English course at a Japanese university to make the students more successful learners. As there is always some resistance against change, the most important question was to find out the students' attitudes towards the use of Moodle. The results of a survey carried out at the end of the first semester showed that students preferred using Moodle to traditional paper-and-pen homework even if they had to cope with some technical problems.

## 2 The teaching context

Medical English is a compulsory course designed for second-year students in a medical management department. In the past, the language of medicine and engineering in Japan was German, so older generations used to study German at university rather than English. Although some German expressions are still in use in their Japanese form, for example, *karute*, used for medical records, English has already become the most important foreign language in most disciplines, including medicine. Japanese state exams related to medical management and health care services also contain a certain number of abbreviations and expressions from English. As a result, the main aim of the course is to teach the basic principles of how medical terminology works and prepare students for these optional state exams.

### 2.1 A medically challenged teacher of English

The more health problems people have, the more they tend to know about medicine even if they have never studied it. However, one's personal experience would obviously be insufficient for teaching, so even native speakers would need to make some extra effort to master medical terminology. For non-native teachers of English, very few of the English terms would be familiar unless they had had a chance to attend some special courses.

As students also need to understand this medical language in Japanese, the teacher should know the terminology in Japanese as well, both in the written and spoken forms. This is a linguistic challenge for the non-Japanese teacher since even the students, who are native speakers of Japanese, are not familiar with many of the Japanese terms. As the author of this article and the teacher of the Medical English course are the same person, from now on, the author is going to refer to herself as *the teacher* when describing issues related to the classroom and the Medical English course.

### 2.2 The classroom situation

The main textbook for the course was proposed by teachers who had medical backgrounds. The additional textbook focused on communication in medically related situations, for example when filling in forms, or explaining medication and hospital procedures. The books were used on an alternating basis, providing a two-week period for the students to memorise the vocabulary for the medical terminology. The second book also recycled some of the terms.

English teachers at university level in Japan are usually used to smaller classes and to giving tasks for students to communicate with each other. However, the number of students taking this class (more than 120), and the list-like nature of the main textbook seemed very daunting, as did the low motivation of the students. As retention of vocabulary depends on regular repetition, preferably spaced repetition, it was essential to find a way to make students do homework regularly. Once students are assigned homework, it is an absolute must that it should be checked and feedback provided.

Reading handwriting in a foreign language can be extremely difficult, especially when one is not used to it. It is very likely that the non-Japanese teacher would not be able to read handwritten homework. Also checking homework for more than 120 students on a regular basis seemed impossible. Even if homework could be handed in before the class, returning the homework to each student would either have taken up a lot of class time, or it would have been impossible without compromising the students' privacy.

### 2.3 Traditional classroom teachers' roles and limitations

In a traditional classroom, teachers are considered as the source of information. Especially in lectures, teachers are expected to present the material; students take notes; and then they learn the material at home on their own. Teachers usually give well-defined homework, such as the relevant

chapter or section from the textbook, and maybe some other kinds of activities, either to help the learning process or to make it possible for students to check their understanding of the material.

Teachers might seem almighty in the classroom but they are powerless over what happens outside of the classroom. Even if the teacher advises the students about how to do their task at home (e.g. see Fig. 3), they may ignore that. In the case of learning material that should be memorized rather than understood, repetition and checking whether the items can be recalled from memory or not are crucial. Consequently, if the aim of the homework activity is checking retention, the activity becomes meaningless if the students simply look the necessary information up in their textbook and copy them. In addition, the students might even get the impression that they did a good job and had learnt the material.

Homework plays a crucial part in the learning process. However, students traditionally do their homework only once, often with the mere aim to satisfy the requirement to do it before the next class. There is no reason for them to do it more times as they often cannot tell whether their answers are correct or not. They would have to wait until the next class to find that out. Checking homework can take up a considerable amount of class time, especially if many of the students come to class unprepared. If the teacher wants to force the students to change their attitude by regular quizzes based on the homework, that may further reduce precious class time.

## 2.4   Salvation from the miseries: the introduction of Moodle, as the "virtual extension" of the teacher

Teachers can influence students in the classroom. Teachers can also motivate them, give them feedback, warn them, and monitor learning. In a class of more than 120, however, individual feedback would be very limited. Although most people believe that schools are places where learning takes place, most of it actually takes place outside of class. For this reason, the teacher introduced Moodle for homework assignments, so that she could monitor and to some extent control when and how students could complete their tasks. This way, the flesh and blood teacher in class, and the "virtual extension" of the teacher, the Moodle system, worked in a complementary way. The following sections describe this joint effort.

## 3   Moodle support for homework

No matter what subject one teaches, teachers are expected to give homework. It was obvious from the very start that teaching medical terminology required a similar approach to teaching vocabulary in a foreign language, the main difference being the fact that medical terminology was hardly ever put into context. Having been used to much smaller classes, the sheer number of students made it clear that regular short tests during the class would take up too much class time. Being a non-Japanese teacher, the reading of handwritten Japanese seemed impossible. Using multiple-choice questions would have been an easy solution, but research has shown that handwritten notes and practice were more effective for retaining information.

### 3.1   Research questions

As the aim of this article is to describe why and how the teacher used Moodle as her "extension" outside of class, the questions that she asked herself were the same that every teacher should ask at the end of a course. "Did I achieve the goals I had set at the beginning of the course by using the aids and methods I chose?" "Were the students satisfied with them?" If they did not work or the students were not completely satisfied, adjustments would be needed.

The teacher set up the following goals for her Medical English course:
1. make students study on a regular basis
2. check homework strictly
3. check the quality of homework

4. make students aware of their strengths and weaknesses
5. make drilling easier
6. provide audio files to practice pronunciation
7. provide extra material for more advanced or more motivated students
8. make students aware that the teacher follows their work closely
9. keep in touch with students

Based on her previous experience, the teacher was confident about having achieved these goals, and she was completely convinced that she would not have been able to succeed without Moodle. However, it was impossible for her to know how students felt about using Moodle for homework and how it affected their learning habits. For the teacher, this was the most important question. In order to understand the answers to the student survey, the readers should be familiar with the different settings of Moodle, and their pedagogical consequences.

## 3.2 What is Moodle?

Moodle is the acronym of *modular object-oriented dynamic learning environment*. It is a free piece of software that is available in many languages. Basic technical information on Moodle is available even in Wikipedia in several languages. For this reason, it seems unnecessary to reduplicate readily available data. The Moodle home page at https://moodle.org gives up-to-date support and guidance for users. Other publications also give step-by-step guidance for installing the system, creating content, and every other aspect of running a course with Moodle. (See Barrington, 2014; Coy, 2013; Henrick & Holland, 2015; Rice, 2015; Smith Nash & Moore, 2014; Stanford, 2009).

There are many similar systems or environments available either for a fee or free. Sometimes they are called learning management systems (LMS), virtual learning environments (VLE), or course management systems (CMS). Most universities use such systems. Blackboard and WebCT are probably the best-known systems in education. It has to be noted, though, that there is an ever-growing number of products in the field, so it is advisable to do some research before adopting a system just because it has been a familiar name.

To avoid confusion, it is necessary to mention that the acronym CMS is not only used for course management systems but also for content management systems as well. The two concepts are completely different. A course management system makes it possible for teachers to provide materials for the students so that they can interact with them during their studies. The interactions are logged and graded if necessary, and teachers can give feedback for the students either in the form of comments or grades. In this way, the whole learning process and communication between the teachers and the students can be managed in this system. CMS is used in this sense throughout the article.

## 3.3 Inside Moodle

Teachers have much freedom concerning the format of the content they can create in Moodle. In fact, they have access to a wider variety than when using traditional handouts. Presentations, audio and video files would be impossible to deliver on paper. In addition, students can also take part in creating content through forums, messages and by building glossaries. Higher involvement on the students' part means more active learning, and it also improves the learning outcomes.

Content is divided into two categories, resources and activities. Resources are more of the traditional type in so far as they provide information in a one-directional way. A URL, a file or a folder, or a so-called book are good examples. Students simply receive these files. Activities require the students to do something, for example, answer quizzes, submit assignments, or answer surveys.

Moodle is a piece of software that uses different plugins that teachers can choose to install, depending on their needs. In case of a writing course, for example, they may want to install a module detecting plagiarism. Assignment submission, portfolio, and other plugins will help the teachers to tailor the system to their needs and preferences.

Activities are the main reason for using Moodle, as this is the interactive part of the program.

The student interaction is logged, and this enables the teachers to get an insight into how students work outside of class. It informs the teachers about how long students spent on the activities, and when they did them within the allocated time for homework. Moodle logs are automatically created for all the tasks.
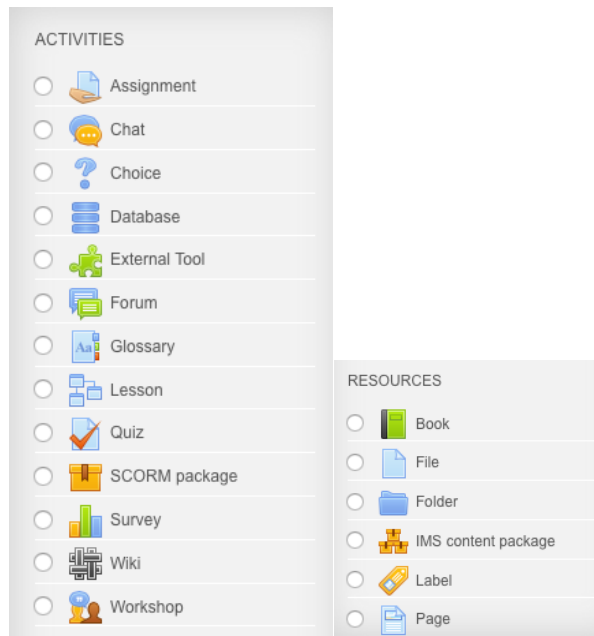


**Fig. 1. The types of activities and resources available in Moodle**

Individual feedback is another area where Moodle can be very effective. First, once the students finish a quiz, the results are immediately available. Although research on feedback does not give a clear answer about which is more effective, immediate or delayed feedback, (Dihoff, Brosvic, Epstein, & Cook, 2003; Kulhavy & Anderson, 1972; Surber & Anderson, 1975) several studies suggested that the type of activity, learner characteristics, and difficulty level may play an important role in this matter (Mathan & Koedinger, 2002; Schimmel, 1988; Smith & Ragan, 1999). Feedback can simply state whether the answer was correct or incorrect, or depending on the settings, the students can see the correct answer together with explanations for all the answers, even the wrong ones. Activities that need to be checked by the teacher can also be submitted and returned to the students through Moodle, making it unnecessary to put boxes for such purposes in front of the teacher's office, which is a common way of dealing with written assignments. In such paper-based situations, it possible for students to look at other students' work when handing in work, and also to check other students' grades when getting it back. Thus, Moodle helps to avoid problems related to privacy.

### 3.3.1 Settings

Settings in the Moodle system make it possible for the teacher to have some control over what students do outside of the class, and how they do it. Basically, this could be seen as the virtual extension of the teacher. In class, teachers control in what order activities are done, how long they take. If the students' results are not satisfactory, they can change their original teaching plans, and give additional tasks for the students. However, by doing this, they may lose precious class time. In Moodle, the settings can determine and control how students do their homework.

The teacher can upload and have the whole course ready for the students in advance. The teacher can decide whether the tasks and their details should be visible for the whole course right from the

beginning. Seeing everything can help the students better manage their time and not miss any assignment. Should students miss a class, they would still have the tasks and the necessary information to complete them.

Probably the most used activity in Moodle is the quiz, so as an example, settings for the quiz will be explained in this section. The opening and closing time of the quiz can be set together with the allocated time for the activity. Obviously, the teacher cannot control the use of textbooks and other resources, so all quizzes are open book ones. This is why setting the time is important. If the allocated time is too long or not set, students can simply copy from the textbook without learning much. If the time limit is shorter, students can only look up a few things in the textbook. Time limits are very strict when using a computer. There are three possibilities for submission. One, the students are responsible for submitting the task before the deadline otherwise they are not counted. Two, the teacher can allocate a submission grace period, which makes it possible for students to submit their work after the time limit but they cannot change their answers. Three, assignments are automatically submitted.

Grading is another crucial function in Moodle. Activities can be grouped making categories in the grade book. In the case of traditional homework, students probably did their homework only once. However, with the instant feedback from Moodle, students who are not satisfied with their results can do the activity again to get a better score. The number of attempts can be set from one to ten, or unlimited. The grading method can have a great effect on how many times a student may want to repeat the activity. Scores can be defined based on the first or last attempt, or the highest or average scores.

The layout of the questions can also be set. The number of questions appearing on one page can be set from one to fifty, or all. The teacher can create a particular order of questions that always remains the same, or can have the questions shuffled randomly. The teacher can also decide whether the students can navigate freely in the quiz or not. If navigation is set to sequential, students have to answer the questions in order, and they cannot go back or jump ahead in the questions. If students are to do the activity several times, it is advisable to have the questions shuffled each time. Neither restriction would be possible in the case of traditional homework.

Individual questions can be set so that the answers always remain in the same order, or they can be shuffled. The two most usual settings for the response to questions are deferred feedback and immediate feedback. If a quiz is used as a test, the teacher would want the students to answer all the questions and then submit the whole test. This would be deferred feedback. With the interactive multiple-tries mode, the students submit their answers after each question and if they miss, they can try again, but they will get reduced marks for that. If students can do the quiz several times, the teacher can decide whether each attempt starts from scratch or they build on the previous attempts. With the latter, only missed answers need to be answered again.



**Fig. 2. Review options for students in Moodle**

Feedback for the students can be given at different times and with differing amount of information (Fig. 2). The amount of information could be as little as nothing, or simply the score. The items that can be chosen in the list for this setting contain seven items. The first setting, the attempt

means what the student has submitted. The second would show if the answer was correct or incorrect, and this is colour-coded. The third setting controls the visibility of the number of points allocated to each question and the final score. Specific or general feedback can also be shown to the student. It is up to the teacher whether or not the students can see the correct answer or not. Finally, overall feedback is also possible.

Display settings will define what is visible on the screen when students do an assignment. Their picture or the usual Moodle blocks can be hidden so that they do not take up space on the screen and let students focus on questions only. This is also where the decimal places for the grades can be set.

Extra restrictions are mostly related to testing. The teacher can set a password for each test, or even specify IP addresses to make sure that nobody takes the test from a different location. The browser security setting will prevent students from using other resources on the computer. Two settings in this block, however, are very useful for setting up homework assignments allowing multiple submissions. The teacher can enforce a delay between attempts. In most cases, teachers would probably set an interval of hours or days so that students can finish their task before the next class.

In the overall feedback section, grade boundaries can be defined and textual feedback can be created for each of them. Within the common module setting, teachers can set up subgroups within the users. The groups can be set up in two ways so that only people in the same group can see each other or the other groups can also be visible to them. An ID can be allocated for activities, which would make it possible to identify the test for calculations when grading.

Restrictions about accessing the tasks can also be set. Restricting access is slightly different from the access in the timing section. If a restriction is set here, the students cannot even see the existence of the activity. Grade conditions can be set so that only students who fall into a certain category can access the assignment. If the teacher wants high achievers to do extra work, this setting can be used, for example, to let students whose overall performance in the course was between 90% and 100% to have access to a particular quiz. In addition to performance-based access, information from the user profile can be used to set up restrictions. Access to the quiz can also be tied to the completion of other activities. The teacher can decide whether information about the restricted assignment should be completely hidden from the students or shown in grey together with the restrictions on the course page.

Finally, activity completion can be marked either by the student or automatically when the required conditions are met. These conditions can be simply viewing the activity, or the students must get a grade for it. Expected completion date is solely for administrative purposes.

### 3.3.2   *Limitations and possible difficulties*

Normally, most teachers are users of computer software rather than producers. Thus, technical support seems to be essential. Although the installation Moodle itself is not so difficult, customising it to the user's specific needs may be so because it has over 1,000 plug-ins.

Many users complain about the interface of the program, saying that it is not user-friendly and navigation is too difficult. Finding answers to problems on user forums can be very time-consuming. When newer versions of Moodle appear, teachers may not upgrade to these without technical help for fear of making their Moodle system unusable.

Students need training in using Moodle. If they only use the system to submit their homework, teachers have to arrange special classes in a computer lab to teach the necessary skills. Teachers often have to compete to have their whole course in a computer lab. Should their classes eventually be scheduled in regular classrooms, they may not be able to use the materials set up in Moodle as previewed.

A typical limitation with any computer system where short answers are automatically graded is that the computer will only accept answers that are typed exactly as the answer is set in the database. For example, if a student accidentally presses the spacebar before typing the right answer, the computer will read it as an incorrect answer. When students know that they gave the right answer, but

they do not get the score for it, they feel upset and start questioning and distrusting the whole system.

Probably, most teachers use only a fraction of the capabilities of Moodle on a regular basis. Problems usually arise when they want to discover or test new features, change settings, or upgrade Moodle. If teachers lack the support or the knowledge, they will have to sacrifice a considerable amount of their time and energy to learn how to use Moodle and how to solve these problems.

## 4    Moodle in the Medical English class

Homework for the English Medical Terminology textbook was set up on Moodle. The textbook contained eight sections for each semester. The class met 15 times a semester. The teacher assumed that the students had had little or no previous experience of e-learning. As the classes were scheduled in a regular classroom, during the first class, the teacher showed screenshots and distributed a handout explaining how to enter information into the user profile and how to use the system in general. At the same time, students were also advised on different learning and note-taking techniques and encouraged to follow the study pattern shown in Figure 3.
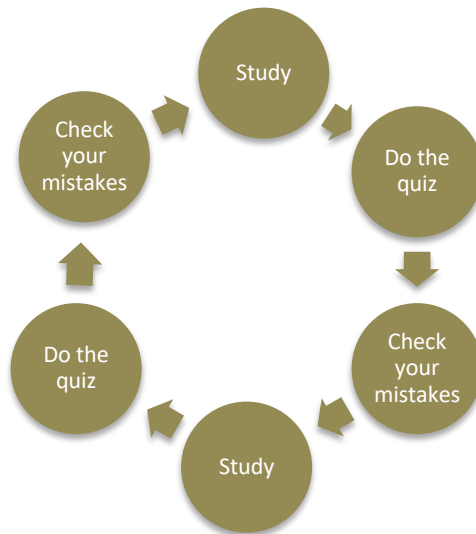
**Fig. 3. The recommended study cycle**

First, students had to upload their pictures, fill in the user profile, and play around with a dummy quiz. The deadline for all Moodle homework was 10 o'clock in the evening the night before the class. The teacher encouraged the students to contact her by e-mail if they had a problem using Moodle. One of the teacher's goals was to have better communication with students (Goal No. 9). Although messages can be sent and received in Moodle, all the participants preferred sending messages from their regular e-mail or mobile phones. The teacher usually replied immediately, even late at night, and discussed the problems during the following class. The number of messages decreased as the students got used to the system. At the beginning of the course, students asked about the use of Moodle, which indicated that the handouts designed to give instructions on using Moodle needed revision for future classes. Later, students' questions were mostly about the content, correct answers, and informing the teacher about absences.

### 4.1    Mistakes to avoid

The teacher started using Moodle for this course four years before writing this article. The homework settings were changed considerably over time as the teacher gained more experience in using

the system. As this article aims to give practical information, it seems necessary to mention those settings that did not work. In most cases, students had a two-week period to learn one section of the Medical Terminology textbook and submit their homework on Moodle.

Partly due to lack of experience with Moodle, one of the most obvious mistakes was not setting a time limit for the activities. This meant that students could log into the activity and leave it open for days or weeks without working on it. A clear time limit is desirable as it forces the students to focus on the activity for a well-defined period. It is also practical because students would know how long they have to spend on doing the task. Information about the average time needed to finish the activity is also very important for creating tests and setting time limits for them.

In an attempt to boost students' motivation, first, the teacher set the grading to the highest possible grade. This meant that students could do the activity as many times as they wanted to and only their highest grade would be recorded in the grade book. They could have a look at the quiz without having to worry about their performance or finishing it on time. However, this setting can and did trigger off shortcuts such as simply opening the quiz to print it out, then getting the answers and copying them into the quiz during the next attempt. Two settings can help to avoid such behaviour. First, if students are graded on each performance and their average is recorded in the grade book, each attempt carries equal weight, so students cannot afford an attempt that results in a low score. Second, making time limits stricter will make it impossible for students to search for many answers and copy them from the textbook. They will be forced to actually learn them before they attempt the test. The number of allowed attempts was set at three. If students got a good enough score on their first attempt, they usually did not risk another attempt. However, if a student had a bad grade, they were forced to follow the suggested study cycle to improve their grades.

Both settings, the time limit and the grading method, have a considerable impact on the quality of the homework (Goal No. 3). Tight limits require the students to only attempt the quiz after studying. Otherwise they may run out of time, and their results may be too low. That, in turn, will affect their average grade.

### 4.2   Good practices

Keeping things regular and organised can be a challenge for everyone. Teachers also have memory lapses. They may forget to assign the homework at the end of the class, or to prepare the handouts they were planning to distribute before the class. Even if homework is properly assigned, usually it is only for the next class. So, students do not have a clear idea about future tasks and their timing. Setting up a course on Moodle with a clear time schedule and activities will make it easier for the students to set aside the time needed for homework. Teachers do not need to worry about photocopying or creating assignments for the class as they are already there. Tasks can be made visible in the schedule for the whole course even if the students can only open them after a given time and date. Students sometimes use their absence from the previous class as an excuse for not preparing for a class. With a Moodle course, this excuse could not be used. Thus, setting up regular homework assignments in advance will ensure that students do study on a regular basis (Goal No.1).

No teacher can be stricter and more consistent than a computer. This can be both a blessing and a nuisance. Even a misplaced space can turn a correct answer into an incorrect one. In spite of these occasional problems, computers keep constant track of activities on the Moodle system. Teachers do not have to enter test results by hand into a spreadsheet program, they can simply download everything in one go at the end of the course. The results of individual homework assignments can also be downloaded the same way. This way, the teacher can check everyone's homework each time (Goal No. 2).

Moodle gives an overall view of the performance of not only individual students but also of the class as a whole. This enabled the teacher to give simple statistical feedback (the highest, the lowest and the average grades) in class based on the results recorded in the spreadsheets. Students could see their own results in the Moodle grade book but they had no information about the class as a

whole, so the teacher felt that sharing this kind of information would have a positive effect on motivation. High achievers were praised, while low achievers could see clearly for themselves, without being pointed out individually, how much better other students did. Being aware of the teacher's close supervision (Goal No. 8) can serve in itself as motivation.

In a usual classroom situation, students checking their own answers may lose track and stop paying attention. In the case of Moodle quizzes, answers are automatically checked. Depending on the settings based on what the teacher believes to be beneficial, students can see right after the submission whether their answers were correct or not, or they can see the correct answer. Teachers can also enter explanations about the answers. The instant feedback makes it possible for students to see clearly what they have learned and what needs to be reviewed again (Goal No. 4).

Students only do the traditional homework once but Moodle quizzes can be set so that students can take the quiz several times without realising that it is exactly the same test. Each time the student opens the quiz as if it were the first time. As both the order of the questions and the possible answers to the questions are randomly shuffled, students need to read the questions and answers attentively each time. Drilling in this way is more enjoyable than having the same questions with the same answers in the same order (Goal No. 5). The number of attempts is set to three in this course, and the attempts for the quiz do not build on the previous one.

Another strength of Moodle is the possibility of providing audio and video files for the students. The teacher provided audio files for each section of the textbook so that students could practise pronunciation (Goal No. 6). Listening activities can also be combined with speaking, as students can make their own recording and upload it for the teacher to check. This function was only used once in the course.

More motivated students may want to have extra materials to study in their own time at their own pace. These activities can promote autonomous learning where the students choose what they want to study with the added support of the teacher. Once the course is over, there will be no teacher to guide their studies, so these activities can serve as a transition from a teacher-led course to autonomous learning (Goal No. 7).

### 4.3   A quick look at Moodle results

As pointed out earlier, Moodle keeps a detailed log of everything the teacher wants to observe. One of the most used pieces of information is the table showing a summary of the homework assignment. Table 1 shows a modified version of the results in Moodle. It is easy to see that student 038 took the quiz twice with a break of about 30 minutes between the two attempts. The teacher may assume that the student was looking for the correct answers for the questions he or she missed. The effort paid off as the student's result grew by 23%. In this example, students used almost all the available time, which was set to 60 minutes. Based on the simple facts of when students do their homework, whether they do their homework on the last day, or whether they attempt it several days apart, the teacher can give general advice during class without addressing any of the students individually.

Due to space restrictions, it was necessary to edit the table. The original table contains all the answers to all the questions of all the students. Moodle logs can be a goldmine for the statistically minded teacher.

**Table 1. Modified results view from Moodle**

| ID number | State | Started on | Completed | Time taken | Grade/100 |
|---|---|---|---|---|---|
| 041 | Finished | 6 December 2016 10:33 AM | 6 December 2016 11:15 AM | 42 mins 14 secs | 95 |
| 038 | Finished | 6 December 2016 10:34 AM | 6 December 2016 11:34 AM | 1 hour | 70 |
| 038 | Finished | 6 December 2016 12:07 PM | 6 December 2016 1:00 PM | 53 mins 34 secs | 93 |
| 306 | Finished | 7 December 2016 2:54 PM | 7 December 2016 3:54 PM | 59 mins 32 secs | 98 |
| 312 | Finished | 7 December 2016 2:55 PM | 7 December 2016 3:55 PM | 1 hour | 97 |
| 301 | Finished | 7 December 2016 3:05 PM | 7 December 2016 4:05 PM | 1 hour | 92 |
| 022 | Finished | 7 December 2016 3:49 PM | 7 December 2016 4:49 PM | 1 hour | 80 |
| 022 | Finished | 8 December 2016 9:25 AM | 8 December 2016 10:23 AM | 57 mins 25 secs | 96 |

## 5   The student survey

Even if teachers seemingly achieve their goals, they cannot be really successful if students are not satisfied with the course. As a result, the author's main question focused on student satisfaction with the medium of delivery of homework, Moodle, as opposed to traditional homework. Although the author had some beliefs about it, she felt that more objective evaluation was needed to further improve its use.

As the questionnaire was designed to measure student satisfaction in a specific course, Medical English, the participants were selected using convenience sampling as they were all enrolled in the course. Students were orally informed about the aims of the questionnaire, namely to have student feedback on the use of Moodle for homework to improve it for future courses. Sixty-seven students completed the questionnaire.

Data for the study of student satisfaction were collected with the help of a simple questionnaire developed by the author and translated into Japanese with the help of a graduate student (See the English version in Appendix 1). The survey was administered in the final class of the first semester. The teacher reserved the computer room for this class, and the students filled in the online questionnaire that was created by using freeonlinesurveys.com.

The questionnaire consisted of 14 questions. Although questions 1-10 were designed to ask about past experiences with online systems, access to computers and mobile devices, and work habits, they all seem to be related to overall satisfaction. Obviously, students will be dissatisfied if they have to do their homework online when they have limited access to computers. In such cases, it is probably not the system used, in this case Moodle, but the situation that they are most likely unhappy with. Questions 1-10 help to rule out such situations.

**Table 2. Summary of Yes or No questions**

| Question | | YES | NO |
|---|---|---|---|
| Q1 | Previous experience with LMS | 6 (9%) | 61 (91%) |
| Q5 | Access to home computer | 56 (84%) | 11 (16%) |
| Q6 | Own a smart phone | 57 (85%) | 10 (15%) |
| Q7 | Own a tablet | 10 (15%) | 57 (85%) |

The author was right in assuming that few students had any previous experience of using an online learning environment. The six students who had previous experience mentioned the English

courses given by the author in the previous school year (Question 2). However, the online workbooks used together with the English textbook for those courses were considerably different from the Moodle system. Their length of use was the same as the courses the students took. Although the students were asked to do homework using the online workbooks, their answer to Question 3 equalled the number of classes per week. They only used it during classes, or that is what they remembered clearly.

The answers to Question 4 showed that the majority of students did their homework at home (66%) or at the university (30%) and only 4% did it on the move (on the bus or train). The most likely drawback in doing homework on the move is that public transportation is always very crowded at commuting times, which may make it impossible to hold anything in one's hand at all. The small screen of the mobile phone and typing the answers could be other deterrents. Although the number of students who had free access to a computer and a smartphone at home was almost the same, most students chose to do the homework on the computer (72%) rather than on their smartphone (27%). Only one student used a tablet as the main platform for doing the homework even though ten students owned a tablet (Question 8).

Students mainly chose the computer because "it has a big screen", "it is easy to enter information", "it has a keyboard", and they had a computer at home. Nine students preferred smartphones because "it can be used anywhere". Other reasons included: "it starts up straight away", "it is easy to use", "I don't have a computer at home", "my computer broke down", "it takes a long time to get to school and I can't take a computer with me". One student used a tablet because it can be taken and used anywhere but has a bigger screen than a phone (Question 9).

The problems with using smartphones (Question 10) were entering information for students who were not used to smartphones, the text was difficult to read because of the small letters, they could not see the timer on the screen, and they made many typing mistakes. Only three students said they had no problems. One student mentioned that it is easy to procrastinate because one believes that the homework can be done anytime and anywhere later. Computer users complained about the loading time, eyes getting tired, occasional mistakes, need to know how to enter info, slow to type, getting logged out unintentionally, their computer froze, and, unlike with the smartphone, it takes time to enter information. One person said it was a pain to borrow the computer from their parents, to start it up, to have the cat getting on to the keyboard, and the fact that other family members could not use the computer while she was doing homework. In spite of the many complaints, generally related to technical problems and the difficulty in entering information, a surprising 56% of the students did not have problems when using the computer for homework.

Question 11 was meant to ask for a clear answer to the main question, whether students preferred to do their homework using Moodle or write using paper and pen. It was reassuring to see that 79% of the students said that they would choose Moodle and only 21% said they would prefer to do the homework by hand. This result clearly shows their preference of Moodle over the traditional, paper-based homework.

As for the merits of using Moodle (Question 12), with two exceptions, everyone (97%) mentioned one or several factors shown in Table 3. As for the demerits (Question 13) and free comments (Question 14), some students did not differentiate between the demerits of the Moodle system itself and other things related to the course. For example, one student mentioned that it was difficult to see the slides clearly from a distance in class. Such comments are excluded from Table 3. It is interesting to note that sixteen students (23.9%) did not find any demerits.

Students were offered a chance to express their opinion freely in Question 14. However, 44 students (65.7%) did not write anything, and 11 students (16.4%) wrote comments that were not relevant to Moodle, for example, "I did my best", "I will do my best in the next semester as well". Only 12 students (17.9%) gave relevant feedback, even if the comments were mostly repetitions of what they had mentioned earlier in the questionnaire.

Some of the items in Table 3 suggest that Moodle did function as the virtual extension of the teacher, for example, the students could hand in the homework; they felt obliged to do the homework as if the teacher was present in the system; they were given feedback on their work. The demerit

side also mentions how time limitations were imposed by Moodle, which are usually done by teachers in the classroom.

**Table 3. Merits and Demerits of using Moodle**

| MERITS (Question 12) | DEMERITS (Questions 13) |
|---|---|
| Homework can be handed in right after finishing it, and it takes no time. | A computer is needed. |
| Homework can be handed in even if one misses the class. | It can't be used anywhere. |
| Homework won't be lost or left at home. | Not writing is not good for memorizing. |
| It makes me feel I have to do the homework. | The Internet is needed. |
| No need for pencils or pens. | The Internet connection can be broken suddenly and that can affect the score. |
| Environmentally friendly. | The right answers were not shown for the mistaken ones. |
| Quicker than handwriting. | Error messages appear. |
| Many questions can be answered in a short time. | With a computer, the place is limited where you can use it. |
| The same activities can be done several times. | Even if you know the answer, you may lose points because of typing mistakes. |
| The score is displayed immediately. | Homework can be done while looking at the notebook. |
| It is easy to review with Moodle. | An electronic equipment is needed. |
| The right and wrong answers are visible straight away. | It may be difficult to get online. |
| Wrong answers can be checked again. | Waiting time between attempts was too long. |
| It helped to practice my typing skills. | Typing takes much time. |
| My school bag does not get heavier. | Cannot hand it in after the deadline. |
| Sound can be used for studying. | Limited time for doing the homework. |
| I feel secure. | Tiring for the eyes. |
| It is easy to use. | Not sure whether properly submitted or not. |
| It can be used anywhere and at any time. | |
| Homework can be done on the move. | |
| I remember to do the homework. | |

## 5   Conclusion

Initially, the teacher had two main reasons for using Moodle: 1) her lack of experience teaching large classes, and 2) the unfamiliar situation where medical content had to be delivered in lecture style both in English and in Japanese. Once Moodle was introduced, she was able to ensure that students acquired the required knowledge for the course and also for the optional professional examinations. Furthermore, by introducing Moodle for doing homework and studying outside of class, the teacher could make sure that the students developed good habits, such as respecting deadlines or aiming to improve their scores by attempting the quizzes multiple times. Students wishing to do more than the textbook activities could use challenging listening tasks and readings. The variety of available settings in Moodle made it possible for the teacher to have more control over work done outside of the class. At the same time, the teacher gained a deeper insight into the students' learning habits.

Unlike homework on paper, the students' data on Moodle together with every individual answer were kept even after the course. The question bank could also be modified, improved and increased based on the needs of the changing student population.

On the other hand, because of the lack of technical support, the author had to spend considerable time solving computer-related problems. Also, this made her reluctant to upgrade her Moodle system as long as she could avoid it. Students also got occasionally frustrated by the inflexibility of the

computer's automatic grading.

The author firmly believes that she would not have been able to cope with the daunting task of teaching medical English successfully in a large class without Moodle. Moodle made it possible for the teacher to constantly monitor the students' work, and to make necessary changes to the course based on these observations. It was particularly satisfying to note that using Moodle increased chances for the author to communicate with the students. Finally, with the questionnaire results showing that the students preferred Moodle over handwritten homework, it is reassuring and uplifting to receive positive feedback from them.

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## Appendix

**Student questionnaire about the use of Moodle**

1. Have you used Moodle or similar programs to do your homework before taking this Medical English course?                                                                                           Yes          No
2. If you said yes, for what classes did you use it? And for how long?
3. How often did use it for each class?
4. Where did you usually do your homework for Medical English1?
    (a) at the university   (b) at home   (c) while on the move      (d) other, please specify
5. Do you have access to a computer at home?                                    Yes          No
6. Do you have a smart phone?                                                         Yes          No
7. Do you have a tablet?                                                                 Yes          No
8. Which did you use most often for doing your homework?
    (a) computer at home (b) smartphone (c) tablet (d) computer at the university
9. Could you give the main reasons for your choice in question 8?
10. Was there any problem when using your choice of equipment in Question 8?
    If any, please, explain what?
11. If you had a choice between doing your homework on paper and hand it in yourself every time or using Moodle, which one would you choose?          Moodle                    handwritten
12.  Can you list some merits of using Moodle to do your homework?

13. Can you list some demerits of using Moodle to do your homework?
14. Feel free to add any other comments about using Moodle.

Thank you for your cooperation.