

学習アプリを駆使したカナダ研究のオンラインコース創作 Building an Online Canadian Studies Course using Moodle

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要旨

本稿では、「Moodle」という名前のコース管理システム（CMS）アプリケーションを使用して、「Canadian Studies」というオンライン大学コースを構築する方法について説明します。

Summary

This paper describes how a Course Management System (CMS) application named “Moodle” was used to construct an online university course titled “Canadian Studies.”

キーワード : e ラーニング オンラインコース創作 ムードル、カナダ研究
Key words: Web-based learning, course creation, Moodle, Canadian Studies

Introduction

The purpose of this paper is to explain how a university course concerning Canadian Studies was created using an educational online application called Moodle. Moodle is open source, online software for the creation and implementation of educational courses using database integration. Canadian Studies takes place at a Japanese university in a computer-equipped classroom once a week for a fifteen-week semester.

Over the last fifteen years, software for computer-aided instruction has come to include complete administrative, communicative and interactive facilities all in one application. Moodle, the most popular CMS, gives the teacher overall control of the course, but also an abundant selection of activities and resources. As Internet media content and formats have evolved, so has the Moodle software code.

All course content must be uploaded to the Moodle database resident on the Internet server. This content is then linked to and integrated with Moodle by PHP programming language. It is not necessary to know PHP but it does help when troubleshooting or making fine adjustments to the software code. Uploaded content is then displayed with so-called software ‘modules’ using online

settings decided by the teacher. Despite all the settings and choices that must be made, this software is designed for constructing courses so the process is relatively easy. Another convenient feature of Moodle is the ease of importing text, images, video and sound files into the course. For more detailed explanations of CMS being used in university courses, see McDonough (2003), McDonough (2004), and McDonough (2010).

The Canadian Studies course meets once a week and student attendance is required. This course is considered a “blended learning environment” because students study with assistance from both the computer and the teacher. This is very different from distance learning used in some online instruction. In this way, students enjoy the many benefits of accessing the digital world along with assistance provided by the teacher. In many respects, blended learning is the best way to learn online.

There are many obvious advantages to providing course content through an online portal. The near instant ability to accomplish tasks, check information, get feedback and challenge new strategies makes online learning suitable for students accustomed to computers and the Internet. Students these days use their smartphones to get and process information on demand. Such access to speedy availability means young students do not like waiting to find out things. Until the digital age, students generally used linear thinking, but this pattern has evolved into mentally processing several things at once. One example is that students are more able to make connections across different concepts and images. Additionally, students today are good at accessing linked information on the Internet and hypertext links provide this type of flexibility. Since this course content is available on demand, students receive more instant gratification from this method of knowledge acquisition. Furthermore, young people who have grown up in the digital age intuitively notice visual graphics first and textual information second. This learning tendency should be capitalized upon by providing plenty of graphics to accompany any reading passages. The interactive aspect of the Internet makes learning more challenging, but fun at the same time. In many instances, students see the Internet as a vehicle for enjoyment of online games and other entertaining activities. As a result, Internet-based learning spurs more motivation to study than more traditional textbook learning. They find excitement in achieving better and higher scores naturally.

Construction of the Course

Moodle courses are assembled according to the content and purposes of the course being taught. In this course, the target content required integrating a system of digital resources with a set of procedures decided by the teacher. Presentation of digital resources occurs within Moodle modules; the core building blocks of the Moodle software. (From here on out, Moodle module names shall be capitalized.) For this course, the first step involved dividing the target content into 12 main topics. Once these main topics were decided, an Internet brainstorming application called Mindmeister was used to map out ten subtopics for each. Next, each lesson mind map was converted to an outline format and then developed into reading passages of about 1000 words each. Finally, the reading passages were ready for inclusion onto web pages in a Moodle Book module. In this course, each page in a Book provides the students with a reading passage, illustrative images to view, text narration and textual hyperlinks for translations of difficult vocabulary.

All the Book module pages in this course have a uniform design. Microsoft PowerPoint was used to arrange the reading passages and selected images onto each slide. Each slide was then saved as a jpeg file for upload to the course. A navigation link for listening to recordings of the reading passages being narrated appears above the slide image at the top of each Book page. The narrations of the reading passages are MP3 files which were uploaded to the course. The reading passages appear again at the bottom of the page, under the slide, with text that is hyperlinked. This secondary text feature was added because PowerPoint slides are images and cannot be hyperlinked. This clickable text below the slide allows students to choose specific English vocabulary items that are linked to a custom-built Glossary. When the linked Glossary words are clicked, a small window opens up on the screen giving the Japanese equivalent of the word in question.

It took a lot of time and effort to construct this course. The benefits of doing this have become clear over the three years it has been taught. All the course material is online but the teacher is present in the classroom to assist students, explain content and encourage hard work. Students proceed through the material at their own pace with the understanding that they should complete all the topics by the end of the semester. Each page in a Book provides the students with

a text to read, illustrative images to view, narration to listen to with headphones and textual hyperlinks for translation of difficult vocabulary.

Security Issues

Security is always an issue when teaching with online resources, both within the local network as well as on the Internet server and database. Moodle installations store sensitive and private information about students taking online courses. The course website described here is located on a secure server environment to protect the privacy and personal information of the students. Moodle.org has regularly updated this CMS to ensure security and smooth, efficient operation. Each student logs into the course website with a username and password. If a student forgets her password, it can be reset by the teacher using administrative settings.

Content Types

There are seven different types of content formats in this course. These formats include the reading passages, images, video libraries, a hyperlinked Glossary, audio files, text downloads, flashcards and games. This content appears in the following formats. Readings and images appear in the Book modules. Video clips from YouTube appear in a Moodle window as viewing assignments. Audio files containing narrations of reading passages appear at the bottom of Book pages with hyperlinked words that connect with the course Glossary module. The reading passages are also provided as text files that are available for download at the bottom of the course Home page. Flashcard and game activities are accessed within a Quizlet.com window. Each of these content types is explained in further detail below.

Reading Passages

In this course, the Moodle module used for displaying the main reading passages is called a “Book.” Each Book covers one main topic, divided into ten subtopics. Each subtopic is covered on one page of the Book module. Students opening a Book see a page combining four features. First, the reading passage is contextualized with four or five images. The text and these images were combined onto a PowerPoint slide for ease of construction. These slides were then uploaded to the

server and inserted into the Moodle Book pages. Next, at the top of the Book page, just above the slide, sits a small audio player. With this, students can listen to and control a recorded narration of the reading passage. Next, at the bottom of the screen, the text appears once again, with vocabulary links to the custom-made course Glossary. These hyperlinked words appear in red. Finally, when these red words are clicked with the mouse, a simple definition appears on the screen.

All the reading passages in this course were written by the teacher with emphasis placed on three points. First, interesting concepts, which would appeal to the students, were chosen for each topic. Next, the sentences in the reading passages are not too long or complex for EFL students. Finally, vocabulary items used in the readings were chosen for their simplicity and usefulness. The reading passages in each Book are about 1000 words in length. The Books in this course cover the following 12 topics about Canada in this order: Festivals and Holidays, First Nation Peoples, Immigration and Multiculturalism, Bilingualism, Winter Sports, Food, British Columbia, Animals, Houses and Homes, Jobs and the Economy, Ecological and Environmental Issues, and Customs and Courtesies. Altogether, there are 10,635 words contained in the reading passages.

Table of Contents

To ease site navigation, the Book module includes a Table of Contents just to the right of each reading passage. This facilitates navigation of the Book currently being viewed. This Table of Contents also encourages searching for specific topics and content to answer Quiz questions and improves overall comprehension of the material.

Book Images

The Book pages contain images selected to give context to, and express the meanings of the reading passages. The images are mostly photographs and clip-art images concerning the exact subtopic currently being explained. In the Books, all images were selected with two criteria. Images contain mostly females because all the students viewing these pages are female. This makes the images more appealing and increases a sense of familiarity for the viewers. The second

yardstick for choosing images was visual clarity and relevance to the reading passage content. For example, key vocabulary items served as one reason for choosing book images.

Recorded Narration of Reading Passages

Moodle has an MP3 file Audio recorder and a playback module. This allows the teacher to record an audio file and upload it to a web page in the course. The teacher has recorded audio narrations for each of the Book reading passages. Students can then listen to the audio while reading the text on the page. The speed of narration is slightly slower than natural speed to support student comprehension.

Glossary with Hyperlinked Vocabulary Items

A key feature of this online course is the custom-made Glossary module. The construction of the Glossary required three steps. First, more than 950 words were selected from the 12 English reading passages and these words were then translated into Japanese. Next, both word lists were entered into Excel files for conversion. These Excel files were then converted to an .xml format that Moodle can read. These 950 words were then imported into a custom Glossary module created for this course. The Glossary module works by hyperlinking to any reading passage words that are listed in it. Students click on any hyperlinked words, which opens a small window on the screen containing its Japanese equivalent. Students are encouraged to read the sentences containing those English words again and to think about their use and meanings.

Printed Copies of Reading Passages

All reading passages have been formatted onto A4-size paper and printed copies are passed out to students for further study. As the course progresses, having printed versions of the reading passages allow students to scan more quickly for required Quiz information and underline or write notes on their personal copy for later study. Since this is an online course, it is rather eco-friendly, but the benefits of having printed copies of the reading passages clearly outweigh any environmental concerns of deforestation or waste of natural resources.

Quizlet.com Study Activities

The purpose of including games in the Canadian Studies course is two-fold. First, students need activities for memorizing vocabulary and this can be done very easily with Internet technology. Second, students who finish the readings, Quizzes, video and Forum for each topic can use the game activities outside of class time to review on their smartphones. For playing word games, students click a link to access an outside website called Quizlet.com. Quizlet is a Web 2.0 Internet application that lets teachers import word lists to make activities. Once a list has been exported to Quizlet, the application uses the words in seven fun and educational activities. The words on these lists become the content for online Quizlet games, such as Flashcards, Match, Spell, Learn, Gravity and Test. Simply by inserting a link to Quizlet.com, the activities appear in a separate Moodle window. Each word list in the course Glossary contains about 65 words from one topic. In total, the 12 topics from the course result in a total of 96 possible activities for the students to enjoy. When students have finished reading a Book, taking the two Quizzes, watching a video and then writing in the Forum, they can do additional vocabulary study by playing games in Quizlet.com. The following section describes this feature in more detail. Students accessing Quizlet.com can study vocabulary in a variety of activities on their smartphones anywhere and anytime. Unfortunately, since Quizlet.com is an outside website, these activities are not gradable by Moodle. Below are described just two of the six activities that students can challenge.

Flashcard Activities

Quizlet.com has an embedding function that displays homemade flashcards within another application, such as Moodle. One mouse-click on a link brings students to a Quizlet.com activity but within a Moodle window. The Flashcard activity has many good features. Students can turn on an audio function that pronounces the English/Japanese word being shown. Each computer has headphones so students can listen to and practice pronunciation without disturbing nearby students. Other Quizlet options include showing the Japanese words first, the English words first, or words in both languages at the same time. Additionally, students can mark difficult words with a star mark for later review. All 950 vocabulary items in the course Glossary were imported into

Quizlet.com and are organized into Flashcard decks by Book topic so they all help in understanding the course content.

Vocabulary Matching Activities

This online activity presents six random English words from one Book topic category in the Glossary. These English words, along with their six Japanese equivalents, appear scattered around the screen. Students try to click on matching pairs as fast as they can, which if chosen correctly, disappear from the screen. A timer at the top of the page records how quickly students can match all six pairs of vocabulary. Students enjoy competing with each other to achieve the fastest time for matching all the words.

YouTube Video Library

The Video Library consists of twelve topic-based collections of short videos for the students to view in a window in Moodle. First, to create this Library, a course-related Channel was created on YouTube. On the Channel, there are 12 categories matching the 12 Book topics, with each containing 30 to 40 short videos. All the videos were selected for their length (less than three or four minutes long), visual interest for that topic, and their comprehensibility. If the students score above 90 percent on both Quizzes for that topic, they can proceed on to the video library to select a video that they want to watch. Students have headphones and can enjoy the video without disturbing the students nearby. After watching a video, they must go to the Forum module and write about what they have watched and what they think about it.

Posting Comments in the Forum Module

Moodle has a Forum module that gives the students a chance to practice thinking and writing about the videos in English. After watching a short online video, they open the Forum for that topic and write their own posts. Students are required to write 50 words or more for each of their Forum posts. The post for each topic should contain the title of the video watched and any opinions, impressions or other personal comments about the content of the video. The higher-level students are usually the first to post about a topic and these posts serve as good examples for

slower or lower-level students to emulate when they write their own. By the end of the course, each student has written over 600 words about the videos they have watched. This total does not include the replies they write for posts made by other students.

When students open a topic Forum, they can view posts made earlier by their classmates. Students are encouraged to read and give a rating on a scale of one to ten points for the Forum posts made by their classmates. Besides giving ratings, made with a pull-down menu, students are able to add comments to their classmates' posts to express their own ideas about the topic.

Teacher evaluation and feedback for the Forum posts come in two forms. Student posts are awarded a rating of one to ten points and they receive a short reply concerning their post. The average post receives seven points, if it is long enough. If the post contains something interesting, such as personal experiences or interests, the post may receive eight or nine points. If there are some grammar issues in the post, the teacher can show correct usage in the reply post. Usually, these mistakes concern use of the plural forms, subject-verb agreements and spelling mistakes.

Course Evaluation

Moodle supports several forms of student evaluation. This course uses three online methods. There are Quiz questions to answer and Forum posts to write. The third method is the speed at which they progress through the course. Each of these has many facets that require explanation.

One aspect of measuring student involvement is the speed at which the students can progress through the course. This course is designed with 12 main topics that should be completed within the 15-week semester. Roughly speaking, one class is about enough time to complete one topic but sometimes students are absent so they will need to catch up. They can access the course on any Internet-connected computer, tablet or even on their smartphones. The pace of progressing through the course material is decided entirely by the students themselves. This means that if they are absent from a class, they can, with extra effort, stay up to speed with the course material.

Path of Study Controlled

Moodle allows the teacher to control the path of study by requiring the completion of each activity before the next activity is made available. A student's ability to access the next activity is dependent on receiving a completion mark or grade in the previous activity. For example, students cannot post to the Forum until they have watched a video. Once they have finished a video, the Forum link for that topic will become active. In this way, the whole course follows this controlled path of study for each topic: Book, Quiz One, Quiz Two, video and Forum. Once these are all completed satisfactorily, the next Book in the course opens automatically. Students gain a sense of achievement and success as they complete each step in the course and are allowed to proceed to the next topic.

Quizzes on the Book Content

After fully reading, listening to and studying one Book topic, students may proceed to the two Quizzes about its content. Every Quiz has eight to ten questions of varying difficulty and complexity. Students are required to score over 90 percent on every Quiz as a condition for proceeding. When taking the Quizzes, students are allowed to access the relevant Book on another tab in the browser. Students may take a Quiz as many times as they like, and most can score over 90 percent within two or three attempts. There are no class rules about doing group work or helping each other, but most students enjoy challenging the Quizzes on their own.

Goals of the Quiz Questions

Basically, the Quiz questions focus on two learning objectives: mastering vocabulary and understanding the factual content. The purpose of the vocabulary-based questions is to get the students to return to the reading passage and search for words in context and make sure they understand their meanings. The factual content questions serve to clarify the main points of the text and make sure the students understand these points. The purpose of the Quizzes is less about evaluation than learner motivation and confirmation of their knowledge-seeking efforts.

Quiz Question Types

Moodle contains many Quiz question formats but this course uses only six types. The first type of question is vocabulary-matching, using words from the reading passages and the Glossary translations. Students use pull-down menus to find the best Japanese translations for English words. Another type of vocabulary question asks students to match English words with their English definitions. A third type of vocabulary question displays images mentioned in the reading passage and students must drag and drop textual labels onto the correct images. The fourth type of Quiz question is multiple-choice, which may require either a single answer or multiple correct answers. The students are informed of which of these types they are challenging. The fifth type of Quiz question is a cloze reading passage with blanks that need to be filled-in by using pull-down menus with possible answers. The last type, and perhaps the easiest, are True-False questions about the reading passage content.

Quiz Module Feedback

One useful aspect of the Quiz module is its facility to give feedback for every answer a student gives. For correct answers, the Quiz shows the teacher's comments, such as "Great job!" and for incorrect answers, the Quiz shows a comment, such as "Oh, too bad. Read that page again!" After answering a question in a Quiz, students are shown their own answer and the correct answer. This makes it more of a learning process when they re-attempt the Quiz.

If desired, the software allows multiple attempts for answering a question. An incorrect answer given the first time, results in a hint being given. Then, the students are allowed to challenge the question again. As successive attempts to answer are made, the possible score for that question is reduced by 33 or 50 percent, depending on the prearranged number of possible attempts. This makes the Quiz module highly interactive by showing feedback and eliciting further responses.

All the Quiz scores are recorded in the course Gradebook module, and students can view their scores at any time. This kind of feedback at each step gives a feeling of confidence and success to a greater degree than is possible in a more traditional lecture class format.

Forum Posts

One more evaluation method in this course uses the Forum module. As previously mentioned, the Forum posts written by the students are read and rated by the teacher with a score of one to ten. Then, the teacher posts a brief reply to the student's post. The teacher's reply to each post is important to the students. They want to express their opinions and impressions of what they have watched on the video but they also want to know what the teacher thinks of these posts. Students are also encouraged to reply to the posts written by their classmates. Classmates also have the ability to rate each other's posts with one to ten points using a pull-down menu. The average of all classmate ratings for each Forum post are automatically calculated and added into the final grade by the Moodle software.

Course Administration

Moodle is designed for course construction, so classroom administration happens mostly automatically, according to settings decided by the teacher. There are many options for customizing the grading criteria. Grades for selected activities are entered into the Grade Set-up page. These activities are then weighted so they add up to 100 percent. Attendance can also be worked into the grade calculation with another module. A typical weighting plan would award 70 percent for Quiz results, 15 percent for Forum posts, and 15 percent for attendance and in-class effort. All gradable activities get averaged out for the whole course to arrive at a final grade. All these weightings can be altered and adjusted anytime and Moodle will automatically recalculate the results.

In this course, students proceed through the content in a step-by-step manner but at a speed which they decide. The dependent structure of student progression through the course content is somewhat determined by restricting student access to further activities until prearranged conditions have been met. As an example, the Quiz settings require attaining a grade of at least 90 percent before one can move on. On the Home page, students can see the amount of remaining coursework that must be finished successfully. This serves as both a goal and a challenge for most students. If some students finish the course material a few weeks early, there are many other interesting activities for them to challenge. Students who attend all classes and complete all of the activities can achieve a final grade of over 90 percent in the course.

Advantages to Using Moodle

There are many advantages to using Moodle in a university course. First of all, in a traditional lecture course, some students are shy and they may refrain from asking questions to clarify a point or check their comprehension. Another benefit of teaching with Moodle is full access to all the content available at any time or place. Assuming they have Internet access, students simply search the content and apply it properly in the course. The Canadian Studies course also gives students many choices in how they will learn. Each topic in the course has its own Video Library and students can watch these in class wearing headphones or outside of class on their smartphones with earbuds. Furthermore, the software always provides feedback on the results of Quizzes, Forum posts, and game activities. This information gives students more choices in deciding whether to repeat an activity for full mastery or move onto the next one. Additionally, students these days are skilled at using computers and social media so they naturally take to the process of learning on a computer and the Internet. The course activities help them reduce stress, relieve worries and increase their knowledge-base. Finally, the course allows helpful communication between the students themselves and with the teacher in ways a normal lecture course could never achieve. These many benefits make life easier for the teacher.

Ideally, using Moodle in a blended-learning environment has some important minimum requirements for success. First of all, the level of technology that is available must be suitable. For example, the computers being used by the students must be speedy enough for rapid Internet access. The screens attached must be big enough to show the content clearly. The Internet server speed must be fast enough. The students also are a big factor in the success of online learning. The students need to be confident and comfortable with Internet-connected computers. Students who understand web browsers, navigation and such are more likely to enjoy the course effortlessly. Students who have smartphones are able to access the course content at will, thus encouraging homework or review. Finally, the teacher must be fluent in the software construction and maintenance so the class can operate smoothly. Knowing what Moodle is capable of serves the interest of both students and teachers.

Summary

This paper summarizes the construction and application of a university online course concerning Canadian Studies. The CMS Moodle provided the software tool for building the content into a structured, challenging online course. Quizlet.com provided a supplementary portion of the overall activities. Success in creation and execution of this course relied on years of experience making Moodle courses and a complete understanding of what kinds of online activities can be made with this courseware. In addition, course content, such as reading passages, images, quiz questions, feedback and so on, all required many hours of work to create, collect, convert, upload and check functionality. One benefit of this teacher involvement was total flexibility in choosing content and presentation modes. Basically, the teacher's efforts were similar to writing a course-specific textbook. As a result, the course became custom-made to the needs and interests of not only the students but also the teacher. Student assessment of this course has been consistently high due to the efficient courseware and the blended-learning atmosphere. Thanks to the ease of modifying such an online course, necessary adjustments and improvements occur every year it is taught. To summarize, Moodle CMS continues to provide a useful and powerful teaching tool for content courses at the university level.

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