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Canvas

Title	Canvas by Instructure, or Canvas
Developer	Instructure
Type of Product	Open-source Learning Management System
Platform	Web-based online platform
Contact Information	http://www.instructure.com/
Price	Free

Introduction

The appearance of Web 2.0 tools has resulted in a great increase in Learning Management System (LMS) services. Blackboard, Moodle, Canvas, Engrade, eCollege, Desire2Learn, and Ning are some well known LMS service providers. Facing the massive number of LMS services available online, teachers often feel overwhelmed when it comes to choosing one that is appropriate for them to use. This review of Canvas can help teachers decide whether this new LMS will help them enhance their teaching and learning processes. The first section will give a general description of Canvas. Then several main features of Canvas will be addressed. Finally, Jonassen's (1999) framework will be used as the criterion to evaluate Canvas.

General Description of Canvas

Canvas is an open-source Learning Management System (LMS) that was launched by Instructure in 2011. It was built to provide educational institutions with a user-friendly alternative to existing LMS services such as WebCT and ANGEL. Both K-12 and higher education classes are the target audience for Canvas.

Several features distinguish Canvas from other LMS services. First, Canvas incorporates native cloud technology, which enables teachers to avoid the hassle of manually updating and upgrading the software or installing patches to fix bugs and enhance security. Second, Canvas uses Automated Peak Load Management to ensure heavy usage will not slow down the system. One common complaint from teachers is that many LMSs

operate slowly when the instructors need to use them the most (e.g., at the beginning of semesters, midterms, finals, and other periods of time when students are required to be online at the same time). Using Automated Peak Load Management, Canvas adjusts server capacity based on usage, with additional server resources being added to match increasing usage. Finally, Canvas includes free iOS (the mobile operating system run by Apple products such as iPhone and iPad) and Android mobile applications. The mobile applications allow instructors and students to view grades, check class schedules, send and receive messages, participate in class discussions, and post video and audio comments using their Apple and Android mobile devices.

In general, Canvas is designed to make the teaching and learning process more effective and efficient for teachers and students through use of Web 2.0 tools. The most common LMS features, such as assignments, grades, discussions, groups, Wiki pages, and quizzes, are included in Canvas. For example, Announcement (see Figure 1) is a feature that allows teachers to post information they want students to pay special attention to. This feature is especially useful when there are unexpected changes to the class schedule or course assignments, like class cancellations due to extreme weather conditions, extended due dates for assignments, changes to classroom meeting locations, or revised project scoring rubrics.

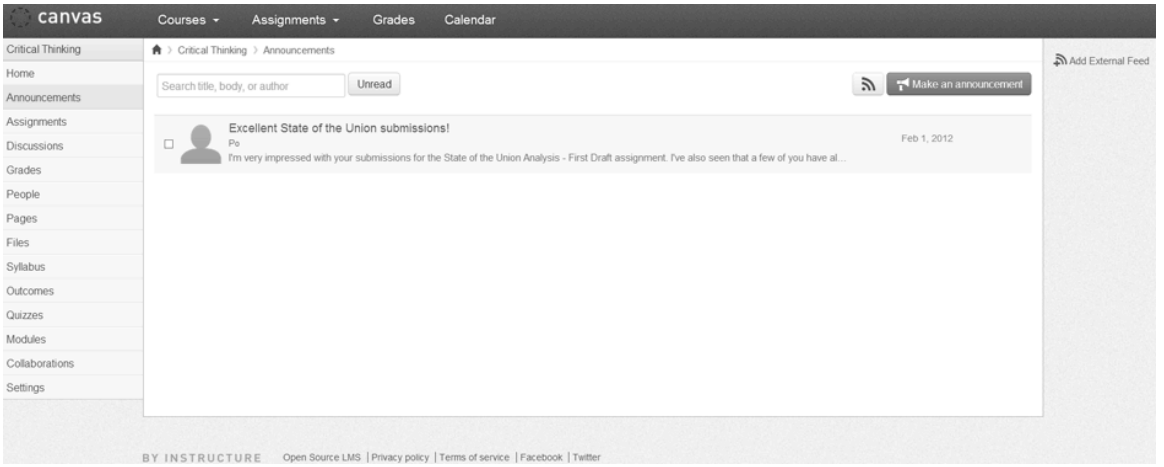


Figure 1. *Interface of the Announcement feature*

Assignment (see Figure 2) is a feature that enables teachers to post all the required assignments for a specific course. Using this feature, teachers can provide students with activity-specific information, such as the assignment type (reading, writing, project, paper, quizzes, and so on), due date, total points, and weighted percentage. Once posted by the instructor, students will have a clear picture of the assignments they need to turn in and when they are due.

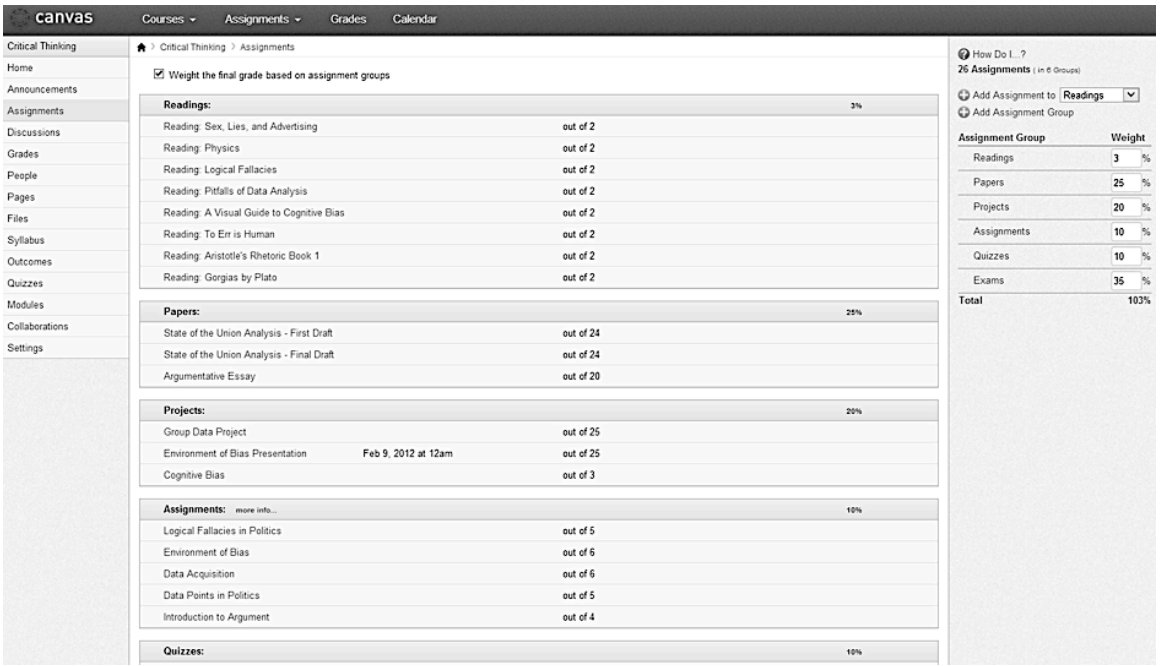


Figure 2. *Interface of the Assignment feature*

Canvas' Speed Grader (see Figure 3) allows teachers to give grades and comments in the same interface. Moreover, teachers can download students' grades as a comma-separated values (CSV) file after grading, then import the grades into Excel or another program if desired. Likewise, teachers can upload scores to Canvas from a CSV file. The Grade feature can also be accessed by students who wish to view their own grades, comments for each assignment, and their total scores.

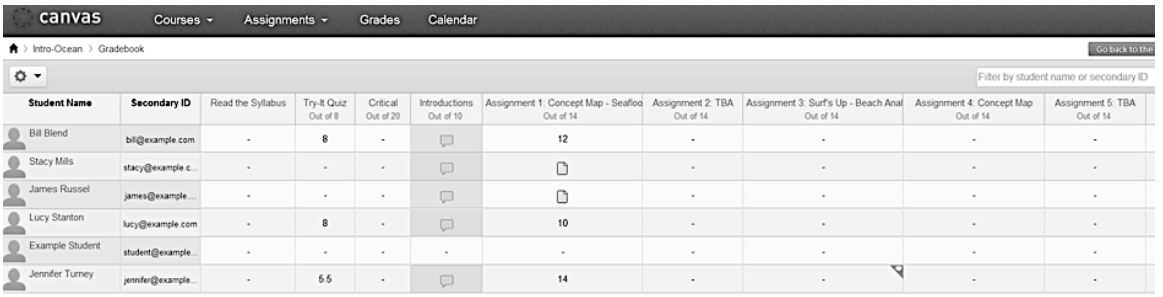


Figure 3. *Interface of the Grade feature (teacher view)*

Other features typical of LMSs are included in Canvas as well. For example, using the Page feature teachers can create Wiki pages on which students can collaborate. The Discussion feature allows teachers to post topics for students to discuss and the Quiz feature lets teachers build and administer different quizzes (with Canvas supporting

multiple choice, true/false, fill in the blanks, multiple dropdowns, numerical answer, formula question, matching, and essay questions). The Syllabus feature enables instructors to post course syllabi, and the Files feature lets teachers upload files for students to access and download. Another advantage worth mentioning is that most of the features mentioned previously support multimedia. In other words, teachers can include texts, images, and videos when designing assignments, discussion, Wiki pages, and quizzes.

Evaluation of Canvas

Cummins, Brown, and Sayers (2007) indicate that Jonassen's (1999) pedagogical framework, mentioned above, can help teachers to examine whether "computer applications are being used as mindtools to generate knowledge and promote critical thinking" (p. 111). According to Jonassen, three significant dimensions should be considered when analyzing computer applications. They are (a) engagement, (b) generativity of knowledge and critical thinking, and (c) control. This section aims to evaluate to what extent Canvas achieves these three criteria, particularly addressing the questions, can Canvas engage students, scaffold knowledge generation, support critical thinking, and allow students to control the learning process?

A number of researchers (Cummins et al., 2007; Meskill & Mossop, 2000) have reported that the use of technology can increase students' motivation and cognitive engagement. I investigated an instructor's use of a demo course offered by Canvas, an Introduction to Oceanography, to better understand how the software can be used for the purpose of increasing engagement. The teacher of the demo course created a multimedia page to present to students the agenda and learning objectives for week 1 (see Figure 4). The page consisted of a video clip from National Geographic to explain the origin of the ocean, texts with images to illustrate the learning objectives, and hyperlinks that directed students to the tasks they need to complete for the week. According to Cairncross and Mannion (1999, as cited in Yueh, Lin, Huang, & Sheen, 2012), multimedia-assisted instruction can engage students in a way that static material does not. Moreover, multimedia materials, when used to assist learning, could lead to greater ongoing engagement (Nortcliffe & Middleton, 2008). Hence, creating a multimedia page as an instructional material is one potential way to use Canvas to enhance students' engagement.

Multimedia can be used to generate knowledge as well. In other words, videos, texts, and images, when used together appropriately, can be powerful tools in producing knowledge. For example, teachers can use Canvas to conduct multimedia presentations to teach English grammar or provide multimedia instructions to demonstrate how to complete final projects. Also, students can utilize the multimedia features given by Canvas to design their discussion posts or construct projects.

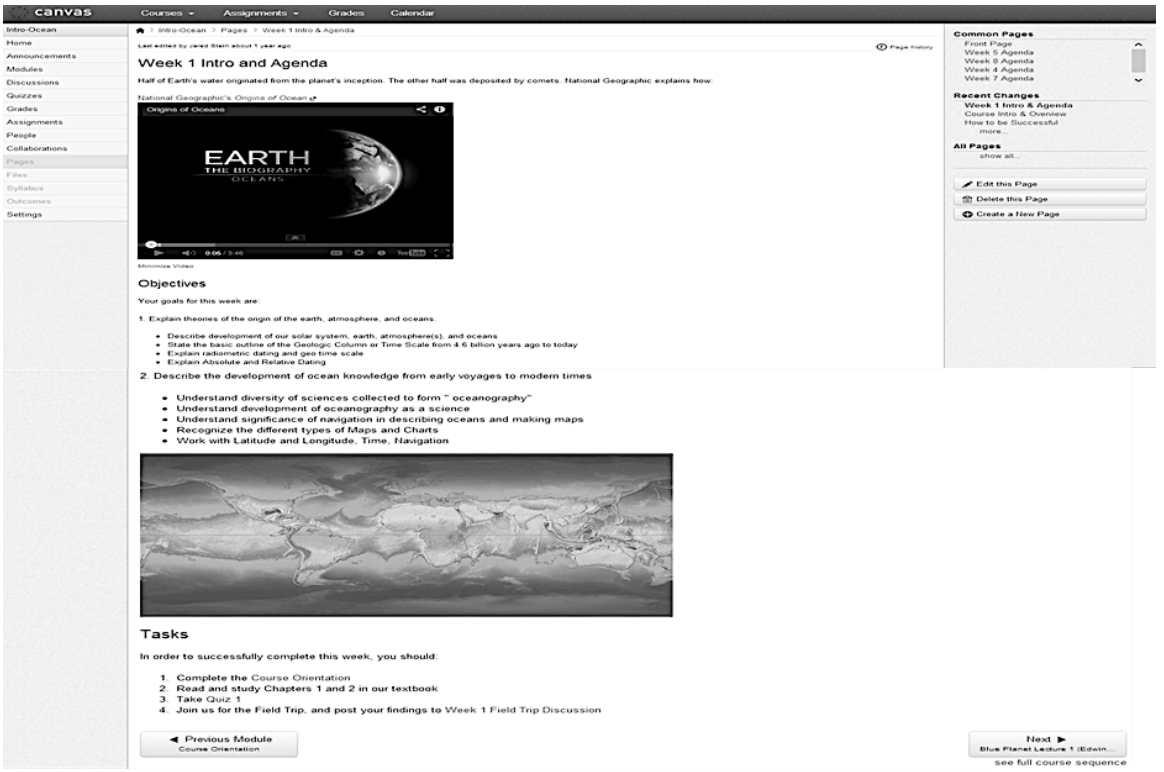


Figure 4. *A multimedia page in the demo course "Introduction to Oceanography"*

A great example of how Canvas can be used to foster critical thinking can be found in a Discussion page (see Figure 5) created by the teacher of the demo course. The teacher designed a Discussion page asking students to post a detailed text description with a short video to present their field trip discoveries. Students were required to link their discoveries to specific facts and theories learned from the course, and review other students' posts. This discussion activity provided students an opportunity to ponder questions like "is what I learned from the class the same as or different from what I found on the field trip? How can I combine a video with text description appropriately to present my discoveries in a meaningful way? What's the connection between my discoveries and the theories learned in class? What are others' discoveries? How did they find these? What approaches did they use? What are the differences between their discoveries and mine? How do others' posts relate to things I learned from the class?" As readers can see, the teacher was able to successfully use the Discussion feature to make students think actively and critically. Thus, it is fair to say that Canvas can be used to support critical thinking.

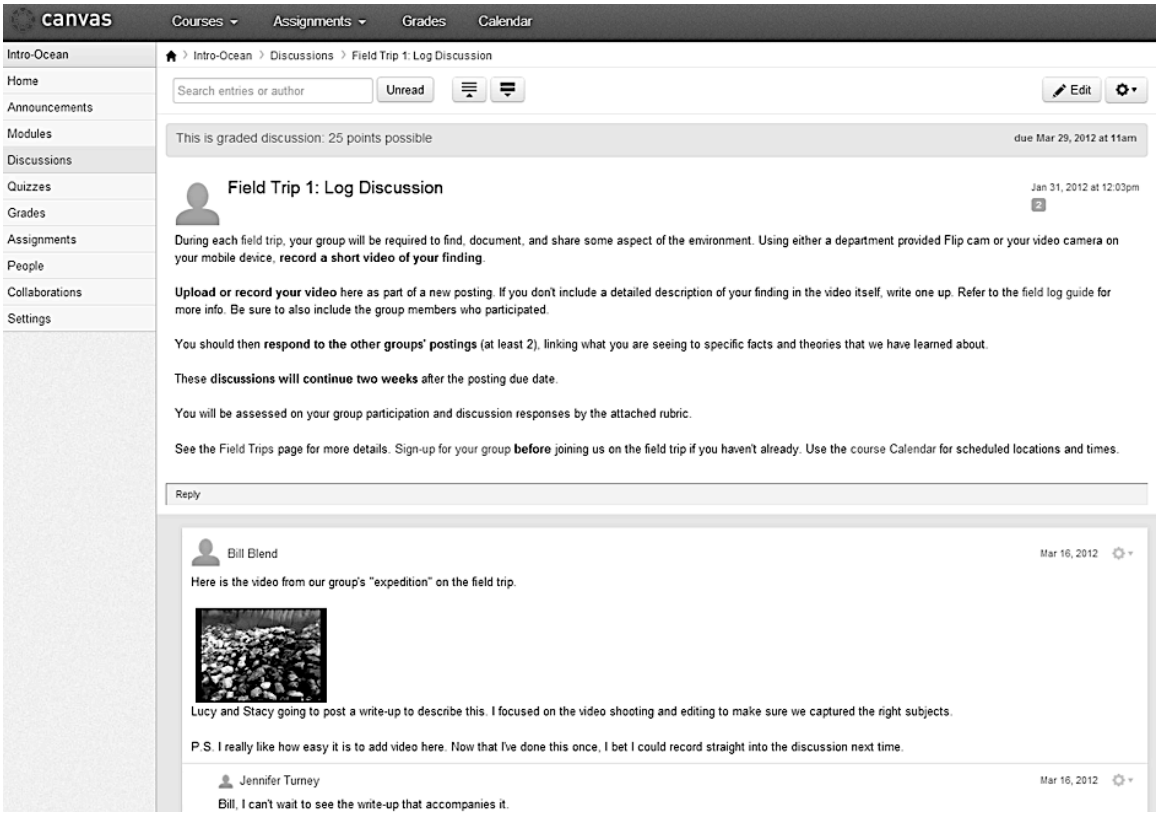
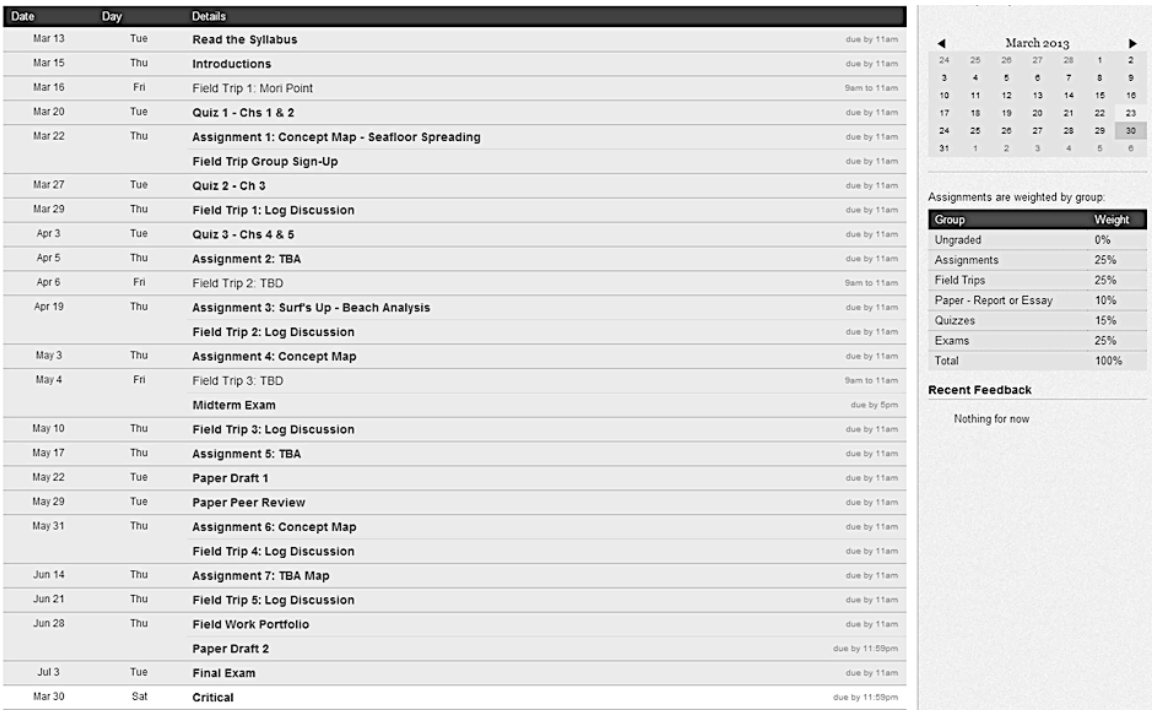


Figure 5. *A discussion page in the demo course "Introduction to Oceanography"*

Concerning the evaluation criterion of control, Canvas allows students to take charge of their own learning. For example, teachers can design several different topics and tasks for students to choose based on their learning interests, needs, and objectives. Additionally, teachers can create student groups so that students can choose to work independently or with their peers. With the teachers' permission, each group can even have its own Discussions, Pages, Files, Calendar, and other collaboration tools. That is to say, students in each group may make their own decisions about discussion topics, the design of Wiki pages, logistics regarding group meetings, and other learning activities. Moreover, students can check the syllabus (see Figure 6) online at any time to see how many assignments they need to turn in, when the assignment are due, what the required reading is for the next class, and so on. In this way, students can plan their own learning at their own pace.



Date	Day	Details	
Mar 13	Tue	**Read the Syllabus**	due by 11am
Mar 15	Thu	**Introductions**	due by 11am
Mar 16	Fri	Field Trip 1: Mori Point	9am to 11am
Mar 20	Tue	**Quiz 1 - Chs 1 & 2**	due by 11am
Mar 22	Thu	**Assignment 1: Concept Map - Seafloor Spreading**	due by 11am
		Field Trip Group Sign-Up	due by 11am
Mar 27	Tue	**Quiz 2 - Ch 3**	due by 11am
Mar 29	Thu	**Field Trip 1: Log Discussion**	due by 11am
Apr 3	Tue	**Quiz 3 - Chs 4 & 5**	due by 11am
Apr 5	Thu	**Assignment 2: TBA**	due by 11am
Apr 6	Fri	Field Trip 2: TBD	9am to 11am
Apr 19	Thu	**Assignment 3: Surf's Up - Beach Analysis**	due by 11am
		Field Trip 2: Log Discussion	due by 11am
May 3	Thu	**Assignment 4: Concept Map**	due by 11am
May 4	Fri	Field Trip 3: TBD	9am to 11am
		Midterm Exam	due by 5pm
May 10	Thu	**Field Trip 3: Log Discussion**	due by 11am
May 17	Thu	**Assignment 5: TBA**	due by 11am
May 22	Tue	**Paper Draft 1**	due by 11am
May 29	Tue	**Paper Peer Review**	due by 11am
May 31	Thu	**Assignment 6: Concept Map**	due by 11am
		Field Trip 4: Log Discussion	due by 11am
Jun 14	Thu	**Assignment 7: TBA Map**	due by 11am
Jun 21	Thu	**Field Trip 5: Log Discussion**	due by 11am
Jun 28	Thu	**Field Work Portfolio**	due by 11am
		Paper Draft 2	due by 11:59pm
Jul 3	Tue	**Final Exam**	due by 11am
Mar 30	Sat	**Critical**	due by 11:59pm

March 2013

24	25	26	27	28	1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31	1	2	3	4	5	6

Assignments are weighted by group:

Group	Weight
Ungraded	0%
Assignments	25%
Field Trips	25%
Paper - Report or Essay	10%
Quizzes	15%
Exams	25%
Total	100%

Recent Feedback

Nothing for now

Figure 6. *Syllabus of the demo course "Introduction to Oceanography"*

Also, the Grade feature (see Figure 7), which lets students view their grades and the teacher's comments, can help students identify which part of the lesson they have already mastered and which part of the lesson they need to work on more.

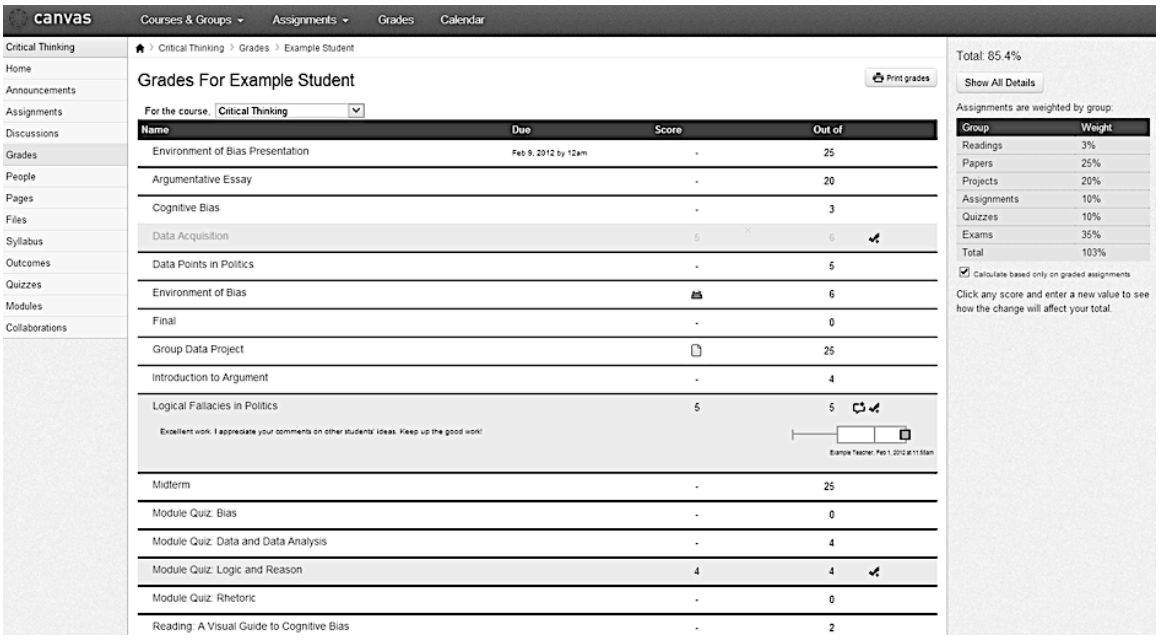


Figure 7. *Interface of Grade feature (student view)*

Furthermore, students can post their learning questions and problems on the Discussion page or Wiki page (see Figure 8) when seeking the teacher's and other students' help. They are likewise able to answer other classmates' questions by using the same features. Finally, the consistent and clear layout allows students to navigate through the different features easily.

Figure 8. *Interface of a Wiki page*

Conclusion

In conclusion, Canvas is a must-try application for language instructors. It not only includes most of the features Learning Management Systems often provide, but it also has the latest cloud-native technology, Peak Load Management, and mobile applications to assist teachers and students in becoming familiar with the tool. Nevertheless, it is important to attend to how the tool is being used when considering its effectiveness. The features provided by Canvas do have the potential to encourage active engagement, generate knowledge, develop critical thinking, and support student control. However, Canvas itself cannot achieve these objectives. It is in how teachers use the program's features as tools to improving the teaching and learning process that is the most significant factor to achieving those desired objectives.

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About the Reviewer

Po Hsuan Chen <pausany@gmail.com> received a bachelor's degree in Foreign Language Instruction at Wenzao Ursuline College of Languages in Kaohsiung, Taiwan, in 2007 and a master's degree in TESL at Concordia University in Portland, Oregon, in 2010. While studying at Concordia University he worked as a student teacher at Portland Community College Cascade Campus and Portland International Community School with responsibilities for developing lessons, delivering lectures, tutoring students, writing lesson plans, designing teaching materials and worksheets, and facilitating student learning in a CALL environment. His passion for EFL teaching and research encouraged him to enter the Ph. D. program in Language, Literacy, and Technology at Washington State University in 2011. He is currently working as a College of Education Moodle developer and consultant. His research interests focus on how technology influences EFL students' learning.