

Learning Environment for Digital Natives – Web 2.0 Meets Globalization

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Abstract. Web 2.0 services and communities constitute the daily lives of digital natives with online utilities such as Wikipedia and Facebook. Attempts to apply Web 2.0 at the University of Illinois at Urbana-Champaign demonstrated that the transformation to writing exercises could improve students' learning experiences. Inspired by their success, blogging technology was adopted to pilot a writing-across-the-curriculum project via the learning management system at City University of Hong Kong. Instead of promoting peer assessment, one-on-one tutoring interactions were induced by providing feedback to written assignments. Taking the advantage of the “flat world”, tutors were hired from the United States, Canada, Australia, New Zealand and Spain to experiment with outsourcing and offshoring some of the English enhancement schemes. For the university wide project deployment in the fall of 2008, a globalized network of online language tutors needs to be built up with support from universities in countries with English as the native language.

Keywords: e-Learning, Web 2.0, Globalization, Blog, Writing Across the Curriculum, Language Learning, Online Tutoring

1 Introduction

The impact of digital technology on the new generation can be likened to television and its effects on post WWII baby boomers, but the influence is far greater in this digital age. With video games engaging networks of players via Wi-Fi connection on the Internet, cyber worlds are as real as the physical world to digital natives [1]. How can a traditional lecture compete with a virtual gaming experience in terms of attracting young minds? Obviously, educators have to speak the students' language in order to communicate and transfer skills, knowledge and value to the generation of digital natives.

Nonetheless, the notion of “speaking the students' language” should be limited to the adoption of communication methods instead of the actual language. The official medium of instruction at City University of Hong Kong (CityU) is English hence course instructors are obligated to conduct classes and assess students in English. However, most of the faculty staff is not trained to assess students' English competency so only the knowledge in subject matter is gauged. Although students are required to study academic English courses through out the three years of their

university life, they usually treat the courses as a constraint and never have any genuine interest in studying English. One of the reasons is those courses are mostly designed for all students and lack the connection to the students' subject disciplines. As a result, improving students' English proficiency in the context of subject discipline has become a new direction in CityU's language enhancement scheme.

2 Writing Across the Curriculum Online

A pilot project entitled Language Companion Course (LCC) started in February 2007 (Winter Semester) to provide a small group of students with English support in their subject assignments at CityU. With a dedicated online essay marking interface provided by Prof David Wible [2] at Tamkang University in Taiwan, tutors gave specific feedback to guide students in refining their written assignments. Improvements were observed by comparing errors frequencies between different versions of the same essay and different assignments from the same student. The system assisted project evaluation and served as an archive but it lacked the integration with our central e-learning platform for institution-wide deployment.

2.1 The Web 2.0 Learning Environment

Web 2.0 applications have been around for years [3] but cyber citizens may not have realized the significance until the term entered common usage. In essence, it describes the trend from passive to proactive involvement on the web such as collaborating in editing Wikipedia articles or mobilizing people by building a group on Facebook. The power of co-creation generated by all these Web 2.0 tools energizes new opportunities in education [4], from schools to society, facilitating lifelong learning for everyone.

In the summer of 2007, Web 2.0 applications registered strongly in the mind of the CityU delegates after engaging with presenters from Washington State University, Dartmouth College and the University of Illinois at Urbana-Champaign in an e-learning conference in Boston. Blogs and wikis were the most common instruments in their studies. To enhance individual student writing proficiency, private blogs [5] were selected rather than wikis where team work was emphasized. Journal LX from Learning Objects for blogging (Fig. 1) was an add-on feature on CityU's Blackboard system, thus it was the obvious choice for the task.

The second pilot involved three courses from different disciplines - Microbiology, Services Operation Management and Electronic Publishing, with around 150 students. To control resources, each course could elect up to three 500-word essay assignments to join the scheme. In line with requests from the language tutors, special grouping was supplied to maintain tutor to student ratios at 1 to 15 or below.

Entering the winter term of the 2007/08 academic year, the pilot broadened to involve over 600 students registered in ten courses from various faculties and schools. 48 language tutors were deployed, 29 of them stationed in overseas countries.

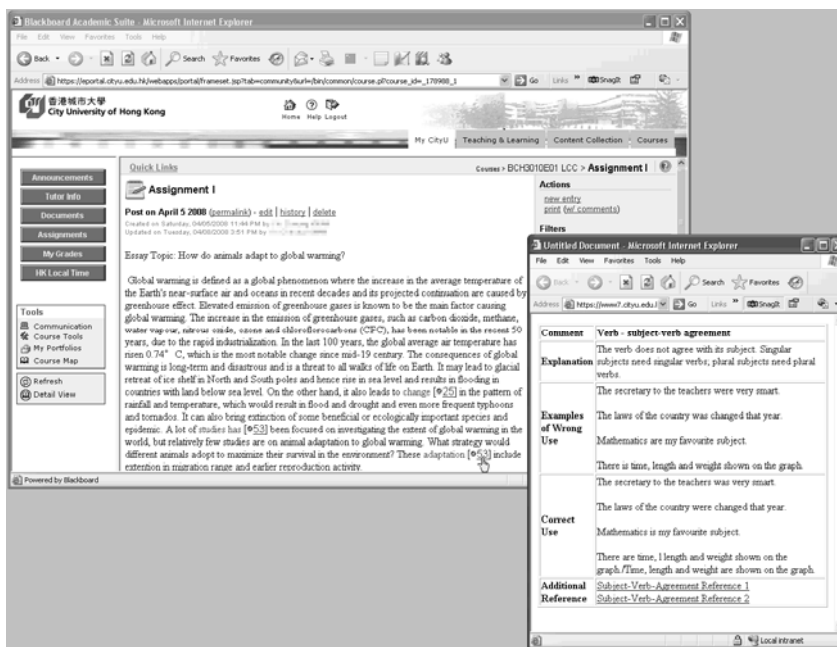


Fig. 1. Student view of a specific feedback on a blog.

2.2 Workflow and Timeline

The key to gaining acceptance by students was the relevance to the subjects they were studying. Instead of a separate English assignment, students merely needed to increase their effort in an existing one. On the other hand, the management did not want to increase the burden on course instructors so usually no alternation would be applied to the assignment in all respect - length, topic, format, due date, etc.

For each assignment attached to the LCC scheme, a blog were opened in advance for students to post the drafts. Tutors would locate the problematic areas and indicate the types of errors using a standard comment bank (Fig. 2) developed at CityU. Structural issues and overall comments were also available but were given as free format notes. Besides the locally produced essay writing resources, links to public websites such as Just the Word (<http://193.133.140.102/JustTheWord/>) for collocation query were supplied. Then, students could rewrite their essays accordingly as second drafts for one more round of formative feedback. All the editing histories were available for the students and tutors to track the chances and gauge the improvement on students' writing skills. Two chances of getting feedback were the manageable limit at that point.

Time was an important factor in carrying out the feedback exercise. The iteration of feedback and revision guided students to a converging path of writing refinement. Nevertheless, asking a student to prepare an assignment one month in advance might

not be practical. To maximize the benefit of learning from the feedback, a model timeline (Fig. 3) was formulated.

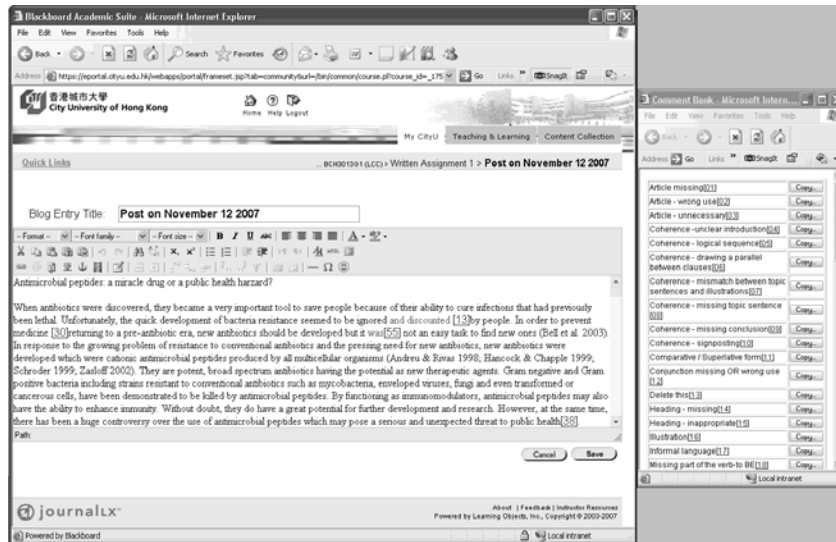


Fig. 2. Insertion of specific feedbacks by a language tutor using the WYSIWYG editor of the blog tool and the custom made comment bank interface.

T1 was the assignment deadline set by the course instructor. Around 10 days prior to T1, a blog was opened (boxed area in Fig. 3) to let students post their draft work. If a student posted an entry before T3, feedback would be ready by $T3 + \alpha$. Hence, α (usually 72 hours) represented the time limit for the language tutor to provide feedback. The student then had β , 24 hours in most cases, to improve their writing according to the feedback. The tutor would start giving feedback on the second draft at T2 and finish the work by $T2 + \alpha$. After another round of refinement, the student submitted the final version to the course instructor and the language tutor separately.

Initial observation showed only around 15% of the students posted their first drafts before T3. After the students were accustomed to the LCC logistic, over 80% of them took the full advantage of two times feedback in most courses. However, the law students had total confidence with their English writing skills and less than 10% participated in the feedback exercise.

The essence of this project was to help students improve their written English. Hence, the feedback activities were voluntary and those with confidence in their English could skip the drafting. To help students gauge their writing proficiency, the final submissions were graded by the same online language tutors. Course instructors counted the English grades as 5 to 20 percent against the whole assignment to retain the subject-driven idea of writing across the curriculum.

3 Logistic and Technical Support

The logistic and technical support team consisted of staff members from the Academic Regulations and Records Office, the Computing Services Centre, the Education Development Office, the Enterprise Solutions Office and the Office of the Dean of Student Learning. They collaborated in tasks including user interface development, account management, user training, and enquiry service.

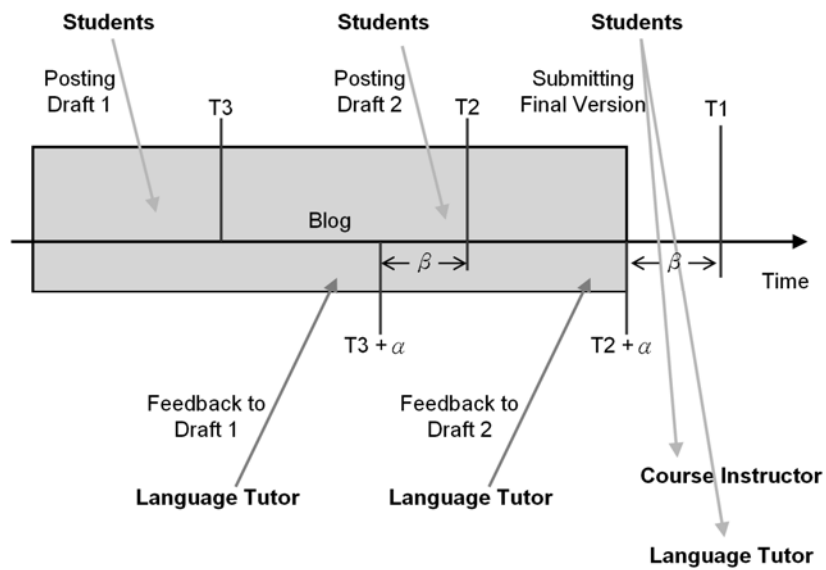


Fig. 3. LCC Timeline of an assignment.

3.1 User Interface and Account Management

To reduce the effort of customization, the blog feature in Blackboard course sites together with the in-house developed comment bank interface served as the apparatus for students and tutors to interact. Each course site was populated manually with a group of students, the assigned language tutor, the course instructor and the evaluation team members. Besides the Blackboard course sites, blog and wiki sites were launched to encourage sharing of new ideas and practice by the pilot team members. Over thirty special user accounts were created for the overseas tutors and coordinators to work on our Blackboard system and SharePoint wiki site since they were not regular CityU members.

3.2 User Training

In person workshops were arranged for the CityU English Language Centre (ELC) colleagues acting as online tutors. With their background knowledge in Bb, the blog feature was relatively easy to follow. Overseas tutors mostly trained themselves by watching the online workshop video clips with the Blackboard training account provided. All of them managed to give feedbacks on blog to students with support from the technical team. Hence, online training modes should be a sufficient means for overseas tutors to comprehend the technical procedures. However, involvement in the LCC project required more than technical know-how and English teaching skills; the responsibility of each member, the delay when collaborating with people in different time zones, managing the tight feedback timeframes, and the different subject disciplines and level of students were much more difficult for the online tutors to grasp effectively.

The submission and editing procedures of the blog entry for the LCC scheme were demonstrated to students during the class visits. The enquiries statistics showed that most students could handle the blog feature very well. With more courses joining the project, the class visit exercise could be supplemented or even substituted by online tutorials.

The instructor user guide had been updated numerous times according to requests by language coordinators and tutors. The ever expanding content, such as introduction of SafeAssign as an optional device for plagiarism detection, made it an unattractive reading. Since the ELC had developed another document entitled Guidelines for LCC tutors, there was a possibility to completely separate the logistics from the technical steps. On the contrary, the student user guide remained as simple as it could be and no complaints were received. It was not clear, however, whether students had simply relied on trial and error or consulted the document.

3.3 Enquiry Service

Over 300 phone calls and e-mail enquires had been answered within one of the four categories – the use of the application (50%), the application technical problems (5%), the connection problems (5%) and the user requests (40%).

The use of the application referred to tutors asking for the steps to create a blog or to set a deadline. These procedures had been incorporated in the workshop and the user guide but obviously some re-enforcement was needed. Such problem also led to students' quires when they could not see the assignment drop box.

The small number of application technical problem confirmed that the platform was relatively bugs free. However, diagnosing technical problem remotely was always time consuming. The connection problems were caused by user behavior, client side bandwidth and CityU server restart schedules. Only fine tunings from both sides was able to fix the issues.

Most enquiries from students were not exactly technical, ranging from requesting permission for late submission to complaining about delay in receiving tutor feedback. After confirming that no genuine technical issues were involved, the support team contacted the related parties to sort out the arrangement.

4 Tutor Search in the “Flat World”

The advent of internet technology not only creates a new medium for communication and collaboration indigenous to the digital natives but also breaks the geographic boundaries of human resources. Hong Kong is amongst the most populated metropolis in the world with a heavy cost of living. Local English language training experts are in demand due to the vital linkages between Hong Kong and the rest of the world in business, academic, political and legal issues. The Web allows anyone with the right skill set to cultivate our students' English writing ability without being physical present in Hong Kong. In summary, the human resources of the flat world [6] guarantee a sufficient amount of capable language tutors to participate in the LCC project. “Flat world” refers to a level playing field in terms of academic competition, providing opportunities to everyone.

The colleagues in the ELC had assisted the introduction of the LCC scheme as language tutors from the beginning. Their contributions were highly appreciated but they had regular face-to-face teaching duties. Recruitment of a new population of English teaching experts dedicated to the LCC project was essential to any future development. In addition, interacting with tutors from around the world expand student language and culture awareness.

During the fall semester pilot, two overseas tutors were hired from Los Angeles and Chicago independently to probe the feasibility of outsourcing. Besides minor technical problems and time zone issues, our Web 2.0 writing-across-the-curriculum experiment had been autonomous with regard to location. This result further encouraged the CityU management to launch a large scale world-wide tutor search to the exploit the flat world resources powered by the latest information and communication technology.

In addition to the isolated overseas tutors from the US, New Zealand and Spain, connections were established with institutions in English speaking countries to cope with the expanding population of students for the winter semester 2007/08. Postgraduate and undergraduate students in Teaching English as a Second Language (TESL) or linguistics programs were recruited from the University of Sydney, the Brigham Young University in Utah and the University of British Columbia. Giving feedback and grading in the LCC project became part of their studies. This win-win situation enabled both the student tutors (TESL or linguistics students) and CityU's undergraduate students to improve their skills. The addition of the overseas student tutors giving the project new source of energy.

5 Student Participation

From another point of view, our approach was an early bird assignment scheme similar to the study by Unsworth and Kauter [7]. Students often claimed they were too busy to join voluntary schemes even if they believed the activity might help them to achieve a higher grade. Besides the time management competency of the students, the appreciation to language learning was essential to participation to the LCC scheme. Course instructors and language tutors played crucial role in motivating students.

5.1 Course Instructors' Role in Motivating the Students

The attitude of the course instructor had a major impact on the participation rate of the students. In addition to promoting the scheme and providing a well designed essay assignment, the project management team suggested that the grade on the final version given by the online tutor accounted for 10 to 30 percent of the whole assignment. However, some course instructors were reluctant to do this and thus some students perceived the scheme, in particular the final version submission, as voluntary instead of compulsory.

Some assignments could not be prepared for in advance. For example, an applied physics laboratory course was included in the pilot with the focus on writing discussion sections in the lab report. Naturally, one had to complete the experiment before starting the lab report write-up. To join the LCC scheme, postponing the lab report deadline date was unavoidable. Fortunately, the course instructor appreciated the importance of expressing experimental findings in written English and allowed more than two weeks, rather than the usual one week, for students to participate in the feedback process. Otherwise, there would have been insufficient time to iterate the draft-feedback loop process.

5.2 Workload Distribution on Language Tutors

When the grouping of one language tutor with around fifteen students made the workload looked evenly distributed, it was strongly coupled with the subject discipline. Even though the tutors supported students on only the English writing, they had problem giving suggestions when they were not familiar with the subject matter. The law courses had most severe problem as the profession adopted a different writing style. Likewise, tutors without any science background were unable to comprehend the discussion of an applied physics lab report. To adept to these specific forms of writing, diligent tutors had put in extra efforts. Law students were always the students with the best English proficiency at CityU and most of them skipping the feedback and went straight to the final submission. That translated to low workloads for tutors in the law courses.

Some dedicated tutors, mostly the student tutors from overseas, communicated with the CityU students, building a more social relationship to stimulate their learning. Rather than following the LCC assignment timeline, they minimized the feedback response time in order to give more opportunities for feedback within the ten day period. Nevertheless, another population of tutors behaved exactly like typical students and gave the feedback in the last minute. Some even avoided providing any language support to the students besides the feedback to assignment. Unfortunately, the Web 2.0 environment in the LCC project was partly driven by monetary reward as opposed to the self-directed Wikipedia and the open source movement.

6 Future Development

Providing formative feedback to draft versions of the assignments via the blog interface is believed to be an excellent method of improving students' language skills. Nevertheless, our experience indicates coordinating the LCC scheme with course instructors, language tutors and students in ten courses demands the manpower of a dedicated office. One of the major difficulties in the workflow is scheduling the feedback and submission process. All online tutors must work according to the deadline of a particular assignment which may vary due to the progress of content delivery.

6.1 Creating a Self-directed Learning Environment

One of the proposed solutions is to decouple the grade of the LCC from the subject courses. By creating a credit-bearing LCC course, students can register to take the benefit of getting online tutor feedback in addition to earning extra credits. Students will be told to prepare their written assignments as early as possible in order to receive feedback from tutors before their assignment deadline. Even after the formal assignment deadline, students can keep improving their writing with the language tutors. The target is to avoid the inflexible nature of the LCC assignment timeline. Grading may rely on a final e-Portfolio highlighting all the learning experience and improvement from the student's point of view. Shifting the responsibility of learning back to the students is the only way to lead them to the path of lifelong learning.

6.2 Other Dimensions in Language Learning

English writing skill is the focus in the initiation of the LCC scheme. The expansion to reading, listening and speaking skills are all technically possible in our Blackboard system. The University of Sydney LCC coordinators will co-design reading materials with course instructors at CityU in the summer of 2008. Winba Voice Tools, providing audio recording and play back capability via internet browser, have always be a building block on CityU's Blackboard system to facilitate oral language learning. Subject expert in Management Sciences have asked for English support in oral presentation. The technology to video tape student's presentations and host them online has existed for years. It is a matter of time to source the flat world for experts on presentation skills.

7 Conclusion

In the LCC project, the power of social networking [8] observed in the globalized world was harnessed to enhance student learning. The blog tool facilitated an environment for collaboration in writing skills development with student posting subject assignments and tutor giving formative feedbacks. The detailed history of the

blog presented the chronological progression in essay writing enabling evaluation by everyone in the project including the students themselves. Coupling with other online resources, the system promoted the culture of self-directed learning. Allowing more flexible feedback workflow should encourage more student initiated interactions.

The reward systems to both students and online tutors were extrinsic as scores and money were not originally involved in the practice of social networking. Partnership with institutions from countries with English as the native language has shed new light on the future recruitment model. Observation showed some overseas student tutors were more pro-active in communicating with CityU students due to their personal attributes – intention to support language learning and comprehension of Web technologies. As a result, the new target is to build an online community concerned about improving students' English proficiency more than the financial reward. Further sharing is on the way as over a thousand of students will participate in the fall semester of 2008/09.

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