ONLINE COURSE DESIGN: TAKING A RIGHT TURN!

Ishaq AL-NAABI
ORCID: 0000-0001-8829-2922
English Language Center
University of Technology and Applied Sciences
Nizwa, OMAN

Dr. Thuwayba AL BARWANI
ORCID: 0000-0003-4123-8552
College of Education
Sultan Qaboos University
Muscat, OMAN

Dr. Salma AL-HUMAIDI
ORCID: 0000-0001-8579-7749
Curriculum and Instruction Department
Sultan Qaboos University
Muscat, OMAN

Dr. Otherine NEISLER
ORCID: 0000-0001-7610-7312
Center for Excellence in Teaching and Learning
Sultan Qaboos University
Muscat, OMAN

Received: 11/04/2020 **Accepted:** 28/05/2020

ABSTRACT

Guided by Nation and Macalister's (2010) eight-step language curriculum design model, a 5-week online course was designed to teach critical thinking skills for foundation students at the Arab Open University (Oman). The course was conducted with 11, level two foundation students, after which it was evaluated by the participating students, the course instructor and three course reviewers using three different research instruments (an end-of-course evaluation form, semi-structured interviews and a course evaluation rubric), the analyses from which revealed that most were satisfied with the course design, but some modifications and additions were needed. The reflection on the online course design process along with the course evaluation results led to several amendments to the course design to make it more conducive to online delivery. The study provides course developers with an evidence-based, enhanced online course design model that will help create online courses.

Keywords: Online course design, online course evaluation, online curriculum, distance learning, critical thinking, Oman.

INTRODUCTION

To function in today's volatile, uncertain, complex, ambiguous world (Bennett & Lemoine, 2014), critical thinking and problem-solving skills are essential for communication and employability, which is why they have been recognized as important parts of curricula in the 21st century (Alismail & McGuire, 2015; Johnson, 2009; P21 Partnership for 21st Century Learning, 2006). Critical thinking, in particular, is considered vital to student success in higher education and language development. It has been observed that students with sophisticated critical thinking skills are able to "ask appropriate questions, gather relevant information, efficiently and creatively sort through this information, reason logically, and come to reliable and trustworthy

conclusions" (Qing, 2013, p.7). Renner (1996) (cited in Liawv, 2007) confirmed that higher-order thinking skills develop into higher-order learning skills that eventually assist students in attaining better language proficiency.

In a longitudinal study, Neisler et al. (2016) used the California Critical Thinking Skills Test (CCTST) to examine the critical thinking skills development in Sultan Qaboos University students in Oman within the first 3 years after completing their university studies and found that they had unexpectedly low critical thinking skills and that there was a small but positive correlation between the students' CCTST scores and their cumulative GPA. In a similar study, Kumar and James (2015) used the Watson-Glaser Critical Thinking Appraisal to identify the critical thinking skills of diploma students at the Oman Nizwa College of Technology, also finding that overall critical thinking skills were very low and there were few variations across different majors. As research has shown that students at higher education institutions in Oman have weak critical thinking skills, it is obvious that these need to be improved, suggesting that special critical thinking skill courses are required to address this deficit.

This study developed and evaluated a 5-week online course focused on two critical thinking reading skills—analysis and inference—for foundation students at the Arab Open University (Oman) (henceforth AOU-Oman), for which Nation and Macalister's (2010) language curriculum design model was applied. After the implementation, the course was evaluated by the students, the course instructor, and several course reviewers.

Therefore, this paper reports on the course design process, reflects on the design model used for online course designs and suggests some additions to the design model to make it more suitable.

ONLINE COURSE DESIGN PROCEDURES

The online course was designed using Nation and Macalister's (2010) eight-step language curriculum design model, as shown in Figure 1, and the details for which are given in the following section.

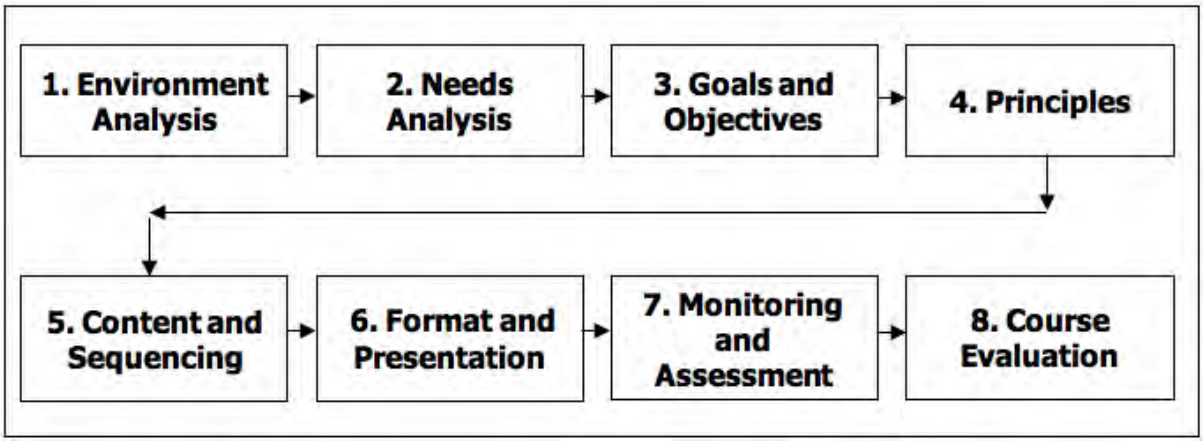

Figure: 1 Nation and Macalister's (2010) language curriculum design model

The first curriculum design step was the environment analysis, which was when all factors influencing the course design (Nation & Macalister, 2010) were considered (i.e., the instructor, the learners, and the learning situation); the instructor sub-factors identified (i.e., online teaching characteristics, technical proficiency, teaching experience, and subject-matter knowledge); and other elements determined (i.e., experience level of the course instructor, language level of the students and course duration).

A needs analysis was conducted based on the previously discussed Omani critical thinking skills research (Kumar & James, 2015; Neisler et al., 2016). Because of the time limits of the study and the course duration, it was decided that the course would only focus on two cognitive critical thinking skills for reading: analysis and inference. Similar procedures have been used in previous online course design research studies. For instance, a target learner needs assessment was conducted by Hsu et al. (2014) for an online continuing education course for Taiwanese nurses. Similarly, to develop a blended General Chemistry course, Shibley et al. (2011) began by assessing the students' learning characteristics and analyzing the learning environment.

After the environment and needs analyses, the course goals and objectives were determined (Brown, 1995; Graves, 1999, 2000; Nation & Macalister, 2010) based on the needs analysis results, as was also reported in Hsu et al. (2014), Shibley et al. (2011) and Croxton & Chow (2015) who decided on a MOOC course learning goals based on identified learner needs. To assist in developing the course learning objectives, Paul and Elder's list of skills (2004) required for critical reading and close reading was also consulted. Finally, five outcome-based learning objectives were determined:

1. Locate main ideas and supporting details in a reading passage.
2. Separate facts and opinions in a reading passage.
3. Infer the hidden meaning in a reading passage.
4. Recognize the arguments in a reading passage.
5. Identify the assumptions used in a reading passage to support an argument.

The fourth step in Nation and Macalister's language curriculum design model (2010) was principles, which was related to the learning theories that guided the course design flow, content, strategies, and assessment. In this case, four different theories drove the course design, behaviorism, constructivism, schema theory, and motivation theory, each of which has different influences on the course design and structure. Following the behaviorist principles stated by Alzaghoul (2012), the course used measurable outcome-based behavioral objectives, which were provided in the course outline. Furthermore, formative assessment was used to monitor students' progress and to motivate them to undertake the course. In addition, feedback was provided to students following the completion of most activities in the course. With respect to constructivist principles, the study followed Olusegun's (2015) views on learning as "social construction of knowledge." Consequently, the course used discussion and help forums; further, to aid the construction of knowledge, instructions and assessment rubrics were written in clear, simplified language. Based on schema theory, pictures and videos were used to aid students in activating their prior knowledge (Fisher et al., 2012). To motivate students, graded formative assessments were used, and feedback was provided after each assessment; a help forum was available for students to voice out any concerns (Shroff & Vogel, 2009).

Based on the course principles, the course content was selected from various resources, such as reading-based textbooks and online websites, and included readings, multimedia files, and discussion forums, after which it was adapted to the students' language level. Then, following Richards' (2001) course sequencing principles and guided by the course learning objectives, the course content was sequenced based on difficulty and prerequisite learning.

For the fifth step, course format and presentation, a linear approach was taken, with the course being divided into five teaching modules, each of which was focused on a specific skill except for the introductory module 1; module 2 focused on main ideas and supporting materials; module 3 focused on facts and opinions; module 4 focused on inference; and module 5 focused on recognizing and evaluating arguments. Each module for each of the 5 weeks included three main activities and two supporting optional activities. The first main activity introduced the new skill in a short video, which was followed by some practice questions. The second activity was a discussion forum wherein students were asked to read and discuss some questions, after which there was a short quiz to test the students' understanding of the week's topic. The supporting optional activities included a help forum the students could use if they had had any difficulties and a self-evaluation check so they could assess their own learning. The course also employed the automatic restriction feature in Moodle, which meant that students could only access the weekly course activities if they had completed the previous activities.

Two formative forms were used to monitor and assess the student learning: weekly discussions and weekly quizzes. The formative course assessment included four discussion forums and four quizzes each week, where each discussion forum (20% of the total course marks) was worth five marks and each quiz was worth ten marks (40% of the total course marks). The students were given 45 min to complete the quiz, which they could only attempt once. The summative assessment involved a final exam, which was worth 40% of the total course marks.

The students, the course instructor, and the three reviewers evaluated the course using different instruments. The students completed an end-of-course evaluation form that had been validated by a group of academics, which was designed to gage student satisfaction and gather course feedback. A semi-structured interview was

conducted with the course instructor to get course feedback, for which an interview guide was developed to make the interview process easier and to ensure that detailed responses were gathered. The clarity and appropriateness of the questions were reviewed by an academic specialized in English Language and Literature. The Course Construction and Evaluation Rubric developed by Ternus et al. (2007) was used by the course instructor and the course reviewers to review the course after its implementation, which had four main dimensions, structure, content, processes, and outcomes, each of which has various elements. The rubric gathered quantitative and qualitative data for each element of the four main rubric dimensions and also provided space for the course instructor and reviewers to give an overall evaluation of each main dimension. The formative and summative student assessments also provided some feedback on course design and content.

Methods

Participants

Students

Using convenience sampling, students from level two of the foundation program were selected for the online course. The group originally consisted of 20 students; however, only 18 students agreed to voluntarily take part in the study by signing an informed consent, and 7 students decided to drop out of the course after the first week; therefore, only 11 students were active throughout the course. The students' English language proficiency ranged from 1 to 20 on the Oxford Online Placement Test, with the average score being 17.2. When benchmarked with the Common European Framework of Reference for Languages (CEFR), their English level was determined to be A1 (basic level).

Instructor

A female instructor with 6 years teaching experience on the foundation program at AOU-Oman volunteered to teach the course. She was familiar with the students' language levels, their cultural background, and their modes of study in terms of their study schedules and assessment patterns.

Reviewers

Expert purposive sampling was used to select the course reviewers based on two factors: language learning and teaching experience and online learning and instructional design experience. Three course reviewers evaluated the online course after its implementation. Reviewer 1 was a specialist in applied linguistics, had taught English to Omani students for many years, had overseen two foundation programs in two Omani higher education institutions and had an awareness of the Omani students' English levels and their learning characteristics. Reviewer 2 was a language and literature specialist, with 8 years teaching experience at AOU-Oman, and had coordinated blended-learning English for Specific Purposes language courses for post-foundation students at AOU-Oman. Reviewer 3 was a specialist in instructional design and had taught different courses in instructional design at the College of Education at Sultan Qaboos University.

Procedures

The course was designed using Nation and Macalister's language curriculum design model (explained earlier in this paper) (2010). Data collection instruments were designed, reviewed and validated. After finalizing these steps, the course was hosted in Moodle Cloud, and students were selected for enrolment. The course instructor was given training on administering the course, which was going to be delivered fully online, with no face-to-face classroom instructions. Students were to access the course from home using their computers, tablets, and smartphones. After its implementation, the course was reviewed by the course instructor and a group of course reviewers. In addition, an interview was conducted with the course instructor.

Data Collection Instruments

The study employed four research instruments to gather data about course validation and implementation: the course evaluation rubric, instructor semi-structured interview, student end-of-course evaluation form and in-course student learning formative and summative assessment.

Course Evaluation Rubric

A Course Construction and Evaluation Rubric (Ternus et al., 2007) was used by the course instructor and reviewers to review the course after its implementation. The rubric included four main dimensions—structure, content, processes and outcomes—with different elements under each dimension. Each element can be given a score of 1–4 based on the descriptor given for each point. Apart from the quantitative score, the rubric allowed reviewers to provide qualitative comments and feedback on each element. It provided the reviewers with a space to make an evaluation of each main dimension. The rubric was designed on the basis of an extensive review of literature on online course construction, teaching and evaluation (Ternus et al., 2007). The validity of the rubric was established by three experts in online teaching who had more than five years of experience in online teaching and learning and were not part of the pilot study (Ternus et al., 2007). The three developers of the rubric determined its reliability using test-retest reliability. To ensure the reliability of the form in this study, the inter-rater reliability among the three course reviewers was assessed using the inter-class correlation method in SPSS. The level of agreement among the three reviewers was found to be 67%. Based on the guidelines for interpreting intraclass correlation coefficients levels, the reliability level was moderate (Koo & Li, 2016).

A Semi-Structured Interview

A semi-structured interview was conducted with the course instructor to obtain feedback on the course, allowing the exploration of complex issues and providing in-depth data (Creswell, 2012). The researcher developed an interview guide, including a general opening and a set of probing questions to make the interview flexible and to leave space for the interviewee to give open and detailed responses. Three academics reviewed the questions for appropriateness and clarity.

Student End-of-Course Evaluation Form

A student end-of-course evaluation form was developed to gauge learners' satisfaction and obtain their feedback on course content, structure, and assessment and on their instructor. Different institutional evaluation instruments and pools of questions were adopted from Gravestock and Gregor-Greenleaf (2008) to construct the evaluation form. The form consisted of 41 items, divided into five sub-categories: course outline and course objectives (3 items), course structure and course content (11 items), course assessment (7 items), course instructor (5 items), and general feedback (7 items). Students were asked to rate the items on a five-point Likert scale. In addition, the form included three open-ended questions that sought to identify strengths, issues, and suggestions for improving the course. A group of academics reviewed and validated the form. Its internal consistency was 0.91 as measured by Cronbach's alpha in SPSS.

In-Course Formative and Summative Assessments

Students' learning in the course was monitored through formative and summative assessments, including four quizzes, four discussions, and a final exam. Apart from monitoring the students' progress in the course, they helped evaluate the course by indicating whether its outcomes were achieved and whether students had benefited from the activities.

The course included four graded discussion forums that provided students with guided practice of the skills taught to them; each one accounted for five marks. In each discussion forum, students were asked to apply the skills that they developed on a given reading passage; their posts were scored using a rubric that was designed for this purpose. Two language teachers checked the clarity of the questions in the discussion posts.

The quizzes were aimed at monitoring students' progress in the course, and students were able to take them once they completed the lesson activities and the discussion post. Students were given one chance to take the quizzes, which included various types of questions and were reviewed by three language teachers for language clarity. As measured using Cronbach's alpha in SPSS, the internal consistency reliability of the quizzes ranged from 0.37 to 0.81. According to Rudner and Schafer (2002), the acceptable reliability of teacher-made tests should range between 0.50 and 0.60.

The final exam of the course was developed to measure students' achievements with regard to the course outcome-based learning objectives. Students were given 90 minutes to complete the final exam, and they had one attempt to take the exam within 5 days. The exam was divided into three main parts; each part included a reading passage that was followed by a set of questions. There were different types of questions in the final exam, such as matching, true/false, multiple choice, and open-ended questions. Two language teachers reviewed the final exam for its clarity and level of difficulty. Its internal consistency reliability was 0.67 as measured using Cronbach's alpha in SPSS.

Data Analysis

Various quantitative and qualitative analysis procedures were used in the study. Means and standard deviations were used to analyze the numerical data obtained from the course evaluation rubric. Descriptive statistics is used because it gives a general indications and tendencies in the data (Creswell, 2012). In addition, content analysis was conducted on the qualitative data gathered through the rubric. Data were simplified and tabulated based on the elements of the rubric and then analyzed using frequency counts and percentages. Means and standard deviations were used to analyze the quantitative data obtained from the student end-of-course evaluation. The data derived from the open-ended questions in the form were qualitatively analyzed using content analysis. Data were first summarized and grouped into three areas: course strengths, issues and solutions, and suggested improvements. In addition, frequency counts and percentages were used in the analysis of the qualitative data of the form to identify the strengths of the course, the issues faced by the students and their suggestions for improving the course. Data obtained from the instructor's semi-structured interview were analyzed qualitatively using content analysis. Content analysis, as Creswell (2012) stated, helps in mapping the patterns of behavior and thinking in the data to draw solid inferences and conclusions. The data obtained from the course formative and summative assessments were analyzed using range, means, standard deviations, and item difficulty.

RESULTS AND DISCUSSION

Students' Performance in Course Assessments

Means, standard deviations, and ranges were used to analyze the student performances. A three-point performance scale (low, average, and high) was developed to report, understand, and interpret the results of the student course assessments.

As shown in Figure 2, the discussion forums had a total number of 88 posts over the 5 weeks, and it was evident that their posts began to increase in Week 3 (N = 33 posts) and Week 4 (N = 30 posts) compared to the first few weeks at only 25 posts in total. This was because the students had not been accustomed to the course in Weeks 1 and 2 and also because they had been doing final examinations at the university at the same time. In general, it was considered that the number of posts was acceptable because it was a short course, there were only 11 students, and this had been their first online course experience.

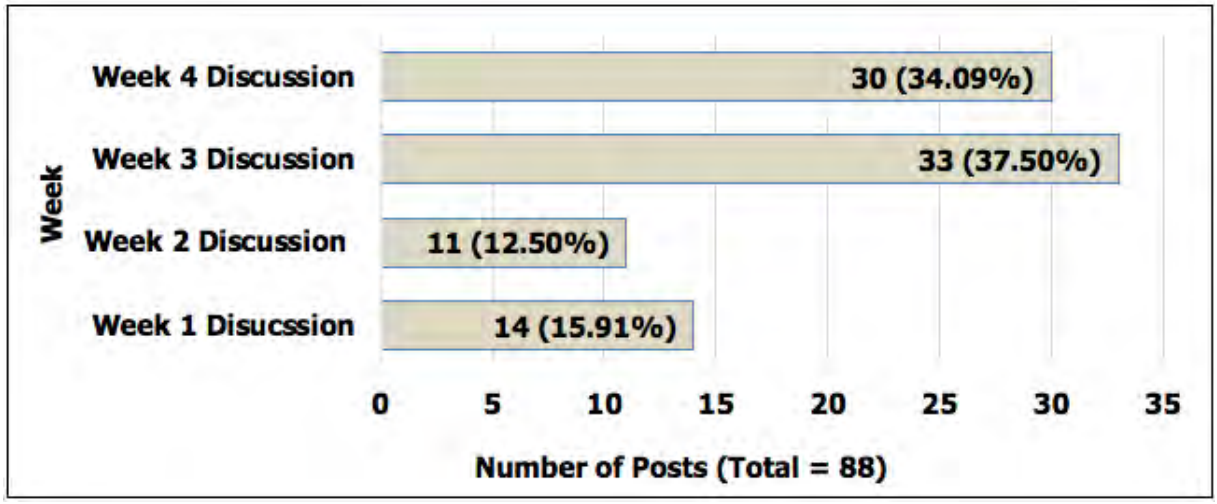

Figure: 2 Number of weekly discussion forum posts

Overall, the student performances in the discussion forums were average (M = 3.66). Their performances were also average in the first 2 weeks but scored low in the Week 4 discussion (M = 2.67), possibly because the Week 4 topic (recognizing and evaluating arguments) was more complex than the previous topics. The highest mean (M = 4.77) was for the Week 3 discussion (making inferences); therefore, it could be concluded that the students possibly understood the Week 3 content better than in the other weeks or possibly because the Week 3 video and lesson activities were more effective.

Student performances in the quizzes were average. There were slightly significant improvements from Week 1 to Week 4, with high results in Week 3 (M = 7.36) and Week 4 (M = 7.73), possibly because the students were more familiar with the quizzes by Weeks 3 and 4. Overall, the mean for the course was 6.8 out of 10. Student performances in the final exam were average (M = 23.73) ranging from 20 to 28.5, with an average of 23.73 (SD = 3.09).

These results indicated that the student achievement of the course learning objectives was average. This might have been because it was the students' first experience of an online course, which might have affected their performance; however, it had been expected that the novelty would have increased student motivation to explore new learning experiences. The results for all assessment components suggested that Week 4 was difficult.

Student Evaluations

The means and standard deviations were computed to analyses the student responses to the end-of-course evaluation. The overall average on all items was high (M = 4.06, out of 5). The students reported that the course objectives were included in the course outline and that the outline gave the necessary information and the assessment tasks (M = 4.30). However, they were neutral about the course videos, the course color choices and the clarity of the quiz instructions (M = 3.64). The overall response to the course instructor was positive (M = 4.18), with the lowest mean being for timely feedback. There were also student responses related to the low performance in Week 4, which correlated to the Week 4 scores in the discussion forum. However, the high results in the Week 4 quiz indicated that the discussion forum had helped the students learn for the quiz.

Instructor Evaluation

The thematic analysis of the course instructor interview revealed four major themes: good aspects of the course, course issues, student performance and learning, and suggestions for improvements. The course instructor had a positive view of the course structure, content sequence and organization, the language used in the course, and the variation in the readings. However, the course instructor felt that the student–student

interactions were very limited and that the student critical thinking skills' development was not very evident in the student responses in the discussion forums. She also claimed that some students had been unable to comprehend all parts in the course, and in particular, many students found the final week topic "argument analysis" difficult. The instructor suggested that optional activities, such as videos and readings related to the course topics, could be added for the active students who finished early, that the videos could include more examples and explanations and that more details and instructions could be given to the students before they attempted the quizzes.

Reviewer Evaluations

The course reviewers gave an average score of three for all four evaluation rubric dimensions, structure, content, processes, and outcomes, with only slight variations in some elements. All reviewers felt that the course was easy to navigate and it clearly matched the course outline. However, they suggested that the content be supplemented with external links and additional resources. The reviewers also commented on the limited interactions in the course, which they felt could have negatively affected the student performances in some parts of the course.

These results revealed that the students were satisfied with the course outline, course objectives, course structure, and course content, which could have positively benefited their learning. This finding was consistent with Polloff and Pratt (2001), who claimed that high student perceptions of online courses were most often related to course structure and course organization (as stated in Song, 2004). All students had accessed the course only once and had finished all activities in one sitting, which meant that they were unable to view the feedback on their work and were unable to reply to their friends' posts on the course. Although this finding differed from previous research studies (Orlich et al., 2010; Overholser, 1993; Shen & Yodkhumlue, 2016; Wright, 2016), which claimed that to develop critical thinking skills, discussion, questioning, and interactions were important in both traditional and online courses, it is consistent with that of Morss (1999), who reported student feelings of isolation and lack of interaction in an online course. Although previous research has found that online discussions can enhance critical thinking skills (Rathakrishnan et al., 2017), the student benefits from the discussion forums were limited, which was possibly because most students were unavailable for discussions throughout the entire week or possibly because of inadequate prior experience with online group discussions, as also reported in Garside (1996).

As student interactions were limited, the course instructor was not able to use Socratic questioning techniques or group discussions as in previous research studies (Orlich et al., 2010; Shen & Yodkhumlue, 2016; Wright, 2016; Zhao et al., 2016) to nurture students' critical thinking skills. The limited student–student interactions could also have been due to the low language proficiency levels of the students (A1 level: basic users of English) or due to students' limited online availability in the online course. To resolve this issue, the instructor and reviewers advised that other activities be included to encourage students to access the course more often. Even though the instructor considered the videos "useful" and "informative," she also commented that some lacked clarity and had insufficient examples and explanations. To maintain student interest, the videos were simple and short as advised by Berk (2009) and Hartsell and Yuen (2006). However, this issue affected student learning negatively in Week 4 because videos were the only medium used to introduce and teach weekly skills.

CONCLUSION

The study developed and evaluated a short online course in critical thinking skills for foundation students in AOU-Oman. The study revealed that Nation and Macalister's (2010) language curriculum design model worked well when designing the online course, as without the first two steps, the course would have been unsuitable because the learning objectives would not have focused on the student needs or the course environment. The model was also useful in guiding the selection and organization of the course content. However, based on the study results, some additional steps to the model might make it more appropriate for online course design. Figure 3 shows an enhanced version of the online course design model.

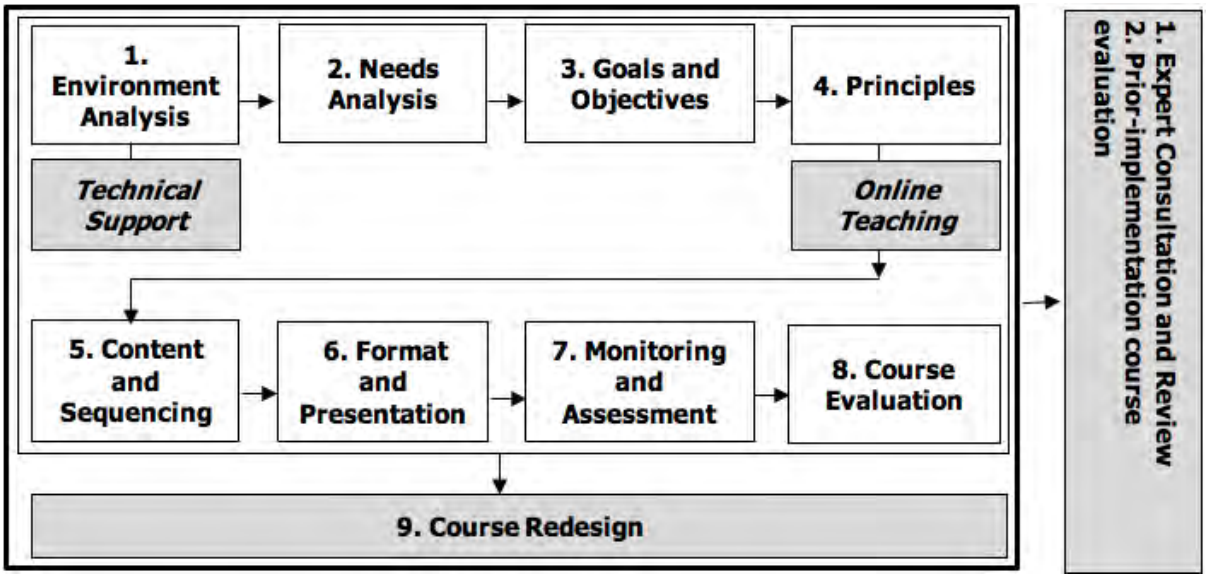

Figure 3. Enhanced version of online course design model

The enhanced version of the model includes five additional steps, as shown in Figure 2. First, using subject-matter and course design experts could enhance the course design process of from environmental analysis to course redesign as they could assist and review the work with the course developer to ensure it is appropriate and meaningful for the students. Second, having a section on online teaching principles in the fourth stage of the model could help online course designers consider different ways to motivate the students to participate in the online discussions and to better engage them in the course activities. Failing to consider methods for motivating the students could possibly explain the limited interactions in the developed course. Third, since formative and summative course evaluations while the course is being implemented may be insufficient, prior evaluation of the online course could also assist in the model design and ensure that issues were identified and solved before the implementation of the course. Because this course used Moodle Cloud, there was no need for any technical and administrative institutional support; however, the design model could also include technical support in the environmental analysis. While it could be argued that this is part of the environmental analysis, it should be more prominent in online design models because technical support is crucial to online learning and should not be overlooked. The final addition is the course redesign step (step 9) when all changes and modifications are incorporated based on the results of the course expert review results, the prior-implementation evaluation results, the course evaluation results, and the course assessment.

Several limitations in this study need to be considered. First, previous expertise was not considered in designing the online course. Second, the sample size was relatively small. Therefore, it is recommended that the enhanced version of the online course design be used by online course designers and online course instructors when designing online courses and that further studies implement and evaluate the enhanced version of the course design model to measure its effectiveness for online course design. Future studies could also compare this design model to existing online course design models. Further work is required to establish whether this enhanced online design model is suitable for designing content courses that are different from that of EFL skills-based courses. Designing and implementing an online course using the suggested desing model in this study across different institutions is another scope for future research that might indicate strengths and weaknesses of online course design. Finally, the suggesstred design model in this study might be a very helful model to be used to evaluate and ensure the quality of existing online courses.

Acknowledgements: Ishaq Al-Naabi expresses his gratitude to Prof. Thuwayba Al-Barwani, Dr. Otherine Neisler and Dr. Salma Al-Humaidi for their guidance and supervision in conducting this study. The author would like to thank Enago (www.enago.com) for the English language review.

BIODATA and CONTACT ADDRESSES of AUTHORS

Ishaq AL-NAABI is a language lecturer in the English Language Center at the University of Technology and Applied Sciences-Nizwa, Oman. Mr. Al-Naabi gained his M.Ed. in Curriculum and Teaching Methods of English from Sultan Qaboos University in 2019. His academic interest areas are online curriculum development and evaluation, e-learning, online pedagogy, distance learning, teaching methods, professional development and research in higher education. He has several publications and he has presented at some international and national conferences and seminars. He has provided some training workshops on the use of online management systems and online course design.

Ishaq AL-NAABI
English Language Center
Address: University of Technology and Applied Sciences
P.O. Box 477, P. C. 611, Nizwa, Sultanate of Oman
Phone: +968 92534667
E-mail: aladeeb001@gmail.com

Dr. Thuwayba AL BARWANI is a Professor of Curriculum and Instruction at the College of Education (ELT) and the Director of the Center for Excellence in Teaching and Learning at Sultan Qaboos University. She served in key government positions as well as administrative positions at SQU. She currently serves in a number of committees, boards, and think tanks at the national level and consultant in other national and international organizations. She is a principal investigator and co-investigator in several research projects funded by the HM grants, TRC grants, and SQU internal grants and has published extensively at the Local, regional and international level in areas such as: English Language Teaching, Accreditation and Quality in Higher Education, Teacher Education and Gender and Family.

Thuwayba AL BARWANI
Department of Curriculum & Instruction, College of Education
Address: Sultan Qaboos University
P.C.123, Muscat, Sultanate of Oman
Phone: (+968) 99839222
E-mail: thuwaiba49@gmail.com

Dr. Salma AL-HUMAIDI is an associate professor of English language teaching at Sultan Qaboos University. Dr. Salma Al-Humaidi gained her Ph.D. in English Education from Indiana University, USA in 2002. Her academic interest areas are learning, teaching, learner-centered instruction and teacher education. She has over than 20 journal articles published in international indexes, two international book chapters and other articles and papers submitted to conferences and newsletters. She has participated in many national and international conferences. She has taught different courses and supervised many master program students at SQU.

Salma AL-HUMAIDI
Curriculum and Instruction Department, College of Education
Address: Sultan Qaboos University, P.C.123, Muscat, Sultanate of Oman
Phone: (+968) 97278572
E-mail: salmahumaidi@gmail.com

Dr. Otherine J. NEISLER, Deputy Director of the Center for Excellence in Teaching and Learning at Sultan Qaboos University, is an Associate Professor of Curriculum and Instruction working on special projects in Oman since 2007. She previously taught at Boston College, Yale University and University of Saint Joseph. Her research interests include university readiness, especially critical thinking in Oman; higher education teaching, learning, and assessment; and accreditation processes.

Otherine J. NEISLER
Deputy Director Center for Excellence in Teaching and Learning
Address: CETL, Sultan Qaboos University. Box 50, P.C.123, Muscat, Sultanate of Oman
Phone: (+968) 24141021
Email: oneisler@gmail.com

REFERENCES

Alismail, H. A., & McGuire, P. (2015). 21st century standards and curriculum: Current research and practice. *Journal of Education and Practice, 6*(6), 150–155. http://files.eric.ed.gov/fulltext/EJ1083656.pdf

Alzaghoul, A. F. (2012). The implications of the learning theories on implementing e-learning courses. *The Research Bulletin of Jordan ACM, 11*(11), 27–30.

Bennett, N., & Lemoine, G. J. (2014). What VUCA really means for you. *Harvard Business Review*. https://hbr.org/2014/01/what-vuca-really-means-for-you

Berk, R. A. (2009). Multimedia teaching with video clips: TV, movies, YouTube, and mtvU in the College Classroom. *International Journal of Technology in Teaching and Learning, 5*(1), 1–21.

Brown, J. (1995). *The elements of language curriculum: A systematic approach to program development.* Heinle & Heinle.

Creswell, J. W. (2012). *Educational research: Planning, conducting and evaluating quantitative and qualitative research (4th Edition)*. Pearson.

Croxton, R. A., & Chow, A. S. (2015). Using ADDIE and systems thinking as the framework for developing a MOOC: A case study. *Quarterly Review of Distance Education, 16*(4), 83–96. https://libproxy.library.unt.edu:2165/docview/1786249888/fulltextPDF/E04000D5016C483EPQ/1?accountid=7113

Fisher, D., Frey, N., & Lapp, D. (20S12). Building and activating students' background knowledge: It's what they already know that counts. *Middle School Journal, 43*(3), 22–31. https://doi.org/10.1080/00940771.2012.11461808

Garside, C. (1996). Look who's talking: A comparison of lecture and group discussion teaching strategies in developing critical thinking skills. *Communication Education, 45*(3), 212–227. https://doi.org/10.1080/03634529609379050

Graves, K. (1999). *Designing language courses: A guide for teachers*. Heinle & Heinle.

Graves, K. (2000). *Teachers as course developers.* Cambridge University Press.

Gravestock, P., & Gregor-Greenleaf, E. (2008). *Student course evaluations: Research , models and trends.* Higher Education Quality Council of Ontario.

Hartsell, T., & Yuen, S. C. Y. (2006). Video streaming in online learning. *AACE Journal, 14*(1), 31–43. http://digitalvideooverview.weebly.com/uploads/2/0/1/9/2019204/article_6152.pdf

Hsu, T. C., Lee-Hsieh, J., Turton, M. A., & Cheng, S. F. (2014). Using the ADDIE model to develop online continuing education courses on caring for nurses in Taiwan. T*he Journal of Continuing Education in Nursing, 45*(3), 124–131. https://doi.org/10.3928/00220124-20140219-04

Johnson, P. (2009). *The 21st century skills movement. Educational Leadership*. http://ipkt.org:8080/modul/DPLI/index_htm_files/21ST CENTURY SKILLS.pdf

Koo, T. K., & Li, M. Y. (2016). A guideline of selecting and reporting intraclass correlation coefficients for reliability research. *Journal of Chiropractic Medicine, 15*(2), 155–163. https://doi.org/10.1016/j.jcm.2016.02.012

Kumar, R., & James, R. (2015). Evaluation of critical thinking in higher education in Oman. *International Journal of Higher Education, 4*(3), 33–43. https://doi.org/10.5430/ijhe.v4n3p33

Liaw, M. (2007). Content-based reading and writing for critical thinking skills in an EFL context. *English Teaching and Learning, 2*(Summer), 45–87.

Morss, D. A. (1999). A study of student perspectives on web-based learning: WebCT in the classroom. *Internet Research, 9*(5).

Nation, I. S. P., & Macalister, J. (2010). *Language curriculum design*. Routledge.

Neisler, O., Clayton, D., Al-Barwani, T., Al-Kharusi, H., & Al-Sulaimani, H. (2016). 21st Century teacher education: Teaching, learning and assessment of critical thinking skills at Sultan Qaboos University. In F. M.Assuncao & T. Al Barwani (Eds.), *Redefining Teacher Education for the Post-2015 Era* (pp. 77–95). Nova Science Publishers, Inc.

Olusegun, S. (2015). Constructivism learning theory: A paradigm for teaching and learning. *IOSR Journal of Research & Method in Education Ver. I, 5*(6), 66–70. https://doi.org/10.9790/7388-05616670

Orlich, D. C., Harder, R. J., Callahan, R. C., Trevisan, M. S., & Brown, A. H. (2010). *Teaching strategies: A Guide for effective instruction (9th Edition).* Wadsworth Cengage Learning.

Overholser, J. C. (1993). Elements of the Socratic method: Systematic questioning. *Psychotherapy, 30*(1), 67–74. http://www.tandfonline.com/doi/full/10.1080/00098659809602729

P21 Partnership for 21st Century Learning. (2006). *Framework for 21st Century Learning.* http://www.p21.org/our-work/p21-framework

Qing, X. U. (2013). Fostering critical thinking competence in EFL classroom. *Studies in Literature and Language, 7*(1), 6–9. https://doi.org/10.3968/j.sll.1923156320130701.2717

Rathakrishnan, M., Ahmad, R., & Suan, L. (2017). Online discussion : Enhancing students' critical thinking skills. *The 2nd International Conference on Applied Sciences and Technology 2017 (ICAST'17) Proceedings.* https://doi.org/10.1063/1.5005453

Richards, J. C. (2001). *Curriculum development in language teaching*. Cambridge University Press. https://doi.org/10.1111/j.1540-4781.2007.00543_2.x

Rudner, L. M., & Schafer, W. D. (2002). *What teachers need to know about assessment.* National Education Association. https://doi.org/10.21832/adger0186

Shen, P., & Yodkhumlue, B. (2016). Teacher's questioning and students' critical thinking in EFL classroom interaction. *The 8th International Postgradduate Research Colloquium: Interdisciplinary Approach for Enhancing Quality of Life IPRC Proceedings, 2*(2016), 44–53.

Shibley, I., Amaral, K. E., Shank, J. D., & Shibley, L. R. (2011). Designing a blended course: Using ADDIE to guide instructional design. *Journal of College Science Teaching, 40*(6), 80–85.

Shroff, R. H., & Vogel, D. R. (2009). Assessing the factors deemed to support individual student intrinsic motivation in technology supported online and face-to-face discussions. *Journal of Information Technology Education, 8*, 59–85.

Song, H. (2004). The perceptions of college students regarding the instructional quality of online courses delivered via WebCT. In *E-Learn: World Conference on E-Learning in Corporate, Government, Healthcare, and Higher Education* (pp. 2141-2146). Association for the Advancement of Computing in Education (AACE).

Ternus, M. P., Plamer, K. L., & Faulk, D. R. (2007). Benchmarking quality in online teaching and learning: A rubric for course construction and evaluation. *The Journal of Effective Teaching, 7*(2), 51–67.

Wright, B. M. (2016). Display and referential questions: Effects on student responses. *Nordic Journal of English Studies, 15*(4), 160–189.

Zhao, C., Pandian, A., Kaur, M., & Singh, M. (2016). Instructional strategies for developing critical thinking in EFL classrooms. *English Language Teaching, 9*(10), 14–21. https://doi.org/10.5539/elt.v9n10p14