

TOWARD AUTHENTIC CASE-BASED ASSESSMENT: DEVELOPING QUALITY FAMILY SCIENCES PROFESSIONALS

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The Colleges of Family Sciences at Zayed University prepares Family Science Professionals in the United Arab Emirates (UAE). The unique aspect of the University and its programs is the commitment to nurturing a learning community that integrates learning outcomes throughout the general education and the professional education components. Prior to student's placement into a 10-week internship, students participate in an intensive case-based assessment project. The assessment project was designed to complement the learning outcomes academic model that is at the heart of the learning philosophy of the University and the College. The students were evaluated on their knowledge of the case-based approach to solving problems, competency levels in written and oral English and Arabic, and competency in technology integration. In this paper, we discuss the development of the process, the case studies and the scoring rubrics, implementation of the process, development of the assessment teams, and results of the assessment project. We discuss lessons learned from the case-based assessment project and its impact upon our program and the professional practice of our graduates.

Created using United States higher education model, Zayed University offers a comprehensive educational program with three major components. The first component is a Readiness program, which ensures that students meet proficiency standards in Arabic, English, mathematics, and information technology. The second component is the General Education program, which provides a 60 semester credit, foundational curriculum in five liberal education knowledge domains. The last component is the Major program in any one of the Colleges (Zayed University, 2003).

The University's vision is enhanced by a focus on a learning outcomes model that guides curriculum development in all academic programs. Students are expected to demonstrate achievement of six Zayed University Learning Outcomes in information literacy and communication; information technology; critical thinking and reasoning; teamwork; globalism; and leadership. To achieve these outcomes, academic programs and the university infrastructure have been developed to support students and faculty's work towards these goals. For example, to achieve information technology competencies, students and faculty members are each provided with a laptop computer with all the necessary software required for specific technology courses as well as for on-line and desktop related activities. The university model guides student

and faculty interaction as they work toward the development of knowledge, skills, and abilities students will need for successful life in this century.

In Islam, it is taught that healthy families are a foundation of a healthy nation. Thus, family well being is a central focus in Islam and a major priority within the UAE culture. Working from the premise that family is fundamental, the mission of the College of Family Sciences is to prepare high quality Family Sciences' professionals that will affect the well being of families, act upon emerging family concerns, focus their expertise on critical family issues, and assume leadership among organizations focused on family well being.

The College of Family Sciences is committed to providing students with the knowledge and skills that will enable them to play a critical and significant role in preserving the cultural ethos of their society and providing them with the skills necessary to respond to the changing needs of families. Family Sciences' students are prepared as skilled family sciences professionals who are bilingual and highly proficient in computer technology. In addition to gaining a theoretical grounding in the content, students acquire practical and real work experiences by completing an internship. These opportunities enable students to apply theory and problem-solving strategies to personal, family, and societal issues.

To achieve our goals, we have designed the curriculum on the case-based approach with an emphasis on integrating process and content and addressing ethical professional practice. Based on this approach, there are four critical organizing process areas that are significant to the success of family sciences' professionals: thinking and reasoning, communication, leadership, and management (Smith, 1998). These Major Learning Outcomes are threaded throughout the family sciences curriculum and students are expected to demonstrate mastery through course assignments and projects, involvement in campus and community organizations, summer work experiences, and internships. These learning outcomes provide a focus on family issues, critical thinking, issue analysis and problem-solving as the students move into the professional world as well as align with the developing Family and Consumer Sciences "Body of Knowledge" (Baugher, Anderson, Green, Shane, Jolly, Miles & Nichols, 2000).

After completion of 45 credit hours in the major, students are assessed using a case-based assessment approach. Achievement of a passing score in this assessment is a prerequisite for proceeding to internship placement. In this paper, we will discuss the development of the assessment process, the case studies, and the scoring rubrics. We will outline the implementation of the process and the use of assessment teams. Finally, we discuss the results of the assessment project and reflect on lessons learned from the process.

The Case Development Process

All faculty members at the College of Family Sciences participated in the case writing process. Twelve faculty members were asked to write three cases each in her/his area of expertise. The cases represented the three areas of focus in the college, namely: child development, family and community services, and nutrition counseling. Cases represented problems that professionals face in the community daily in schools, hospitals, government agencies or non-profit organizations. Faculties were given detailed guidelines to write the cases. A faculty member who had extensive training and experience in case writing was available for faculty consultation. The two faculty coordinators of the Senior Assessment Project edited the cases submitted by the faculty and made them parallel in format.

Faculty members were first given the following definition of instructional cases. Cases or case studies written for instructional purposes are narratives of some event, situation, or

experience with a beginning, middle, and end (Shulman, 1992). Family sciences cases tell a story, which includes a problem or an issue, faced by a person, family, group of people, organization, or a community, to be addressed by a Family Sciences' professional.

The types of cases that faculty members could write for the Senior Assessment Project were then made explicit. The faculty case writers were given the choice of writing realistic cases or locally contextualizing cross-contextual cases. Realistic cases are fictional cases, which are typical of the kind of cases that professionals might encounter in the field. Some of the sources of realistic cases are the research literature and professionals in the field. Whereas, cross-contextual cases are cases, which are realistic in one context but are being used in a different context. For example, a case might be realistic in North America but not in the UAE. Locally contextualizing a cross-contextual case refers to the process of re-writing the case in order to approximately fit the new context. Some cross-contextual cases might need just a minor editing because of the similarity between the two contexts in relation to the theme of that case while others need to be re-written completely.

In order to ensure the development of realistic, culturally sound cases, faculty members were given the following guidelines to help them write the realistic cases. Faculty members were instructed to:

- Specify the case theme.
- Formulate the content into a problem.
- Choose case characters meticulously.
- Describe the setting thoroughly
- Plan and arrange case events well.
- Employ some of the strategies often used to enhance case quality.
- Write a case that is neither too short nor too long.

Faculty members had the option of locally contextualizing a cross-contextual case. The faculty was instructed to select a case with a central issue relevant to the new context (UAE). Then, the faculty was to check the characteristics of the characters: modify peoples' names, dress, food, body language, communication style, etc. They also included references to such common cultural practices and routines as praying. They modified description of the setting by changing names and features of places, things, and people and checked the nature and sequence of events. They simplified the case language. Lastly, faculty members involved students in the re-contextualization process. They asked students to rewrite a family case from North America to approximate the UAE context. This helped to not only educate the faculty on the culture but also was an educationally enriching experience for the students. A result of the process was 45 contextual cases that were used in the assessment process, and a typical case looked similar to the example shown in Appendix A.

Implementation

Each student was given at random a unique case study in English. To assess communication skills in written English and Arabic as well as Family Sciences knowledge and critical thinking skills, the students were asked to analyze a case study and submit a written report in both languages within two weeks. In addition the students made oral presentations of their analysis in both languages. In order to assist them in this process the students were given a Case Study Analysis Guidelines booklet. These guidelines were familiar to the students due to the case-based instruction that they had experienced in the classroom. The case study analysis

guidelines included instructions on the length and format of the paper and the following information:

- Case Summary: This section should comprise a brief overview of the case, setting the scene and stating any important assumptions made.
- Problem Identification and Analysis: This section shows the students' ability to make meaning of the case answering questions such as 'What particular issues would you take into consideration while interviewing this client?' and 'What is the primary or central problem?' and 'Why do you think this is the primary problem?'
- Goal Setting: In this section the student must match each identified problem with a realistic goal.
- Action Strategies or Plans: The student must suggest action strategies which should meet the same criteria as the goals, for example, 'What possible resources might help your client (individuals, communities, places, things and organizations) to reach his/her goal?'
- Action: In this section the student needs to identify at least two obstacles that the client may face while implementing the action plans and further suggest ways in which to overcome these obstacles.

Rubrics were developed to assess the interrelated Zayed University Learning Outcomes and Major Learning Outcomes in a case-based context. Specifically, The Family Sciences Knowledge and Thinking Skills Rubric are used to assess the Zayed University Learning Outcome of critical thinking and reasoning as well as the Major Learning Outcomes of thinking, reasoning and management. The Written English and Arabic Rubric and the English and Arabic Oral Presentation Rubric are used to assess the Zayed University Learning Outcome of information literacy and communication as well as the Major Learning Outcomes of communication skills. Finally, the Technology Use in Case Presentations Rubric assesses the Zayed University Learning Outcome of technology skills.

Rubrics to assess *Family Science Knowledge and Thinking Skills* and *Written English* were developed and included in the Case Study Analysis Guidelines booklet, which each student received. The rubrics had a grading scale from 1 to 5, with 1 being the lowest score and representing *Unsatisfactory* and 5 being the highest attainable score and representing *Outstanding*. Each written case analysis was read by two faculty members and composite scores calculated. The passing grade was set at 70%, which meant an average of 3.5 (between *Satisfactory* and *Good*) must be attained for each of the areas assessed in the rubrics.

To assess *Communication Skills* in oral English and Arabic as well as *Technology Skills*, the students were required to present their case analysis orally in both English and Arabic, using a PowerPoint presentation format. A Family Sciences faculty member and a member from the English department assessed the oral presentations in English, and two faculty members from the Arabic department assessed the oral presentations in Arabic. Each student was scheduled for a 15-minute presentation of her case analysis results followed by a question and answer session of 5 minutes. Both English and Arabic presentations ran concurrently, with students attending as audience members when they were not presenting. The rubrics for oral presentation included the assessment of communication skills in Arabic and English, as well as technology use.

Inter-rater Reliability for Assessment Rubrics

To compute inter-rater reliability estimates for faculty raters, the reliability analysis procedure in SPSS for Windows Version 11.0 was used. Data collected from the last student cohort (Spring 2003, n=30) were used in the analysis. Table 1 shows the results.

Table 1
Inter-rater Reliability Coefficients for Each of the Six Rubrics

<i>Assessment Rubrics</i>	<i>Coefficients</i>
Written Arabic	.88
Oral Arabic	.77
Written English	.57
Oral English	.78
Knowledge & Thinking Skills	.71
Technology Skills	.73

Reliability coefficients equal or higher than .70 are often considered as adequate (e.g., Tuckman, 1999). Inter-rater reliability coefficients for all assessment rubrics except Written English fell in this category.

Paired t-tests were also conducted to determine whether there were significant differences between mean scores given by different faculty raters on each of the assessment rubrics. Data collected from four student cohorts (n = 134) were used in this analysis. Table 2 summarizes the results.

Table 2
t-test on Mean Scores for Faculty Raters (N = 132)

<i>Assessment Rubrics</i>	<i>Ms</i>		<i>t value</i>
	<i>Rater I</i>	<i>Rater II</i>	
Written Arabic	90.3	89.8	.93*
Oral Arabic	92.0	92.5	-1.0*
Written English	80.3	80.3	.04*
Oral English	81.7	81.0	1.0*
Knowledge & Thinking Skills	82.6	81.0	1.7*
Technology Use	83.6	83.3	.40*

Note: * p>.05

The t-test results showed no significant difference between the mean scores of different faculty raters for all of the assessment rubrics. Specifically, as Table 2 shows, $t(132) = .9, p > .05$ for written Arabic, $t(132) = -1, p > .05$ for Oral Arabic, $t(131) = .04, p > .05$ for Written English, $t(132) = 1, p > .05$ for Oral English, $t(131) = 1.7, p > .05$ for Knowledge & Thinking Skills, and $t(132) = 4, p > .05$ for Technology Use.

Results

The passing grade for all of the assessments was 70%. Table 3 displays the average percentage following remediation for each of the rubrics and for all four cohorts.

Table 3
Case-based Assessment Results for All Four Cohorts

Cohort	Students (No.)	Written Arabic (%)	Oral Arabic (%)	Written English (%)	Oral English (%)	Technology Use (%)	Knowledge & Thinking Skills (%)
Cohort 1 Fall 2001	44	86.1	88.9	78.5	82.3	83.0	81.9
Cohort 2 Spring 2002	38	96.8	95.7	84.0	81.9	84.5	85.8
Cohort 3 Fall 2002	33	91.6	89.6	80.4	78.8	81.2	79.5
Cohort 4 Spring 2003	30	82.6	91.8	80.0	82.5	76.1	76.7

Of the 134 students who participated in the case based assessment over the last four semesters, remediation in one or more of the six areas of assessment was carried out with an average of four students per semester. The student would meet with a faculty member in the appropriate area of expertise (child development, family and community services, and nutrition counseling) to discuss the rubrics in relation to the student’s performance and where improvements could be made. The student was then given two more weeks to work on the case based assessment. Two faculty members carried out assessment of student work as during the original assessment. This method of remediation was adopted in order to facilitate further student learning.

Conclusions and Program Impact

The Case-Based Assessment model had a positive impact on learning at the College of Family Sciences in at least three ways. First, the case writing and student assessment processes constituted for the faculty vehicles for dialogue on curricular and instructional improvements. Secondly, more faculty members subsequently reported increased integration of case-based instruction in their courses. Third, some new faculty members reported that their involvement in the case-based assessment process had given the opportunity to better understand our students’ strengths and limitations. Although the inter-rater reliability coefficients are adequately high for most of the rubrics, it is possible to obtain even higher levels of inter-rater reliabilities if faculty raters are trained further. In sum, the case-based assessment model has enhanced overall learning in the college, both for students and faculty members.

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Appendix A: Example of a Case Study
Omar: The case of a child who experienced family violence

Task: Suppose that you are the family sciences professional, and the case of Omar, a four-year-old boy, has been referred to you.

Omar's kindergarten teacher has complained that he often called her names and talked back to her. He also got into fist fights with his classmates last week during the break. Teachers reported that occasionally, he suddenly and uncontrollably kicked, punched, and sometimes dangerously choked other boys. Later he was always remorseful, and he accepted the various punishments.

After talking to Noura, his recently divorced mother, she tells you that she is having difficulty controlling Omar's behavior at home. She tells you "When I found Ali, my 2-year-old son, screaming and saw his cut and bleeding head, I could not imagine what had happened. Grabbing the wounded child to me quickly, I worriedly looked around. I saw the metal truck with a bloody corner and Omar sitting nearby. I realized what happened. I asked him angrily "Did you hit your brother?" He looked up at me and responded calmly "He was bothering me." It was not the first time that Omar had injured his brother."

During your first interview, Noura continues to tell you "One day, I heard my former husband, Jasim, saying to Omar "I am going to kill you! I am going to kill you!" I saw Jasim choking Omar when I told him "stop! You are killing the boy!" pulling Jasim's arm back with all of my force. Jasim released Omar and sat near the car. I took Omar inside the house and came back to tell Jasim "what happened? Are you crazy?" Jasim replied "this boy got into the car and released the brake for the second time this week. It was rolling slowly right at the baby when I jumped in and stopped it. He could have killed him. I just lost all control." . . . I must tell you that Omar's dad was at times very violent. He often lost control when he got angry. He tried to choke me one morning prior to our divorce. Omar was asleep at the time, but he might have noticed our fight."

How would you help Omar, Noura, and the teacher? Please follow the case analysis guidelines.