Appendix

Appendix A

Web Sites on Guam and Micronesia

Agricultural Development in the American Pacific (ADAP):
www2.ctahr.hawaii.edu/adap2/
The U.S Department of Agriculture Cooperative State Research, Education, and Extension Service founded this.

Agriculture Education in Micronesia:
http://www.agpowermicro.org/
This is a collaborative project with partnerships among the University of Guam, the Palau Community College, the College of Micronesia, and Florida A & M University.

American Memorial Park-Saipan, Northern Mariana Islands:
http://www.nps.gov/amme/main.htm/
American Memorial Park honors the American and Marianas people who gave their lives during World War II. Situated on 133 acres of land along the western side of Saipan, the National Park Service manages the park.
Asia-Pacific Programme of Educational Innovation for Development:  
Scientific and technological literacy for all provides training seminars and workshops, as well as links to help network the development of technology in the Asian-Pacific region.

Digital Micronesia:  
http://www.uog.edu/rfk/DigMicro/  
This Web site consists of over 2000 digital images of the people and their daily lives in Micronesia. B. Millhoff, a developer and a photographer of this project, states that technology cannot as yet make time stand still, but can capture those aspects of this space and time that most assuredly will never return.

Distance Education in the Western Pacific:  
http://www.demicro.org/  
The Pan-Pacific Education and Communication Experiments by Satellite (PEACESAT) is a public service telecommunications program that supports distance education learning, training, and technology transfer throughout the Pacific basin.

Dive Into the Heart of Exotic Micronesia:  
http://www.visit-fsm.org/  
This provides the detailed information of the Federated States of Micronesia: Chuuk, Kosrae, Pohnpei, and Yap.

Festival of Pacific Arts:  
http://www.festival-pacific-arts.org/  
This Web site emphasizes that the Festival of Pacific Arts brings peoples of the Pacific together in a welcoming and social gathering to exchange cultures for mutual understanding and appreciation of other cultures.

Guam Humanities Council:  
http://www.guamhumanitiescouncil.org/  
Founded in 1990, the Council’s mission is to foster critical thinking and an
understanding and appreciation of the humanities as they relate to Guam’s multiethnic composition, rich cultural heritage, and local and global issues confronting our people today.

**Guampedia (The Encyclopedia of Guam):**
http://www.guampedia.com/
The purpose of this encyclopedia is to provide accessible, accurate information about the rich heritage of Guam, its natural environment, history, religion, politics and others.

**Isla Center for Arts:**
http://www.uog.edu/isla/
Isla strives to bring outside art collections to the people of Guam, as well as to build its own Micronesian artifacts exhibit.

**Micronesian Area Research Center (MARC), University of Guam:**
http://www.uog.edu/marc/
For the Reference Collection, the Spanish Documents Collection, and the Manuscript Collection curators will continue to seek documents of historical significance for the region and organize them for use by the people of Guam, the region, and researchers worldwide.

**Micronesian Diary:**
http://www.intangible.org/Features/micronesia/text/Yap4.html
For the people of the Federated States of Micronesia, the need their heritage and culture to be documented and evaluated is urgent, given the change that is certain with advancements of development in the region.

**Micronesia Music:**
http://www.janeresture.com/micronesia_music/
This site tells that composers used mythology, magic, and rituals to compose the traditional music of Micronesia.
Micronesian Insects:
http://www.micronesianinsects.com/
This Web page is a comprehensive analysis and prioritization of invasive arthropod pests throughout the islands of Micronesia.

Ocean Life on Guam:
http://library.thinkquest.org/5112/
This Web site is about America’s underwater paradise island, Guam (for example, awesome fish, breathtaking coral, and extraordinary creatures people do not see anywhere else).

Pacific Island Association of Libraries and Archives (PIALA):
http://www.uog.edu/rfk/piala/piala.html
This Web site emphasizes that there is hope that there will be more support for widespread resource sharing within the region because of the Pacific Islands’ libraries’ growing use of modalities for electronic document delivery. Pacific Resources for Education and Learning (PREL).

Star Schools:
http://www.prel.org/
PREL serves the educational community in the US-affiliated Pacific islands, the continental United States, and countries throughout the world. Its main office is located in Honolulu.

The Yap Art Studio & Gallery:
http://www.yapartstudioandgallery.com/
This Web site presents watercolor paintings, woodcarvings, hand-woven, and loomed products by the Micronesian artisans of all the islands of Yap State.

War in the Pacific:
http://www.nps.gov/wapa/
At War in the Pacific National Historical Park, the former battlefields, gun emplacements, trenches, and historic structures all serve as silent reminders of the bloody battles that ensued on the Island of Guam over 58 years ago.
Water and Environmental Research Center of the Western Pacific:
http://www.weriguam.org/home/
In 1991 this center became the first Regional Water Resources Research Institute in the Western Pacific, opening a broad new spectrum of research and services.

Yapese Carvers at Ethnic Art Institute of Micronesia:
http://www.tritonfilms.com/eaim.htm
This site focuses on revitalizing traditional cultures of Micronesia through the recreational, indigenous art forms. A photo gallery is included.
Appendix B

The Survey Instrument: Multicultural Education (1)

PART 1 - DIVERSITY and MULTICULTURALISM

Using the following scale to rate each statement, please circle the number that best describes your answers and answer every item because blank answers may invalidate the results.

1 = not important
2 = of little importance
3 = of moderate importance
4 = very important
5 = of utmost importance

1. How important is it for you to be friends with someone from a different culture on Guam or anywhere?
   1 2 3 4 5

2. How important is it for you to associate with people from the same cultural and ethnic backgrounds as your own?
   1 2 3 4 5

3. How important is it for you to become informed about cultural and ethnic differences?
   1 2 3 4 5

4. How important is it for you to be exposed to a culturally diversified environment?
   1 2 3 4 5

5. How important is it for you to employ Western pedagogy in your teaching?
   1 2 3 4 5

6. How important is it for you to provide an environment for the free and open expression of ideas and beliefs?
   1 2 3 4 5

7. How important is it for you to support the academic success of students from different cultural and ethnic backgrounds than your own?
   1 2 3 4 5

8. How important is it for you to integrate multicultural perspectives in your teaching?
   1 2 3 4 5

9. How important is it for you to collaborate on research and teaching with colleagues from the same cultural and ethnic backgrounds as your own?
   1 2 3 4 5

10. How important is it for you to respect and accommodate students’ individual and culture-based learning styles?
    1 2 3 4 5

11. How important is it for you to take the time to learn about students’ backgrounds and cultural characteristics?
    1 2 3 4 5

12. How important is it for you to use culturally relevant examples in teaching?
    1 2 3 4 5

13. How important is it for you to become a culturally sensitive teacher?
    1 2 3 4 5

14. How important is it for you to provide multicultural instructional materials?
    1 2 3 4 5

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15. How important is it for you to eradicate prejudice in your personal life?
   1 2 3 4 5

16. How important is it for you to eradicate prejudice in your professional life?
   1 2 3 4 5

17. How important is it for you to encourage students to understand or be aware of other cultures?
   1 2 3 4 5

18. How important is it for you to challenge and avoid using stereotypes in teaching?
   1 2 3 4 5

19. Please indicate to what degree you agree or disagree with the following statement:
    Cultural and ethnic diversity are assets that enrich the learning process? (Circle one)
    (1) Strongly Disagree (2) Undecided (3) Agree (4) Strongly Agree

PART II - ABOUT YOURSELF (Circle only one per item)

20. You are: (1) Female (2) Male

21. Age in years: 22. Total years of your teaching (outside and within UOG, including all educational levels):
   (1) 25 or less (1) 5 or less
   (2) 26 - 35 (2) 6-10
   (3) 36 - 45 (3) 11-15
   (4) 46 - 55 (4) 16-20
   (5) 56 - 65 (5) 21 or over
   (6) 66 or over

23. What ethnic background do you identify with the most:
   (1) Chamorro
   (2) Filipino
   (3) Asian (Chinese, Korean, Japanese, Vietnamese, Thai, Indian and other)
   (4) Micronesian
   (5) Other Pacific Islander
   (6) "Stateside" Caucasian
   (7) "Stateside" Other
   (8) Other (please specify):

24. Your highest academic degree:
   (1) Associate’s
   (2) Bachelor’s
   (3) Master’s (or equivalent)
   (4) Doctorate (or professional degrees, e.g., law or medicine)
   (5) Other (specify):

THANK YOU VERY MUCH FOR YOUR TIME
## Appendix C

### The Survey Instrument: Multicultural Education (2)

**PART 1 - DIVERSITY AND EDUCATION**

Using the following scale to rate each statement, circle the number that best describes your answers, and please answer every item because blank answers may invalidate the results.

1 = Very seldom, 2 = Seldom, 3 = Sometimes, 4 = Frequently, 5 = Very frequently

1. How often do you accommodate different viewpoints of your students regardless of their cultural/ethnic backgrounds?
   - 1
   - 2
   - 3
   - 4
   - 5

2. How often do you utilize interdisciplinary approaches in teaching?
   - 1
   - 2
   - 3
   - 4
   - 5

3. How often do you try to get every student involved in a class discussion?
   - 1
   - 2
   - 3
   - 4
   - 5

4. How often do you have high expectations for your students regardless of their cultural/ethnic backgrounds?
   - 1
   - 2
   - 3
   - 4
   - 5

5. How often do you accommodate different learning styles of your students regardless of their cultural/ethnic backgrounds?
   - 1
   - 2
   - 3
   - 4
   - 5

6. How often do you have a collaborative/collegial partnership with colleagues from the same cultural/ethnic backgrounds in teaching?
   - 1
   - 2
   - 3
   - 4
   - 5

7. How often do you use culturally relevant textbooks in teaching?
   - 1
   - 2
   - 3
   - 4
   - 5

8. How often do you encourage students whose second language is English to express themselves in classroom settings?
   - 1
   - 2
   - 3
   - 4
   - 5

9. How often do you integrate multicultural perspectives in teaching?
   - 1
   - 2
   - 3
   - 4
   - 5

10. How often do you support the academic success of your students regardless of their cultural/ethnic backgrounds?
    - 1
    - 2
    - 3
    - 4
    - 5

11. How often do you engage in collaborative partnerships with colleagues from different cultural ethnic backgrounds in teaching?
    - 1
    - 2
    - 3
    - 4
    - 5

12. How often do you listen to your students interactively and attentively regardless of their cultural/ethnic backgrounds?
    - 1
    - 2
    - 3
    - 4
    - 5

13. How often do you provide your students with multicultural instructional materials (class exercises, using videos, films, etc.)?
    - 1
    - 2
    - 3
    - 4
    - 5

14. How often do you devote your energies to developing and improving your knowledge of cultural diversity?
    - 1
    - 2
    - 3
    - 4
    - 5

15. How often do you attempt to eradicate prejudices and stereotypes that your students may have?
    - 1
    - 2
    - 3
    - 4
    - 5

16. How often do you accommodate cultural/ethnic differences of your students in classroom settings?
    - 1
    - 2
    - 3
    - 4
    - 5

17. How often do you incorporate those cultural/ethnic differences in your teaching methodology?
    - 1
    - 2
    - 3
    - 4
    - 5

18. Do you evaluate attitudes and behaviors of other cultural/ethnic groups from your own cultural/ethnic standards? (Circle one)
    - (1)
    - (2)
    - (3)
    - (4)
    - (5)
    - Never
    - Seldom
    - Sometimes
    - Usually
    - Always
PART II – MULTICULTURALISM IN THE CLASSROOM

19. Using the following scale to rate each statement, indicate how many times you have done each of the following in the past year. (Circle only one per item)

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<tbody>
<tr>
<td>1</td>
<td>One to two (1-2) times</td>
<td>2</td>
<td>Three to four (3-4) times</td>
<td>3</td>
<td>Five to six (5-6) times</td>
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<td>4</td>
<td>Seven to eight (7-8) times</td>
<td>5</td>
<td>Nine to ten (9-10) times</td>
<td>6</td>
<td>Eleven (11) times or more</td>
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19-1. Selection and use of appropriate textbooks
19-2. Enhancing the syllabus to address diversity and multiculturalism
19-3. Brainstorming approach with the students about their needs and wants
19-4. Open discussion to allow students to share their own views and opinions
19-5. Inviting guest lecturers to offer the students a different perspective
19-6. Inviting your colleagues to observe your teaching and offer feedback

20. In what ways do you as a professor expand or enhance your knowledge and awareness about issues of multiculturalism and diversity? (Circle all numbers that apply)

1. Collaborating in teaching with colleagues from cultural backgrounds other than your own
2. Collaborating in research with colleagues from cultural backgrounds other than your own
3. Attending conferences and workshops on topics that may contribute to your knowledge of other cultures
4. Using other avenues (television, journals, books, etc.) in searching for knowledge and understanding
5. By visiting, traveling (that is, exposing yourself to other cultures in Micronesia, the Pacific and Asia)
6. By learning from people (outside of academia) from cultures and ethnicities other than your own
7. Other (please specify): ____________________________________________________________________

PART III – ABOUT YOURSELF (Circle only one per item)

21. You are: (1) Female (2) Male

22. Age in years:

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<td>25 or less</td>
<td>UOG, including all educational levels:</td>
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<td>2</td>
<td>26 - 35</td>
<td>(1) 5 or less</td>
<td></td>
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<td>3</td>
<td>36 - 45</td>
<td>(2) 6-10</td>
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<td>4</td>
<td>46 - 55</td>
<td>(3) 11-15</td>
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<tr>
<td>5</td>
<td>56 - 65</td>
<td>(4) 16-20</td>
<td></td>
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<tr>
<td>6</td>
<td>66 or over</td>
<td>(5) 21 or over</td>
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23. Total years of your teaching (outside and within UOG, including all educational levels):

24. What ethnic background do you identify with the most?

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<td>1</td>
<td>Chamorro</td>
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<tr>
<td>2</td>
<td>Filipino</td>
</tr>
<tr>
<td>3</td>
<td>Asian (Chinese, Korean, Japanese, Vietnamese, Thai, Indian and other)</td>
</tr>
<tr>
<td>4</td>
<td>Micronesian</td>
</tr>
<tr>
<td>5</td>
<td>Other Pacific Islander</td>
</tr>
<tr>
<td>6</td>
<td>Caucasian</td>
</tr>
<tr>
<td>7</td>
<td>Other (please specify): ____________________________________________________________________</td>
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25. Your highest academic degree:

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<tr>
<td>1</td>
<td>Associate’s</td>
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<tr>
<td>2</td>
<td>Bachelor’s</td>
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<tr>
<td>3</td>
<td>Master’s (or equivalent)</td>
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<tr>
<td>4</td>
<td>Doctorate (or professional degrees, e.g., law or medicine)</td>
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<tr>
<td>5</td>
<td>Other (specify): ____________________________________________________________________</td>
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THANK YOU VERY MUCH FOR YOUR TIME
Appendix D

Electronic Journals in Education

1. Educational Research

*Action Research International* [Australia], http://www.scu.edu.au/schools/gcm/ar/ari/arihome.html/

*Education Next* [USA], http://www.educationnext.org/

*Education Review* [USA], http://coe.asu.edu/edrev/

*Educational Insights: Electronic Journal of Graduate Student Research* [Canada], http://www.csci.educ.ubc.ca/publication/insights/

*European Educational Researcher* [UK], http://www.eera.ac.uk/publications/eer/

*Florida Journal of Educational Research* [USA], http://www.coedu.usf.edu/fjer/

*Forum Qualitative Social Research: A multilingual online journal for qualitative research* [Germany], http://www.qualitative-research.net/fqs/fqs-eng.htm/

*International Review of Research in Open and Distance Learning* [Canada], http://www.irrodl.org/


*Journal of Extension* [USA], http://www.joe.org/

*Journal of Interactive Online Learning* [USA], http://www.ncolr.org/jiol/index3.html

*Journal of Online Behavior* [USA], http://www.behavior.net/JOB/

*Journal of Research for Educational Leaders, The* [USA], http://www.uiowa.edu/~jrel/


*Ontario Action Researcher* [Canada], The, http://www.nipissingu.ca/oar/
2. Higher Education

College Quarterly: A Journal of Professional Development for College Educators, The [Canada], http://www.senecac.on.ca/quarterly/
Journal of College Biology Teaching [USA], http://papa.indstate.edu/amcbt/bioscene.html
National CROSSTALK, The National Center for Public Policy and Higher Education [USA], http://www.highereducation.org/index.shtml

3. Multicultural Education

Electronic Magazine of Multicultural Education [USA], http://www.eastern.edu/publications/emme/

4. Teacher Education

Contemporary Issues in Technology and Teacher Education [USA], http://www.citejournal.org/vol2/iss1/toc.cfm/
Issues in the Undergraduate Mathematics Preparation of School Teachers: The Journal [USA], http://www.k-12prep.math.ttu.edu/journal/journal.shtml
5. Technology

Australian Educational Computing [Australia], http://www.acce.edu.au/journal/
Contemporary Issues in Technology and Teacher Education [USA], http://www.citejournal.org/vol2/iss1/toc.cfm/
Educational Technology and Society [USA], http://ifets.ieee.org/periodical/
Educational Technology Review [USA], http://www.aace.org/pubs/etr/issue2/index.cfm/
Electronic Journal for the Integration of Technology in Education [USA], http://ejite.isu.edu/
IT Journal On-line, Instructional Technology Program, University of Virginia [USA], http://etext.virginia.edu/journals/itjournal/
Interactive Multimedia Electronic Journal of Computer-Enhanced Learning [USA], http://imej.wfu.edu/
International Review of Research in Open and Distance Learning [Canada], http://www.irrodl.org/
Interpersonal Computing and Technology Journal (IPCT-J) [USA], http://www.emoderators.com/ipct-j/
Journal of Computer-Mediated Communication [USA], http://jcmc.indiana.edu/
Journal of Interactive Media in Education [UK], http://www.jime.open.ac.uk/

Journal of Interactive Online Learning [USA], http://www.ncolr.org/jiol/index3.html


Journal of Special Education Technology [USA], http://jset.unlv.edu/

Journal of Technology Education [USA], http://scholar.lib.vt.edu/ejournals/JTE/

Journal of Technology, Learning, and Assessment [USA], http://www.bc.edu/research/intasc/jtla.html

Journal of Vocational and Technical Education [USA], http://scholar.lib.vt.edu/ejournals/JVTE/

Kairos: A Journal for Teachers of Writing in Webbed Environments [USA], http://english.ttu.edu/kairos/

Language, Learning, and Technology [USA], http://llt.msu.edu/

Meridian: A Middle School Computer Technologies Journal [USA], http://www.ncsu.edu/meridian/

Technology Source, The [USA], http://ts.mivu.org/

Appendix E

The Survey Instrument: Technology Experiences (1)

Name _________________________
Title __________________________
Institution_____________________
Unit _________________________
 Discipline______________________
 Date __________________________

I. TEACHING CONTENT AREAS WITH TECHNOLOGY

Q1: Explain the nature of the courses where technology is used?
Q2: What technology applications are required of your students?
Q3: How is technology reflected in your syllabus?

II. TEACHING METHODS OR STRATEGIES USING TECHNOLOGY

Q4: In what way do you use technology to prepare courses?
Q5: In what way do you use technology to teach in the classroom?
Q6: In what way do you use technology to evaluate or assess student performance?
Q7: What are your concerns regarding multicultural education and technology?
Q8: Explain future applications and challenges of educational technology

Q9: What institutional support would you like to see offered?

III. ADVANTAGES AND DISADVANTAGES OF TECHNOLOGY

Q10: Based on your knowledge and experience, describe the advantages of using technology in teaching?
Q11: Based on your knowledge and experience, describe the disadvantages of using technology in teaching?

IV. Teaching philosophy linked with technology

V. About yourself (short biography)

THANK YOU VERY MUCH FOR YOUR TIME
National Education Technology Standards for Teachers (NETS•T)

The International Society for Technology in Education (ISTE) developed National Education Technology Standards for Teachers (NETS•T). These standards focus on pre-service teacher education, and define the fundamental concepts, knowledge, skills, and attitudes for applying technology in educational settings.

The six standard areas with performance indicators are listed as follows:

I. Technology Operations and Concepts
   A. Demonstrate introductory knowledge, skills, and understanding of concepts related to technology.
   B. Demonstrate continual growth in technology knowledge and skills to stay abreast of current and emerging technologies.

II. Planning and Designing Learning Environments and Experiences
   A. Design developmentally appropriate learning opportunities that apply technology-enhanced instructional strategies to support the diverse needs of learners.
   B. Apply current research on teaching and learning with technology when planning learning environments and experiences.
   C. Identify and locate technology resources and evaluate them for accuracy and suitability.
   D. Plan for the management of technology resources within the context of learning activities.
   E. Plan strategies to manage student learning in a technology-enhanced environment.

III. Teaching, Learning, and the Curriculum
   A. Facilitate technology-enhanced experiences that address content standards and student technology standards.
   B. Use technology to support learner-centered strategies that address the diverse needs of students.
C. Apply multiple methods of evaluation to determine students’ appropriate use of technology resources for learning, communication, and productivity.

IV. Assessment and Evaluation
   A. Apply technology in assessing student learning of subject matter using a variety of assessment techniques.
   B. Use technology resources to collect and analyze data, interpret results, and communicate findings to improve instructional practice and maximize student learning.
   C. Apply multiple methods of evaluation to determine students’ appropriate use of technology resources for learning, communication, and productivity.

V. Productivity and Professional Practice
   A. Use technology resources to engage in ongoing professional development and lifelong learning.
   B. Continually evaluate and reflect on professional practice to make informed decisions regarding the use of technology in support of student learning.
   C. Apply technology to increase productivity.
   D. Use technology to communicate and collaborate with peers, parents, and the larger community to nurture student learning.

VI. Social Ethical, Legal and Human Issues
   A. Model and teach legal and ethical practice related to technology use.
   B. Apply technology resources to enable and empower learners with diverse backgrounds, characteristics, and abilities.
   C. Identify and use technology resources that affirm diversity.
   D. Promote the safe and healthy use of technology resources.
   E. Facilitate equitable access to technology resources for all students.

Performance Indicators:

1. Assess the availability of technology resources at the school site, plan activities that integrate available resources, and develop a method for obtaining the additional necessary software and hardware to support the specific learning needs of students in the classroom. (I, II, IV)
2. Make appropriate choices about technology systems resources and services that are aligned with district and state standards. (I, II)

3. Arrange equitable access to appropriate technology resources that enable students to engage successfully in learning activities across subject/content areas and grade levels. (II, III, VI)

4. Engage in ongoing planning of lesson sequences that enable students to engage successfully in learning activities across subject/content areas and grade levels. (II, III, VI)

5. Plan and implement technology-based learning activities that promote student engagement in analysis, synthesis, interpretation, and creation of original products. (II, III)

6. Plan for, implement, and evaluate the management of student use of technology resources as part of classroom operations and in specialized instructional situations. (I, II, III, IV)

7. Implement a variety of instructional technology strategies and grouping strategies (e.g., whole group, collaborative, individualized, and learner centered) that include appropriate embedded assessment for meeting the diverse needs of learners. (III, IV)

8. Facilitate student access to school and community resources that provide technological and discipline-specific expertise. (III)

9. Teach students methods and strategies to assess the validity and reliability of information gathered through technological means. (II, IV)

10. Recognize students’ talents in the use of technology and provide them with opportunities to share their expertise with their teachers, peers, others. (II, III, V)

11. Guide students in applying self-and peer-assessment tools to critique student-created technology products and the process used to create those products. (IV)

12. Facilitate students’ use of technology that addresses their social needs and cultural identity and promotes their interaction with the global community. (III, VI)

13. Use results from assessment measures (e.g., learner profiles, computer-based testing, electronic portfolios) to improve instructional planning, management, and implementation of learning strategies. (II, III)
14. Use technology tools to collect, analyze, interpret, represent, and communicate data (student performance and other information) for the purposes of instructional planning and school improvement. (IV)

15. Use technology resources to facilitate communications with parents or guardians of students. (V)

16. Identify capabilities and limitations of current and emerging technology resources and assess the potential of these systems and services to address personal, lifelong learning, and workplace needs. (I, IV, V)

17. Participate in technology-based collaboration as part of continual and comprehensive professional growth to stay abreast of new and emerging technology resources that support enhanced learning for PK-12 students. (V)

18. Demonstrate and advocate for legal and ethical behaviors among students, colleagues, and community members regarding the use of technology and information. (V, VI)

19. Enforce classroom procedures that guide students’ safe and healthy use of technology and that comply with legal and professional responsibilities for students needing assistive technologies. (VI)

20. Advocate for equal access to technology for all students in their schools, communities, and homes. (VI)

21. Implement procedures consistent with district and school policies that protect the privacy and security of student data and information. (VI)

Source: hep://cnets.iste.org/teachers/t_stands.html/
Appendix G

The Survey Instrument: Technology Experiences (2)

1. What has been your greatest challenge regarding technology and the academic environment at UOG?

2. Indicate below the areas of technology with which you have become familiar.
   a. E-mail
   b. Internet Searching
   c. Word-processing
   d. Spreadsheets
   e. Power Point
   f. Web Design or Instruction
   g. Digital Projector
   h. Distance Education
   i. Retrieving Electronic Journal Articles
   j. Listserv or Discussion Groups
   k. Other - Explain

3. How have you acquired your technology skills, through courses, colleagues or by your own devices? Explain.

4. What technology skills would you like to master in the future and for what applications?

5. If you have experienced apprehension regarding technology, explain in what area and how you have approached the challenge.

6. What type of support would you like to see in place at UOG to support faculty with remaining current with the ongoing development of new technology?

THANK YOU VERY MUCH FOR YOUR TIME
Appendix H

Educational Technology Workshops

WORKSHOP 1: Q-CATS Model for Assessing Distance Learning

The PHTN (Public Health Training Network) developed the Q-CATS tool to assist in determining if distance learning will benefit your organization as part of overall workforce development efforts. In the Q-CATS model, distance learning (1) takes training to the learner, (2) is planned learning, (3) can be synchronous or asynchronous, (4) should be interactive, and (5) often facilitated by some form of technology. The Q-CATS model consists of five (Quality, Course, Audience, Technology, and Support system) analysis considerations before integrating distance learning, and each asks the following questions.

Quality Analysis:

- Are your learners at multiple sites? (Thus, is it necessary for them to travel to be trained?)
- How is training critical to your organization’s mission?
- Are there a limited number of qualified teachers?
- Is there support from upper level management for making a change in how training is conducted?

Course Analysis:

- What courses are in high demand?
- Are there particular courses for which there are too few instructors?
- Which courses are most easily adaptable for distance delivery?
- Do you have the access or resources necessary to redesign or convert selected courses for distance learning?
- Are the faculty or subject matter experts willing and available to participate in a distance learning effort?
Audience Analysis:

- Where are your audiences? (Are they in multiple time zones?)
- What are the learner characteristics or demographics?
- What are the leading motivators for your audiences?
- What kind of experience does your audience have with technology?

Technology Analysis:

- To what types of technology do your learners have access?
- Will their technology work for distance learning?
- What will it cost (in case of renting, buying, borrowing, and sharing)?
- Can learners connect with each other and other faculty at a central point of contact?

Support System Analysis:

- How will learners register for your courses?
- What kind of accreditation is needed or desired?
- How will you ensure that your courses are accredited?
- How will faculty be prepared and supported?
- How will participants’ learning be evaluated (e.g., grading, evaluation, and transcripts)?
- What kind of support will be available to learners (e.g., technical support, advance communication, and local facilitators)?
- How will your system be sustained?

In addition, the methods of gathering assessment data include interviews, surveys, observations, and focus groups.

- Interviews
  - Use when you need detailed information from a limited representative group.
• Advantages: fluid and flexible, can talk about things that are not observable and have no documentation, and allow for additional questions.

• Disadvantages: subjective, time-consuming, and consensus is needed.

• Surveys
• Use when you need to gather information from a large group.
• Advantages: good for validation, and easy to summarize and report.

• Observations
• Use when you want to find out how people do a task. First, observe whole task; second, look at details; third, walk and talk; and fourth, consider doing the task yourself.
• Advantages: you see how something is actually done, not how it is reported to you; and good for things that are difficult to describe verbally.
• Disadvantage: time consuming.

• Focus groups
• Use when you need to get consensus across a group and have limited time to do so.
• Advantages: can quickly provide instant validation and consensus.
• Disadvantages: Lose details and dominance of certain group members.

Source: Telecommunications and Distance Education Operation Learning Systems Institute (Public Health Training Network and the University of Guam), August 16-18, 2004.

WORKSHOP 2: The Benefits of Assistive Technology

Assistive technology, one of the ways to help adults with learning disabilities compensate for their difficulties in a variety of academic areas, was introduced as a component of rehabilitation during the late 1950s as a result of improved prosthetics developed for soldiers returning from war (Mull, 2003). According to the Institute,
Visual impairments include low vision, color blindness, and blindness.

A wide range of common illnesses and accidents can cause mobility impairments.

Language impairments include conditions such as aphasia and delayed speech.

Psychiatric impairments are broad and range from mild depression to chronic disorders.

Health impairments are not likely to directly affect learning unless it is neurological in nature.

The types of assistive technology and disability categories the Institute includes:

- Alternative input devices, which include alternative keyboard, head pointer, and electronic pointing devices, allow individuals to control their computers through means other than a standard keyboard or pointing device. Target: mobility disabilities
- Keyboard filters, which include typing aids, such as word prediction utilities and add-on spelling checkers, enable users to quickly access the letters they need and to avoid inadvertently selecting keys they do not want. Target: learning disabilities
- Large-print word processors allow users to view everything in large text without added screen enlargement. Target: low vision? Reading comprehension programs focus on establishing or improving reading skills through ready-made activities, stories, exercises, or games. These programs can help users practice letter sound recognition and can increase their understanding of words by adding graphics, sounds, and possibility animation. Target: specific learning disabilities
- Screen readers: software programs that present graphics and text as speech; used to verbalize, or “speak” everything on the screen including names and descriptions of control buttons, menus, text, and punctuation. Target: blindness, learning disabilities

Source: Assistive Technology Seminar (The University of Texas – Pan American, and the University of Guam), August 26, 2004.
Three models of distance education:

- Distributed classroom: technology-based classroom extended from one site to one or more distant sites (example: video-conference classes).
- Independent learning: (1) student-centered, (2) work on their own, self-paced, and follows guidelines of the course, (3) faculty facilitates with communication medium, answers questions, does evaluations (example: online course)? Open learning + class: students work both alone and as groups with class meetings, face-to-face, or with the use of technology (example: a telecourse with taped lectures).

Guidelines for developing distance learning:

- Distance learning activities are designated to fit the specific context for learning.
- Distance learning opportunities are effectively supported for learners through fully accessible modes of delivery and resources.
- Distance learning initiatives must have support in the forms of organizational commitment to quality and effectiveness in all aspects of the learning environment.
- Distance education programs organize learning around demonstrable learning outcomes, assist the learner to achieve those outcomes, and assess learner progress by reference to these outcomes.
- The provider has a plan and infrastructure for using technologies that support its learning goals and activities.

Factors that institutions can use for achieving successful distance education:

- Dedicated technology infrastructure.
- Selection of key delivery modes appropriate for the given environment.
- Key goal of learning.
- Dedicated/permanent administrative organization.
• Sustainable economic model.
• Use of distance education team, with professors and distance education professionals.
• Regular faculty training to teach distance education courses.

Source: Introduction to Online Education and UOG’s PROA Platform, University of Guam, September 13, 2004.
## Appendix I

### Glossary of Open and Distance Learning Terms

**Adult Education**: Teaching and learning that emphasizes the principles of adult learning, often known as andragogy, as compared to pedagogy, or child-centered learning.

**Assessment**: The measurement of a learner’s performance in terms of knowledge, skills and attitudes.

**Behavioral Objectives**: Learning objectives that indicate the expected changes of behavior in learners who complete a course of instruction.

**Bulletin Board System**: A small computer system that allows members to exchange messages, maintain discussion groups and download software.

**CD-ROM (compact disc read only memory)**: A disc that can store a large amount of text, audio, video and graphic information; a computer needs a special drive and software to display these materials.

**Constructivist**: Frameworks for learning in which learners and teachers work together to construct meanings, rather than having teachers predetermine or prescribe these meanings in advance for the learner.

**Continuing Education**: Education that is usually not for credit, but can be delivered on campus or at a distance.

**Curriculum**: The total structure of knowledge and skills and educational experiences that make up any one educational system or its component parts.

**Digital**: Information stored in the form of 0s and 1s; digital information may include video, audio, graphics, and text.

**Electronic Mail (e-mail)**: The exchange of information from one computer to another using software that is designed to store and forward messages received or sent.

**Evaluation**: A level of learning involving judging the value of the material with reference to a specific set of criteria.
Formative Assessment: The evaluation of learning that is carried out as the learning activities progress; contrast summative assessment, which takes place upon completion of the activities.

Formative Evaluation: The assessment of learning that occurs as a project or course is in progress with the aim of identifying problems and addressing them immediately; contrast summative evaluation.

Graphic Devices: Items in a text design that are used to emphasize a point, direct the readers’ attention, highlight the relationship between ideas, or provide learners with cues as to the activity in which they should be engaged; for example, tables, charts, symbols, shading, borders, textures and different fonts.

Handbooks: The part of the learning materials package that provides information to learners about other materials (for example, video cassettes) that have been purchased or leased from another institution. These require some explanatory notes so that they fit into the context of the user institution.

Information Highway: A term developed as a way of describing the joining together of once-separate telephone and television technologies and computing systems into a single global network of networks.

Instructional Design: See instructional development.

Instructional Designer: The person on the course team who understands research in open and distance learning and adult pedagogy, is the collector of wisdom and successful techniques in open and distance learning, and is able to apply this knowledge to the course in question without clashing with the course writer or writers.

Instructional Development: Also known as instructional design; a process of designing instruction in a way that enables learners to learn effectively.

Interaction: Two-way communication between tutor and learner, between one or more learners, and between learners and the learning materials.

Interactive Radio Instruction (IRI): A system of educational radio broadcasts intended for reinforcing learning in classroom settings that contain instructions to teachers and learners for engaging in some activity related to the broadcast and to actively respond to what they are hearing.

Interactive Television: Television broadcasts that are combined with some form of telecommunications link to enable viewers to respond to what they are watching.
**Internet:** The worldwide collection of computer networks that use a common communications protocol and addressing scheme to share resources with one another; owned by no one, it is maintained collectively by the individual national, regional, commercial, and institutional networks that make up the Internet.

**Knowledge:** A level of learning activities that involves recalling previously learned material.

**Learner-Centered Education:** An educational philosophy in which the integrity and freedom of the individual is primary; therefore, the teaching and learning process provides flexible sequences of study, negotiated objectives and content, negotiated learning methods, negotiated methods of assessment, and a choice of support mechanisms.

**Lifelong Learning:** A philosophical concept in which learning is viewed as a long-term process beginning at birth and lasting throughout life; a conceptual framework within which the learning needs of people of all ages and educational and occupational levels may be met, regardless of their circumstances.

**Listserv:** An e-mail system that automatically sends messages to all subscribers on specific mailing lists.

**Multimedia:** Learning technologies that involve the whole range of audio, visual, text, and graphics media available, integrated into a package that has been effectively designed from an instructional point of view.

**Norm-Referenced Assessment:** Assessment of learning that is based on the learner’s performance in a given area in relation to that of some norm or reference group.

**Objective:** In the context of teaching and learning, a specific statement about what the learner will be able to do when a learning activity is complete, the conditions under which learners will demonstrate their competence, and the way in which this competence will be measured.

**Objective Assessment:** Evaluation that is designed as far as possible to exclude the learner’s subjectivity; grading is done by presenting a number of factual questions to be answered by one word or a check mark instead of using verbal expression and the organization of material, requiring a minimum of judgment on the part of the marker.
Open Access: A way of providing learning opportunities that implies a lack of formal entry requirements, prerequisite credentials, or an entrance examination.

Open and Distance Learning: A way of providing learning opportunities that is characterized by the separation of teacher and learner in time or place, or both time and place; the use of a variety of media, including print and electronic; two-way communications that allow learners and tutors to interact; the possibility of occasional face-to-face meetings; and a specialized division of labor in the production and delivery of courses.

Open Learning: An educational philosophy that also emphasizes giving learners choices about media, places of study, paces of study, support mechanisms, entry points, and exit points.

Performance Indicators: Measurements for assessing the quantitative performance of a system.

Period of Account: The period of time over which costs are measured.

Quantitative Analysis: The process of identifying the discrete components of some phenomenon and the relationships between variables, emphasizing entities that can be counted or measured.

Technology-Based Education: In the context of teaching and learning, a system in which a media other than print has a major role.

Video Conference: A technological arrangement in which television monitors, cameras, and microphones are linked so that people in three or more sites can all see, hear, and speak to one another.

Videodisc: A disc on which video and audio signals are recorded for television use; a videodisc requires a video player compatible with the videodisc.

World Wide Web (www): A communication protocol for the Internet that deals with text, audio, video, animation, graphics, and color — anything that a computer program can produce.


**Objective**

To examine the state of the art of ITS (intelligent tutoring systems) evaluations.

**Instrument**

Studies were reviewed in four evaluation methods: summative vs. formative; internal vs. external; qualitative vs. quantitative; and formal vs. informal.

**Sample**

Leading researchers and scholars in the ITS field conducted ITS evaluation studies.

**Data Analysis**

The critical component in ITS is its knowledge component that has not been evaluated adequately to verify the knowledge.

**Results**

Summative evaluations were found to be more difficult to execute than formative evaluations because they would involve the comparison of ITS with human tutors using traditional teaching methods across the extensive problem domains.


**Objective**

To examine whether or not gender differences are associated with academic status on preferences for learning by CAI.

**Instrument**

A survey questionnaire was administered to students, who were asked whether or not they preferred taking courses using CAI or not using CAI.

**Sample**

Seventy-six students (N = 76) at a university in the mid-south in the U.S. were randomly selected to answer the questionnaire.

**Data Analysis**

A two-factor random-effects ANOVA (analysis of variance) was used (where preference for CAI as the dependent variable and student gender and academic status as the independent variables).

**Results**

Graduate students favor CAI more than undergraduate students do, probably because most of them have jobs and need to learn using CAI at a more convenient time and place. The result confirms the assumption that graduate students have more computer experiences.


**Objective**

To determine the process by which university teachers arrived at a positive perception of CAI.

**Instrument**

A survey questionnaire was conducted to identify the relative importance of facilitators and inhibitors for the faculty’s use of CAI.

**Sample**

Faculty of Singapore’s two institutions of higher education. Of 118 of the random sample, 63 (53%) completed the survey.

**Data Analysis**

Path analysis (causal model in which a series of independent variables is used to predict or series of dependent variables) was utilized to estimate the influence on the perception of CAI “Knowledge of CAI was found to be a dominant factor influencing the perceived usefulness of CAI among university teachers who used it.”

**Results**

Graduate students favor CAI more than undergraduate students do, probably because most of them have jobs and need to learn using CAI at a more convenient time and place. The result confirms the assumption that graduate students have more computer experiences.


**Objective**

To determine the process by which university teachers arrived at a positive perception of CAI.

**Instrument**

A survey questionnaire was developed to identify and to prioritize the factors in fluencing the university faculty’s use of CAI.

**Sample**

Seventy-six students (N = 76) at a university in the mid-south in the U.S. were randomly selected to answer the questionnaire.

**Data Analysis**

Path analysis (causal model in which a series of independent variables is used to predict or series of dependent variables) was utilized to estimate the influence on the perception of CAI.

**Results**

Graduate students favor CAI more than undergraduate students do, probably because most of them have jobs and need to learn using CAI at a more convenient time and place. The result confirms the assumption that graduate students have more computer experiences.


**Objective**

To identify and to prioritize the determinants of the faculty’s use of CAI.

**Instrument**

A survey questionnaire was distributed to the business and education faculty of a university in Singapore, with 53% (N=63) of respond ing.

**Data Analysis**

ANOVA (analysis of variance) was used (the preference for CAI as the dependent variable and student gender and academic status as the independent variables).

**Results**

Major facilitators were “teachers’ knowledge and skills in technology” and “availability of hardware and software,” whereas “lack of teachers’ time” and “lack of technical support” were the two most important inhibitors for the use of CAI for the faculty.