

Utah State University

DigitalCommons@USU

---

All Graduate Theses and Dissertations

Graduate Studies

---

5-2009

## An Assessment of Utah Resident Incentives and Disincentives for Use of OpenCourseWare (OCW)

Anne Arendt  
*Utah State University*

Follow this and additional works at: <https://digitalcommons.usu.edu/etd>



Part of the [Education Commons](#)

---

### Recommended Citation

Arendt, Anne, "An Assessment of Utah Resident Incentives and Disincentives for Use of OpenCourseWare (OCW)" (2009). *All Graduate Theses and Dissertations*. 389.  
<https://digitalcommons.usu.edu/etd/389>

This Dissertation is brought to you for free and open access by the Graduate Studies at DigitalCommons@USU. It has been accepted for inclusion in All Graduate Theses and Dissertations by an authorized administrator of DigitalCommons@USU. For more information, please contact [digitalcommons@usu.edu](mailto:digitalcommons@usu.edu).



AN ASSESSMENT OF UTAH RESIDENT INCENTIVES AND DISINCENTIVES  
FOR USE OF OPENCOURSEWARE (OCW)

by

Anne Arendt

A dissertation submitted in partial fulfillment  
of the requirements for the degree

of

DOCTOR OF EDUCATION

in

Education

Approved:

---

Gary Straquadine, Ph.D.  
Major Professor

---

Brett Shelton, Ph.D.  
Committee Member

---

Andrew Walker, Ph.D.  
Committee Member

---

Doug Holton, Ph.D.  
Committee Member

---

Sheri Haderlie, Ph.D.  
Committee Member

---

Byron Burnham, Ed.D.  
Dean of Graduate Studies

UTAH STATE UNIVERSITY  
Logan, Utah

2009

Copyright © Anne Arendt 2009

All Rights Reserved

## ABSTRACT

An Assessment of Utah Resident Incentives and Disincentives  
for Use of OpenCourseWare (OCW)

by

Anne Arendt, Doctor of Education

Utah State University, 2009

Major Professor: Gary Straquadine, Ph.D.  
Department: Higher Education

This dissertation examines Utah resident views of incentives and disincentives for use of OpenCourseWare (OCW) and how they fit into the theoretical framework of perceived innovation attributes established by Rogers. Rogers identified five categories of perceived innovation attributes, which include relative advantage, compatibility, complexity, trialability, and observability.

A survey instrument was developed using attributes that emerged from a Delphi technique with input from experts in the OCW field. The survey instrument was sent to 753 ( $n = 753$ ) random individuals between 18 and 64 years of age throughout Utah based on information obtained from Alseco Data Group, LLC.

Results indicated that the greatest incentives for OCW use were (a) no cost for materials ( $M = 4.59$ ,  $SD = .68$ ), (b) having resources available at any time ( $M = 4.35$ ,  $SD = .89$ ), (c) pursuing in depth a topic that interests me ( $M = 4.24$ ,  $SD = 0.93$ ), (d)

learning for personal knowledge or enjoyment ( $M = 4.22$ ,  $SD = .93$ ), and (e) materials in an OCW were fairly easy to access and find ( $M = 4.12$ ,  $SD = .98$ ).

Results indicated that the greatest disincentives for OCW use were (a) there was no certificate or degree awarded ( $M = 3.28$ ,  $SD = 1.54$ ), (b) it did not cover my topic of interest in the depth I desired ( $M = 3.17$ ,  $SD = 1.31$ ), (c) lack of professional support provided by subject tutors or experts ( $M = 3.14$ ,  $SD = 1.25$ ), (d) lack of guidance provided by support specialists ( $M = 3.09$ ,  $SD = 1.26$ ), and (e) feeling the material was overwhelming ( $M = 3.06$ ,  $SD = 1.31$ ).

(314 pages)

## ACKNOWLEDGMENTS

I would like to thank the members of my committee for taking the time from their busy schedules to work on my behalf. I would especially like to thank my committee chair, Dr. Gary Staquadine, for his exceptional support, direction, and mentoring. His style and energy have inspired me not just as a student but also as an educator and person.

I would also like to thank the students in my cohort from their locations throughout Utah. Their input, insights, and concern were invaluable to my learning experience.

Finally, I would like to thank my parents and my son for being so supportive of me as I pursued this goal. My son in particular was flexible, patient, and even joined me in some of my academic endeavors.

Anne Arendt

## CONTENTS

	Page
ABSTRACT.....	iii
ACKNOWLEDGMENTS .....	v
LIST OF TABLES .....	
LIST OF FIGURES .....	
CHAPTER	
I. INTRODUCTION.....	1
Background and Purpose of Study .....	2
Statement of the Problem .....	6
Research Questions .....	7
Outcomes of the Study .....	8
Operational Definition of Terms .....	8
II. REVIEW OF THE LITERATURE.....	10
Roger’s Attributes of Innovation.....	10
Self-Directed Learners .....	13
What Constitutes Open Educational Resources and OpenCourseWare.....	14
Currently Available Open Educational Resources and OpenCourseWare Resources .....	15
Open Communication Channels.....	21
Benefits and Drivers of Open Educational Resources and OpenCourseWare Resources .....	22
Limitations or Barriers of Open Educational Resources and OpenCourseWare Resources .....	24
III. METHODOLOGY .....	33
Design.....	33
Pilot Testing .....	39
Formal Survey .....	40
Data Analysis .....	46
Limitations and Scope.....	51

IV. RESULTS.....	54
Utilizing a Delphi Approach to Develop a Survey Instrument .....	54
Perceived Incentives for Use of OpenCourseWare by Utah Adult Population .....	55
Perceived Disincentives for Use of OCW by the Utah Adult Population.....	59
Incentives in the Use of OpenCourseWare in Utah by Age, Income, Gender, Education, County, Occupation, and Ethnicity .....	63
Disincentives in the Use of OpenCourseWare in Utah by Age, Income, Gender, Education, County, Occupation, and Ethnicity .....	71
Diffusion Attributes That Contribute to the Adoption (Incentives) of OpenCourseWare in Utah .....	77
Diffusion Attributes That Contribute to Rejection (Disincentives) of OpenCourseWare in Utah .....	82
Open-Ended Questions.....	91
Threats to Validity and Reliability .....	92
Summary .....	95
V. DISCUSSION .....	98
Utilizing a Delphi Approach to Develop a Survey Instrument .....	98
Perceived Incentives for Use of OpenCourseWare by the Utah Adult Population .....	99
Perceived Disincentives for Use of OpenCourseWare by the Utah Adult Population .....	101
Incentives in the Use of OpenCourseWare in Utah by Age, Income, Gender, Education, County, Occupation, and Ethnicity .....	104
Disincentives That Prevent the Use of OpenCourseWare in Utah by Age, Income, Gender, Education, County, Occupation, and Ethnicity .....	105
Diffusion Attributes That Contribute to the Adoption (Incentives) of OpenCourseWare in Utah .....	107
Diffusion Attributes That Contribute to Rejection (Disincentives) of OpenCourseWare in Utah .....	108
Possible Actions .....	110
Practical Importance.....	114
Conclusion.....	115
The Possible Future .....	116
Areas of Further Study .....	117
REFERENCES .....	118



APPENDICES .....	125
Appendix A: Letter to OCW Expert.....	126
Appendix B: Questions for OCW Experts .....	128
Appendix C: List of OCW Experts .....	130
Appendix D: Mockup of End User Survey.....	135
Appendix E: Letter of Information.....	137
Appendix F: Informed Consent.....	139
Appendix G: Incentives and Disincentives Categorized by Roger's Attributes of Innovation.....	142
Appendix H: Analysis of Incentives from Pilot Study of 44 Individuals.....	146
Appendix I: Analysis of Disincentives from Pilot Study of 44 Individuals.....	152
Appendix J: Analysis of Incentives from Survey of 140 Individuals .....	159
Appendix K: Analysis of Disincentives from Survey of 140 Individuals....	164
Appendix L: Survey .....	169
Appendix M: Reminder Letter 1 .....	173
Appendix N: Reminder Letter 2 .....	175
Appendix O: Frequency Tables by Incentive .....	177
Appendix P: Frequency Tables by Disincentive.....	190
Appendix Q: Mean Scores for Incentives by Age .....	206
Appendix R: Pearson Product-Moment Correlations Between Age and Incentives .....	209
Appendix S: Pearson Product-Moment Correlations Between Income and Incentives .....	214
Appendix T: Mean Scores for Incentives by Gender.....	219
Appendix U: Point Bi-Serial Correlation Coefficients Between Gender and Incentives .....	222
Appendix V: Mean Scores of Incentives by Education.....	227
Appendix W: Spearman's RHO Correlation Coefficients Between Education and Incentives .....	230
Appendix X: Eta Correlation Ratio Between County and Incentives .....	235
Appendix Y: Eta Correlation Ratio Between Occupation and Incentives....	238
Appendix Z: Eta Correlation Ratio Between Ethnicity and Incentives .....	241
Appendix AA: Mean Scores of Disincentives by Age.....	244
Appendix BB: Pearson Product-Moment Correlations Between Age and Disincentives.....	247
Appendix CC: Pearson Product-Moment Correlations Between Income and Disincentives.....	253
Appendix DD: Mean Scores for Disincentives by Gender.....	258
Appendix EE: Point Bi-Serial Correlation Coefficients Between Gender and Disincentives.....	262

	Page
Appendix FF: Mean Scores of Disincentives by Education .....	268
Appendix GG: Spearman's RHO Correlation Coefficients Between Education and Disincentives.....	272
Appendix HH: Eta Correlation Ratio Between County and Disincentives .....	278
Appendix II: Eta Correlation Between Occupation and Disincentives .....	281
Appendix JJ: Eta Correlation Ratio Between Ethnicity and Disincentives ..	284
Appendix KK: Comparison of Demographics of Respondents and Nonrespondents.....	287
CURRICULUM VITAE.....	292

## LIST OF TABLES

Table	Page
1. Demographic Occupation Characteristics of Sample.....	42
2. Demographic Ethnicity Characteristics of Sample .....	42
3. Demographic Age Characteristics of Sample .....	43
4. Demographic Schooling Characteristics of Sample.....	43
5. Demographic Income Characteristics of Sample .....	43
6. Demographic County Characteristics of Sample .....	44
7. Demographic Occupation Characteristics of Valid Responses .....	48
8. Demographic Ethnicity Characteristics of Valid Responses.....	49
9. Demographic Age Characteristics of Valid Responses.....	49
10. Demographic Education Level Characteristics of Valid Responses .....	50
11. Demographic Income Characteristics of Valid Responses .....	51
12. Demographic County Characteristics of Valid Responses.....	52
13. Wave Analysis of Incentives and Disincentives by Week for Overall Means by Roger's Attributes.....	53
14. Descriptive Statistics of Survey Responses for Incentives .....	57
15. Descriptive Statistics of Survey Responses for Disincentives .....	60
16. Descriptive Statistics of Responses for Incentives by Rogers' Attributes of Innovation .....	78
17. Incentives Based on Rogers' Attributes of Innovation .....	80
18. Overall Means for Incentives by Rogers' Attributes.....	82

Table	Page	
19. Multiple Regression Analysis of Weighted Incentive Mean and Rogers' Attributes .....	83	
20. Descriptive Statistics of Responses for Disincentives by Rogers' Attributes .....	84	84
21. Disincentives Based on Rogers' Attributes of Innovation .....	87	
22. Overall Means for Disincentives by Rogers' Attributes .....	90	
23. Multiple Regression Analysis of Weighted Disincentive Mean and Rogers' Attributes .....	91	
24. Greatest Incentive Questions for OCW Use.....	101	
25. Greatest Disincentive Questions for OCW Use .....	103	
O-1. Incentive Frequency Table for Incentive Question 1 .....	178	
O-2. Incentive Frequency Table for Incentive Question 2 .....	178	
O-3. Incentive Frequency Table for Incentive Question 3 .....	178	
O-4. Incentive Frequency Table for Incentive Question 4 .....	179	
O-5. Incentive Frequency Table for Incentive Question 5 .....	179	
O-6. Incentive Frequency Table for Incentive Question 6 .....	179	
O-7. Incentive Frequency Table for Incentive Question 7 .....	180	
O-8. Incentive Frequency Table for Incentive Question 8 .....	180	
O-9. Incentive Frequency Table for Incentive Question 9 .....	180	
O-10. Incentive Frequency Table for Incentive Question 10 .....	181	
O-11. Incentive Frequency Table for Incentive Question 11 .....	181	
O-12. Incentive Frequency Table for Incentive Question 12 .....	181	
O-13. Incentive Frequency Table for Incentive Question 13 .....	182	

Table	Page
O-14. Incentive Frequency Table for Incentive Question 14 .....	182
O-15. Incentive Frequency Table for Incentive Question 15 .....	182
O-16. Incentive Frequency Table for Incentive Question 16 .....	183
O-17. Incentive Frequency Table for Incentive Question 17 .....	183
O-18. Incentive Frequency Table for Incentive Question 18 .....	183
O-19. Incentive Frequency Table for Incentive Question 19 .....	184
O-20. Incentive Frequency Table for Incentive Question 20 .....	184
O-21. Incentive Frequency Table for Incentive Question 21 .....	184
O-22. Incentive Frequency Table for Incentive Question 22 .....	185
O-23. Incentive Frequency Table for Incentive Question 23 .....	185
O-24. Incentive Frequency Table for Incentive Question 24 .....	185
O-25. Incentive Frequency Table for Incentive Question 25 .....	186
O-26. Incentive Frequency Table for Incentive Question 26 .....	186
O-27. Incentive Frequency Table for Incentive Question 27 .....	186
O-28. Incentive Frequency Table for Incentive Question 28 .....	187
O-29. Incentive Frequency Table for Incentive Question 29 .....	187
O-30. Incentive Frequency Table for Incentive Question 30 .....	187
O-31. Incentive Frequency Table for Incentive Question 31 .....	188
O-32. Incentive Frequency Table for Incentive Question 32 .....	188
O-33. Incentive Frequency Table for Incentive Question 33 .....	188
O-34. Incentive Frequency Table for Incentive Question 34 .....	189

Table	Page
O-35. Incentive Frequency Table for Incentive Question 35 .....	189
P-1. Disincentive Frequency Table for Disincentive Question 1 .....	191
P-2. Disincentive Frequency Table for Disincentive Question 2 .....	191
P-3. Disincentive Frequency Table for Disincentive Question 3 .....	191
P-4. Disincentive Frequency Table for Disincentive Question 4 .....	192
P-5. Disincentive Frequency Table for Disincentive Question 5 .....	192
P-6. Disincentive Frequency Table for Disincentive Question 6 .....	192
P-7. Disincentive Frequency Table for Disincentive Question 7 .....	193
P-8. Disincentive Frequency Table for Disincentive Question 8 .....	193
P-9. Disincentive Frequency Table for Disincentive Question 9 .....	193
P-10. Disincentive Frequency Table for Disincentive Question 10 .....	194
P-11. Disincentive Frequency Table for Disincentive Question 11 .....	194
P-12. Disincentive Frequency Table for Disincentive Question 12 .....	194
P-13. Disincentive Frequency Table for Disincentive Question 13 .....	195
P-14. Disincentive Frequency Table for Disincentive Question 14 .....	195
P-15. Disincentive Frequency Table for Disincentive Question 15 .....	195
P-16. Disincentive Frequency Table for Disincentive Question 16 .....	196
P-17. Disincentive Frequency Table for Disincentive Question 17 .....	196
P-18. Disincentive Frequency Table for Disincentive Question 18 .....	196
P-19. Disincentive Frequency Table for Disincentive Question 19 .....	197
P-20. Disincentive Frequency Table for Disincentive Question 20 .....	197

Table	Page
P-21. Disincentive Frequency Table for Disincentive Question 21 .....	197
P-22. Disincentive Frequency Table for Disincentive Question 22 .....	198
P-23. Disincentive Frequency Table for Disincentive Question 23 .....	198
P-24. Disincentive Frequency Table for Disincentive Question 24 .....	198
P-25. Disincentive Frequency Table for Disincentive Question 25 .....	199
P-26. Disincentive Frequency Table for Disincentive Question 26 .....	199
P-27. Disincentive Frequency Table for Disincentive Question 27 .....	199
P-28. Disincentive Frequency Table for Disincentive Question 28 .....	200
P-29. Disincentive Frequency Table for Disincentive Question 29 .....	200
P-30. Disincentive Frequency Table for Disincentive Question 30 .....	200
P-31. Disincentive Frequency Table for Disincentive Question 31 .....	201
P-32. Disincentive Frequency Table for Disincentive Question 32 .....	201
P-33. Disincentive Frequency Table for Disincentive Question 33 .....	201
P-34. Disincentive Frequency Table for Disincentive Question 34 .....	202
P-35. Disincentive Frequency Table for Disincentive Question 35 .....	202
P-36. Disincentive Frequency Table for Disincentive Question 36 .....	202
P-37. Disincentive Frequency Table for Disincentive Question 37 .....	203
P-38. Disincentive Frequency Table for Disincentive Question 38 .....	203
P-39. Disincentive Frequency Table for Disincentive Question 39 .....	203
P-40. Disincentive Frequency Table for Disincentive Question 40 .....	204
P-41. Disincentive Frequency Table for Disincentive Question 41 .....	204

Table	Page
P-42. Disincentive Frequency Table for Disincentive Question 42 .....	204
P-43. Disincentive Frequency Table for Disincentive Question 43 .....	205
Q-1. Comparison of the Mean Scores of Incentives by Age .....	207
R-1. Correlation for Age and Incentives .....	210
S-1. Correlation for Income and Incentives .....	215
T-1. Comparison of the Mean Scores of Incentives by Gender .....	220
U-1. Correlations for Gender and Incentives.....	223
V-1. Comparison of the Mean Scores of Incentives by Education Level .....	228
W-1. Correlation for Education and Incentives.....	231
X-1. Measure of Association Between Incentives and County .....	236
Y-1. Measure of Association Between Incentives and Occupation .....	239
Z-1. Measure of Association Between Incentives and Ethnicity .....	242
AA-1. Comparison of the Mean Scores of Disincentives by Age.....	245
BB-1. Correlation for Age and Disincentives.....	248
CC-1. Correlation for Income and Disincentives.....	254
DD-1. Comparison of the Mean Scores of Disincentives by Gender.....	259
EE-1. Correlations for Gender and Disincentives .....	263
FF-1. Comparison of the Mean Scores of Disincentives by Education Level .....	269
GG-1. Correlation for Education and Disincentives .....	273
HH-1. Measure of Association between Disincentives and County .....	279
II-1. Measure of Association between Disincentives and Occupation.....	282



Table	Page
JJ-1. Measure of Association Between Disincentives and Ethnicity.....	285

LIST OF FIGURES

Figure	Page
1. Adopter categorization on the basis of innovativeness .....	11

## CHAPTER I

### INTRODUCTION

Open educational resources are growing in prevalence in the United States as well as globally and include OpenCourseWare (OCW) as well as other learning initiatives. Institutions involved in OCW initiatives in the United States included founder Massachusetts Institute of Technology (MIT), Johns Hopkins Bloomberg School of Public Health, Carnegie Mellon, Tufts University, University of California—Irvine, University of Norte Dame, and Utah State University among others nationally and globally (OCW Consortium, 2009; OCW Finder, 2007). There are other initiatives as well that combine resources from various institutions such as Sharing of Free Intellectual Assets (Sofia) and Multimedia Educational Resource for Learning and Online Teaching (Merlot). Other resources aimed at opening access to books and other print materials such as the Google Open Content Initiative and the Internet Archive Open Content Alliance (OCA) are also available. Although open learning initiatives are gaining momentum in numbers, there remain questions about their effectiveness globally, nationally, and locally. This research proposes a study to assess what Utah residents see as incentives and disincentives to using OCW or other open educational resources. Of primary concern is determining why users choose to use or not use OCW materials. This should assist institutions offering OCW or open educational resources to enhance the value of their resources for end users. Of equal concern in conducting an exploratory study is to establish potential areas of further study or inquiry.

## Background and Purpose of Study

### *Open Educational Resources Described*

The open educational resources movement consists of freely accessible electronic access to course materials, but it also involves other aspects such as open access to books and library materials, and access to modules of educational information instead of complete courses. It may also include educational communication tools or implementation resources as well (International Institute for Education and Planning, 2005). Essentially, it is teaching, learning, and research resources, content or otherwise, which reside in the public domain or have been released under an intellectual-property license that permits their free use or repurposing by others. This may include learning content, tools such as software, or implementation resources such as methods or principles (Smith & Casserly, 2006; Stover, 2005; Trenin, 2007). Their intention, overall, is to foster learning and the acquisition of competencies in both teachers and learners (Open eLearning, 2007).

### *OCW Initiative Described*

The OCW aspect of the open learning initiative was dedicated to the development of freely available, stand-alone college-level online course and teaching materials informed by the best current research. OCW includes items such as lecture notes, reading lists, course assignments, syllabi, study materials, tests, samples, simulations, and the like (Educause Learning, 2006; Vest, 2004).

*MIT OCW.* MIT has perhaps the most well known OCW project known to date at <http://OCW.mit.edu/> and has been creating OCW materials for longer than most. It began publication of its courseware for public consumption in 2002. The MIT OCW initiative has made content from all of their approximately 1800 courses available on the Internet at no cost for noncommercial purposes (Carson, 2006; Matkin, 2005). The idea originated from MIT faculty in 1999 and as of 2002 offers materials such as class notes, syllabi, assignments, problem sets, reading lists, and presentations (Lerman & Miyagawa, 2002; Olsen, 2002; Vest, 2004; Young, 2001). As of this writing, MIT has published all of their 1,800 courses from all 5 of its schools and from 33 academic departments and is visited over 1.2 million times per month from individuals around the globe (Smith & Casserly, 2006; Vest, 2006). However, MIT OCW is not the only one around.

*Other OCW's.* An OCW consortium is found at <http://www.ocwconsortium.org/> and has been formed to develop shared mission, goals, priorities, visibility, and search ability. Currently over 200 other OCW projects have been launched in countries including Brazil, China, France, India, Japan, Portugal, Spain, United States, and Vietnam, offering combined access to more than 2,500 courses (OCW Consortium, 2009; Smith & Casserly, 2006; Vest, 2006). From within the U.S. this includes projects such as the Utah State University OCW and Carnegie Mellon Open Learning Initiative to name a few. From outside the United States many initiatives are strong and growing. For example, the China Open Resources for Education otherwise known as CORE has over 1,100 courses available now (China Open Resources for Education, 2007), and the United Kingdom Open University aims to have 5,400 hours of learning content available

by April 2008 (The Open University, 2007). OCW is truly global in scale and reach.

### *Audiences Using OCW*

Publicly available research on the audiences who use OCW is limited in the United States beyond that of Massachusetts Institute of Technology (MIT). Therefore, their studies, although biased to MIT OCW, will be used to give a general prospective on OCW use. That said, limited information is also available for Utah State University's OCW, which has 82 courses in 20 different departments available online. USU's OCW gets approximately 50,000 visitors a month with half of the traffic originating from the United States (Hanselman, 2009).

The MIT OCW site has more than 1 million monthly visits to OCW content and a 56% annual increase in visits as of 2005. Of these visitors 49% are self-directed learners, 32% are students, and 16% are educators from around the world, with 61% of OCW use originating from outside the United States (Carson, 2006).

The purposes for using MIT OCW range significantly. Self-directed learner uses include: (a) enhancing personal knowledge (56%), (b) keeping current in the field (16%), and (c) planning future study (14%). Student uses include: (a) complementing a course (38%), (b) enhancing personal knowledge (34%), and (c) planning course of study (16%). Educator uses include: (a) planning a course (26%), (b) preparing to teach a class (22%), and (c) enhancing personal knowledge (19%; Carson, 2006).

As the MIT 2005 Program Evaluation Findings Report noted, "Visitor intent to return to the site is a strong indicator of perceived impact" (Carson, 2006, p. 64). For the year 2005, 98.7% of all new visitors said they would either definitely or probably return,

and 99.3% of all return visitors said they would either probably or definitely return.

### *The Reach of OCW*

OCW and other open educational resources provide open access to educational resources and contribution methods around the world and in many languages. As an example of its reach, currently the OCW Consortium consists of members from 30 countries and includes over 21 institutions in the United States (OCW Consortium, 2009). The reach of OCW resources housed in the United States also extends beyond the boundaries of local, state, and nation. MIT's OCW for example had approximately 60% of its traffic from non-United States locations in 2005. Although North America constituted 42.9% of visits, 21.2% came from Western Europe, 15.1% from East Asia, and 6.1% from South Asia (Carson, 2006, p. 12-13). As Atkins, Brown, and Hammond (2007) noted, "International impact has been led by the OCW activities, but there has also been significant impact in the broader agenda of OER and ICT-supported learning beyond OCW. This impact has occurred through international projects such as Teachers Education in Sub-Saharan Africa (TESSA), Open University UK, Open University Netherlands, European Association of Distance and Teaching Universities, India National Knowledge Commission (through a grant to MIT), OECD, and UNESCO International Institute for Educational Planning (IIEP)" (p. 26). That said, there are requirements for OCW to be accessible no matter where you reside.

### *Demographics of Utah*

Of specific concern in this research is the usage of nationwide OCW initiatives in

Utah. Thus, it is important to first address the current demographics. The state of Utah has a population over 2.6 million people, making it 34<sup>th</sup> in terms of population size among the 50 states. In 2006, Utah's population grew 2.5% as compared to 1% nationally, and between 2005 and 2020, the population is expected to grow 24%, while the national average expected growth is 14%. It is also expected that Utah will have a 31% increase in the number of high school graduates from 2002 to 2017, while the national average is estimated at only 8% (Governor's Office of Planning & Budget, 2007; National Center for Public Policy and Higher Education, 2006).

Education is not equal for all residents of Utah. As of 2000, only 7% of Utah's Caucasian working-age population had less than a high school credential, with 38% having an associate's degree or higher. However, for Hispanics and Latinos, 42% had less than a high school credential, and only 14% have an Associate's degree or higher (National Center for Public Policy & Higher Education, 2006). Equally, there are age discrepancies. If one considers only the age group of 18 to 24 in Utah, then there are 15.3% who are less than high school graduates, and only 5.7% with a bachelor's degree or higher (U.S. Census Bureau, 2005). While this research will not directly address issues of educational equality and access, it is important to understand the environment within which the proceeding study will occur. Equally, this research may point toward areas for further study or inquiry based on the demographic and geographic results.

### Statement of the Problem

Research has been done on why educators, either individual or institutions, may



or may not opt to use or develop OCW materials (Downes, 2007; Moore, 2002; Smith & Casserly, 2006). Researchers have reported, to some degree, an understanding of who is using OCW materials and why (Carson, 2006; Hanselman, 2009). There has also been speculation regarding why students might opt to use OCW materials (Smith & Casserly, 2006). However, research has not investigated what potential users see as incentives or disincentives for using OCW. Little is known, in a formal adoption model such as Roger's attributes of innovations, what incentives support adoption.

### Research Questions

The topic to be addressed was: What are incentives and disincentives for Utah residents to use OpenCourseWare (OCW) or other open educational resources? An expected outcome was to determine what educational institutions who offer OCW or other open educational resources can do to enhance the value of their resources for end users. Of equal concern is doing an exploratory study to assess potential areas of further study or inquiry.

The following research questions will be answered in this paper: (a) What are attributes that contribute to OCW adoption in Utah found utilizing the Delphi approach to develop a survey instrument? (b) What are perceived incentives for use of OCW by the Utah adult population? (c) What are perceived disincentives that prevent use of OCW by the Utah adult population? (d) What are incentives in the use of OCW in Utah by age, income, gender, education, and location? (e) What are disincentives that prevent the use of OCW in Utah by age, income, gender, education, and location? (f) What are diffusion

attributes that contribute to the adoption (incentives) of OCW in Utah? (g) What are diffusion attributes that contribute to rejection (disincentives) of OCW in Utah?

### Outcomes of the Study

This research has a direct relationship to education and particularly higher education since approximately 33% of all OCW visitor population at MIT are students in formal educational programs, and another 16% are educators (Carson, 2006, p. 13). Equally, open educational resources are becoming increasingly prevalent for self-directed learning. This research has a direct relationship to education because it will give a needs assessment of end user's perceived incentives and disincentives for OCW style resource use throughout Utah.

### Operational Definition of Terms

*Educational:* Not only formal, institutionally framed materials but also informal, self-managed learning that are instructive or serve to educate

*Open educational resources:* As defined by UNESCO (2002) in the final report of the Forum on the Impact of Open Courseware for Higher Education in Developing countries, "The open provision of educational resources, enabled by information and communication technologies, for consultation, use and adaptation by a community of users for non-commercial purposes."

*Self-directed learner:* Individual, regardless of age, takes independent initiative in determining their learning needs and goals and chooses and implements self-selected

learning strategies (Knowles, 1975)

*User* : Any user of open educational resources whether they are affiliated with any educational institutions or not

*OpenCourseWare*: Freely available, stand-alone, college-level online course and teaching materials including items such as lecture notes, reading lists, course assignments, syllabi, study materials, tests, samples and online simulations.

## CHAPTER II

### REVIEW OF THE LITERATURE

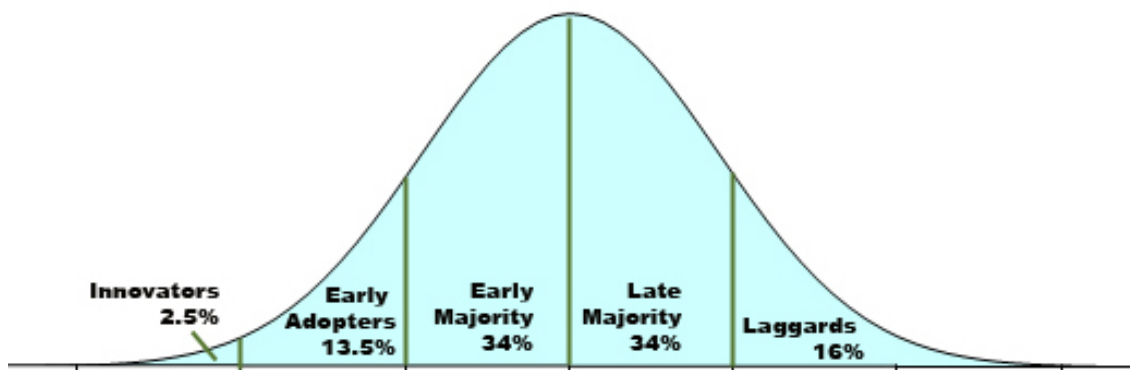
The literature review examines OCW and more generally open educational resources. It also reviews why people adopt innovations based on Everett Roger's attributes of innovations, which was as a theoretical basis for this study. The review of OCW materials started with a formal literature search of published peer-reviewed journals found in library databases. This review of published, peer review journals did not seem to reach the depth necessary though due to the recent emergence and exploding growth in these areas. Thus, further evaluation was done via Web searching and reviews, particularly from sites actively involved in OCW or other open educational resources. The combined data was then evaluated, analyzed, and interpreted below. Information on Roger's attributes of innovation was more readily available via a formal literature search.

#### Roger's Attributes of Innovation

Roger's (2003) attributes of innovation as described in his book *Diffusion of Innovations* will be used as the framework to assess individual's inclination and disinclination to adopt open educational resource innovations. Rogers was chosen due to his prominence in the field, use in prior doctorate work (Allard, 2003; Al-Shohaib, 2005; Liebermann, 2006; Schroll, 2007), and demonstration that between 49% and 87% of variance in the rate of adoption of innovations can be attributed to five perceived attributes: (a) relative advantage, (b) compatibility, (c) complexity, (d) trialability, and (e) observability (Rogers).

Getting new ideas, technologies, products, or processes adopted on a wide scale is difficult. Rogers (2003) discussed the challenges and end-user tendencies in adopting new innovations. Rogers defined an innovation as “an idea, practice, or object that is perceived as new by an individual or other unit of adoption” (p. 12). He referred to the spread of an innovation as its diffusion, “the process in which an innovation is communicated through certain channels over time among the members of a social system” (p. 5). This does not assume, however, that the adoption of an innovation is necessarily good for all participants nor does it assume they will accept all aspects of an innovation. Equally, it does not assume all potential participants will adopt at the same rate. Instead, Rogers identified varying adopter categories including (a) innovators who are the first to adopt, (b) early adopters, (c) early majority, (d) late majority, and (e) laggards (pp. 282-285; see Figure 1).

Rogers (2003) wrote that potential adopters go through a systematic decision-making process. First, knowledge must occur where an individual is exposed to an innovation’s existence. Next, persuasion must occur where the individual forms a



*Figure 1.* Adopter categorization on the basis of innovativeness. (Rogers, 2003, p. 281)

positive or negative viewpoint toward the innovation. A decision is then made by the individual to adopt or reject the innovation. Implementation of the decision then occurs by the individual, and finally confirmation occurs when the individual seeks reinforcement of the decision that had been made (Rogers, p. 169).

Before potential users can be persuaded positively or negatively toward an innovation they must be informed about its existence. According to Rogers, there are key communication channels that are used. Mass media is useful for rapid awareness communication to wide audiences, but interpersonal channels involving face-to-face exchanges are often more effective. Often innovations, particularly those in social systems that favor change, will have opinion leaders who effectively influence other individual's attitudes both for and against adoption and who carry information across boundaries between groups. Equally, innovations will have change agents who influence individual's innovation decisions by either encouraging a particular change or by mediating the diffusion process to ensure its success (Rogers, 2003, p. 366).

Users who potentially may adopt an innovation tend toward particular attributes when making their decision. These include (a) relative advantage, (b) compatibility, (c) complexity, (d) trialability, and (e) observability. Relative advantage is "the degree to which an innovation is perceived as being better than the idea it supersedes" (Rogers, 2003, p. 229). An individual's assessment of relative advantage could include many aspects, such as social prestige, convenience, satisfaction, or economic improvement (Allard, 2003). Compatibility is "the degree to which an innovation is perceived as consistent with the existing values, past experiences, and needs of potential adopters"

(Rogers, 2003, p. 240). If the innovation is a logical extension of the environment, or matches existing values or experiences, then it is likely to be adopted more readily (Allard). Complexity is “the degree to which an innovation is perceived as relatively difficult to understand and use” (Rogers). Those that are easier to understand and do not require attainment of new skills will be more readily adopted. Trialability is “the degree to which an innovation may be experimented with on a limited basis” (Rogers, p. 257). New ideas that can be used in a trial basis are generally more accepted and adopted, in part because they help dispel uncertainty (Rogers, p. 258). Observability is “the degree to which the results of an innovation are visible to others” (Rogers, p. 258). Innovations that are more visible and observable are likely to have greater acceptance and adoption.

### Self-Directed Learners

A number of users of open educational resources are likely to be self-directed learners taking initiative in their own learning as compared to teacher-directed learners. In self-directed learning the individual takes independent initiative in determining their learning needs and goals and chooses and implements self-selected learning resources and strategies with a minimum of professional assistance (Brookfield, 1986; Knowles, 1975). Alternative terminology of self-education or self-directed education could be used and for the purposes of this research will be considered the same as self-directed learning, where learning is treated as an action verb rather than a noun describing an internal change in consciousness (Brookfield).

Self-directed learners could perhaps benefit most from open educational resources

(Hiemstra, 2003). They can take their own initiative, locate and relate materials to their own experiences, enhance their inquiry skills and abilities, target content that addresses their specific needs or problems, and be active participants in decision making and assessment of their own learning. All of these attributes are elements of self-directed learning (Brookfield, 1986; Knowles, 1975; Merriam & Caffarella, 1991).

### What Constitutes Open Educational Resources and OpenCourseWare

The meaning and scope of open educational resources has been growing. It includes digitized materials offered freely and openly for educators, students and self-learners to use and reuse for teaching, learning, and research. It includes learning content from full courses to collections of specific materials, tools such as software and systems, and implementation resources such as Creative Commons licenses or best practices (Trenin, 2007). However, there is not one set definition. The Open eLearning Content Observatory Services, a European project that is co-funded by the EU Commission and located at <http://www.olcos.org/>, described the following key attributes: (a) the access to the content is provided free of charge to all, (b) the content is liberally licensed for reuse in educational activities, and (c) the systems and tools use open programming interfaces (Open eLearning, 2007). Generally speaking, however, open educational resources are equated with access to course materials in whole or in part. The Hewlett Foundation, for example, a significant financial supporter of the OER movement, defines it as “OER are teaching, learning and research resources that reside in the public domain or have been



released under an intellectual property license that permits their free use or re-purposing by others. Open educational resources include full courses, course materials, modules, textbooks, streaming videos, tests, software, and any other tools, materials or techniques used to support access to knowledge” (The William and Flora Hewlett Foundation, 2007).

### Currently Available Open Educational Resources and OpenCourseWare Resources

The quantity of open educational resources is growing rapidly. As Trenin (2007) pointed out, “In January 2007 the Organisation for Economic Co-operation and Development (OECD) identified over 3,000 open courseware courses available from over 300 universities worldwide. In repositories such as MERLOT, Connexions, OpenLearn and others, there are hundreds of thousands of pieces of content or materials representing thousands of freely available learning hours.” Equally, the number of OCW-specific resources is growing rapidly.

#### *OpenCourseWare*

As noted earlier, the OCW aspect of the open learning initiative is dedicated to the development of freely available, stand-alone, college-level online course and teaching materials informed by the best current research and includes items such as lecture notes, reading lists, course assignments, syllabi, study materials, tests, samples and simulations. A participant does not need to register or log in, instead all the content is accessible at no cost and available to everyone to use—generally in an educational or non-commercial

setting (Educause Learning, 2006; Kirkpatrick, 2006; Vest, 2004).

*MIT OpenCourseWare.* As noted previously, MIT has perhaps the most well known OCW project known to date. It is visited over 1.2 million times per month from individuals around the globe with the help of nearly 80 mirror sites on university campuses around the world including 54 in Africa and 10 in East Asia. OCW is primarily in English but has been translated into languages including Spanish, Portuguese, traditional Chinese, and simplified Chinese (Kirkpatrick, 2006; Smith & Casserly, 2006; Vest, 2006).

*Other OpenCourseWare participating systems.* OCW is global in both reach and scale. The OCW Consortium located at <http://www.ocwconsortium.org> provides a representative picture and has over 200 higher education institutions and associated organizations from around the world (OCW Consortium, 2009). OCW projects have been launched in the United States, China, France, India, Brazil, Spain, Portugal, Japan, and Vietnam, offering combined access to more than 2,500 courses (Smith & Casserly, 2006; Vest, 2006). One example, Universia.net, is a consortium of 985 or more universities in Latin America, Spain and Portugal with Spanish and Portuguese translations of courses (Portal Universia, 2007).

One example of an OCW site is OpenLearn at <http://openlearn.open.ac.uk/>. OpenLearn gives free access to course materials from The Open University. It covers topics including arts and history, business and management, education, health and lifestyle, information technology and computing, law, mathematics and statistics, modern languages, science and nature, society, study skills and technology. It also contains

knowledge and content mapping using Compendium, a software tool for visual thinking that helps tie materials together, along with other useful resources such as instant messaging, forums, and journals.

### *Social Software*

One aspect of open educational resources is social software. Social software tools make it easy to interact with other people or publish and share ideas, content and links with others via the Internet. It includes Wikis, Weblogs, and content sharing Websites such as YouTube or Flickr (Open eLearning, 2007). Open eLearning Content Observatory Services contends that “in the future the much sought after OER will more likely be found in these social environments and contexts of learning than in typical courses that are today supported by the Virtual Learning Environments of schools/ colleges and universities” (p. 24). Having communities of interest provides not just content but mechanisms for discussion, commentary, addendums, and sharing of results.

Online social software is having an impact on education already by offering new means of communication and interaction for students. For example, Second life at <http://secondlife.com/> and Teen Second Life at <http://teen.secondlife.com/> are three-dimensional spaces where individuals create their own characters and interact in a virtual world. Many universities have set up interactive classes and curriculum in Second Life including Harvard Law School, USC, University of Texas, University of Ohio, U.C. Berkeley, Stanford, and San Jose State to name a few (Singer, 2008). As another example of social networking software use in education that is more similar to a Facebook type experience can be found at the International School of Prague in the

Czech Republic, which recently launched Stroodle, a social networking site with an educational twist that serves as an online academic community (Wong, 2008). An example local to the state of Utah is Brigham Young University's Lymabean site at <http://www.lymabean.com/>, which aims to promote the sharing of events, businesses, pictures, and other interests in the college community and is currently in Beta development (Gosney, 2008).

### *Learning Resources*

Learning resources include learning objects and other resources that facilitate learning that are not full course material collections as would be found in OCW. They generally support a more collaborative approach to research and teaching and are created with the intention of reuse (Malcolm, 2005). It includes learning objects, reference materials, and resource repositories.

*Educational repositories and learning objects.* Learning objects are small, reusable pieces of instructional material that can be used to facilitate student learning. They are components that are reusable either in multiple classes or in multiple learning environments or locations and are generally housed on the Internet. Examples of learning objects include images, short video or audio clips, tutorials, case studies, simulations, and the like. Learning object portals aid locating resources and include Global Education Online Depository and Exchange otherwise known as GEODE, Multimedia Educational Resource for Learning and Teaching Online otherwise known as MERLOT, Connexions, National Science Digital Library, and many more (Cramer, 2007). Wiley summarizes, "learning objects are generally defined as educationally useful, completely self-contained

chunks of content. The most popular operationalization of this definition is a three-part structure comprised of an educational objective, instructional materials that teach the objective, and an assessment of student mastery of the objective” (Wiley, 2005).

Connexions, as an example of a learning object repository, can be found at <http://cnx.org/> and was founded by Rice University. It offers modularized chunks of course content that are collaboratively developed by public users for public users. The intent of Connexions is to offer content that can be used nonlinearly. As of early 2008, there were over 4,500 modules in the repository (Connexions Project, 2008).

The National Science Digital Library program, under the support of National Science Foundation and located at <http://nsdl.org/> is another example of an educational repository. It is an online library of science, technology, engineering and mathematics education and research resources and contains information aggregated from a variety of other digital libraries, NSF-funded projects, and NSDL-reviewed web sites. Since 2000, over 200 projects have been funded in efforts to create collections, services and tools for teachers and learners as well as perform targeted research in the application of digital libraries in education (About National, 2008; NSDL Fact Sheet, 2008).

*Reference materials and resource repositories.* Another type of learning resource is the availability of reference materials. This includes items such as the Library of Congress website at <http://www.loc.gov/> or the National Aeronautics and Space Administration (NASA) website at <http://www.nasa.gov/>. It also includes various resource repositories, some of which contain learning objects and some of which contain other digital resources. Basically they are digital resources developed specifically for

teaching purposes, by those who teach, are housed, catalogued and described, in ways that make them accessible across institutions (Malcolm, 2005). It also includes items such as digital libraries. Examples of digital libraries include the European Library and its related European Digital Library Project funded by the European Commission located at <http://www.edlproject.eu/>; the Google Print Library Project launched in 2003 and located at <http://books.google.com/googlebooks/library.html>; or even smaller scale projects like the Bibliographical Center for Research (BCR) Collaborative Digitization Program at <http://www.bcr.org/cdp/> started in 1998 as the Colorado Digitization Project (Open eLearning, 2007; Stigter, 2007). Another example, European Digital Library project, started in September 2006, integrates the catalogs and digital collections of national libraries in Belgium, Greece, Iceland, Ireland, Liechtenstein, Luxembourg, Norway, Spain and Sweden (Stigter).

One increasingly popular reference material site is Wikipedia, which can be found at <http://www.wikipedia.org/>. Wikipedia is a free collaborative encyclopedia website in which anyone can post content or make modifications to already existing content. It is operated by the nonprofit Wikimedia Foundation at an annual cost of \$4.6 million. As of March 2008 it experiences about 300 million page views a day and has over 10 million entries (Semuels, 2008; Worthen, 2008). An example of a rich teaching resource site for kindergarten through twelfth-grade instructors is OER Commons, an open learning network where teachers can share and assess course materials, which can be found at <http://www.oercommons.org> and is produced by the Institute for the Study of Knowledge Management in Education (Wojcickil, 2008).

### *Implementation Resources*

Implementation resources have more to do with technologies that make it possible for educators and others to share their learning materials and assets. They also have to do with the processes and practices that make sharing and reuse feasible, practical, and beneficial. One example is Connexions, where modularized educational materials are collaboratively developed and freely shared (Atkins, Brown, & Hammond, 2007).

### Open Communication Channels

As with OCW materials, a key aspect of open educational resources is simply an increase in open communication with diverse and global audiences. Campbell (2006) noted, “high-speed networked computing increases the rapidity, extent, and potentially the depth of our communal mental engagement in such a way that the result differs not only in degree but also in kind from print alone” (p. 27). This communication can take the form of discussions, interactions, simulations, modules of content, journals, and more. As Smith and Casserly (2006) noted, “We are aware that all creators of knowledge need a place to put their materials and that flow of knowledge should be multidirectional and adaptable to the local learning environment” (p. 10). The Internet and the OER movement are making this increasingly possible. Boettcher points out, “scholarly communication is evolving from a buzzword into a discipline” and included research, development, and writing. A limitation to this scholarly communication, though, is that commercial publishers see intellectual property as a commodity and thus have tight restrictions on the flow of scholarship (Boettcher, 2006). This encouraged the

development of open access journals or other institutional repositories such as the Public Library of Science journals (PLoS) located at <http://www.plos.org/journals/>. Founded in 2000, PLoS was the first major open-access journal publication (Vest, 2006).

### Benefits and Drivers of Open Educational Resources and OpenCourseWare Resources

The Centre for Educational Research and Innovation, which is a part of the Organization for Economic Cooperation and Development, has attempted to identify some basic drivers for open educational resource usage and development for all constituents including government, educational institutions, and individuals. These include technical, economic, social, and legal drivers. They also worked to identify motives of individual instructors and researchers to share learning resources. They identified four main groups of reasons: (a) altruistic or community support reasons, (b) personal nonmonetary gain, (c) commercial reasons, and (d) it is not worth the effort to keep the resource closed (Trenin, 2007). However, this research only minimally addressed the drivers for individual users of the system from the consumer standpoint. Instead, the focus was on contributors or original creators of content.

#### *Technical Drivers*

Technical drivers for open educational resource development and use include increased broadband availability; increased capacity for communication, production, storage, backup, and distribution; new technologies which ease the sharing and distribution of resources; and decreased costs associated with the technology necessary,



making open educational resource endeavors more possible as technology improves and becomes affordable or readily available (Trenin, 2007).

#### *Economic Drivers*

Economic drivers for open educational resource development and use include monetary incentives, new cost recovery models, and reduced costs through cooperation and sharing via alliances, communities and networks. It also allows for a higher return of investment on public funding due to reuse of resources and increased access (Open eLearning, 2007; Trenin, 2007).

#### *Social Drivers*

Social drivers for open educational resource development and use include (a) now available long-term frameworks for alliances in creation, (b) sharing and distribution of materials, (c) increased ability to interact with others either within or outside your field via technological communication channels, (d) increased access to a variety of educational materials for all, and (e) increased availability of online communities. These online communities and the resources within them also encourage sharing by others in the sense that good will encourages good will (Open eLearning, 2007; Trenin, 2007).

#### *Legal Drivers*

Education is a fundamental human right. As the Universal Declaration of Human Rights states, “Everyone has the right to education. Education shall be free, at least in the elementary and fundamental stages.... Technical and professional education shall be made generally available and higher education shall be equally accessible to all on the

basis of merit” (United Nations General Assembly, 1948/2007). Open educational resources support this fundamental right (Caswell, Henson, Jensen, & Wiley, 2008; Hanselman, 2009). Also, as noted in the economic drivers above, open educational resources, it could be argued, allow for a higher return on investment of taxpayers’ money with open access to educational materials and reuse of resources among not just institutions but all community members (Open eLearning, 2007).

### *Benefits*

Open educational resources are anticipated to have different benefits based on which audience you are. From the perspective of educational networks and institutions, it can offer means for a long-term conceptual framework focusing on reusability. It can also potentially allow for higher return on investment of tax dollars and enrich the size and quality of the pool of resources. From a teacher’s or student’s perspective it can offer access to a broad range of subjects, permitting flexibility not only in topics, but also permitting reuse of the resources, encouraging improvements, building or strengthening learning communities, and promoting user-centered approaches (Open eLearning, 2007).

## Limitations or Barriers of Open Educational Resources and OpenCourseWare Resources

Just as the above-cited uses of open educational resources can be categorized as technical, economic, social and legal in nature, the same can be said of barriers for use and production. The Centre for Educational Research and Innovation has attempted to identify and describe these basic barriers for open educational resource usage. Technical

barriers are issues such as lack of Internet access or other necessary technical resources. Economic barriers are issues such as limited funds to invest in hardware or software, or difficulties covering developmental costs. Social barriers include undeveloped or underdeveloped skills to use the technical resources available, resources that end up being context bound, and social norms and traditions which encourage or discourage participation to engage with different groups. Legal barriers include copyright prohibitions, as well as lack of clear policies or procedures (Trenin, 2007).

### *Technical Barriers*

Perhaps the most important resource for accessing Open Educational Resources is to have access to the Internet. Without this, use of the resources requires obtaining it from others through reuse in printed copies or in localized digital copies. Based on MIT's OCW data from 2005, OCW materials are indeed being widely distributed offline to secondary audiences, "18% of visitors distribute copies of OCW material to others; 46% of educators reuse content; of those, 30% give students printed copies, and 24% provide digital copies" (Carson, 2006, p. 2).

Since Internet access is vital to subsequent access to OCW resources, it is relevant to address the breadth of Internet access in the United States. As of October 2007, approximately 70% of the United States had internet access from home while worldwide the population penetration was around 16.9% (Internet World Stats, 2007). According to the U.S. Census Bureau's last available data in 2003, the majority of U.S. households had personal computers and Internet access. In 2003, 70 million American households, or 62%, had one or more computers, up from 56% in 2001. Approximately 54.7% had

internet access in 2003, up from 50.4% in 2001 (Day, Janus, & Davis, 2005).

The U.S. Census Bureau noted that the distribution of computers and Internet access is not equal across the population however. While computer ownership and home Internet access have been adopted widely, some groups had lower adoption rates. For instance, 35% of households with householders aged 65 and older, about 45% of households with Black or Hispanic householders, and 28% of households with householders who had less than a high school education had a computer (Day et al., 2005).

Technical barriers however are not just limited to access. It can also involve user's ability to locate desired and available materials. Metadata can be used to facilitate searching, but if it is not available or appropriately used the content may be undiscoverable. The success of open educational resources implies that teachers and learners are able to find, assess the quality of, and reuse content from the available repositories (Open eLearning, 2007; Wojcickil, 2008).

### *Economic Barriers*

Economic barriers are issues such as limited funds to invest in hardware or software, or difficulties covering developmental costs. These barriers may exist in the immediate term or in the longer term in regard to sustainability (Caswell et al., 2008; Downes, 2007).

Cost and sustainability are both factors to be considered in any open educational resources project since the production, maintenance, and distribution of materials on the Web have very real costs associated with them (Downes, 2007; Vest, 2006). The Open

Content Alliance, for example, which is digitizing released-from-copyright materials for public use is doing it at a cost of 10 cents a page. This is an excellent price, but a price just the same (Tennant & Tennant, 2005; Young, 2006).

The William and Flora Hewlett Foundation has been a major contributor to the growth and development of open educational resources (OER) to date. Based on a review of the open educational movement, it is estimated that the Hewlett Foundation has given a total of \$68 million in grants relating to OER from the years 2001 to 2006. Of this, “\$43 million has gone to the creation and dissemination of open content and \$25 million into reducing barriers, understanding, and/or stimulating use. Of the total, about \$12 million has gone to non-U.S. institutions primarily in Europe, Africa, and Asia for capacity building, translation, and/or stimulation of established institutions such as the Open University in the United Kingdom and Netherlands so they will be more aggressive in providing open content. About half of the \$12 million has gone to enhance the ability of developing countries to take advantage of the open content and contribute to it” (Atkins et al., 2007).

Many of the OER projects are funded by foundations and governments, but foundations are unlikely to sustain this support over time. In the United States, the Library of Congress, the Smithsonian Institution, the National Science Foundation, and other agencies are committed to continuation of many OER projects. They cannot support them all however. Thus, another recently initiated idea is to have open educational materials that may also generate revenue such as through encouraging print sales or encouraging some sort of membership structure (Smith & Casserly, 2006).

Therefore, the open flow of scientific, scholarly, and educational materials across national and campus boundaries is indispensable even if it is challenging (Vest, 2006).

All open education resource projects need to consider how their projects will be sustainable financially after start-up funding has been depleted. However, some scholars believe we are spending too much time focusing primarily on monetary costs and final physical product. Dholakia, King, and Baranuik (2006) contend that we should first turn our attention toward what the user community wants and values, and on improving the OER's value for various user communities so we have products and outcomes that are worthy of sustaining. These latter two items were aims of this particular research project.

### *Social Barriers*

Social barriers include undeveloped or underdeveloped skills to use the technical resources available, resources that end up being context-bound, or lack of incentive for use or contribution of resources. If potential participants are not able to locate or use the resources available they will serve little if any direct purpose for them.

In some cases, the content available may be context bound. It may apply specifically to certain social situations, demographics, geographic locations, or learning environments. An example of content that applies only to a certain geographic location is Utah Valley University's open course materials relating to individual income taxes and tax return preparation (Utah Valley University, 2008). An example of a content specific learning environment is educational materials and resources that only function in a specific platform, such as Blackboard's e-Packs, which only operate in Blackboard Learning System-CE and the Blackboard Learning System-Vista.

Open eLearning Content Observatory Services (2007) contended that valorization of open educational resources can only be achieved if there are contexts for learners such as concepts and narratives that embed cultural objects in history and society, and platforms where people can relate objects to how they understand their cultural history, identity and community.

Another potential barrier to open educational resources is that they currently offer only limited interaction with other learners, and learners may have only limited constructive engagement with the content. Equally, use of these resources requires motivation by the self-directed learner and the ability to incorporate these resources into their own personalized learning experiences.

One potential social barrier could also be the incentive for producing, sharing, and re-using the educational resources themselves. For OCW to be successful, the practice of publishing educational materials to an accessible and open communication channel must become seamlessly interwoven with standard teacher responsibilities and social practices (Open eLearning, 2007; Smith & Casserly, 2006). Equally, moral issues need to be addressed, such as content-suppliers ability to recall published works due to reconsideration of opinion or unease with the manner in which the content is being used publicly (Open eLearning).

### *Legal Barriers*

A significant legal barrier in offering open educational resources is that of copyright and intellectual property (Vest, 2006). In sharing educational materials there are copyright issues to consider, particularly if the instructor is not the originator of all of

the materials used. Much of the cost related to offering an OCW site has to do with assuring copyright and intellectual property clearances have been addressed and approval gained (Atkins et al., 2007; Smith & Casserly, 2006). In some cases, it may not even be clear if the content is considered the property of the institution or the instructor—or student or other originator (Fitzgerald, 2007). Therefore, tools that release or selectively release copyright are gaining a foothold. One example of this is the Creative Commons; another example is Australia's AShareNet licensing system.

*Creative commons and ccLearn.* Larry Lessig of Stanford is pursuing something called the Creative Commons which frees materials from automatically applied copyright restrictions by providing free, easy-to-use, flexible licenses for creators to place on their digital materials that permit the originator to grant rights as they see fit (Fitzgerald, 2007; Smith & Casserly, 2006). As the Creative Commons Website located at <http://creativecommons.org/> noted, "Creative Commons provides free tools that let authors, scientists, artists, and educators easily mark their creative work with the freedoms they want it to carry. You can use CC to change your copyright terms from 'All Rights Reserved' to 'Some Rights Reserved'" (Creative Commons, 2007). This holds promise for OER movements because it helps control the costs and legal issues revolving around offering materials freely online (Caswell et al., 2008). Currently, over 30 nations now have creative commons licenses although it has only been in place for four years (Smith & Casserly).

A development stemming from Creative Commons is ccLearn, which was launched in July of 2007, focused specifically on open learning and open educational



resources. It emphasizes diminishing legal, technical, and social barriers. A primary goal of ccLearn is to build a comprehensive directory of open educational resources with the assistance of Google which encourages their discovery and subsequent use (Atkins et al., 2007; Bissell, 2007; Brantley, 2007).

*AEShareNet.* AEShareNet located at <http://www.aesharenet.com.au/> permits users to incorporate either instant licenses or mediated licenses. Of the instant licenses users can choose from (a) free for education, (b) unlocked content, (c) share and return, or (e) preserve integrity. The free for education license permits others to use or copy the materials for educational purposes but not others; the unlocked content license means the resource may be freely copied, adapted or used by anyone; the share and return license can be used and enhanced by anyone but rights must be consolidated with the original copyright owner; and preserve integrity says the material may be copied but must remain in its original form with the owners copyright notice (TVET Australia Product Services, 2007). This, as with Creative Commons, also holds promise for OER movements by helping control costs and legal issues when offering materials freely online.

Vest (2006) pointed out that there were four fundamental issues that must be addressed if open-source materials are to reach their full potential. These include intellectual property rights as mentioned above, but also quality control, cost, and bandwidth.

### *Content Barriers*

As Vest (2006) noted, quality control could be a content barrier for open educational resources, particularly since there are in many instances no formal peer

reviews or publisher certifications. However, it could also be argued that there is even more opportunity for quality control due to feedback and improvements by communities and networks who share the content (Open eLearning, 2007). Therefore, the jury is still out in regard to quality of open educational resources overall.

Concerning content, there is also a question of quantity versus quality, ease of use and ease of locating. It is not enough to simply grow open educational resources, there also needs to be continued discussion and thought about its real and intended impact. As the Centre for Educational Research and Innovation notes, “for anyone interested in promoting the OER movement it is not enough to look at ways to increase the number of initiatives. There is also a need to increase access to and the usefulness of existing resources” (Trenin, 2007). Some argue that it may be better to focus instead on enhancing and promoting communities of interest around certain subjects, where not only is there content, but mechanisms for communication and commentary (Open eLearning, 2007).

## CHAPTER III

### METHODOLOGY

#### Design

##### *Assumptions*

There are various aspects of OCW that could be addressed. For this study it is assumed that a primary concern is to understand incentives and disincentives for OCW adoption and use by the general public. It is also assumed that another concern is identifying potential areas of further study and exploration. Therefore, this study will survey individuals throughout Utah, without focusing on a particular audience sub-set.

Equally, it is assumed that concern lies on overall incentive or disincentive to use and adopt all available OCW and open educational resource materials, not simply those offered from within Utah state boundaries. Therefore, the research considered participant's interest in OCW and open educational resource materials generally to be relevant. Based on the OCW there are more than 200 higher education institutions and associated organizations from around the world creating a broad and deep body of open educational content using a shared model, including China Open Resources for Education, which incorporates 30 institutions in China; Japan OCW Consortium, which incorporates nine institutions; and Spain and Portugal's OCW Universia, which incorporates 14 institutions to name a few (OCW Consortium, 2009).

##### *Research Questions*

The topic addressed was: What are incentives and disincentives for Utah residents

to use OCW or other open educational resources? An expected outcome is to determine what educational institutions who offer OCW or other open educational resources can do to enhance the value of their resources for end users. Doing an exploratory study to assess potential areas of further study or inquiry is of equal concern.

The following research questions will be answered in this paper: (a) What are attributes that contribute to OCW adoption in Utah found utilizing the Delphi approach to develop a survey instrument? (b) What are perceived incentives for use of OCW by the Utah adult population? (c) What are perceived disincentives that prevent use of OCW by the Utah adult population? (d) What are incentives in the use of OCW in Utah by age, income, gender, education, and location? (e) What are disincentives that prevent the use of OCW in Utah by age, income, gender, education, and location? (f) What are diffusion attributes that contribute to the adoption (incentives) of OCW in Utah? (g) What are diffusion attributes that contribute to rejection (disincentives) of OCW in Utah?

### *Methodology*

This chapter explains the procedure for the study, including the research design, setting, sample, instrumentation, data collection, data analysis, and protection of human subjects.

### *Sample*

The state of Utah has been chosen as the sample for this study because Utah Legislature provided \$200,000 to Utah State University for OCW-related activities in the 2007-2008 budget year (Utah System of Higher Education, 2007). This implies that

OCW is seen as relevant and impactful by the Utah System of Higher Education and Utah State government.

### *Research Design*

This is a descriptive study that employed a survey method. This study consisted of three stages: a preliminary Delphi technique questionnaire based on Rogers (2003) attributes of innovation, a pilot study, and the primary study. In the primary study, a mail survey will be given to 753 Utah residents using the Tailored Design Method (Dillman, 2000). Several strategies will be employed in data collection such as (a) detailed introductory letters with the questionnaires and postage prepaid envelopes, (b) monetary incentives to potential participants, and (c) a series of three follow-up letters to remind nonresponding participants.

### *Research Preliminary Delphi Technique Questionnaire*

First, a preliminary Delphi technique questionnaire was be sent via email to 11 OCW or open educational resource subject matter experts asking them to identify potential incentives and disincentives for end-user OCW use in the form of two questions: (a) in your opinion, what are incentives for potential users of OCW to make personal use of the resource? (b) in your opinion, what are disincentives for potential users of OCW to make personal use of the resource? Appendices A and B exhibit a sample of the letter and questionnaire.

The experts selected include (a) Richard G. Baraniuk, Department of Electrical and Computer Engineering, Connexions, Rice University; (b) Steve Carson, external

relations director of OCW at Massachusetts Institute of Technology; (c) Brandon Muramatsu of the National Science Digital Library; (d) Derek Keats, executive director, Information and Communication Services at the University of the Western Cape; (e) Lisa Petrides, president, Institute for the Study of Knowledge Management in Education; (f) Terri Bays, OCW project director at the University of Notre Dame; (g) Andy Lane, director, OpenLearn of Open University UK; (h) Ahrash Bissell, executive director, ccLearn of Creative Commons; (i) Susan D'Antoni of Unesco Virtual University and e-learning at the IIEP- Institute for Educational Planning; (j) Marion Jensen, USU OCW project director at Utah State University; (k) Brian Lamb of the Office of Learning Technology at The University of British Columbia; and (l) John Dehlin, OCW Consortium director at Utah State University.

These individuals were chosen with the assistance of Dr. David Wiley of Utah State University's OCW project. The experts are active administrators, innovators or facilitators of OCW or other open educational resources. Ideally, the expert list would also incorporate frequent users of OCW; however, by its very nature of being open the users are not tracked by name, identification or otherwise and thus cannot be identified. Those who are experts in producing, supporting or maintaining OCW as assumed by necessity to be aware of prior, current, and emerging consumer needs and expectations. Use of the Delphi approach ensured each expert had equal opportunity to give his or her input and equal weight in the opportunity for weight in the conversation. Full descriptions of each expert can be found in Appendix C.

To compile the results of the experts a phenomenological research method, which

describes the lived experiences for several individuals about a concept or phenomenon, was used. This method was chosen because its focus is on understanding experiences about a phenomenon and commonly is used for interviews with up to 10 people. The data analysis method includes obtaining statements, identifying meanings through reduction, finding meaning themes through clustering, conducting a search for all possible meanings, and then giving a general description of the experience based on those themes. The researcher brackets, or sets aside all prejudgment or preconceptions, when obtaining a picture of the experience (Creswell, 1998; Denzin & Lincoln, 2000; M. Dever, personal communication, April 26, 2008). The data analysis approach as used for analysis of results from the Delphi technique included: (a) list incentives or disincentives, (b) determine the meaning of the statements, (c) identify common characteristics or essentials, and (d) create descriptive statements of essential themes. Throughout this process the experts were asked for input a total of four times.

First, from the original expert responses and the phenomenological research method a list was created which compiled the open-ended responses, and the number of respondents that wrote each response. Next, these were then sent to each subject matter expert with a request that they rate their agreement with each statement on a five-point Likert scale where 1 represents strongly agree and 5 represents strongly disagree. The statements with a mean of 3.5 or higher and a standard deviation below 1 were designated as areas of agreement. Third, these were then compiled and sent to the group of experts for review with an area allocated where they could identify additional items they believe should have been included that differ from the general tendency but have justification.

Finally, additional items for the survey were again sent out for final review and commentary.

Next, the results were distributed into categories of Roger's innovation attributes: (a) relative advantage, (b) compatibility, (c) complexity, (d) trialability, and (e) observability. Although the items were not separated into Roger's innovation attributes on the end-user distribution survey, these categorizations were used when statistical analysis is performed. The survey results were also analyzed by descriptive statistics and frequency charts, but they were also assessed based on the categories of Roger's (2003) innovation attributes.

The end-user distribution survey was then created for pilot testing. Each item was placed in a Likert scale format that ranged from 5, which represents very large incentive or disincentive, to 1, which represents not an incentive or disincentive at all. There was also an option for those who wished to answer that they do not know to either the overall incentives or the overall disincentives sections of the survey. This helped avoid uninformed response bias where members feel obligated to answer about topics on which they have little or no information. A sample of the survey format is found in Appendix D.

### *Delphi Questionnaire Results*

Of the 11 individuals asked to participate in the Delphi technique, five opted to participate: Marion Jensen, Ahrash Bissell, Terri Bays, Steve Carson, and Andy Lane. Andy Lane and Steve Carson participated in all three phases of (1) initial question creation, which began on June 12, 2008; (2) compilation and rating, which began on July 3, 2008; and (3) review, which began on July 17, 2008 and ended on July 25, 2008.



Marion Jensen participated in phase one initial question creation and also agreed to be interviewed in person for initial question creation on June 26, 2008. Ahrash Bissell participated in phase 2 compilation and rating but was not able to participate in phase 1 initial question creation as he was away with limited email capability; Terri Bays participated in phase 2 compilation and rating. John Dehlin offered to participate but was not able to within the timeframe due to time constraints; Susan D'Antoni had to decline as she was departing on a mission.

### Pilot Testing

The results from the above Delphi questionnaires were used to create the survey for the pilot study as described above. On July 28, 2008, the pilot study survey was submitted for IRB approval; approval was received August 4, 2008. The pilot study questionnaire was then distributed to a minimum of 40 ( $N = 44$ ) individuals via hand delivery for pretesting after obtaining their oral informed consent and statement of understanding about the pilot study. The pilot was completed on August 28, 2008.

Cronbach's alpha was calculated to assess inter-item consistency for the  $N = 44$  pilot test and required a reliability of .70 or higher before the survey instrument would be used (Schumacker, 2005). These results were not included in the primary study but were used to measure reliability. Modifications to the questions were made as necessary based on the results of pretesting. After the survey pilot test, the results were used to create a cross-sectional survey.

The pilot study results were then categorized into Rogers Attributes of Innovation

as seen in Appendix L. Based on the pilot study ( $N = 44$ ) categorization by Roger's attributes and Cronbach's alpha assessment which required a reliability of .70 or higher, two questions from the initial set from the subject matter experts were removed. The questions removed were both disincentives: (a) availability of alternative methods to find information online, and (b) the need to purchase books or items not provided online. See Appendix H and I for details. It should be noted that while some diffusion scholars want to utilize existing scale items already developed by other investigators, Rogers advises instead creating new scale items for each set of innovations to be adopted by a particular set of individuals (Rogers, 2003). The final survey can be found in Appendix J.

## Formal Survey

### *Setting and Sample*

The survey was sent via postal mail to a randomized group of 753 individuals residing in Utah between the ages of 18 and 64. The names and addresses, along with associated gender, ethnicity, income, age, education, and occupation were obtained from Alesco Data Group of Fort Myers, Florida. Alesco Data Group provides data and related services for direct mail, e-mail, telemarketing and voice messaging campaigns (Alesco Data Group, 2004). The demographic information that were used for this study included: (a) gender, (b) age, (c) education, (d) income, (e) occupation, and (f) ethnicity.

Although this research was not testing a hypothesis but instead is a descriptive study, the survey sample size was based on numbers used for inferential statistics. To illustrate the potential range of scores, survey results represent, a minimum of 95%

confidence level needed to be obtained with a confidence interval, otherwise known as a range of scores or margin of error, of 8%. Based on the Utah population of 1,383,605 for high school graduates ages 18 to 64 in 2006 (U.S. Census Bureau, 2007), a sample size of 150 was necessary to achieve a confidence level of 95% and a confidence interval of 8%. Therefore, 753 surveys were sent out with three follow-up letters. The percentage response rate needed from the 753 surveys was 19.92%. It should also be noted that Alesco data is deemed 90% deliverable, so with that in consideration a percentage response rate of 22.16% would have been required of the deliverable 678 surveys.

Demographic characteristics of this random sample included 42.36% females ( $n = 310$ ) and 57.64% males ( $n = 443$ ). In looking at occupational demographics, 27.9% ( $n = 210$ ) of those surveyed were in professional and technical fields, while only 4.91% ( $n = 37$ ) were students (see Table 1).

In looking at ethnicity, 65.21% ( $n = 491$ ) of those surveyed were Northern European (see Table 2). In looking at age, 45.82% ( $n = 340$ ) of individuals were under 40 years of age while 54.17% ( $n = 413$ ) were over 40 (see Table 3). In looking at the schooling, 53.92% ( $n = 401$ ) completed high school but not higher levels of education (see Table 4). In looking at estimated income, 14.40% ( $n = 109$ ) earned under \$30,000; 22.71% ( $n = 171$ ) earned between \$30,000 and \$50,000; 50.99% ( $n = 384$ ) earned \$50,000 to \$125,000; and 11.82% ( $n = 89$ ) earned over \$125,000 (see Table 5). In looking at counties, 39.06% ( $n = 294$ ) reside in Salt Lake County (see Table 6).

Table 1

*Demographic Occupation Characteristics of Sample (N = 753)*

Occupation	<i>n</i>	%
Professional/technical	210	27.89
Administrative/managerial	93	12.35
Sales/service	56	7.44
Clerical/white collar	54	7.17
Craftsman/blue collar	95	12.62
Student	37	4.91
House maker	64	8.50
Retired	19	2.52
Self-employed	6	0.80
Self-employed professional/technical	26	3.45
Self-employed management	11	1.46
Self-employed sales/marketing	9	1.20
Self-employed clerical	2	0.27
Self-employed student	4	0.53
Self-employed homemaker	6	0.80
Self-employed other	1	0.13
Financial professional	2	0.27
Medical professional	5	0.66
Other	53	7.04

Table 2

*Demographic Ethnicity Characteristics of Sample (N = 753)*

Ethnicity	<i>n</i>	%
Southern European	4	.53
French	13	1.73
German	49	6.51
Hispanic	32	4.25
Italian	7	.93
Jewish	13	1.73
Miscellaneous	6	.80
Northern European	491	65.21
Asian	10	1.33
Polynesian	1	.13
Scottish/Irish	121	16.07
African American	6	.80

Table 3

*Demographic Age Characteristics of Sample (N = 753)*

Age	<i>n</i>	%
18-20	5	1.59
21-24	34	5.31
25-28	81	9.83
29-32	81	10.63
33-36	77	9.83
37-40	62	8.63
41-44	72	8.10
45-48	83	10.09
49-52	61	12.48
53-56	71	8.90
57-60	80	8.36
61-64	46	6.24

Table 4

*Demographic Schooling Characteristics of Sample (N = 753)*

Schooling	<i>n</i>	%
Completed high school	401	53.92
Completed college	230	28.95
Completed graduate school	100	14.08
Attended vocational/tech	22	3.05

Table 5

*Demographic Income Characteristics of Sample (N = 753)*

Estimated income	<i>n</i>	%
Under \$15,000	38	5.05
\$15,000-\$19,999	19	2.52
\$20,000-\$29,999	52	6.91
\$30,000-\$39,999	85	11.29
\$40,000-\$49,999	86	11.42
\$50,000-\$74,999	208	27.62
\$75,000-\$99,999	110	14.61
\$100,000-\$124,999	66	8.76
\$125,000 or more	89	11.82

Table 6

*Demographic County Characteristics of Sample (N = 753)*

County	<i>n</i>	%
Beaver	2	.26
Box Elder	14	1.86
Cache	33	4.39
Carbon	9	1.20
Davis	98	13.01
Duchesne	4	.53
Grand	3	.40
Iron	11	1.46
Juab	2	.27
Kane	5	.66
Millard	4	.53
Morgan	3	.40
Piute	2	.26
Salt Lake	294	39.06
San Juan	3	.40
Sanpete	3	.39
Sevier	5	.66
Summit	13	1.73
Tooele	18	2.38
Uintah	9	1.20
Utah	116	15.40
Wasatch	8	1.06
Washington	32	4.25
Weber	62	8.24

*Survey Package*

A survey package was sent via postal mail that included: (a) a cover letter describing the importance of the participant, incentives offered, purpose of the study, assurances of confidentiality, and completion time (see Appendix E); (b) a statement of consent (see Appendix F), (c) the survey with a unique identification number that will tie the survey results back to the demographic variables (see Appendix L), and (d) a prepaid

addressed envelope for return of the survey that has both an address and return address for Anne Arendt, the originator of the study. A unique identification number was placed on the survey and was used to tie survey information back to demographic variables without the use of first name, last name, or address. This is noted in the statement of consent (see Appendix F). It should be noted that four survey respondents scribbled over the unique identification numbers on their surveys and thus their demographic information was unknown. In compiling the results, their responses were used where possible, and were not included for evaluation of some of the demographic results such as gender comparisons.

The first follow-up letter (see Appendix M) was sent via postal mail 2 weeks after the study introduction. The purpose of this letter was to thank those who have already completed and returned their survey package and remind those who had not yet done so. Second and third follow-up letters were delivered via postal mail to nonrespondents on the third and fourth weeks after the study introduction. In the last follow-up letter (see Appendix N), instructions were included for requesting another copy of the survey. Three individuals requested new copies of the survey via the email method specified.

#### *Actual Survey Package*

The final survey was submitted to IRB for approval on August 28, 2008, and was approved on September 5, 2008. See Appendix L for the survey that was mailed out to individuals throughout Utah. Surveys were mailed beginning on September 9, 2008.

A Cronbach's alpha was also run at completion of the survey data collection to assess the categorization by Roger's attributes. A Cronbach's alpha over .70 was the

target. This was achieved for all categories for both incentives and disincentives on all Roger's attributes. See Appendixes J and K for details.

### Data Analysis

Data collected for this study was collected and analyzed by the researcher using the Statistical Package for the Social Sciences (SPSS) for Windows. Missing data management was performed prior to statistical analysis; questionnaires with more than 20% of the items missing values were discarded. As noted above, based on the Utah population of 1,383,605 for the high school graduates between the ages 18 to 64 in 2006 (U.S. Census Bureau, 2007) a sample size of 150 was necessary to achieve a confidence level of 95% and a confidence interval of 8%. All data, results, and programs used were stored on a password protected computer with a backup stored on a password protected external hard drive housed at the residence of Anne Arendt, the doctoral student conducting this study.

### *Sample Size*

Of 753 surveys set out across Utah, 35 were returned as undeliverable, leaving a total of 718 deliverable surveys. Of the deliverable surveys, 180 responses were received, for an overall response rate of 25.06%.

Of the 180 responses received, 140 were deemed usable. Five survey responses were removed at the request of the recipient or a representative of the recipient; this reasons included sickness (1), blindness (1), deceased (1), mission duty (1), and personal decline (1) leaving a total of 175. Ten of the remaining 175 responses were removed due



to missing over 20% of the survey answer values, leaving 165 total responses.

Additionally, a category of “do not know” eliminated another 25 responses, leaving 140 total responses.

Based on the Utah population of 1,383,605 for the high school graduates between the ages 18 to 64 in 2006 (U.S. Census Bureau, 2007) a sample size of 180 achieves a confidence level of 95% and a confidence interval of 7.3%, which surpasses the initial target of having a sample size of 150 necessary to achieve a confidence level of 95% and a confidence interval of 8%. However, with only 140 of the surveys being deemed usable, that number dropped to a confidence level of 95% and a confidence interval of 8.28%.

Of the 140 surveys that were deemed usable the demographics included 34.29% females ( $n = 48$ ), 62.86% males ( $n = 88$ ) and 2.86% ( $n = 4$ ) unknown. In looking at occupational demographics, 27.89% ( $n = 210$ ) of those surveyed were in professional and technical fields, yet they were 35% ( $n = 39$ ) of survey respondents for a difference of 7%. White and blue color positions were 19.79% of those surveyed but only accounted for 14.29% of survey respondents for a difference of negative 5.5%. It should also be noted that less than 5% of those surveyed were current students (see Table 7).

In looking at ethnicity, 70% ( $n = 98$ ) of those surveyed were Northern European (see Table 8). In looking at age of survey respondents, 43.58% ( $n = 61$ ) of individuals were under 40 years of age while 53.57% ( $n = 75$ ) were over 40 and 2.86% ( $n = 4$ ) were unknown (see Table 9). It should be noted that there were more survey respondents percentage-wise who were between 41-44 (12.14% of responses but 8.10% of those

Table 7

*Demographic Occupation Characteristics of Valid Responses*

Occupation	Valid response ( <i>n</i> = 140)		Sample ( <i>N</i> = 753)		Diff. (%)
	<i>n</i>	%	<i>n</i>	%	
Professional/technical	49	35.00	210	27.89	7.11
Administrative/managerial	19	13.57	93	12.35	1.22
Sales/service	11	7.86	56	7.44	.42
Clerical/white collar	7	5.00	54	7.17	-2.17
Craftsman/blue collar	13	9.29	95	12.62	-3.33
Student	6	4.29	37	4.91	-.62
House maker	11	7.86	64	8.50	-.64
Retired	1	.71	19	2.52	-1.81
Self-employed	1	.71	6	.80	-.09
Self-employed professional/technical	4	2.86	26	3.45	-.59
Self-employed management	2	1.43	11	1.46	-.03
Self-employed sales/marketing			9	1.20	-1.20
Self-employed clerical			2	.27	-.27
Self-employed student	1	.71	4	.53	.18
Self-employed homemaker	2	1.43	6	.80	.63
Self-employed other	4	2.86	1	.13	2.73
Financial professional			2	.27	-.27
Medical professional	1	.71	5	.66	.05
Other	8	5.71	53	7.04	-1.33

surveyed) and 57-60 (11.43% of responses but 8.36% of those surveyed) than in the original sample who received the survey, and less respondents percentage wise who were 49-52 (6.43% of responses but 12.48% of those surveyed) than in the original sample.

In looking at schooling, 46.43% (*n* = 65) completed high school but not higher levels of education (see Table 10). It should be noted that there were more survey respondents percentage-wise who completed graduate school than in the original sample who received the survey (19.29% of responses but 14.08% of those surveyed) and fewer

Table 8

*Demographic Ethnicity Characteristics of Valid Responses*

Ethnicity	Valid response ( <i>n</i> = 140)		Sample ( <i>N</i> = 753)		Diff. %
	<i>n</i>	%	<i>n</i>	%	
Southern European	2	1.43	4	.53	.90
French	1	.71	13	1.73	-1.02
German	5	3.57	49	6.51	-2.94
Hispanic	4	2.86	32	4.25	-1.39
Italian			7	.93	-.93
Jewish	2	1.43	13	1.73	-.30
Miscellaneous	2	1.43	6	.80	.63
Northern European	98	7.00	491	65.21	4.79
Asian	2	1.43	10	1.33	.10
Polynesian			1	.13	-.13
Scottish/Irish	20	14.29	121	16.07	-1.78
African American			6	.80	-.80
Unknown	4	2.86			2.86

Table 9

*Demographic Age Characteristics of Valid Responses*

Age	Valid response ( <i>n</i> = 140)		Sample ( <i>N</i> = 753)		Diff. %
	<i>n</i>	%	<i>n</i>	%	
18-20	1	.71	4	1.46	-.75
21-24	4	2.86	34	5.31	-2.45
25-28	17	12.15	81	9.83	2.32
29-32	11	7.86	81	1.63	-2.77
33-36	14	1.00	77	9.83	.17
37-40	14	1.00	62	8.63	1.37
41-44	17	12.14	72	8.10	4.04
45-48	15	1.71	83	1.09	.62
49-52	9	6.43	61	12.48	-6.05
53-56	11	7.86	71	8.90	-1.04
57-60	16	11.43	80	8.36	3.07
61-64	7	5.00	46	6.24	-1.24
Unknown	4	2.86			2.86

Table 10

*Demographic Education Level Characteristics of Valid Responses*

Education level	Valid response ( <i>n</i> = 140)		Sample ( <i>N</i> = 753)		Diff. %
	<i>n</i>	%	<i>n</i>	%	
Completed high school	65	46.43	401	53.92	-7.49
Completed college	43	30.71	230	28.95	1.76
Completed graduate school	27	19.29	100	14.08	5.21
Attended vocational/tech	1	.71	22	3.05	-2.34
Unknown	4	2.86			2.86

respondents percentage wise who completed high school (46.43% of respondents but 53.92% of those surveyed).

In looking at estimated income, 13.57% (*n* = 19) earn under \$30,000; 20.72% (*n* = 29) earn between \$30,000 and \$50,000; 55.72% (*n* = 78) earn \$50,000 to \$125,000; and 2.86% (*n* = 4) earn over \$125,000 (see Table 11).

In looking at counties, 37.85% (*n*=53) reside in Salt Lake County (see Table 12). It should be noted there were more survey respondents percentage-wise from Cache County than in the original sample that received the survey (7.83% of responses but only 4.38% of those surveyed). This may be due, in part, to the existence of OCW at Utah State University that is located in Cache County.

The range for survey completion was 2 days to 55 days. On order to assess the consistency of data throughout the survey period, a wave analysis was done. Although there was some variance in the means and standard deviations, overall the results were consistent (see Table 13).

Table 11

*Demographic Income Characteristics of Valid Responses*

Estimated Income	Valid response ( <i>n</i> = 140)		Sample ( <i>N</i> = 753)		Diff. %
	<i>n</i>	%	<i>n</i>	%	
Under \$15,000	4	2.86	38	5.05	-2.19
\$15,000-\$19,999	5	3.57	19	2.52	1.05
\$20,000 -\$29,999	10	7.14	52	6.91	.23
\$30,000-\$39,999	16	11.43	85	11.29	.14
\$40,000-\$49,999	13	9.29	85	11.42	-2.13
\$50,000-\$74,999	39	27.86	85	27.62	.24
\$75,000-\$99,999	23	16.43	85	14.61	1.82
\$100,000-\$124,999	16	11.43	85	8.76	2.67
\$125,000 or more	10	7.14	85	11.82	-4.68
Unknown	4	2.86			2.86

## Limitations and Scope

The research described above is limited to individuals residing in Utah. The information cannot be generalized to areas outside Utah, nor will it address issues of gender, ethnicity or other group indicators or demographic descriptors. The intention of the research is not to pinpoint specific segments of the population, but instead to give a general overview of incentives and disincentives for Utah residents to use OCW or other open educational resources. A primary goal was to determine what educational institutions that offer OCW or other open educational resources could do to enhance the value of their resources for end users. Increased value for end users could be measured by increased use, increased repeat use, and positive end-user feedback on available materials. Of equal concern was doing an exploratory study to assess potential areas of further study or inquiry.

Table 12

*Demographic County Characteristics of Valid Responses*

County	Valid response ( <i>n</i> = 140)		Sample ( <i>N</i> = 753)		Diff%
	<i>n</i>	%	<i>n</i>	%	
Beaver			2	.26	-.26
Box Elder	2	1.42	14	1.86	-.44
Cache	11	7.83	33	4.38	3.44
Carbon	2	1.43	9	1.20	.23
Davis	13	9.28	75	9.96	-.68
Duchesne			4	.52	-.52
Emery	4	2.86	23	3.05	-.19
Grand			3	.40	-.40
Iron	3	2.14	11	1.46	.68
Juab			2	.27	-.27
Kane	2	1.43	5	.66	.77
Millard			4	.52	-.52
Morgan	1	.71	3	.40	.31
Piute			2	.26	-.26
Salt Lake	53	37.85	295	39.19	-1.34
San Juan			3	.40	-.40
Sanpete	1	.71	3	.39	.32
Sevier			5	.66	-.66
Summit	2	1.43	13	1.73	-.30
Tooele	3	2.14	18	2.38	-.24
Uintah	2	1.43	9	1.20	.23
Utah	21	14.98	115	15.27	-.29
Wasatch			8	1.06	-1.06
Washington	6	2.84	32	4.25	-1.41
Weber	14	9.99	62	8.24	1.75
Unknown	4	2.86			

Table 13

*Wave Analysis of Incentives and Disincentives by Week for Overall Means by Roger's Attributes*

Weeks		Relative advantage	Compatibility	Complexity	Trialability	Observability	Overall
<b>Incentives</b>							
0-1	Mean	3.41	3.65	3.57	3.89	3.5	3.61
	N	73	73	73	73	73	73
	SD	.82	.65	.85	.7	.79	.64
1-2	Mean	3.27	3.58	3.45	3.69	3.52	3.51
	N	26	26	26	26	26	26
	SD	1	.88	1.08	.64	.93	.8
2-3	Mean	3.43	3.86	3.61	3.84	3.57	3.69
	N	18	18	18	18	18	18
	SD	.91	.66	.7	.66	.7	.59
>4	Mean	3.27	3.34	3.18	3.71	3.15	3.34
	N	23	23	23	23	23	23
	SD	.81	.87	.85	.76	.97	.79
Total	Mean	3.36	3.61	3.49	3.82	3.46	3.56
	N	140	140	140	140	140	140
	SD	.86	.74	.89	.69	.84	.69
<b>Disincentives</b>							
0-1	Mean	2.78	2.3	2.66	2.57	2.8	2.6
	N	73	73	73	73	73	73
	SD	.88	.93	.91	1.17	.94	.89
1-2	Mean	2.58	2.3	2.72	2.35	2.73	2.52
	N	26	26	26	26	26	26
	SD	1.07	.98	1.02	1.12	.89	.93
2-3	Mean	2.65	2.38	2.58	2.26	2.68	2.49
	N	18	18	18	18	18	18
	SD	.82	1	.96	1.01	.79	.86
>4	Mean	2.72	2.49	2.74	2.36	2.9	2.62
	N	23	23	23	23	23	23
	SD	.8	.86	.88	1.18	.84	.84
Total	Mean	2.71	2.34	2.68	2.46	2.79	2.57
	N	140	140	140	140	140	140
	SD	.89	.93	.92	1.14	.89	.88

## CHAPTER IV

### RESULTS

#### Utilizing a Delphi Approach to Develop a Survey Instrument

A survey instrument was developed using attributes that emerged from a Delphi technique with input from experts in the OCW field. The data analysis approach as used for analysis of results from the Delphi technique included: (a) list incentives or disincentives, (b) determine the meaning of the statements, (c) identify common characteristics or essentials, and (d) create descriptive statements of essential themes.

First, a preliminary Delphi technique questionnaire was sent via email to 11 OCW or open educational resource subject matter experts asking them to identify potential incentives and disincentives for end-user OCW use. Appendixes A and B exhibit a sample of the letter and questionnaire. Of the 11 individuals asked, 5 opted to participate: Marion Jensen, Ahrash Bissell, Terri Bays, Steve Carson, and Andy Lane. The Delphi analysis occurred in three phases: (a) initial question creation, which began on June 12, 2008; (b) compilation and rating, which began on July 3, 2008; and (c) review, which began on July 17, 2008 and ended on July 25, 2008.

From the original expert responses and the phenomenological research method a list was created which compiled the open-ended responses, and the number of respondents that wrote each response. These were then sent to each subject matter expert with a request that they rate their agreement with each statement on a 5-point Likert scale. The statements with a mean of 3.5 or higher and a standard deviation below 1 were



designated as areas of agreement. These were then compiled and sent to the group of experts for review.

Next, the results were distributed into categories of Roger's innovation attributes: (a) relative advantage, (b) compatibility, (c) complexity, (d) trialability, and (e) observability. Although the items were not separated into Roger's innovation attributes on the end-user distribution survey, these categorizations were used when statistical analysis was performed. The results from the above Delphi questionnaires were used to create the survey for the pilot study. Cronbach's alpha was calculated to assess interitem consistency for the  $N = 44$  pilot test and required a reliability of .70 or higher before the survey instrument would be used (Schumacker, 2005). Modifications to the questions were made as necessary based on the results of pretesting. Based on the pilot study ( $M = 44$ ) categorization by Roger's attributes and Cronbach's alpha assessment, two questions from the initial set from the subject matter experts were removed. The questions removed were both disincentives: (1) availability of alternative methods to find information online, and (2) the need to purchase books or items not provided online. See Appendix H and I for details. The final survey as shown in Appendix L included 35 incentives and 43 disincentives, which were presented in a Lickert scale format.

#### Perceived Incentives for Use of OpenCourseWare by Utah Adult Population

##### *Overall Incentives*

The greatest incentive overall for OCW use by the Utah adult population is no cost for materials, which had a mean of 4.59 on a 5-point scale and a tight standard

deviation of only .68, followed by its availability at any time which has a mean of 4.35 and a standard deviation of .89. This is shown in looking at the incentives with the highest overall means: (a) incentive 26—no cost for materials ( $M = 4.59$ ,  $SD = .68$ ), (b) incentive 17—available at any time ( $M = 4.35$ ,  $SD = .89$ ), (c) incentive 12—pursuing in depth a topic that interests me ( $M = 4.24$ ,  $SD = .93$ ), (d) incentive 9—learning for personal knowledge or enjoyment ( $M = 4.22$ ,  $SD = .93$ ), and (e) incentive 27—materials in an OCW are fairly easy to access and find ( $M = 4.12$ ,  $SD = .98$ ).

Descriptive statistics for incentives in the order presented on the survey are shown in Table 14.

#### *Frequency for Each Independent Incentive*

Just as no cost for materials topped the list as having the highest overall mean, it ranked the highest in number of participants who said it was an incentive, large incentive, or very large incentive, with 98.57% giving it a ranking of incentive or better. All in all, there were 12 incentives that over 90% of respondents said were an incentive, large incentive, or very large incentive: (a) incentive 26—no cost for materials totaling 98.57%, (b) incentive 13—improving my understanding of particular topics totaling 97.14%, (c) incentive 17—available at any time totaling 96.43%, (d) incentive 9—learning for personal knowledge or enjoyment totaling 95.71%, (e) incentive 14—improving professional knowledge or skills totaling 93.57%, (f) incentive 35—materials available are from leading universities totaling 93.57%, (g) incentive 10—keeping my mind active totaling 92.86%, (h) incentive 12—pursuing in depth a topic that interests me totaling 92.81%, (i) incentive 27—materials in an OCW are fairly easy to access and find

Table 14

*Descriptive Statistics of Survey Responses for Incentives (N = 140)*

No.	Incentive	Mean	Median	Mode	SD	Skew	Kurtosis	Count
i1	Seeking additional information about a subject introduced in school	3.58	4	4	1.15	-.64	-.25	140
i2	Comparing courses at different educational institutions	2.91	3	4	1.36	.02	-1.22	140
i3	Doing research	3.89	4	4	1.09	-.98	.48	140
i4	Furthering projects or programs	3.47	4	4	1.15	-.68	-.14	140
i5	Improving my study skills	3.41	4	4	1.35	-.53	-.9	140
i6	Enriching or supplementing study on a formal course	3.63	4	4	1.16	-.75	-.06	140
i7	Two-way interaction and collaboration between groups	2.94	3	3	1.24	.03	-.94	139
i8	Using and changing the materials for personal use	3.27	3	3	1.2	-.33	-.58	139
i9	Learning for personal knowledge or enjoyment	4.22	4	5	.93	-1.27	1.64	140
i10	Keeping my mind active	4.04	4	4	.9	-.68	-.32	140
i11	Shopping around for a college to attend	2.65	3	1	1.37	.25	-1.2	140
i12	Pursuing in depth a topic that interests me	4.24	4	5	.93	-1.38	1.69	139
i13	Improving my understanding of particular topics	4.13	4	4	.8	-.83	.93	140
i14	Improving professional knowledge or skills	4.16	4	5	.94	-1.27	1.64	140
i15	Helping understand my own abilities to learn	3.4	3	3	1.27	-.39	-.81	140
i16	Freedom from discrimination on the basis of prior achievement	2.64	3	1	1.37	.33	-1.08	140
i17	Available at any time	4.35	5	5	.89	-1.81	4.01	140
i18	Improving my teaching skills	3.03	3	3	1.33	-.07	-1.12	140
i19	Improving my performance in academic programs	3.26	4	4	1.34	-.42	-1.02	140
i20	Saving time in creation of educational materials	3.17	3	4	1.42	-.33	-1.21	139

*(Table continues)*

No.	Incentive	Mean	Median	Mode	SD	Skew	Kurtosis	Count
i21	Improving my own materials through inclusion of OCW content	3.05	3	4	1.41	-.2	-1.27	140
i22	Sampling courses or study before enrolling	3.34	4	4	1.39	-.41	-1.07	140
i23	Gaining experience in online learning	3.46	4	4	1.52	2.09	15.43	140
i24	Access is at my preferred pace	4.01	4	5	1.08	-1.1	.75	140
i25	Clear and familiar structure of materials	3.56	4	4	1.13	-.69	-.13	139
i26	No cost for materials	4.59	5	5	.68	-1.65	2.36	140
i27	Materials in an OCW are fairly easy to access and find	4.12	4	5	.98	-1.09	.67	140
i28	Tools which allow users to find materials in multiple OCW's	3.8	4	4	1.05	-.92	.52	138
i29	Seeing more clearly see what I will be signing up for in a "regular" class	3.32	4	4	1.4	-.44	-1.07	139
i30	Help in choosing my next course	3.19	3	4	1.38	-.3	-1.13	140
i31	Can be accessed simultaneously by many people & infinitely replicated	3.4	4	4	1.32	-.43	-.91	140
i32	High quality & reliability because the content is produced by experts in the field	4.09	4	5	1.05	-1.24	1.09	140
i33	Seeing the communications of others	3.06	3	3	1.23	-.18	-.84	140
i34	Communicating with others	3.14	3	4	1.28	-.23	-.99	139
i35	Materials available are from leading universities	4.06	4	4	.93	-.94	.67	140

totaling 91.43%, (j) incentive 24—access is at my preferred pace totaling 90.71%, (k) incentive 32—high quality and reliability because the content is produced by experts in the field totaling 90.71%, and (l) incentive 3—doing research totaling 90.65%. To view the incentive frequency tables by question, see Appendix O.

## Perceived Disincentives for Use of OCW by the Utah Adult Population

### *Overall Disincentives*

Overall, the greatest disincentive for OCW use by the Utah adult population was not having a certificate or degree awarded. The five disincentives with the highest overall means for disincentives were: (a) disincentive 6—there is no certificate or degree awarded ( $M = 3.28$ ,  $SD = 1.54$ ), (b) disincentive 26—it does not cover my topic of interest in the depth I desire ( $M = 3.17$ ,  $SD = 1.31$ ), (c) disincentive 2—lack of professional support provided by subject tutors or experts ( $M = 3.14$ ,  $SD = 1.25$ ), (d) disincentive 3—lack of guidance provided by support specialists ( $M = 3.09$ ,  $SD = 1.26$ ), and (e) disincentive 25—feeling the material is overwhelming ( $M = 3.06$ ,  $SD = 1.31$ ).

Descriptive statistics for disincentives in the order presented on the survey are shown in Table 15.

### *Frequency for Each Independent Disincentive*

All in all, there were 13 disincentives which over 60% of respondents said were a disincentive, large disincentive, or very large disincentive: (a) disincentive 2—lack of professional support provided by subject tutors or experts 73.188%, (b) disincentive 26—It does not cover my topic of interest in the depth I desire 69.853%, (c) disincentive 3—lack of guidance provide by support specialists 69.565%, (d) disincentive 6—there is no certificate or degree awarded 68.571%, (e) disincentive 5—lack of awareness of how these tools can be used effectively 68.382%, (f) disincentive 25—feeling the materials is overwhelming 67.626%, (g) Disincentive 27—lack of ability to assess how I am doing to

Table 15

*Descriptive Statistics of Survey Responses for Disincentives (N = 140)*

No.	Disincentive	Mean	Median	Mode	SD	Skew	Kurtosis	Count
d1	The need to be a skilled self-studier or independent learner	2.51	2	1	1.25	.35	-.89	137
d2	Lack of professional support provided by subject tutors or experts	3.14	3	3	1.25	-.32	-.8	138
d3	Lack of guidance provided by support specialists	3.09	3	4	1.26	-.29	-.94	138
d4	Availability of this mode of teaching & learning is extremely variable	2.82	3	3	1.17	.09	-.61	136
d5	Lack of awareness of how these tools can be used effectively	3.01	3	3	1.22	-.16	-.85	136
d6	There is no certificate or degree awarded	3.28	3	5	1.54	-.31	-1.37	140
d7	Lack of activities & events that facilitate participation in learning opportunities	2.79	3	3	1.19	-.06	-.92	138
d8	Concern about intellectual property	2.68	3	1	1.28	.11	-1.18	139
d9	There is a mismatch to my local language or culture	2.33	2	1	1.54	.66	-1.11	137
d10	Concern about feeling included	1.98	2	1	1.17	.97	-.04	140
d11	Concern about being competent or capable to study at this level	2.29	2	1	1.22	.44	-1	139
d12	Education is not important for my social group or community	2.16	1	1	1.37	.74	-.83	138
d13	It goes against the norms or customs of my culture	1.85	1	1	1.24	1.34	.64	137
d14	Being discouraged from engaging in additional education	2.06	2	1	1.28	.91	-.44	139
d15	It goes against the norms or customs of my family or community (social)	1.74	1	1	1.12	1.51	1.39	138
d16	Having no intent to learn at this level	2.22	2	1	1.27	.63	-.77	139
d17	Not understanding how to use this resource	2.8	3	1	1.4	.11	-1.28	139

(Table continues)

No.	Disincentive	Mean	Median	Mode	<i>SD</i>	Skew	Kurtosis	Count
d18	Not having the qualifications to use this resource	2.55	3	1	1.33	.28	-1.13	139
d19	Concern about handling these new technologies	2.39	2	1	1.28	.46	-.96	140
d20	Concern about handling these new ways of learning	2.39	2	1	1.14	.32	-.9	140
d21	There is a lack of teacher-supplied motivation, feedback & direction	2.9	3	4	1.33	-.04	-1.2	140
d22	Feeling educational materials and opportunities are not as open as possible	2.68	3	3	1.18	0	-1.05	138
d23	Content is not structured in a 'self-learn' or 'self-teach' method	2.85	3	3	1.23	.01	-.93	137
d24	Content is produced and displayed in large chunks instead of bite-sized pieces of information	2.74	3	3	1.18	-.02	-.83	139
d25	Feeling the material is overwhelming	3.06	3	3	1.31	-.15	-1.03	139
d26	It does not cover my topic of interest in the depth I desire	3.17	3	4	1.31	-.28	-1.01	136
d27	Lack of ability to assess how I am doing to ensure I am learning	2.97	3	3	1.26	-.18	-.98	140
d28	Wanting personal support through encouraging self-reflection and guidance within some of the in-text activities and formal assessments	2.63	3	3	1.19	.15	-.84	139
d29	Lack of availability of guidance materials on study skills	2.73	3	4	1.25	-.01	-1.17	137
d30	Lack of recording of learning & achievements in e-portfolios or journals	2.5	2	1	1.18	.21	-1.03	139
d31	Limited or no access to a computer	2.57	2	1	1.73	.4	-1.64	140
d32	Limited or no access to the Internet	2.58	2	1	1.73	.41	-1.62	140
d33	Other technical barriers preventing easy use or reuse	2.56	2	1	1.44	.34	-1.28	140
d34	Physical circumstances that limit my access	2.2	2	1	1.42	.74	-.94	139
d35	The cost of being online	2.12	1.5	1	1.36	.87	-.57	140

(Table continues)

No.	Disincentive	Mean	Median	Mode	SD	Skew	Kurtosis	Count
d36	Being geographically remote	1.92	1	1	1.27	1.17	.13	139
d37	Not having the qualifications or prior achievements necessary for access	2.28	2	1	1.33	.56	-.99	140
d38	Needing to learn & understand how to navigate and use such resources	2.43	2	1	1.26	.28	-1.17	140
d39	Not knowing what resources exist	2.92	3	3	1.3	-.05	-1.05	140
d40	Not understanding what the resources are	2.84	3	4	1.33	-.03	-1.2	140
d41	Concern that free resources lack quality	2.49	2	1	1.31	.28	-1.19	140
d42	There is currently no accreditation tied with OCW	3.02	3	1	1.47	-.16	-1.34	140
d43	Not clear that unstructured communication on its own is very helpful to learning.	2.52	3	3	1.16	0	-.96	140

ensure I am learning 67.143%, (h) Disincentive 42—there is currently no accreditation tied with OCW 65, (i) disincentive 39—not knowing what resources exist 64.286%, (j) disincentive 4—availability of this mode of teaching & learning is extremely variable 63.971%, (k) disincentive 24—content is produced & displayed in large chunks instead of bite-sized pieces of information 62.59%, (l) disincentive 7—lack of activities and events that facilitate participation in learning opportunities 62.319%, and (m) disincentive 23—content is not structured in a ‘self-learn’ or ‘self-teach’ method 62.044%. To view the disincentive frequency tables by question, see Appendix P.



Incentives in the Use of OpenCourseWare in Utah by Age, Income,  
Gender, Education, County, Occupation, and Ethnicity

*Mean Scores for Incentives by Age*

In looking at the mean scores of incentives by age, seven incentives scored 4.50 on a 5-point scale or higher in varying age categories, however no items scored above 4.50 for all age levels although no cost for materials came close: (a) incentive 23—gaining experience in online learning has a mean of 5.00 for unknown age; (b) incentive 26—no cost for materials has a mean of 5.00 for 20-25 ( $n = 5$ ), 4.82 for 26-30 ( $n = 22$ ), 4.73 for 31-35 ( $n = 15$ ), 4.58 for 36-40 ( $n = 19$ ), 4.67 for 46-50 ( $n = 21$ ), and 4.80 for 51-55 ( $n = 5$ ); (c) incentive 27—materials in an OCW are fairly easy to access and find has a mean of 4.60 for 20-25 ( $n = 5$ ); (d) incentive 9—learning for personal knowledge or enjoyment has a mean of 4.58 for 36-40 ( $n = 19$ ) and 4.57 for 61-65 ( $n = 7$ ); (e) incentive 12—pursuing in depth a topic that interests me has a mean of 4.53 for 36-40 ( $n = 19$ ); (f) incentive 14—improving professional knowledge or skills has a mean of 4.53 for 36-40 ( $n = 19$ ); (g) incentive 17—available at any time has a mean of 4.53 for 31-35 ( $n = 15$ ). To view the mean scores for incentives by age table, see Appendix Q.

*Pearson Product-Moment Correlations  
between Incentives and Age*

Pearson product-moment correlations have been performed to determine the relationships between the values of age to incentives for OCW resource use. The coefficient range for Pearson product-moment correlations is from one to negative one. Thus, the relationships calculated for this study, while valid, are somewhat weak

correlations. In regard to the Pearson product-moment correlations between age and incentives, for an alpha level of .01, 2-tailed, the correlation between age and incentive 19—improving my performance in academic programs ( $M = 3.26$ ,  $SD = 1.34$ ) was found to be statistically significant,  $r(135) = -.296$ ,  $p < .0005$ ; the correlation between age and incentive 20—saving time in creation of educational materials ( $M = 3.17$ ,  $SD = 1.42$ ) was found to be statistically significant,  $r(134) = -.266$ ,  $p < .0002$ ; the correlation between age and incentive 22—sampling courses or study before enrolling ( $M = 3.34$ ,  $SD = 1.39$ ) was found to be statistically significant,  $r(135) = -.336$ ,  $p < .0001$ ; the correlation between age and incentive 26—no cost for materials ( $M = 4.59$ ,  $SD = 0.68$ ) was found to be statistically significant,  $r(135) = -.262$ ,  $p < .0021$ ; the correlation between age and incentive 29—seeing more clearly what I will be signing up for in a ‘regular’ class ( $M = 3.32$ ,  $SD = 1.40$ ) was found to be statistically significant,  $r(134) = -.318$ ,  $p < .0002$ ; and the correlation between age and incentive 30—help in choosing my next course ( $M = 3.19$ ,  $SD = 1.38$ ) was found to be statistically significant,  $r(135) = -.331$ ,  $p < .0001$ .

In regard to the correlations between age and incentives, for an alpha level of .05, 2-tailed, the correlation between age and incentive 1—seeking additional information about a subject introduced in school ( $M = 3.58$ ,  $SD = 1.15$ ) was found to be statistically significant,  $r(135) = -.169$ ,  $p < .0499$ ; the correlation between age and incentive 2—comparing courses at different educational institutions ( $M = 2.91$ ,  $SD = 1.36$ ) was found to be statistically significant,  $r(135) = -.183$ ,  $p < .0334$ ; the correlation between age and incentive 5—improving my study skills ( $M = 3.41$ ,  $SD = 1.35$ ) was found to be statistically significant,  $r(135) = -.205$ ,  $p < .0169$ ; the correlation between age and

incentive 11—shopping around for a college to attend ( $M = 2.65$ ,  $SD = 1.37$ ) was found to be statistically significant,  $r(135) = -.209$ ,  $p < .0148$ ; the correlation between age and incentive 21—improving my own materials through inclusion of OCW content ( $M = 3.05$ ,  $SD = 1.41$ ) was found to be statistically significant,  $r(135) = -.205$ ,  $p < .0169$ ; the correlation between age and incentive 31—can be accessed simultaneously by many people & infinitely replicated ( $M = 3.41$ ,  $SD = 1.32$ ) was found to be statistically significant,  $r(135) = -.217$ ,  $p < .0011$ ; and the correlation between age and incentive 35—materials available are from leading universities ( $M = 4.06$ ,  $SD = .93$ ) was found to be statistically significant,  $r(135) = -.181$ ,  $p < .0035$ . To view the Pearson product-moment correlations between age and incentives tables, see Appendix R.

*Pearson Product-Moment Correlations  
Between Incentives and Income*

In regard to the Pearson product-moment correlations between income and incentives for an alpha level of .01, 2-tailed, the correlation between income and incentive 22—sampling courses or study before enrolling ( $M = 3.34$ ,  $SD = 1.39$ ) was found to be statistically significant,  $r(135) = -.2267$ ,  $p < .0079$ ; the correlation between age and incentive 25—clear and familiar structure of materials ( $M = 3.56$ ,  $SD = 1.13$ ) was found to be statistically significant,  $r(134) = -.2362$ ,  $p < .0006$ ; the correlation between income and incentive 26—no cost for materials ( $M = 4.59$ ,  $SD = .68$ ) was found to be statistically significant,  $r(135) = -.307$ ,  $p < .0003$ ; the correlation between income and incentive 29—seeing more clearly what I will be signing up for in a ‘regular’ class ( $M = 3.32$ ,  $SD = 1.40$ ) was found to be statistically significant,  $r(134) = -.226$ ,  $p < .0085$ ;

the correlation between income and incentive 30—help in choosing my next course ( $M = 3.19, SD = 1.38$ ) was found to be statistically significant,  $r(135) = -.241, p < .0048$ ; and the correlation between income and incentive 31—can be accessed simultaneously by many people and infinitely replicated ( $M = 3.40, SD = 1.32$ ) was found to be statistically significant,  $r(135) = -.229, p < .0074$ .

For an alpha level of .05 2-tailed, the correlation between income and incentive 11—shopping around for a college to attend ( $M = 2.65, SD = 1.37$ ) was found to be statistically significant,  $r(135) = -.206, p < .0016$ ; the correlation between income and incentive 15—helping understand my own abilities to learn ( $M = 3.40, SD = 1.27$ ) was found to be statistically significant,  $r(135) = -.173, p < .0435$ ; the correlation between income and incentive 16—freedom from discrimination on the basis of prior achievement ( $M = 2.64, SD = 1.37$ ) was found to be statistically significant,  $r(135) = -.216, p < .0117$ ; the correlation between income and incentive 19—improving my performance in academic programs ( $M = 3.26, SD = 1.34$ ) was found to be statistically significant,  $r(135) = -.193, p < .0241$ ; the correlation between income and incentive 23—gaining experience in online learning ( $M = 3.46, SD = 1.52$ ) was found to be statistically significant,  $r(135) = -.173, p < .0445$ ; and the correlation between income and incentive 34—communicating with others ( $M = 3.14, SD = 1.28$ ) was found to be statistically significant,  $r(134) = -.183, p < .0036$ . To view the Pearson product-moment correlations between income and incentives tables, see Appendix S.

#### *Mean Scores for Incentives by Gender*

In looking at the mean scores of incentives by gender, two incentives scored 4.50

on a 5-point scale or higher in varying gender categories, and one scored above 4.50 for all gender categories: (a) i23—gaining experience in online learning has a mean of 5 for unknown gender ( $n = 4$ ), and (b) incentive 26—no cost for materials has a mean of 4.71 for females ( $n = 48$ ), 4.52 for males ( $n = 88$ ), and 4.5 for unknown ( $n = 4$ ).

In looking at the mean scores of incentives by gender, excluding those with unknown gender ( $n = 4$ ), there was very little difference in responses based on gender. Only one incentive had more than a .50 point difference between females and males and six incentives showed more than a .25 point difference between females and males in the value of the mean: (a) incentive 18—improving my teaching skills has a mean of 3.44 for females and a 2.86 for males, a .57 difference; (b) incentive 20—saving time in creation of educational materials has a mean of 3.45 for females and 3.03 for males, a .42 difference; (c) incentive 27—materials in OCW are fairly easy to access and find has a mean of 4.38 for females and 3.99 for males, a .39 difference; (d) incentive 11—shopping around for a college to attend has a mean of 2.85 for females and 2.56 for males, a .30 difference; (e) incentive 15—helping understand my own abilities to learn has a mean of 3.60 for females and 3.30 for males, a .30 difference; and (f) incentive 9—learning for personal knowledge or enjoyment has a mean of 4.40 for females and 3.97 for males, a .27 difference. To view the mean scores for incentives by gender table, see Appendix T.

#### *Point Bi-Serial Correlation Coefficients Between Incentives and Gender*

Point bi-serial correlation coefficients were used to determine the relationships between the nominal value of gender to incentives. For this correlation measurement the

four values where gender was unknown were removed, leaving  $N = 136$ . In SPSS, point bi-serial correlation was computed with the formula for the Pearson Product Moment correlation.

In regard to the Pearson product-moment correlations between gender and incentives for an alpha level of .05, 2-tailed, the correlation between gender and incentive 18 - improving my teaching skills ( $M = 3.03$ ,  $SD = 1.33$ ) was found to be statistically significant,  $r(135) = -.208$ ,  $p < .0151$ ; and the correlation between gender and incentive 27—materials in an OCW are fairly easy to access and find ( $M = 4.12$ ,  $SD = .98$ ) was found to be statistically significant,  $r(135) = -.188$ ,  $p < .0282$ . To view the point bi-serial correlation coefficients between gender and incentives tables see Appendix U.

#### *Mean Scores for Incentives by Education*

In looking at mean scores of incentives for education only two incentives have an overall mean above 4.5 on a five point scale for any specific educational level: (a) i26—no cost for materials has a mean of 4.62 for those who completed high school ( $n = 65$ ) and 4.7 for those who completed college ( $n = 43$ ) but only 4.33 for those who completed graduate school ( $n = 27$ ); (b) i23—gaining experience in online learning has a mean of 5.0 for individuals who did not specify their education level ( $n = 4$ ). There were some items that received a 4.5 or higher for those who attended vocational technical schools, but as there was only one respondent in this category that information was not included in this summary of results. To view the mean scores for incentives by education table, see Appendix V.

*Spearman's RHO Correlation Coefficients  
Between Incentives and Education*

Spearman's RHO correlation coefficients were used to determine the relationships between the ordinal values of education to incentives. In regard to the Spearman's RHO correlations between education and incentives for an alpha level of .01, 2-tailed, the correlation between education and incentive 22—sampling courses or study before enrolling ( $M = 3.34$ ,  $SD = 1.39$ ) was found to be statistically significant,  $r(135) = -.252$ ,  $p < .0031$ ; and the correlation between education and incentive 30—help in choosing my next course ( $M = 3.19$ ,  $SD = 1.38$ ) was found to be statistically significant,  $r(135) = -.232$ ,  $p < .0066$ .

For an alpha level of .05, 2-tailed, the correlation between education and incentive 2—comparing courses at different educational institutions ( $M = 2.91$ ,  $SD = 1.36$ ) was found to be statistically significant,  $r(135) = -.216$ ,  $p < .0116$ ; the correlation between education and incentive 5—improving my study skills ( $M = 3.41$ ,  $SD = 1.35$ ) was found to be statistically significant,  $r(135) = -.190$ ,  $p < .0268$ ; the correlation between education and incentive 23—gaining experience in online learning ( $M = 3.46$ ,  $SD = 1.52$ ) was found to be statistically significant,  $r(135) = -.187$ ,  $p < .0294$ ; and the correlation between education and incentive 29—seeing more clearly what I will be signing up for in a 'regular' class ( $M = 3.32$ ,  $SD = 1.40$ ) was found to be statistically significant,  $r(134) = -.201$ ,  $p < .0195$ . To view the Spearman's RHO correlation coefficients between education and incentives table see Appendix W.

*Eta Correlation Between Incentives  
and County*

Eta correlation ratio was used to determine the relationships between county and incentives. ETA is being used because one variable is an interval/ratio (dependent) and the other variable is categorical/ordinal (independent) and the association is nonlinear. In regard to the Eta correlations between county and incentives, none of the values show a high relationship. To view the Eta correlation between county and incentives table see Appendix X.

*Eta Correlation Between Incentives  
and Occupation*

Eta correlation ratio was used to determine the relationships between occupation and incentives. ETA is being used because one variable is an interval/ratio (dependent) and the other variable is categorical/ordinal (independent) and the association is nonlinear. In regard to the Eta correlations between occupation and incentives, none of the values show a high relationship. To view the Eta correlation between occupation and incentives table see Appendix Y.

*Eta Correlation Between Incentives and  
Ethnicity*

Eta correlation ratio was used to determine the relationships between ethnicity and incentives. ETA is being used because one variable is an interval/ratio (dependent) and the other variable is categorical/ordinal (independent) and the association is nonlinear. In regard to the Eta correlations between ethnicity and incentives, none of the values show a high relationship. To view the Eta correlation between ethnicity and



incentives table see Appendix Z.

Disincentives in the Use of OpenCourseWare in Utah by Age, Income,  
Gender, Education, County, Occupation, and Ethnicity

*Mean Scores for Disincentives by Age*

In looking at mean scores for disincentives by age, six items received averages above 3.80, although no items spanned all age categories: (a) disincentive 6—there is no certificate or degree awarded has a mean of 4.07 for 36-40 and 3.95 for 41-45; (b) disincentive 21—there is a lack of teacher-supplied motivation, feedback & direction has a mean of 4.00 for 20-25; (c) disincentive 23—content is not structured in a ‘self-learn’ or ‘self-teach’ method has a mean of 4.00 for 20-25; (d) disincentive 25—feeling the material is overwhelming has a mean of 4.00 for 20-25; (e) disincentive 27—lack of ability to assess how I am doing to ensure I am learning has a mean of 4.00 for 20-25; and (f) disincentive 42—there is currently no accreditation tied with OCW has a mean of 4.00 for 20-25. To view the mean scores for incentives by age tables, see Appendix AA.

*Pearson Product-Moment Correlations  
Between Disincentives and Age*

Pearson product-moment correlations have been performed to determine the relationships between the interval or ratio values of age and disincentives for OCW resource use. In regard to the Pearson product-moment correlations between age and disincentives, for an alpha level of .01, 2-tailed, the correlation between age and disincentive 7—lack of activities and events that facilitate participation in learning

opportunities ( $M = 2.79$ ,  $SD = 1.19$ ) was found to be statistically significant,  $r(133) = -.223$ ,  $p < .0098$ ; the correlation between age and disincentive 21—there is a lack of teacher-supplied motivation, feedback and direction ( $M = 2.90$ ,  $SD = 1.33$ ) was found to be statistically significant,  $r(135) = -.390$ ,  $p < .0000$ ; and the correlation between age and disincentive 27—lack of ability to assess how I am doing to ensure I am learning ( $M = 2.97$ ,  $SD = 1.26$ ) was found to be statistically significant,  $r(135) = -.238$ ,  $p < .0052$ .

For an alpha level of .05, 2-tailed, the correlation between age and disincentive 2—lack of professional support provided by subject tutors or experts ( $M = 3.14$ ,  $SD = 1.25$ ) was found to be statistically significant,  $r(133) = -.201$ ,  $p < .0200$ ; the correlation between age and disincentive 22—feeling educational materials and opportunities are not as open as possible ( $M = 2.68$ ,  $SD = 1.18$ ) was found to be statistically significant,  $r(133) = -.191$ ,  $p < .0273$ ; the correlation between age and disincentive 25—feeling the material is overwhelming ( $M = 3.06$ ,  $SD = 1.31$ ) was found to be statistically significant,  $r(134) = -.172$ ,  $p < .0466$ ; and the correlation between age and disincentive 42—there is currently no accreditation tied with OCW ( $M = 3.02$ ,  $SD = 1.47$ ) was found to be statistically significant,  $r(135) = -.206$ ,  $p < .0160$ . To view the Pearson product-moment correlations between age and disincentives tables, see Appendix BB.

*Pearson Product-Moment Correlations  
Between Disincentives and Income*

In regard to the Pearson product-moment correlations between income and disincentives for an alpha level of .01, 2-tailed, the correlation between income and

disincentive 23—content is not structured in a “self-learn” or “self-teach” met ( $M = 2.85$ ,  $SD = 1.23$ ) was found to be statistically significant,  $r(132) = -.274$ ,  $p < .0014$ .

For an alpha level of .05, 2-tailed, the correlation between income and disincentive 2—lack of professional support provided by subject tutors or experts ( $M = 3.14$ ,  $SD = 1.25$ ) was found to be statistically significant,  $r(133) = -.176$ ,  $p < .0414$ ; and the correlation between income and disincentive 22—feeling educational materials and opportunities are not as open as possible ( $M = 2.68$ ,  $SD = 1.18$ ) was found to be statistically significant,  $r(133) = -.180$ ,  $p < .0376$ . To view the Pearson product-moment correlations between income and disincentives tables, see Appendix CC.

#### *Mean Scores for Disincentives by Gender*

In looking at mean scores for disincentives by gender, six items received averages above 3.80, although no items spanned all gender categories: (a) d6—there is no certificate or degree awarded has a mean of 3.33 for females ( $n = 48$ ), 3.26 for males ( $n = 88$ ) and only 3.0 for unknown gender ( $n = 4$ ); (b) lack of professional support provided by subject tutors or experts has a mean of 3.26 for males ( $n = 88$ ) but only 3.04 for females ( $n = 48$ ) and 1.75 for unknown gender ( $n = 4$ ).

In looking at mean scores for disincentives by gender, excluding those with unknown genders ( $n = 4$ ), there was very little difference based on gender. Only one item resulted in a mean score with a difference greater than .25 between females and males: disincentive 36—being geographically remote has a mean of 2.09 for females and a 1.82 for males, a .27 difference. To view the mean scores for disincentives by gender table, see Appendix DD.

### *Point Bi-Serial Correlation Coefficients Between Disincentives and Gender*

Point bi-serial correlation coefficients were used to determine the relationships between the nominal value of gender to disincentives. For this correlation measurement the four values where gender was unknown were removed, leaving  $N = 136$ . In SPSS point bi-serial correlation was computed with the formula for the Pearson Product Moment correlation. In regard to the Pearson product-moment correlations between gender and disincentives there are no significant correlations at either the .05 or .01 level. To view the point bi-serial correlation coefficients between gender and disincentives and tables see Appendix EE.

### *Mean Scores for Disincentives by Education*

In comparing the mean scores of disincentives by education level, no single item had means above 3.5 on a 5-point scale for all levels of education. In total, only four items scored above 3.5 for any particular education level: (a) d2—lack of professional support provided by subject tutors or expects has a mean of 3.38 for those who completed high school but did not proceed to college ( $n = 63$ ); (b) d3—lack of guidance provided by support specialists has a mean of 3.27 for those who completed high school but did not proceed to college ( $n = 63$ ); (c) d6—there is no certificate or degree awarded has a mean of 3.37 for those who completed high school ( $n = 65$ ), and 3.4 for those who completed college ( $n = 43$ ), but only 2.85 for those who completed graduate school ( $n = 27$ ); and (d) d26—it does not cover my topic of interest in the depth that I desire has a mean of 3.27 for those who completed high school due did not proceed to college ( $n = 63$ ). There were

some items that received a 3.5 or higher for those who attended vocational technical schools, but as there was only one respondent in this category that information was not included in this summary of results. To view the mean scores for disincentives by education table, see Appendix FF.

*Spearman's RHO Correlation Coefficients  
Between Disincentives and Education*

Spearman's RHO correlation coefficients were used to determine the relationships between the ordinal values of education to disincentives. In regard to the Spearman's RHO correlations between education and disincentives for an alpha level of .01, 2-tailed, the correlation between education and disincentive 2—lack of professional support provided by subject tutors or experts ( $M = 3.14$ ,  $SD = 1.25$ ) was found to be statistically significant,  $r(133) = -.225$ ,  $p < .0090$ ; and the correlation between education and disincentive 24—content is produced and displayed in large chunks instead of bite-sized pieces of information ( $M = 2.74$ ,  $SD = 1.18$ ) was found to be statistically significant,  $r(134) = -.223$ ,  $p < .0093$ .

For an alpha level of .05, 2-tailed, the correlation between education and disincentive 11—concern about being competent or capable to study at this level ( $M = 2.29$ ,  $SD = 1.22$ ) was found to be statistically significant,  $r(134) = -.208$ ,  $p < .0154$ ; and the correlation between education and disincentive 14—being discouraged from engaging in additional education ( $M = 2.06$ ,  $SD = 1.28$ ) was found to be statistically significant,  $r(134) = -.181$ ,  $p < .0353$ ; and the correlation between education and disincentive 20—concern about handling these new ways of learning ( $M = 2.39$ ,

$SD = 1.14$ ) was found to be statistically significant,  $r(134) = -.180, p < .0359$ ; and the correlation between education and disincentive 23—content is not structured in a ‘self-learn’ or ‘self-teach’ method ( $M = 2.85, SD = 1.23$ ) was found to be statistically significant,  $r(132) = -.209, p < .0156$ . To view the Spearman’s RHO correlation coefficients between education and disincentives table see Appendix GG.

#### *Eta Correlation Between Disincentives and County*

Eta correlation ratio was used to determine the relationships between county and disincentives. ETA is being used because one variable is an interval/ratio (dependent) and the other variable is categorical/ordinal (independent) and the association is nonlinear. In regard to the Eta correlations between gender and disincentives, none of the values show a high relationship. To view the Eta correlation between gender and disincentives table see Appendix HH.

#### *Eta Correlation Between Disincentives and Occupation*

Eta correlation ratio was used to determine the relationships between occupation and disincentives. ETA is being used because one variable is an interval/ratio (dependent) and the other variable is categorical/ordinal (independent) and the association is nonlinear. In regard to the Eta correlations between occupation and disincentives, none of the values show a high relationship. To view the Eta correlation between occupation and disincentives table see Appendix II.

*Eta Correlation between Disincentives  
and Ethnicity*

Eta correlation ratio was used to determine the relationships between ethnicity and disincentives. ETA is being used because one variable is an interval/ratio (dependent) and the other variable is categorical/ordinal (independent) and the association is nonlinear. In regard to the Eta correlations between ethnicity and disincentives, none of the values show a high relationship. To view the Eta correlation between ethnicity and disincentives table see Appendix JJ.

Diffusion Attributes That Contribute to the Adoption  
(Incentives) of OpenCourseWare in Utah

Descriptive statistics for incentives as categorized by Rogers attributes of innovation are shown in Table 16 (see also Appendix G).

*Frequency for Incentives Based on  
Roger's Attributes of Innovation*

Below are tables reporting frequency and percentages for incentives based on Roger's attributes of innovation (see Table 17).

*Multiple Regression Analysis on Incentives  
and Roger's Attributes*

Multiple regression analysis was used as a method of exploratory analysis to determine the percent of variance in the dependent variable incentive to use open educational resources that is explained by the independent variables of the five perceived attributes of innovation provided by Rogers (2003), which include relative advantage,

Table 16

*Descriptive Statistics of Responses for Incentives by Rogers' Attributes of Innovation*

(N = 140)

#	Responses for incentives	Mean	Median	Mode	SD	Skew	Kurtosis	Count
Relative advantage								
i1	Seeking additional information about a subject introduced in school	3.58	4	4	1.15	-.64	-.25	140
i2	Comparing courses at different educational institutions	2.91	3	4	1.36	.02	-1.22	140
i6	Enriching or supplementing study on a formal course	3.63	4	4	1.16	-.75	-.06	140
i11	Shopping around for a college to attend	2.65	3	1	1.37	.25	-1.2	140
i13	Improving my understanding of particular topics	4.13	4	4	.8	-.83	.93	140
i22	Sampling courses or study before enrolling	3.34	4	4	1.39	-.41	-1.07	140
i29	Seeing more clearly see what I will be signing up for in a "regular" class	3.32	4	4	1.4	-.44	-1.07	139
Compatibility								
i3	Doing research	3.89	4	4	1.09	-.98	.48	140
i4	Furthering projects or programs	3.47	4	4	1.15	-.68	-.14	140
i5	Improving my study skills	3.41	4	4	1.35	-.53	-.9	140
i9	Learning for personal knowledge or enjoyment	4.22	4	5	.93	-1.27	1.64	140
i10	Keeping my mind active	4.04	4	4	.9	-.68	-.32	140
i12	Pursuing in depth a topic that interests me	4.24	4	5	.93	-1.38	1.69	139
i14	Improving professional knowledge or skills	4.16	4	5	.94	-1.27	1.64	140
i15	Helping understand my own abilities to learn	3.4	3	3	1.27	-.39	-.81	140
i18	Improving my teaching skills	3.03	3	3	1.33	-.07	-1.12	140
i19	Improving my performance in academic programs	3.26	4	4	1.34	-.42	-1.02	140

*(Table continues)*



#	Responses for incentives	Mean	Median	Mode	<i>SD</i>	Skew	Kurtosis	Count
i21	Improving my own materials through inclusion of OCW content	3.05	3	4	1.41	-.2	-1.27	140
i30	Help in choosing my next course	3.19	3	4	1.38	-.3	-1.13	140
Complexity								
i8	Using and changing the materials for personal use	3.27	3	3	1.2	-.33	-.58	139
i20	Saving time in creation of educational materials	3.17	3	4	1.42	-.33	-1.21	139
i23	Gaining experience in online learning	3.46	4	4	1.52	2.09	15.43	140
i24	Access is at my preferred pace	4.01	4	5	1.08	-1.1	.75	140
i25	Clear and familiar structure of materials	3.56	4	4	1.13	-.69	-.13	139
Trialability								
i16	Freedom from discrimination on the basis of prior achievement	2.64	3	1	1.37	.33	-1.08	140
i17	Available at any time	4.35	5	5	.89	-1.81	4.01	140
i26	No cost for materials	4.59	5	5	.68	-1.65	2.36	140
i27	Materials in an OCW are fairly easy to access and find	4.12	4	5	.98	-1.09	.67	140
i28	Tools which allow users to find materials in multiple OCW's	3.8	4	4	1.05	-.92	.52	138
i31	Can be accessed simultaneously by many people & infinitely replicated	3.4	4	4	1.32	-.43	-.91	140
Observability								
i7	Two-way interaction and collaboration between groups	2.94	3	3	1.24	.03	-.94	139
i32	High quality & reliability because the content is produced by experts in the field	4.09	4	5	1.05	-1.24	1.09	140
i33	Seeing the communications of others	3.06	3	3	1.23	-.18	-.84	140
i34	Communicating with others	3.14	3	4	1.28	-.23	-.99	139
i35	Materials available are from leading universities	4.06	4	4	.93	-.94	.67	140

Table 17

*Incentives Based on Rogers' Attributes of Innovation (N = 140)*

#	Incentives		Scale					Missing value
			Not an incentive at all 1	2	3	Very large incentive 4	5	
<b>Relative advantage</b>								
i1	Seeking additional information about a subject introduced in school	<i>n</i>	10	13	35	50	32	0
		%	7.10	9.30	25.00	35.70	22.90	.00
i2	Comparing courses at different educational institutions	<i>n</i>	29	28	30	32	21	0
		%	20.70	20.00	21.40	22.90	15.00	.00
i6	Enriching or supplementing study on a formal course	<i>n</i>	11	10	33	52	34	0
		%	7.90	7.10	23.60	37.10	24.30	.00
i11	Shopping around for a college to attend	<i>n</i>	40	28	29	27	16	0
		%	28.60	20.00	20.70	19.30	11.40	.00
i13	Improving my understanding of particular topics	<i>n</i>	1	3	22	65	49	0
		%	.70	2.10	15.70	46.40	35.00	.00
i22	Sampling courses or study before enrolling	<i>n</i>	22	17	28	37	36	0
		%	15.70	12.10	20.00	26.40	25.70	.00
i29	Seeing more clearly see what I will be signing up for in a "regular" class	<i>n</i>	24	15	26	41	33	1
		%	17.10	10.70	18.60	29.30	23.60	.07
<b>Compatibility</b>								
i3	Doing research	<i>n</i>	7	8	26	52	47	0
		%	5.00	5.70	18.60	37.10	33.60	.00
i4	Furthering projects or programs	<i>n</i>	13	11	37	55	24	0
		%	9.30	7.90	26.40	39.30	17.10	.00
i5	Improving my study skills	<i>n</i>	20	16	25	45	34	0
		%	14.30	11.40	17.90	32.10	24.30	.00
i9	Learning for personal knowledge or enjoyment	<i>n</i>	3	3	21	46	67	0
		%	2.10	2.10	15.00	32.90	47.90	.00
i10	Keeping my mind active	<i>n</i>	0	10	24	56	50	0
		%	0.00	7.10	17.10	40.00	35.70	.00
i12	Pursuing in depth a topic that interests me	<i>n</i>	2	8	11	51	67	1
		%	1.40	5.70	7.90	36.40	47.90	.70
i14	Improving professional knowledge or skills	<i>n</i>	3	6	16	56	59	0
		%	2.10	4.30	11.40	40.00	42.10	.00
i15	Helping understand my own abilities to learn	<i>n</i>	15	17	39	35	34	0
		%	10.70	12.10	27.90	25.00	24.30	.00
i18	Improving my teaching skills	<i>n</i>	24	26	35	32	23	0
		%	17.10	18.60	25.00	22.90	16.40	.00

*(Table continues)*

#	Incentives		Scale					Missing value
			Not an incentive at all			Very large incentive		
			1	2	3	4	5	
i19	Improving my performance in academic programs	<i>n</i>	22	19	25	48	26	0
		%	15.70	13.60	17.90	34.30	18.60	.00
i21	Improving my own materials through inclusion of OCW content	<i>n</i>	31	18	28	39	24	0
		%	22.10	12.90	20.00	27.90	17.10	.00
i30	Help in choosing my next course	<i>n</i>	25	18	30	39	28	0
		%	17.90	12.90	21.40	27.90	20.00	.00
Complexity								
i8	Using and changing the materials for personal use	<i>n</i>	16	14	50	35	24	0
		%	11.40	10.00	35.70	25.00	17.10	.00
i20	Saving time in creation of educational materials	<i>n</i>	29	15	26	42	27	1
		%	20.70	10.70	18.60	30.00	19.30	.70
i23	Gaining experience in online learning	<i>n</i>	14	20	30	49	26	1
		%	10.00	14.30	21.40	35.00	18.60	.70
i24	Access is at my preferred pace	<i>n</i>	6	7	23	48	56	0
		%	4.30	5.00	16.40	34.30	40.00	.00
i25	Clear and familiar structure of materials	<i>n</i>	10	13	33	55	28	1
		%	7.10	9.30	23.60	39.30	20.00	.70
Triability								
i16	Freedom from discrimination on the basis of prior achievement	<i>n</i>	39	29	34	19	19	0
		%	27.90	20.70	24.30	13.60	13.60	.00
i17	Available at any time	<i>n</i>	4	1	12	48	75	0
		%	2.90	0.70	8.60	34.30	53.60	.00
i26	No cost for materials	<i>n</i>	0	2	9	34	95	0
		%	0.00	1.40	6.40	24.30	67.90	.00
i27	Materials in an OCW are fairly easy to access and find	<i>n</i>	2	10	17	51	60	0
		%	1.40	7.10	12.10	36.40	42.90	.00
i28	Tools which allow users to find materials in multiple OCW's	<i>n</i>	6	10	25	61	36	2
		%	4.30	7.10	17.90	43.60	25.70	1.40
i31	Can be accessed simultaneously by many people & infinitely replicated	<i>n</i>	17	18	32	38	35	0
		%	12.10	12.90	22.90	27.10	25.00	.00
Observability								
i7	Two-way interaction and collaboration between groups	<i>n</i>	21	31	40	30	17	1
		%	15.00	22.10	28.60	21.40	12.10	.70
i32	High quality & reliability because the content is produced by experts in the field	<i>n</i>	5	8	17	50	60	0
		%	3.60	5.70	12.10	35.70	42.90	.00
i33	Seeing the communications of others	<i>n</i>	21	21	45	35	18	0
		%	15.00	15.00	32.10	25.00	12.90	.00
i34	Communicating with others	<i>n</i>	20	23	35	39	22	1
		%	14.30	16.40	25.00	27.90	15.70	.70
i35	Materials available are from leading universities	<i>n</i>	2	7	23	56	52	0
		%	1.40	5.00	16.40	40.00	37.10	.00

compatibility, complexity, observability, and trialability. To measure each construct a composite mean score of (a) relative advantage incentives including i1, i2, i6, i11, i13, i22, and i29 as identified above; (b) Compatibility incentives including i3, i4, i5, i9, i10, i12, i14, i15, i18, i19, i21, and i30 as identified above; (c) complexity incentives including i8, i20, i23, i24, and i25 as identified above; (d) trialability incentives including i16, i17, i26, i27, i28, and i31; (e) observability incentives including i7, i32, i33, i34, and i35; and (e) an overall mean average of all incentives was used (see Table 18).

Table 19 measures each Roger's attribute as a predictor of the weighted overall incentive mean. A weighted mean was used because there were seven relative advantage questions, 12 compatibility questions, five complexity questions, six trialability questions, and five observability questions.

#### Diffusion Attributes That Contribute to Rejection (Disincentives) of OpenCourseWare in Utah

In looking at disincentives by Rogers attributes of innovation, observability has the highest negative influence with an overall mean of 2.8 on a 5-point scale, relative

Table 18

#### *Overall Means for Incentives by Rogers' Attributes*

Incentive	Mean	<i>SD</i>	<i>N</i>
All incentives	3.5582	.6938	140
Relative adv.	3.3648	.8609	140
Compatibility	3.6128	.7412	140
Complexity	3.49	.8852	140
Trialability	3.8169	.6919	140
Observability	3.4568	.8409	140

Table 19

*Multiple Regression Analysis of Weighted Incentive Mean and Rogers' Attributes*

Incentive	Standardized coefficients Beta	Contribution of predictor	<i>T</i>	Sig.
Relative advantage	.19	19.16%	80403583.41	0
Compatibility	.35	34.88%	104855198.87	0
Complexity	.14	14.19%	59631459.46	0
Trialability	.18	18.34%	74418380.09	0
Observability	.14	14.02%	59053875.04	0

advantage has an overall mean of 2.723, trialability has an overall mean of 2.455, complexity has an overall mean of 2.678, and compatibility has an overall mean of 2.347.

Descriptive statistics for disincentives as categorized by Rogers' Attributes of Innovation are shown in Table 20.

*Frequency for Disincentives Based on Rogers' Attributes of Innovation*

Table 21 shows the frequency and percentages for disincentives based on Rogers' attributes of innovation.

*Multiple Regression Analysis on Disincentives and Rogers' Attributes*

Multiple regression analysis was used as a method of exploratory analysis to determine the percent of variance in the dependent variable disincentive to use open educational resources that is explained by the independent variables of the five perceived attributes of innovation provided by Rogers (2003), which include relative advantage,

Table 20

*Descriptive Statistics of Responses for Disincentives by Rogers' Attributes (N=140)*

#	Disincentive	Mean	Median	SD	Skew	Kurtosis	Count
Relative advantage							
d1	The need to be a skilled self-studier or independent learner	2.51	2	1.25	.35	-.89	137
d4	Availability of this mode of teaching and learning is extremely variable	2.82	3	1.17	.09	-.61	136
d21	There is a lack of teacher-supplied motivation, feedback & direction	2.9	3	1.33	-.04	-1.2	140
d23	Content is not structured in a 'self-learn' or 'self-teach' method	2.85	3	1.23	.01	-.93	137
d27	Lack of ability to assess how I am doing to ensure I am learning	2.97	3	1.26	-.18	-.98	140
d41	Concern that free resources lack quality	2.49	2	1.31	.28	-1.19	140
d43	Not clear that unstructured communication on its own is very helpful to learning.	2.52	3	1.16	0	-.96	140
Compatibility							
d6	There is no certificate or degree awarded	3.28	3	1.54	-.31	-1.37	140
d8	Concern about intellectual property	2.68	3	1.28	.11	-1.18	139
d9	There is a mismatch to my local language or culture	2.33	2	1.54	.66	-1.11	137
d10	Concern about feeling included	1.98	2	1.17	.97	-.04	140
d12	Education is not important for my social group or community	2.16	1	1.37	.74	-.83	138
d13	It goes against the norms or customs of my culture	1.85	1	1.24	1.34	.64	137
d14	Being discouraged from engaging in additional education	2.06	2	1.28	.91	-.44	139
d15	It goes against the norms or customs of my family or community (social)	1.74	1	1.12	1.51	1.39	138
d16	Having no intent to learn at this level	2.22	2	1.27	.63	-.77	139
d26	It does not cover my topic of interest in the depth I desire	3.17	3	1.31	-.28	-1.01	136
Complexity							
d2	Lack of professional support provided by subject tutors or experts	3.14	3	1.25	-.32	-.8	138

*(Table continues)*

#	Disincentive	Mean	Median	SD	Skew	Kurtosis	Count
d3	Lack of guidance provided by support specialists	3.09	3	1.26	-.29	-.94	138
d11	Concern about being competent or capable to study at this level	2.29	2	1.22	.44	-1	139
d17	Not understanding how to use this resource	2.8	3	1.4	.11	-1.28	139
d18	Not having the qualifications to use this resource	2.55	3	1.33	.28	-1.13	139
d20	Concern about handling these new ways of learning	2.39	2	1.14	.32	-.9	140
d24	Content is produced & displayed in large chunks instead of bite-sized pieces of information	2.74	3	1.18	-.02	-.83	139
d25	Feeling the material is overwhelming	3.06	3	1.31	-.15	-1.03	139
d28	Wanting personal support through encouraging self-reflection & guidance within some of the in-text activities and formal assessments	2.63	3	1.19	.15	-.84	139
d29	Lack of availability of guidance materials on study skills	2.73	3	1.25	-.01	-1.17	137
d37	Not having the qualifications or prior achievements necessary for access	2.28	2	1.33	.56	-.99	140
d38	Needing to learn & understand how to navigate and use such resources	2.43	2	1.26	.28	-1.17	140
Trialability							
d19	Concern about handling these new technologies	2.39	2	1.28	.46	-.96	140
d31	Limited or no access to a computer	2.57	2	1.73	.4	-1.64	140
d32	Limited or no access to the Internet	2.58	2	1.73	.41	-1.62	140
d33	Other technical barriers preventing easy use or reuse	2.56	2	1.44	.34	-1.28	140
d34	Physical circumstances that limit my access	2.2	2	1.42	.74	-.94	139
d35	The cost of being online	2.12	1.5	1.36	.87	-.57	140
d36	Being geographically remote	1.92	1	1.27	1.17	.13	139
d39	Not knowing what resources exist	2.92	3	1.3	-.05	-1.05	140
d40	Not understanding what the resources are	2.84	3	1.33	-.03	-1.2	140
Observability							
d5	Lack of awareness of how these tools can be used effectively	3.01	3	1.22	-.16	-.85	136

(Table continues)

#	Disincentive	Mean	Median	SD	Skew	Kurtosis	Count
d7	Lack of activities & events that facilitate participation in learning opportunities	2.79	3	1.19	-.06	-.92	138
d22	Feeling educational materials & opportunities are not as open as possible	2.68	3	1.18	0	-1.05	138
d30	Lack of recording of learning & achievements in e-portfolios or journals	2.5	2	1.18	.21	-1.03	139
d42	There is currently no accreditation tied with OCW	3.02	3	1.47	-.16	-1.34	140

compatibility, complexity, observability, and trialability. To measure each construct a composite mean score of (a) relative advantage incentives including d1, d4, d21, d23, d27, d41, and d43 as identified above; (b) Compatibility incentives including d6, d8, d9, d10, d12, d13, d14, d15, d16, and d26 as identified above; (c) complexity incentives including d2, d3, d11, d17, d18, d20, d24, d25, d28, d29, d37, and d38 as identified above; (d) trialability incentives including d19, d31, d32, d33, d34, d35, d36, d39, and d40 (e) observability incentives including d5, d7, d22, d30, and d42; and (e) an overall mean average of all incentives was used.

*Overall Means for Disincentives by Rogers' Attributes*

Based on other studies, it was expected that Rogers' attributes as a predictor of the overall mean for disincentives (see Table 22) would be complexity or compatibility (Rogers, 2007). As Rogers noted, compatibility of an innovation with a preceding idea can either speed up or retard its rate of adoption. A negative experience with one innovation can actually significantly harm the adoption of another one and is referred



Table 21

*Disincentives Based on Rogers' Attributes of Innovation (N = 140)*

		Scale					
		Not a disincentive at all				Very large disincentive	Missing value
Relative advantage		1	2	3	4	5	0
d1	The need to be a skilled self-studier or independent learner	<i>n</i> 38	32	36	21	10	3
		% 27.10	22.90	25.70	15.00	7.10	2.10
d4	Availability of this mode of teaching & learning is extremely variable	<i>n</i> 22	27	53	21	13	4
		% 15.70	19.30	37.90	15.00	9.30	2.90
d21	There is a lack of teacher-supplied motivation, feedback & direction	<i>n</i> 29	27	30	37	17	0
		% 20.70	19.30	21.40	26.40	12.10	0.00
d23	Content is not structured in a 'self-learn' or 'self-teach' method	<i>n</i> 25	27	42	30	13	3
		% 17.90	19.30	30.00	21.40	9.30	2.10
d27	Lack of ability to assess how I am doing to ensure I am learning	<i>n</i> 26	20	41	38	15	9
		% 18.60	14.30	29.30	27.10	10.70	0.00
d41	Concern that free resources lack quality	<i>n</i> 47	24	32	28	9	0
		% 33.60	17.10	22.90	20.00	6.40	0.00
d43	Not clear that unstructured communication on its own is very helpful to learning.	<i>n</i> 41	15	59	20	5	0
		% 29.30	10.70	42.10	14.30	3.60	0.00
Compatibility							
d6	There is no certificate or degree awarded	<i>n</i> 31	13	27	24	45	0
		% 22.10	9.30	19.30	17.10	32.10	0.00
d8	Concern about intellectual property	<i>n</i> 34	30	31	34	10	1
		% 24.30	21.40	22.10	24.30	7.10	0.70
d9	There is a mismatch to my local language or culture	<i>n</i> 68	12	23	12	22	3
		% 48.60	8.60	16.40	8.60	15.70	2.10
d10	Concern about feeling included	<i>n</i> 69	27	28	10	6	0
		% 49.30	19.30	20.00	7.10	4.30	0.00
d12	Education is not important for my social group or community	<i>n</i> 71	12	28	16	11	2
		% 50.70	8.60	20.00	11.40	7.90	1.40
d13	It goes against the norms or customs of my culture	<i>n</i> 80	24	15	9	9	3
		% 57.10	17.10	10.70	6.40	6.40	2.10
d14	Being discouraged from engaging in additional education	<i>n</i> 69	26	19	17	8	1
		% 49.30	18.60	13.60	12.10	5.70	0.70

*(Table continues)*

			Scale					Missing value
			Not a disincentive at all				Very large disincentive	
Relative advantage			1	2	3	4	5	0
d15	It goes against the norms or customs of my family or community (social)	<i>n</i>	84	25	16	7	6	2
		%	60.00	17.90	11.40	5.00	4.30	1.40
d16	Having no intent to learn at this level	<i>n</i>	58	25	31	17	8	1
		%	41.40	17.90	22.10	12.10	5.70	0.70
d26	It does not cover my topic of interest in the depth I desire	<i>n</i>	21	20	33	39	23	4
		%	15.00	14.30	23.60	27.90	16.40	2.90
Complexity								
d2	Lack of professional support provided by subject tutors or experts	<i>n</i>	21	16	42	40	19	2
		%	15.00	11.40	30.00	28.60	13.60	1.40
d3	Lack of guidance provided by support specialists	<i>n</i>	22	20	36	43	17	2
		%	15.70	14.30	25.70	30.70	12.10	1.40
d11	Concern about being competent or capable to study at this level	<i>n</i>	52	27	33	22	5	1
		%	37.10	19.30	23.60	15.70	3.60	0.70
d17	Not understanding how to use this resource	<i>n</i>	36	25	29	29	20	1
		%	25.70	17.90	20.70	20.70	14.30	0.70
d18	Not having the qualifications to use this resource	<i>n</i>	44	24	34	25	12	1
		%	31.40	17.10	24.30	17.90	8.60	0.70
d20	Concern about handling these new ways of learning	<i>n</i>	40	36	38	22	4	0
		%	28.60	25.70	27.10	15.70	2.90	0.00
d24	Content is produced & displayed in large chunks instead of bite-sized pieces of information	<i>n</i>	29	23	51	27	9	1
		%	20.70	16.40	36.40	19.30	6.40	0.70
d25	Feeling the material is overwhelming	<i>n</i>	24	21	39	33	22	1
		%	17.10	15.00	27.90	23.60	15.70	0.70
d28	Wanting personal support through encouraging self-reflection & guidance within some of the in-text activities and formal assessments	<i>n</i>	32	28	47	23	9	1
		%	22.90	20.00	33.60	16.40	6.40	0.70
d29	Lack of availability of guidance materials on study skills	<i>n</i>	31	28	33	37	8	3
		%	22.10	20.00	23.60	26.40	5.70	2.10
d37	Not having the qualifications or prior achievements necessary for access	<i>n</i>	59	23	27	22	9	0
		%	42.10	16.40	19.30	15.70	6.40	0.00
d38	Needing to learn & understand how to navigate and use such resources	<i>n</i>	47	26	33	28	6	0
		%	33.60	18.60	23.60	20.00	4.30	0.00

(Table continues)

Relative advantage		Scale					
		Not a disincentive at all				Very large disincentive	Missing value
		1	2	3	4	5	0
<b>Trialability</b>							
d19	Concern about handling these new technologies	<i>n</i> 47	32	29	23	9	0
		% 33.60	22.90	20.70	16.40	6.40	0.00
d31	Limited or no access to a computer	<i>n</i> 69	10	8	18	35	0
		% 49.30	7.10	5.70	5.70	25.00	0.00
d32	Limited or no access to the Internet	<i>n</i> 67	13	8	16	36	0
		% 47.90	9.30	5.70	11.40	25.70	0.00
d33	Other technical barriers preventing easy use or reuse	<i>n</i> 49	24	24	26	17	0
		% 35.00	17.10	17.10	18.60	12.10	0.00
d34	Physical circumstances that limit my access	<i>n</i> 68	22	14	23	12	1
		% 48.60	15.70	10.00	16.40	8.60	0.70
d35	The cost of being online	<i>n</i> 70	22	21	15	12	0
		% 50.00	15.70	15.00	10.07	8.60	0.00
d36	Being geographically remote	<i>n</i> 79	22	17	12	9	1
		% 56.40	15.70	12.10	8.60	6.40	0.70
d39	Not knowing what resources exist	<i>n</i> 28	22	41	31	18	0
		% 20.00	15.70	29.30	22.10	12.90	0.00
d40	Not understanding what the resources are	<i>n</i> 32	24	33	36	15	0
		% 22.90	17.10	23.60	25.70	10.70	0.00
<b>Observability</b>							
d5	Lack of awareness of how these tools can be used effectively	<i>n</i> 21	22	43	35	15	4
		% 15.00	15.70	30.70	25.00	10.70	2.90
d7	Lack of activities & events that facilitate participation in learning opportunities	<i>n</i> 27	25	45	32	9	2
		% 19.30	17.90	32.10	22.90	6.40	1.40
d22	Feeling educational materials & opportunities are not as open as possible	<i>n</i> 30	29	40	33	6	2
		% 21.40	20.70	28.60	23.60	4.30	1.40
d30	Lack of recording of learning & achievements in e-portfolios or journals	<i>n</i> 37	33	37	27	5	1
		% 26.40	23.60	26.40	19.30	3.60	0.70
d42	There is currently no accreditation tied with OCW	<i>n</i> 36	13	30	34	27	0
		% 25.70	9.30	21.40	24.30	19.30	0.00

Table 22

*Overall Means for Disincentives by Rogers' Attributes*

Incentives	Mean	SD	N
All incentives	2.5723	.8774	140
Relative advantage	2.7138	.8934	140
Compatibility	2.3425	.9293	140
Complexity	2.6753	.9232	140
Trialability	2.4554	1.1383	140
Observability	2.7883	.8894	140

to as information negativism. In addition, potential adapters might not recognize they have a need for an innovation until they become aware of it, and its consequences. In considering complexity, Rogers noted that the complexity of an innovation, as perceived by members of a social system, is negatively related to its rate of adoption. He noted that although complexity may not be as important overall as relative advantage or compatibility, for some new ideas complexity can be a very important barrier to adoption.

Complexity, or the degree to which an innovation is perceived as relative difficult to understand and use, was indeed the greatest predictor, explaining 28.07% of all variability. This was followed, as expected, by compatibility, the degree to which an innovation is perceived as consistent with existing values, past experiences and needs, which explained 23.23% of all variability.

Table 23 measures each Rogers' attribute as a predictor of the weighted overall disincentive mean. A weighted mean was used because there were 7 relative advantage questions, 10 compatibility questions, 12 complexity questions, 9 trialability questions, and 5 observability questions.

Table 23

*Multiple Regression Analysis of Weighted Disincentive Mean and Roger's Attributes*

Disincentive	Standardized Coefficients Beta	Contribution of predictor (%)	<i>T</i>	Sig.
Relative Advantage	.17	16.58	34596451.15	.00
Compatability	.25	24.63	55350281.87	.00
Complexity	.29	29.37	51337251.75	.00
Trialability	.27	27.16	75604888.56	.00
Observability	.12	11.79	26263205.82	.00

## Open-Ended Questions

The open-ended segments of both questions included commentary from four individuals. The first individual noted that for incentive 32—high quality and reliability because the content was produced by experts in the field, that instructors and institutions creating this content were not necessarily experts in the field, but instead were educators.

The second individual commented on a success they had with MIT's OCW, "I used an MIT open course to learn material, and for \$20 I took a challenge exam on the material from BYU and passed it!! Incentive—save money—5."

The third individual, who identified himself-as Eric T., noted, "I wish there was OCW when I went to Weber State and BYU. Awesome project; I am interested to see the results."

The third individual, who self-identified as Tim Barrie, enclosed a letter. The letter stated:

A disincentive/incentive to use these materials would be the extent to which they are findable/available in Google or other search engine. The quality and depth of the content relative to other discoverable materials is what is important. For

example, will the content be great in and of itself-and also have such things as context links for nonunderstood terms, video and animated explanations, etc?

So really for me it would primarily be about the quality and availability of the content in a global internet environment context. If I searched on any specific term 'Geriatric Dentistry' as a random sample, would the content show up and would it be better than, deeper than, more comprehensive than, as good as, or add value to other resources I might find.

In other words in order to incentivize me to use OCW it would have to be content which is competitive in quality and availability. My experience with these types of materials that I have seen so far is that they have been very poor in these respects. For example the video lecturers I have seen so far have been poor quality, the lecturers had very poor presentation skills and the materials little more than basic slides.

Compare OCW Materials

<http://www.OCW.tufts.edu/Content/18/lecturenotes/303388/303422> with great internet based educational materials such as those available at <http://www.ThirtyDayChallenge.com/challenge/14102/> and [http://www.youtube.com/watch?v=ID\\_t-omG4aY](http://www.youtube.com/watch?v=ID_t-omG4aY)

Going one step further I would predict that with the development of integrated multimedia web based educational materials linked with social networking tools such as forums, twitter, twirl, friendfeed and the like, universities in their current form will go the way of 35mm film has under the influence of digital media, within a generation or two.

Due to the depth of Barrie's response he was also contacted via email on September 29, 2008, at the email address he provided to request permission to include his response in these dissertation results. He consented on September 30, 2008.

### Threats to Validity and Reliability

#### *Statistical Validity*

Threats to external validity involve the extent to which the results can be generalized to other people and places. In an effort to ensure the data can be generalized

to all of Utah, random sampling was used, as well as a large sampling size of 753. Threats to internal validity have do with selection, where the groups end up not equivalent, and attrition, where some participants do not complete the survey.

### *History*

As each participant only completed the survey once there was not a possibility for validity errors between surveys, but there may be events that occur in the 6-week duration of the study itself-which could affect early responders as compared to late responders. Due to this, a wave analysis was done as was shown in Table 4. Although there was some variance in the means and standard deviations, overall the results were consistent:

### *Sampling Error*

Concerning sample selection, it may be faulty to assume the similarity of the participants involved. One way to remedy this would be to perform additional surveys of other groups and compare results. For the purposes of this study sampling error is reduced through the use of a large sample.

### *Response Error*

According to Dillman (2000), the single most serious limitation to direct mail data collection is the relatively low response rate. Response rates are often only about 5 to 10 percent. Individuals may choose not to respond, which could cause bias in the responses that are received and cause nonresponse error. To discourage this from occurring, the survey package included a monetary incentive of 50 cents in the initial survey package

because research has shown consistently that inclusion of a small financial incentive can improve response rates significantly over promised incentives, nonmonetary incentives or no incentives (Dillman, 2000; StatPac, 2007). Although higher monetary rewards may have created even higher response rates, this figure was within the budget allocated for this study. Three follow up letters were also sent to those who had yet to respond, encouraging their participation (Dillman; Miller & Smith, 1983). For this study, a response rate of 25.06% was achieved, well beyond typical response rates noted above.

To address any potential nonresponse error that still might occur, a comparison of nonrespondents and respondents was performed to assess similarities in the demographics in an effort to address any potential discrepancies in the responding sample. If the nonrespondents do not appear different then the results can be generalized to the sample and population (Lindner, Murphy, & Briers, 2001; Lindner & Wingenbach, 2002; Miller & Smith, 1983). There were no differences greater than 10% between respondents and nonrespondent demographics. See Appendix KK for a table showing a comparison of demographics of respondents and nonrespondents.

Response error could also be due to uninformed response error as well. Uninformed response error is where individuals feel obligated to express an opinion for which they have little or no information was minimized by offering a do not know option at the end of the Likert scale measures on the survey. Twenty-five responses were not included in the overall results due to respondents making use of the do not know option.

### *Reliability*

This evaluation method has internal consistency reliability because the instrument



was only administered once, in a singular version, and each participant completed the survey only once. Equally, a Cronbach's alpha was calculated to assess inter-item consistency for the  $N = 44$  pilot test and required a reliability of .70 or higher before the survey instrument was used (Schumacker, 2005).

#### *Measurement Error*

In order to address potential measurement error, the questionnaire had clear, unambiguous questions and response options. This does not completely remove the potential of measurement error, which results when respondents fill out surveys, but do not respond to specific questions however.

In order to avoid processing errors the data will be backed up and all calculations, sorts or summaries were run twice to ensure the same results are obtained.

#### *Coverage Error*

In order to avoid coverage error the sample was obtained from Alesco data, which is deemed 90% deliverable. An updated randomized list was obtained in April 2008 to ensure the timeliness of data.

### Summary

When it comes to incentives for use of OCW by adults in Utah, i26—no cost for materials tops the list whether you look at the overall mean of 4.59 on a 5-point scale, or as what ranked highest for participants who said an item was an incentive, large incentive, or very large incentive, with 98.57% giving it a ranking of incentive or better.

When it comes to disincentives, d6—there is no certificate or degree awarded came in as the highest overall mean at 3.28 on a 5-point scale. This was followed by d2—lack of professional support provided by subject tutors and experts with an overall mean of 3.14, and then d3—lack of guidance provided by support specialists with an overall mean of 3.09.

A lack of guidance and support came up as the top disincentive when considering how many respondents said an item was a disincentive, large disincentive or very large disincentive, with over 73% of users stating d2—lack of professional support provided by subject tutors or experts was an issue, and another 69.57% citing d3—a lack of guidance provided by support specialists as an issue. Actually one item, d26—does not cover my topic of interest in the depth I desire came between these two aforementioned disincentives, with 69.85% saying the item was a disincentive, large disincentive or very large disincentive. The fourth greatest disincentive was d6—there is no certificate or degree awarded, with 68.57% saying the item was a disincentive, large disincentive or very large disincentive.

In looking at incentives based on Rogers' attributes of innovation, trialability has the highest overall mean score of 3.817 on a 5-point scale, compatibility has an overall mean of 3.613, complexity has an overall mean of 3.494, observability has an overall mean of 3.458, and relative advantage has an overall mean of 3.366.

Based on other studies, it was expected that relative advantage would be the most influential of all of Roger's attributes of innovation as a predictor of the overall mean for incentives (Rogers, 2003). However, instead the contribution of compatibility

( $M = 3.613$ ) was the highest, explaining 34.37% of all variability. Relative advantage ( $M = 3.366$ ) came in second, explaining 20.03% of all variability.

In looking at disincentives by Rogers attributes of innovation, observability has the highest negative influence with an overall mean of 2.8 on a 5-point scale, relative advantage has an overall mean of 2.723, trialability has an overall mean of 2.455, complexity has an overall mean of 2.678, and compatibility has an overall mean of 2.347.

Based on other studies, it was expected that Roger's attributes as a predictor of the overall mean for disincentives would be complexity or compatibility (Rogers, 2007). Complexity, or the degree to which an innovation is perceived as relative difficult to understand and use, was indeed the greatest predictor, explaining 28.07% of all variability. This was followed, as expected, by compatibility, the degree to which an innovation is perceived as consistent with existing values, past experiences and needs, which explained 23.23% of all variability.

## CHAPTER V

## DISCUSSION

## Utilizing a Delphi Approach to Develop a Survey Instrument

Use of a Delphi approach included: (a) identifying experts in the field, (b) inquiring to the experts in the field, (c) developing a list incentives or disincentives based on their input, (d) determining the meaning of the statements, (e) identifying common characteristics or essentials, (f) creating descriptive statements of essential themes, (g) developing survey questions based on essential themes, (h) reviewing survey questions with experts, and (i) pilot testing the survey.

To compile the results of the experts, a phenomenological research method was used. This method was chosen because its focus is on understanding experiences about a phenomenon and commonly is used for interviews with up to 10 people. This data analysis method typically includes obtaining statements, identifying meanings through reduction, finding meaningful themes through clustering, conducting a search for all possible meanings, and then giving a general description of the experience based on those themes. The researcher brackets, or sets aside all prejudgment or preconceptions, when obtaining a picture of the experience (Creswell, 1998; Denzin & Lincoln, 2000; M. Dever, personal communication, April 26, 2008).

Through the use of the Delphi approach, a list of 35 potential incentives and 43 potential disincentives were developed. It should be noted, however, that only five of 11 experts invited to participate actually did so. Thus, one challenge with this technique was

encouraging and maintaining involvement. Equally, the process of developing the questions took 42 days, from June 12, 2008 to July 25, 2008. In part, this was due to waiting for responses from experts who stated they would submit feedback. Ultimately, however, a comprehensive list of incentives and disincentives was created that addressed virtually all areas of OCW use or rejection.

### Perceived Incentives for Use of OpenCourseWare by the Utah Adult Population

The greatest incentive overall for OCW use by the Utah adult population is no cost for materials which has a mean of 4.59 on a 5-point scale and a comparatively small standard deviation of only .68, followed by its availability at any time which has a mean of 4.35 and a standard deviation of .89. This is shown in looking at the incentives with the highest overall means: (a) incentive 26 - no cost for materials ( $M = 4.59$ ,  $SD = .68$ ), (b) incentive 17—available at any time ( $M = 4.35$ ,  $SD = .89$ ), (c) incentive 12—pursuing in depth a topic that interests me ( $M = 4.24$ ,  $SD = .93$ ), (d) incentive 9—learning for personal knowledge or enjoyment ( $M = 4.22$ ,  $SD = .93$ ), and (e) incentive 27—materials in an OCW are fairly easy to access and find ( $M = 4.12$ ,  $SD = .98$ ).

Just as no cost for materials topped the list as having the highest overall mean, it ranked the highest in number of participants who said it was an incentive, large incentive, or very large incentive, with 98.57% giving it a ranking of incentive or better. All in all, there were twelve incentives which over 90% of respondents said were an incentive, large incentive, or very large incentive: (a) incentive 26—no cost for materials totaling

98.57%, (b) incentive 13—improving my understanding of particular topics totaling 97.14%, (c) incentive 17—available at any time totaling 96.43%, (d) incentive 9—learning for personal knowledge or enjoyment totaling 95.71%, (e) incentive 14—improving professional knowledge or skills totaling 93.57%, (f) incentive 35—materials available are from leading universities totaling 93.57%, (g) incentive 10—keeping my mind active totaling 92.86%, (h) incentive 12—pursuing in depth a topic that interests me totaling 92.81%, (i) incentive 27—materials in an OCW are fairly easy to access and find totaling 91.43%, (j) incentive 24—access is at my preferred pace totaling 90.71%, (k) incentive 32 - high quality & reliability because the content is produced by experts in the field totaling 90.71%, and (l) incentive 3—doing research totaling 90.65%. To view the incentive frequency tables by question, see Appendix O. It should be noted there were significantly higher frequency percentages—12 incentives where over 90% of respondents said an item was an incentive or higher—as compared to disincentives in which there were 13 disincentives where over 60% of respondents said an item was a disincentive or higher. This demonstrates that there are many more incentives than disincentives to using OCW.

In order to better understand the greatest incentive questions for OCW use, a comparison of the mean ranking and frequency rating was performed (see Table 24). In looking at these combined results, three themes seem to occur: (a) self-directed knowledge and learning, (b) convenience, and (c) quality. The self-directed learning aspects can be seen in questions i3-doing research, i9-learning for personal knowledge or enjoyment, i10-keeping my mind active, i12- pursuing in depth a topic that interests me,

Table 24

*Greatest Incentive Questions for OCW Use*

Mean ranking	Frequency ranking	Question
1 (4.59)	1 (98.57%)	I26 No cost for materials
2 (4.35)	3 (96.43%)	I17 Available at any time
3 (4.24)	8 (92.81%)	I12 Pursuing in depth a topic that interests me
4 (4.22)	4 (95.71%)	I9 Learning for personal knowledge or enjoyment
5 (4.16)	5 (93.57%)	I14 Improving professional knowledge or skills
6 (4.13)	2 (97.14%)	I13 Improving my understanding of particular topics
7 (4.12)	9 (91.43%)	I27 Materials in an OCW are fairly easy to access and find
8 (4.09)	11 (90.71%)	I32 High quality and reliability because the content is produced by experts in the field
9 (4.06)	6 (93.57%)	I35 Materials available are from leading universities
10 (4.04)	7 (92.86%)	I10 Keeping my mind active
11 (4.01)	10 (90.71%)	I24 Access is at my preferred pace
12 (3.89)	12 (90.65%)	I3 Doing research

i13—improving my understanding of particular topics, and i14—improving professional knowledge or skills. Convenience aspects can be seen in i17—available at any time, i24—access is at my preferred pace, i26—no cost for materials, and i27—materials in an OCW are fairly easy to access and find. Quality aspects can be seen in i32—high quality and reliability because the content is produced by experts in the field, and i35—materials available are from leading universities.

### Perceived Disincentives for Use of OpenCourseWare

by the Utah Adult Population

Overall, the greatest disincentive for OCW use by the Utah adult population was not awarding a certificate or degree as a result of completing an OCW course. The five

disincentives with the highest overall means for disincentives were: (a) disincentive 6—there is no certificate or degree awarded ( $M = 3.28$ ,  $SD = 1.54$ ), (b) disincentive 26—it does not cover my topic of interest in the depth I desire ( $M = 3.17$ ,  $SD = 1.31$ ), (c) disincentive 2—lack of professional support provided by subject tutors or experts ( $M = 3.14$ ,  $SD = 1.25$ ), (d) disincentive 3—lack of guidance provided by support specialists ( $M = 3.09$ ,  $SD = 1.26$ ), and (e) disincentive 25—feeling the material is overwhelming ( $M = 3.06$ ,  $SD = 1.31$ ).

Seventy-three percent of respondents indicated a lack of professional support was a disincentive, large disincentive, or very large disincentive. Another 69.57% cited lack of guidance provided by support specialists as a disincentive, large disincentive or very large disincentive, pointing to a lack of support as a key factor. All in all, there were thirteen disincentives which over 60% of respondents reported as a disincentive, large disincentive, or very large disincentive: (a) disincentive 2—lack of professional support provided by subject tutors or experts 73.188%, (b) disincentive 26—It does not cover my topic of interest in the depth I desire 69.853%, (c) disincentive 3—lack of guidance provide by support specialists 69.565%, (d) disincentive 6—there is no certificate or degree awarded 68.571%, (e) disincentive 5—lack of awareness of how these tools can be used effectively 68.382%, (f) disincentive 25—feeling the materials is overwhelming 67.626%, (g) disincentive 27—lack of ability to assess how I am doing to ensure I am learning 67.143%, (h) disincentive 42—there is currently no accreditation tied with OCW 65, (i) disincentive 39—not knowing what resources exist 64.286%, (j) disincentive 4—availability of this mode of teaching and learning is extremely variable 63.971%, (k)



disincentive 24—content is produced and displayed in large chunks instead of bite-sized pieces of information 62.59%, (l) disincentive 7—lack of activities and events that facilitate participation in learning opportunities 62.319%, and (m) disincentive 23—content is not structured in a “self-learn” or “self-teach” method 62.044%. To view the disincentive frequency tables by question, see Appendix P.

In order to better understand the greatest disincentive questions for OCW use, a comparison of the mean ranking and frequency rating was performed (see Table 25). In looking at these combined results five themes seem to occur: (a) lack of support, (b) no

Table 25

*Greatest Disincentive Questions for OCW Use*

Mean ranking	Frequency ranking	Question
1 (3.28)	4 (68.57%)	D6 There is no certificate or degree awarded
2 (3.17)	2 (69.85%)	D26 It does not cover my topic of interest in the depth I desire
3 (3.14)	1 (73.19%)	D2 Lack of professional support provided by subject tutors or experts
4 (3.09)	3 (69.57%)	D3 Lack of guidance provided by support specialists
5 (3.06)	6 (67.63%)	D25 Feeling the material is overwhelming
6 (3.02)	8 (65%)	D42 There is currently no accreditation tied with OCW
7 (2.97)	7 (67.14%)	D27 Lack of ability to assess how I am doing to ensure I am learning
7 (3.01)	5 (68.38%)	D5 Lack of awareness of how these tools can be used effectively
8 (2.92)	9 (64.29%)	D39 Not knowing what resources exist
9 (2.85)	13 (62.04%)	D23 Content is not structured in a ‘self-learn’ or ‘self-teach’ method
10 (2.84)		D40 Not understanding what the resources are
11 (2.82)	10 (63.97%)	D4 Availability of this mode of teaching & learning is extremely variable
12 (2.8)		D17 Not understanding how to use this resource
13 (2.79)	12 (62.32%)	D7 Lack of activities and events that facilitate participation in learning opportunities
14 (2.74)	11 (62.59%)	D24 Content is produced and displayed in large chunks instead of bite-sized pieces of information

valid certification, (c) topic issues, (d) lack of content, and (e) lack of resource knowledge. Lack of support aspects can be seen in d2—lack of professional support provided by subject tutors or experts—and d3—lack of guidance provided by support specialists. Lack of valid certification aspects can be seen in d6—there is no certificate or degree awarded—and d42— there is currently no accreditation tied with OCW. Topic issue aspects can be seen in d25— feeling the material is overwhelming—and d26- it does not cover my topic of interest in the depth I desire. Issue around lack of content can be seen in d4—availability of this mode of teaching and learning is extremely variable, d7— lack of activities & events that facilitate participation in learning opportunities, d23—content is not structured in a “self-learn” or “self-teach” method, d24—content is produced and displayed in large chunks instead of bite-sized pieces of information, and d27—lack of ability to assess how I am doing to ensure I am learning. Lack of resource knowledge aspects can be seen in d5—lack of awareness of how these tools can be used effectively, d17—not understanding how to use this resource, d39—not knowing what resources exist, and d40—not understanding what the resources are.

#### Incentives in the Use of OpenCourseWare in Utah by Age, Income, Gender, Education, County, Occupation, and Ethnicity

In looking at the correlation between incentives and age, there were thirteen statistically significant correlations at both the .05 and .01 levels. However, these correlations were low. The highest correlation was between age and incentive 22— sampling courses or study before enrolling ( $M = 3.34$ ,  $SD = 1.39$ ) which was found to be

statistically significant,  $r(135) = -.336, p < .0001$ . The second highest correlation was between age and incentive 30—help in choosing my next course ( $M = 3.19, SD = 1.38$ ) which was found to be statistically significant,  $r(135) = -.331, p < .0001$ .

In looking at the correlation between incentives and income, there were eleven statistically significant correlations at both the .05 and .01 levels. However, these correlations were low. The highest correlation was between income and incentive 26—no cost for materials ( $M = 4.59, SD = .68$ ) which was found to be statistically significant,  $r(135) = -.307, p < .0003$ . The second highest correlation was between income and incentive 30—help in choosing my next course ( $M = 3.19, SD = 1.38$ ) which was found to be statistically significant,  $r(135) = -.241, p < .0048$ .

In looking at the correlation between incentives and gender, there were two statistically significant correlations at the .05 level. However, both were low correlations under .25. In looking at the correlation between incentives and education, there were six statistically significant correlations at both the .05 and .01 levels. However, all were low correlations under .25. There were no significant correlations found between incentives and county, occupation, or ethnicity.

#### Disincentives That Prevent the Use of OpenCourseWare in Utah by Age, Income, Gender, Education, County, Occupation, and Ethnicity

In looking at the correlation between disincentives and age, there were seven statistically significant correlations at both the .05 and .01 levels. However, these correlations were low except one. The highest correlation was between age and

disincentive 21—there is a lack of teacher-supplied motivation, feedback and direction ( $M = 2.90, SD = 1.33$ ), which was found to be statistically significant,  $r(135) = -.390, p < .0000$ . The second highest correlation was between age and disincentive 27—lack of ability to assess how I am doing to ensure I am learning ( $M = 2.97, SD = 1.26$ ), which was found to be statistically significant,  $r(135) = -.238, p < .0052$ .

In looking at the correlation between disincentives and income, there were three statistically significant correlations at both the .05 and .01 levels. However, these correlations were low. The highest correlation was between income and disincentive 23—content is not structured in a “self-learn” or “self-teach” met ( $M = 2.85, SD = 1.23$ ), which was found to be statistically significant,  $r(132) = -.274, p < .0014$ .

In looking at the correlation between disincentives and gender, there were no significant correlations.

In considering the correlation between disincentives and education, there were six statistically significant correlations at both the .05 and .01 levels. However, these correlations were low. The highest correlation was education and disincentive 2—lack of professional support provided by subject tutors or experts ( $M = 3.14, SD = 1.25$ ), which was found to be statistically significant,  $r(133) = -.225, p < .0090$ . All other correlations were below .25.

There were no significant correlations found between disincentives and county, occupation, or ethnicity.

It should be noted that for all correlation categories including age, income, gender, education, and location; only two categories had either incentives or disincentives

that were both statistically significant and also practically significant with an  $r$  value over .30—this is still not a high  $r$  value but it does show at least minimal practical significance. Three questions correlated with age, having an  $r$  value over .30 for incentives and one question correlate for disincentives: (a) incentive 22—sampling courses or study before enrolling ( $M = 3.34$ ,  $SD = 1.39$ ),  $r(135) = -.336$ ,  $p < .0001$ , (b) incentive 29—seeing more clearly what I will be signing up for in a regular class ( $M = 3.32$ ,  $SD = 1.40$ ),  $r(134) = -.318$ ,  $p < .0002$ , (c) incentive 30—help in choosing my next course ( $M = 3.19$ ,  $SD = 1.38$ ),  $r(135) = -.331$ ,  $p < .0001$  and (d) disincentive 21—there is a lack of teacher-supplied motivation, feedback and direction ( $M = 2.90$ ,  $SD = 1.33$ ), which was found to be statistically significant,  $r(135) = -.390$ ,  $p < .0000$ . One question correlated with income, having an  $r$  value over .30 for incentives: incentive 26—no cost for materials ( $M = 4.59$ ,  $SD = .68$ ),  $r(135) = -.307$ ,  $p < .0003$ .

#### Diffusion Attributes That Contribute to the Adoption (Incentives) of OpenCourseWare in Utah

In looking at incentives based on Roger's attributes of innovation, trialability has the highest overall mean score of 3.817 on a 5-point scale, compatibility has an overall mean of 3.613, complexity has an overall mean of 3.494, observability has an overall mean of 3.458, and relative advantage has an overall mean of 3.366.

Multiple regression analysis was used as a method of exploratory analysis to determine the percent of variance in the dependent variable incentive to use open educational resources that is explained by the independent variables of the five perceived

attributes of innovation provided by Rogers (2003), which included relative advantage, compatibility, complexity, observability, and trialability. To measure each construct a composite mean score of (a) relative advantage incentives including i1, i2, i6, i11, i13, i22, and i29 as identified above; (b) compatibility incentives including i3, i4, i5, i9, i10, i12, i14, i15, i18, i19, i21, and i30 as identified above; (c) complexity incentives including i8, i20, i23, i24, and i25 as identified above; (d) trialability incentives including i16, i17, i26, i27, i28, and i31; (e) observability incentives including i7, i32, i33, i34, and i35; and (e) an overall mean average of all incentives was used.

Based on other studies, it was expected that relative advantage would be the most influential of all of Roger's attributes of innovation as a predictor of the overall weighted mean for incentives (Rogers, 2003). However, instead the construct of compatibility ( $M = 3.613$ ,  $SD = .7412$ ) was the highest, explaining 34.88% of all variability.

Compatibility is the degree to which an innovation is perceived as consistent with existing values, experiences and needs and includes items like sociocultural values and beliefs, previously introduced ideas, and client needs (Rogers). Relative advantage ( $M = 3.366$ ,  $SD = .8609$ ) came in second, explaining 19% of all variability. This was followed by trailability ( $M = 3.8169$ ,  $SD = .8409$ ), explaining 18.34% of all variability.

#### Diffusion Attributes That Contribute to Rejection (Disincentives) of OpenCourseWare in Utah

In looking at disincentives by Rogers attributes of innovation, observability has the greatest negative influence with an overall mean of 2.8 on a 5-point scale, relative

advantage has an overall mean of 2.723, trialability has an overall mean of 2.455, complexity has an overall mean of 2.678, and compatibility has an overall mean of 2.347.

Multiple regression analysis was used as a method of exploratory analysis to determine the percent of variance in the dependent variable disincentive to use open educational resources that is explained by the independent variables of the five perceived attributes of innovation provided by Rogers (2003), which include relative advantage, compatibility, complexity, observability, and trialability.

Based on other studies, it was expected that Roger's attributes as a predictor of the overall weighted mean for disincentives would be complexity or compatibility (Rogers, 2007). As Rogers noted, compatibility of an innovation with a preceding idea can either speed up or retard its rate of adoption. A negative experience with one innovation can actually significantly harm the adoption of another one and is referred to as information negativism. In addition, potential adapters might not recognize they have a need for an innovation until they become aware of it, and its consequences. In considering complexity, Rogers notes that the complexity of an innovation, as perceived by members of a social system, is negatively related to its rate of adoption. He notes that although complexity may not be as important overall as relative advantage or compatibility, for some new ideas complexity can be a very important barrier to adoption.

Complexity ( $M = 2.6753$ ,  $SD = .9232$ ), or the degree to which an innovation is perceived as relative difficult to understand and use, was indeed the greatest predictor, explaining 29.37% of all variability. This was followed, however, by trialability ( $M = 2.4554$ ,  $SD = 1.1383$ ), which explained 27.16% of all variability. After that came

compatibility ( $M = 2.3425$ ,  $SD = .9293$ ), the degree to which an innovation is perceived as consistent with existing values, past experiences and needs, which explained 24.63% of all variability.

### Possible Actions

It seems, as noted above, that learning and knowledge are perhaps the most significant incentives for using OCW. However, based on this study, individuals are not driven to use OCW as a precursor to attending a particular institution or taking a particular traditional class as these questions were asked specifically on the survey. Related incentive questions, which were not highly ranked compared to other incentives, include: (a) i2—comparing courses at different educational institutions ( $M = 2.91$ ,  $SD = 1.36$ ), (b) i11—shopping around for a college to attend ( $M = 2.65$ ,  $SD = 1.37$ ), (c) i22—sampling courses or study before enrolling ( $M = 3.34$ ,  $SD = 1.39$ ), (d) i29—seeing more clearly what I will be signing up for in a regular class ( $M = 3.32$ ,  $SD = 1.4$ ), or (e) i30—help in choosing my next course ( $M = 3.19$ ,  $SD = 1.38$ ). This would imply users are instead self-directed learners. Perhaps the only exception to this is in considering that there was a small correlation between the following three incentives and age: (a) i22—sampling courses or study before enrolling ( $M = 3.34$ ,  $SD = 1.39$ ),  $r(135) = -.336$ ,  $p < .0001$ , (b) i29—seeing more clearly what I will be signing up for in a regular class ( $M = 3.32$ ,  $SD = 1.4$ ),  $r(134) = -.318$ ,  $p < .0002$ , and (c) i30—help in choosing my next course ( $M = 3.19$ ,  $SD = 1.38$ ),  $r(135) = -.331$ ,  $p < .0001$ .

Yet at the same time, beyond cost, a lack of support and no valid certification



were significant disincentives. Institutions offering OCW could perhaps work to transition some OCW users into degree-granting paid programs by (a) noting available degrees or courses associated with the class the individual is reviewing or (b) by permitting a more flexible model of institution entry where individuals could enter into a program at their level of competency. A “test drive” model can be developed to promote or market an institution with OCW used as a maven trap (Gladwell, 2002). This would help users keep their educational costs down, yet receive desired support and valid certification.

Offering a flexible entry model into traditional at-a-cost education could be accomplished by offering some type of testing to determine if the OCW user comprehended and mastered the course objectives. If they did, the OCW website could suggest other OCW courses of potential interest as well as list associated degrees or traditional instructor-led courses that seem to be a good fit. The users could find their personal level of competency using measurable assessments. Once they reached their maximum capability and did not pass a measurable assessment, the results message could explain the potential benefits of traditional instructor-led education for areas they need more help with—noting that although there would now be a cost there would also now be support as well as acknowledged and accredited certification or degrees granted. It could also note traditional at-a-cost classes for which there are no OCW alternative yet are practical for their area of interest. This may include classes for which there is extensive lab time, expensive equipment requirements, or requisite instructor-led time. For it to be attractive to the end user, however, the user would need to be able to enter into traditional

education at their level of competency. In some ways this may be seen as similar to the competency models used by institutions like Excelsior College, Thomas Edison State College, Western Governor's University, or Charter Oak State College.

One value that should be noted on OCW sites, if applicable, is institutional accreditation. It is advised that institutions also link to the Council for Higher Education Accreditation site at <http://www.chea.org> with an explanation of accreditation and why and how it is relevant.

It should be noted that according to this study there is no direct relation between the amount of education a potential OCW user has and the incentives for OCW use, so institutions might also want to reassess their presumptions relating to prior educational attainment in relation to who may be using, and potentially mastering, OCW materials.

Another area that surfaced as a disincentive relates to lack of content or topic issues. This could, in part, be remedied by elevating the status of OCW finder at <http://www.ocwfinder.com/> and incorporating it in to all OCW sites and courses. Although users might then leave one particular institutional site in favor of content in another, it is still encouraging that individual to continue on their pursuit of knowledge, and this is one of the ultimate goals of OCW and the open educational resources movement.

A final disincentive category that seems to emerge was a lack of knowledge of the resources available either altogether or concerning how to best use them. A marketing campaign could help with overall awareness. In order to market an innovation, a good starting point is to consider the consumer's innovation decision process. According to

Rogers (2003), this entails (a) knowledge of an innovation's existence and function, (b) persuasion toward or away from the innovation, (c) decision to adopt or reject the innovation, (d) implementation of decision, and (e) confirmation which reinforces or reverses the decision (p. 169). Based on the survey results, for OCW a number of potential users would need to be informed about OCW and its use. This can be seen in the results of d5—lack of awareness of how these tools can be used effectively ( $M = 3.01$ ,  $SD = 1.22$ ), d17—not understanding how to use this resource ( $M = 2.8$ ,  $SD = 1.4$ ), d39—not knowing what resources exist ( $M = 2.92$ ,  $SD = 1.3$ ), and d40—not understanding what the resources are ( $M = 2.84$ ,  $SD = 1.33$ ); all of which are listed in Table 25, showing the greatest disincentive questions for OCW use.

In marketing efforts, it is suggested institutions follow Rogers' (2003) advice for campaign communications. This includes (a) using formative research to understand the intended audiences and campaign messages, (b) setting specific and realistic campaign goals, (c) using audience segmentation to create more homogenous audience groups, and (d) designing mass media messages that trigger interpersonal network communication to occur.

Equally, institutions will want to identify potential opinion leaders, change agents, and champions. As Rogers (2003) noted, opinion leaders provide information and advice about innovations to many individuals in the system. Change agents influence an individual's decisions toward the innovation. Champions put their weight behind an innovation, thus overcoming indifference or resistance.

Rogers (2003) asserted that mass media is best for communicating at the

knowledge acquisition stage to inform potential users of the innovation, and interpersonal communications are best used at the persuasion stage to influence potential users.

Institutions will want to consider marketing OCW and other related open educational resources as technology clusters to encourage more rapid diffusion results.

Confusion relating to OCW usage itself-will be hard to resolve across institutions or even across departments within an institution, efforts to offer consistency in the user experiences across course offerings though is advisable.

### Practical Importance

This study presents all findings, not just those that are found to have statistical significance. In part, this is because sample size plays an important role in whether or not a relationship or difference is statistically significant, yet a finding with insufficient power may potentially still be of practical importance or interest. The results in this study may potentially end up too small to prove statistical significance, however the goal was a descriptive study that presents areas for potential assessment or improvement; thus the information may still be of practical importance, particularly if improvements can be made with little expense or risk. Just as statistical results that demonstrate statistical significance do not necessitate them being of practical importance, results that do not demonstrate statistical significance do not “reduce” them to a level of no practical importance. Practical importance or significance represents the educational value of the results. It may be shown in effect sizes that present degrees to which a phenomenon is present, replicability potential, or simply by being noteworthy (Gliner, Leech, &

Morgan, 2002; Onwuegbuzie & Leech, 2004; Thompson, 2002; Utts, 2003).

### Conclusion

There is little doubt that open educational resources, and OCW as a part of that, will have an impact on education. What is unknown, however, is the scope, breadth, and depth of that impact. One must consider the consequences of diffusion of the OCW innovation, remembering, as Rogers notes, that those consequences may be desirable or undesirable, direct or indirect, and anticipated or unanticipated.

Open eLearning Content Observatory Services (2007) advised us, “rather than expecting a radical change or a ‘re-invention’ of education from within the educational institutions, we think it more likely that a diffusion of new forms of online communication and collaboration into the institutions will slowly change educational practices.” They also caution us that we need to focus not just on providing access to more content in digital formats, but on considering whether these resources promote true innovation in teaching and learning.

There are many possible futures; the intention of this research is to help drive OCW projects a step closer to satisfying end-user desires and expectations, thus promoting their use as educational change agents. It is important to understand the perceptions of the end users because, as Rogers (2003) noted, “Perceptions count. The individual’s percepts of the attributes of an innovation, not the attributes as classified objectively by experts or change agents, affect its rate of adoption” (p. 223).

This study incorporated all assessed incentives and disincentives into Roger’s

attributes of innovation. However, it should be noted that according to Rogers (2007), 47% to 87% of variance in the rate of adoption is explained by the five attributes. Other factors, according to Rogers, include the type of innovation, communication channels used, the nature of the social systems, and the extent of change agents promotion efforts.

### The Possible Future

However open educational resources and its subset OCW plays out financially, legally, pedagogically, and socially, it is bound to have a continued impact. Campbell (2006) noted in a discussion of technologies augmenting human intellect that open educational resources (OER) impacts us “not simply because they permit high-speed calculations but also because they externalize our own cognitive processes in a way that allows us to reflect and build upon them to a previously unimaginable extent. In particular, high-speed networking computing enables communal mental activity on an unprecedented scale and generates new awareness of that activity’s possibilities.” The OER movement can enhance the goal of education for all, as aspired to by the United Nations, because academic progress is nourished by this free flow of information (Smith & Casserly, 2006; United Nations, 2007). One appealing possibility is that we end up with some configuration of a meta-university, as Vest (2006) suggested, which is a transcendent, accessible, empowering, dynamic, communally constructed framework of open materials and platforms on which much of higher education worldwide can be constructed and enhanced. However, there are many issues to be addressed, including copyright questions, costs, accreditation standards, open access journals and books,

available alternatives, the meaning and intent of scholarly communication, and the meaning and intent of education itself-at a global level.

#### Areas of Further Study

This research is a starting point in assessing the adoption of OCW and potential impact in Utah teaching and learning. There are a variety of areas one could expand from the findings in Utah alone. These include, but are not limited to, assessing: (a) the breadth of OCW usage, reasons for usage, nonusage, or reasons for nonusage for differing audiences including students, faculty, self-learners, and general public; (b) the breadth of OCW usage, reasons for usage, nonusage, or reasons for nonusage by ethnicity; and (c) differences in OCW usage, reasons for usage, nonusage, or reasons for nonusage based on age. Each of these issues could then be addressed in other states or on a larger scale. There are also broad questions to be addressed about the OCWs themselves. For example, assessing distinctions between OCWs in regard to content offerings or resources therein; assessing ways in which OCW initiatives could affect education or; assessing potential limitations of OCW initiatives as perceived by specific audiences such as students, instructors or administrators.

## REFERENCES

- About National Science Digital Library*. (2008). Retrieved April 17, 2008, from <http://nsdl.org/about/>
- Alesco data group. (2004). *Alesco Data Group about us*. Retrieved September 11, 2007, from <http://www.alescodata.com/about.html>
- Allard, S. L. (2003). *Innovation in a university social system: The adoption of electronic theses and dissertations digital libraries*. Unpublished doctoral dissertation, University of Kentucky, Lexington.
- Al-Shohaib, K. A. (2005). *Diffusion and adoption of the Internet among public relations practitioners in Saudi Arabian organizations*. Unpublished doctoral dissertation, The University of Southern Mississippi, Hattiesburg.
- Atkins, D. E., Brown, J. S., & Hammond, A. L. (2007). *A review of the open educational resources (OER) movement*. San Francisco: William and Flora Hewlett Foundation.
- Bissell, A. (2007). *Announcing ccLearn - the education division of creative commons*. Retrieved April 16, 2008, from <http://creativecommons.org/weblog/entry/7583>
- Boettcher, J. (2006). Framing the scholarly communication cycle. *Online*, 30(3), 24-26.
- Brantley, P. (2007). *Open education search*. Retrieved April 17, 2008, from <http://radar.oreilly.com/archives/2007/08/open-education-search.html>
- Brookfield, S. D. (1986). *Understanding and facilitating adult learning*. San Francisco: Jossey-Bass.
- Campbell, G. (2006). Education, information technologies, and the augmentation of human intellect. *Change*, 38(5), 26-31.
- Carson, S. (2006). *2005 program evaluation findings report MIT OCW*. Cambridge: Massachusetts Institute of Technology.
- Caswell, T., Henson, S., Jensen, M., & Wiley, D. (2008). Open educational resources: Enabling universal education. *International Review of Research in Open and Distance Learning*, 9(1), 1-12.



- China Open Resources for Education. (2007). *Total number of China quality OCW reached 1100*. Retrieved August 8, 2007, from <http://www.core.org.cn/en/news/2007/070202.htm>
- Connexions Project History*. (2008). Retrieved April 18, 2008, from <http://cnx.org/>
- Cramer, S. (2007). Update your classroom with learning objects and twenty-first-century skills. *The Clearing House*, 80(3), 126-132.
- Creative Commons*. (2007). Retrieved August 8, 2007, from <http://creativecommons.org/>
- Creswell, J. W. (1998). *Qualitative inquiry and research design*. Thousand Oaks, CA: Sage.
- Day, J. C., Janus, A., & Davis, J. (2005). *Computer and Internet use in the United States: 2003* (U.S. Census Bureau). Washington, DC: U.S. Department of Commerce Economics and Statistics Administration.
- Denzin, N. K., & Lincoln, Y. S. (2000). *Handbook of qualitative research* (2nd ed.). Thousand Oaks, CA: Sage.
- Dholakia, U. M., King, W. J., & Baraniuk, R. (2006). *What makes an open education program sustainable? The case of connexions*. Half Moon Bay, CA: Institute for the Study of Knowledge Management in Education.
- Dillman, D. A. (2000). *Mail and Internet surveys the tailored design method* (2nd ed.). New York: Wiley.
- Downes, S. (2007). Models for sustainable open educational resources. *Interdisciplinary Journal of Knowledge and Learning Objects*, 3, 44.
- Educause Learning Initiative. (2006). *ELI innovations & implementations—The Open Learning Initiative* (ELI5013). Boulder, CO: Educause.
- Fitzgerald, B. (2007). *Open content licensing (OCL) for open educational resources*. Brisbane, Australia: Organisation for Economic Co-operation and Development.
- Gladwell, M. (2002). *The tipping point: How little things can make a big difference*. New York: Little, Brown.
- Gliner, J. A., Leech, N. L., & Morgan, G. A. (2002). Problems with null hypothesis significance testing (NHST): What do the textbooks say? *The Journal of Experimental Education*, 71(1), 83-93.

- Gosney, E. (2008, April 7). BYU Grads Make Mark with New Social Networking Site. *Byu Newsnet*. Retrieved April 17, 2008, from <http://newsnet.byu.edu/story.cfm/68237>
- Governor's Office of Planning & Budget. (2007). *2007 economic summary State of Utah*. Salt Lake City: State of Utah Governor's Office of Planning & Budget.
- Hanselman, M. (2009). *OCW receiving national, international recognition*. Retrieved February 27, 2009, from <http://www.usu.edu/ust/index.cfm?article=34468>
- Hiemstra, R. (2003). More than three decades of self-directed learning: From whence have we come? *Adult Learning*, 14(4), 5-8.
- International Institute for Education and Planning. (2005). *Final forum report*. Retrieved August 5, 2007, from [http://portal.unesco.org/ci/en/files/21713/11438000259OER\\_Forum\\_Final\\_Report.pdf/OER%2BForum%2BFinal%2BReport.pdf](http://portal.unesco.org/ci/en/files/21713/11438000259OER_Forum_Final_Report.pdf/OER%2BForum%2BFinal%2BReport.pdf)
- Internet World Stats. (2007). *Internet world stats usage and population statistics*. Retrieved November 16, 2007, from <http://www.internetworldstats.com/stats2.htm>
- Kirkpatrick, K. (2006). OCW. *Searcher*, 14(10), 53-58.
- Knowles, M. (1975). *Self-directed learning*. Parsippany, NJ: Globe Fearon.
- Lerman, S. R., & Miyagawa, S. (2002). OCW. *Academe*, 88(5), 23.
- Liebermann, T. (2006). *A diffusion of innovation model modified for educational technology working with coaches and physical education teachers*. Unpublished doctoral dissertation, University of Calgary (Canada), Canada.
- Lindner, J. R., Murphy, T. H., & Briers, G. E. (2001). Handling nonresponse in social science research [Electronic version]. *Journal of Agricultural Education*, 42(4), 43-50.
- Lindner, J. R., & Wingenbach, G. J. (2002). Communicating the handling of nonresponse error in Journal of Extension Research in brief articles [Electronic version]. *Journal of Extension*, 40(6), 1-9.
- Malcolm, M. (2005). The exercise of the object: Issues in resource reusability and reuse. *British Journal of Educational Technology*, 36(1), 33-41.

- Matkin, G. (2005). The move toward open educational resources. *Distance Education Report, 9*(9), 1-2.
- Merriam, S. B., & Caffarella, R. S. (1991). *Learning in adulthood*. San Francisco: Jossey-Bass.
- Miller, L. E., & Smith, K. L. (1983). Handling nonresponse issues [Electronic version]. *Journal of Extension, 21*(5), 45-50.
- Moore, A. (2002). Lens on the future: Open-source learning. *Educause Review, 37*(5), 42-51.
- National Center for Public Policy, & Higher Education, The. (2006). *Measuring up 2006. The state report card on higher education Utah*. Retrieved June 1, 2007, from <http://measuringup.highereducation.org/reports/stateprofilenet.cfm?myyear=2006&stateName=Utah>
- NSDL Fact Sheet*. (2008). Retrieved April 17, 2008, from <http://nsdl.org/about/?pager=factsheet>
- OCW Consortium. (2009). *OCW Consortium members*. Retrieved February 18, 2009, from [http://www.ocwconsortium.org/index.php?option=com\\_content&task=view&id=80&Itemid=160](http://www.ocwconsortium.org/index.php?option=com_content&task=view&id=80&Itemid=160)
- OCW Consortium: About Us*. (2009). Retrieved February 18, 2009, from <http://www.ocwconsortium.org/about-us/about-us.html>
- OCW Finder*. (2007). Retrieved June 2, 2007, from <http://opencontent.org/OCWfinder/>
- Olsen, F. (2002). MIT's open window. *Chronicle of Higher Education, 49*(15), A31.
- Onwuegbuzie, A. J., & Leech, N. L. (2004). Enhancing the interpretation of significant findings: The role of mixed methods research. *The Qualitative Report, 9*(4), 770-792.
- Open eLearning Content Observatory Services. (2007). *Open educational practices and resources* (OLCOS Roadmap 2012, pp. 1-149) [Electronic version]. Austria: Open eLearning Content Observatory Services.
- Portal Universia. (2007). *Universia.net*. Retrieved August 8, 2007, from <http://cursos.universia.net/app/es/index.asp?>
- Rogers, E. M. (2003). *Diffusion of innovations*. New York: Free Press.

- Schroll, D. (2007). *Examining what influences a teacher's choice to adopt technology and constructivist principles in the classroom learning environment*. Unpublished doctoral dissertation, Walden Online University.
- Schumacker, R. E. (2005). *Standards for interpreting reliability coefficients*. Retrieved February 24, 2008, from <http://www.appliedmeasurementassociates.com/White%20Papers/Standards%20for%20Interpreting%20Reliability%20Coefficients.pdf>
- Semuels, A. (2008, March 17). Wikipedia experiences growing pains. *The Seattle Times*. Retrieved April 16, 2008, from [http://seattletimes.nwsourc.com/html/business/technology/2004286879\\_btwikipedia17.html](http://seattletimes.nwsourc.com/html/business/technology/2004286879_btwikipedia17.html)
- Singer, M. (2008). *Find your new self-in a second life*. Retrieved April 16, 2008, from [http://www.ebpublishing.com/\\*ws4d-db-query-Show.ws4d?\\*ws4d-db-query-Show\\*\\*\\*KHI-GH-115115120116115122-1354\\*\\*\\*-Database\\*\\*\\*-\\*\\*\\*sltimes\(directory\)\\*\\*\\*.ws4d?sltimes/column\(R\).html](http://www.ebpublishing.com/*ws4d-db-query-Show.ws4d?*ws4d-db-query-Show***KHI-GH-115115120116115122-1354***-Database***-***sltimes(directory)***.ws4d?sltimes/column(R).html)
- Smith, M. S., & Casserly, C. M. (2006). The promise of open educational resources. *Change*, 38(5), 8-18.
- StatPac. (2007). *Designing surveys and questionnaires*. Retrieved December 30, 2007, from <http://www.statpac.com/surveys/incentives.htm>
- Stigter, F. (2007). *Improving library services outcomes of EDL project knowledge sharing workshop*. Retrieved August 7, 2007, from <http://www.edlproject.eu/downloads/improvinglibraryservices.pdf>
- Stover, C. (2005). World conference calls for open educational resources. *Distance Education Report*, 9(12), 2, 8.
- Tennant, R., & Tennant, R. (2005). The open content alliance. *Library Journal*, 130(20), 38-38.
- The Open University. (2007). *How OpenLearn started*. Retrieved August 8, 2007, from <http://www.open.ac.uk/openlearn/about-us/our-story.php>
- The William and Flora Hewlett Foundation Open Educational Resources (OER) – Making High Quality Educational Content and Tools Freely Available on the Web*. (2007). Retrieved August 7, 2007, from <http://www.hewlett.org/Programs/Education/OER/>

- Thompson, B. (2002). Statistical, practical, and clinical: How many kinds of significance do counselors need to consider? *Journal of Counseling and Development*, 80, 64-71.
- Trenin, D. T. (2007). *Giving knowledge for free: The emergence of open educational resources* [Electronic version]. Danvers, MA: Organization for Economic Cooperation and Development.
- TVET Australia product services. (2007). *TVET Australia welcomes you to the AEShareNet licensing system*. Retrieved December 8, 2007, from <http://www.aesharenet.com.au/>
- U.S. Census Bureau. (2005). *U.S. Census Bureau American FactFinder Utah S1501. Educational Attainment*. Retrieved June 3, 2007, from [http://factfinder.census.gov/servlet/STTable?\\_bm=y&-geo\\_id=04000US49&-qr\\_name=ACS\\_2005\\_EST\\_G00\\_S1501&-ds\\_name=ACS\\_2005\\_EST\\_G00\\_](http://factfinder.census.gov/servlet/STTable?_bm=y&-geo_id=04000US49&-qr_name=ACS_2005_EST_G00_S1501&-ds_name=ACS_2005_EST_G00_)
- U.S. Census Bureau. (2007). *State and county quickfacts*. Retrieved September 11, 2007, from <http://quickfacts.census.gov/qfd/states/49000.html>
- UNESCO. (2002). *Forum on the impact of open courseware for higher education in developing countries* (OCW forum final report). Retrieved December 8, 2007, from [http://portal.unesco.org/ci/en/ev.php-URL\\_ID=5303&URL\\_DO=DO\\_TOPIC&URL\\_SECTION=201.html](http://portal.unesco.org/ci/en/ev.php-URL_ID=5303&URL_DO=DO_TOPIC&URL_SECTION=201.html)
- United Nations General Assembly. (2007). *Universal declaration of human rights*. (Original work published 1948). Retrieved December 8, 2007, from <http://www.un.org/Overview/rights.html>
- Utah System of Higher Education. (2007). *Summary of appropriations, 2007 general session*. Retrieved April 14, 2008, from [http://www.utahsbr.edu/pdfs/LegAppSum/2007\\_Session\\_Appropriations\\_Summary\\_Mar\\_9.pdf](http://www.utahsbr.edu/pdfs/LegAppSum/2007_Session_Appropriations_Summary_Mar_9.pdf)
- Utah Valley University. (2009). *UVU open online courses & open educational resources*. Retrieved May 11, 2009, from <http://open.uvu.edu/>
- Utts, J. (2003). What education citizens should know about statistics and probability. *The American Statistician*, 57(2), 74-80.
- Vest, C. (2004). Why MIT decided to give away all its course materials via the Internet. *Chronicle of Higher Education*, 50(21), B20-B21.
- Vest, C. M. (2006). Open content and the emerging global meta-university. *Educause Review*, 41(3), 18-30.

- Wiley, D. A. (2005). Learning objects in public higher education. In J. M. Spector, C. Ohrazda, A. Van Schaack, & D. A. Wiley (Eds.), *Innovations in instructional technology* (pp. 1-9). Mahwah, NJ: Erlbaum.
- Wojcickil, E. (2008, April 1). Wikipedia founder proposes support for open textbooks. *Yahoo News*. Retrieved April 17, 2008, from [http://news.yahoo.com/s/huffpost/20080401/cm\\_huffpost/094418](http://news.yahoo.com/s/huffpost/20080401/cm_huffpost/094418)
- Wong, C. M. (2008, March 26). Teachers, students are going wireless. *The Prague Post*. Retrieved April 14, 2008, from <http://www.praguepost.com/articles/2008/03/26/teachers-students-are-going-wireless.php>
- Worthen, B. (2008, March 31). Wikipedia hits 10 million truthy entries. *The Wall Street Journal*. Retrieved April 14, 2008, from <http://blogs.wsj.com/biztech/2008/03/31/wikipedia-hits-10-million-truthy-entries/?mod=WSJBlog>
- Young, J. (2001). MIT begins effort to create public web pages for more than 2,000 of its courses. *Chronicle of Higher Education*, 48(16), A34.
- Young, J. (2006). Scribes of the digital era. *Chronicle of Higher Education*, 52(21), A34-A36.

APPENDICES

Appendix A  
Letter to OCW Expert



[date]

Dear OCW Topic Expert,

My name is Anne Arendt, and I am inviting you and ten other subject matter experts to participate in a research project to study incentives and disincentives for OCW and other open educational resources made available to residents of Utah. I am doing this research as part of my Doctorate of Education studies at Utah State University located in Logan, Utah in cooperation with Dr. Gary Straquadine, the principal investigator who has oversight of this research project. I have a working copy of my proposal, including the list of experts in Appendix C, which may be found at <http://www.mydeskdrawer.com>.

I am requesting your participation in the following Delphi procedure which will be used to create the survey questions that will be distributed to 753 individuals throughout Utah:

- a) Complete the attached two open-ended survey questions and return within 10 days after receipt of the email. The two open-ended survey questions may take approximately 10 minutes to complete.
- b) From these responses a new survey will be created that lists all the open-ended responses, and the number of respondents that wrote each response. This will be sent to you and the other experts and you will be asked to rate your agreement with each statement on a five point Likert scale where (1) means strongly agree and (5) means strongly disagree. This may take approximately 10 minutes to complete. Please respond within 10 days after receipt of the email.
- c) Statements with a mean of 4 or higher and a standard deviation below 1 will be designated as areas of agreement. These will be compiled and sent to the group of experts for review with an area included if you feel additional items should be included that differ from the general tendency but have justification. This may take approximately 10 minutes to complete. Please respond within 10 days after receipt of the email.
- d) Assuming there are additional items the survey will again be sent out for final review and commentary. Please respond within 10 days after receipt of the email.

The results of this project will be used by educational institutions nationally and globally to access and improve their offerings of open-access educational resources. Through your participation I plan to gain a better understanding of factors affecting use of open educational resources and I hope to share my results by publishing in a scholarly journal as well as by making them publicly available on the Web for individuals all over the world to access. There is minimal risk in participating in this research. Participation in research is voluntary; refusal to participate will involve no penalty. You may also withdraw participation at any time without penalty. However, if you do decide to discontinue participation please contact Anne Arendt aware of your decision by emailing her at [aarendt@cc.usu.edu](mailto:aarendt@cc.usu.edu). I hope you will take the time to complete this questionnaire and return it via email. Regardless of whether you choose to participate, you may like to view a summary of my findings. Once the research is complete I will post the results at <http://www.mydeskdrawer.com>.

This project has been approved by the Institutional Review Board at Utah State University. If you have any questions or concerns about your rights you may contact the IRB at (435) 797-0567 or email:

[true.fox@usu.edu](mailto:true.fox@usu.edu) If you have any questions or concerns about the research you may contact either Gary Straquadine or Anne Arendt.

---

Gary Straquadine, Principal Investigator  
(435) 797-3521  
[garys@cc.usu.edu](mailto:garys@cc.usu.edu)

---

Anne Arendt, Student Researcher  
(80) 796-1369  
[aarendt@cc.usu.edu](mailto:aarendt@cc.usu.edu)

Appendix B  
Questions for OCW Experts

## Questions for OCW Experts

*Note: Users or potential users include any user of open educational resources whether they are affiliated with any educational institutions or not. The focus is on end-user, not the developers of OCW*

In your opinion, what are incentives for potential users of OCW to make personal use of the resource?

In your opinion, what are disincentives for potential users of OCW to make personal use of the resource?

Appendix C  
List of OCW Experts

Richard G. Baraniuk

Department of Electrical and Computer Engineering  
Rice University  
2028 Duncan Hall, MS-380  
6100 Main Street  
Houston, TX 77005 USA  
Vox: +1 713.348.5132  
Fax: +1 713.348.5685  
Email: richb at rice dot edu  
Connexions  
<http://cnx.org/>

Steve Carson

External Relations Director  
OCW  
Massachusetts Institute of Technology  
One Broadway, 8th Floor  
Cambridge, MA 02142  
Phone: 617.253.1250  
Fax: 617.253.2115  
Email: scarson@mit.edu  
<http://OCW.mit.edu>

Brandon Muramatsu

Associate Director  
Center for Open and Sustainable Learning  
Utah State University  
Project director: <http://www.smete.org>  
Project director: <http://www.needs.org>  
[Brandon.muramatsu@usu.edu](mailto:Brandon.muramatsu@usu.edu)

**Derek Keats**

Executive Director, Information & Communication Services  
University of the Western Cape,  
P. Bag X17, Bellville, South Africa  
Phone: +27 21 959 2304  
Fax: +27 21 959 1201  
email: [dkeats@uwc.ac.za](mailto:dkeats@uwc.ac.za)  
<http://elearn.uwc.ac.za/index.php?module=splashscreen>

**Lisa Petrides**

President, Institute for the Study of Knowledge Management in  
Education  
Half Moon Bay, CA 94019  
<http://www.iskme.org/contact-info>  
[lisa@iskme.org](mailto:lisa@iskme.org)  
Phone: (650) 728-3322  
<http://www.oercommons.org>

**Terri Bays**

OCW Project Director at the University of Notre Dame  
Program Manager, OCW Consortium  
University of Notre Dame  
Notre Dame, IN  
E-mail: [tbays1@nd.edu](mailto:tbays1@nd.edu)  
[Terri.Bays.6@nd.edu](mailto:Terri.Bays.6@nd.edu)  
Phone: (574) 631-6787

**Andy Lane**

Director, OpenLearn  
Open University UK  
PO Box 197  
Milton Keynes  
MK7 6BJ  
United Kingdom  
+44 (0)845 300 60 90  
<http://www.open.ac.uk/openlearn/>

**Ahrash Bissell**

Executive Director, ccLearn  
<http://www.linkedin.com/pub/1/aba/261>  
San Francisco Office  
Creative Commons  
171 Second St  
Suite 300  
San Francisco, CA 94105-3811  
United States  
phone: 1-415-369-8480  
fax: 1-415-278-9419  
[cclearn-info@creativecommons.org](mailto:cclearn-info@creativecommons.org)

**Susan D'Antoni**

Unesco Virtual University and e-learning  
IIEP- Institute for Educational Planning  
<http://www.unesco.org/iiep/virtualuniversity/>  
[virtual.university@iiep.unesco.org](mailto:virtual.university@iiep.unesco.org)

**Marion Jensen**

USU OCW Project Director  
[marionjensen@gmail.com](mailto:marionjensen@gmail.com)

**Brian Lamb**

Office of Learning Technology  
The University of British Columbia  
[brian.lamb@ubc.ca](mailto:brian.lamb@ubc.ca)  
Office of Learning Technology: Bridging the Distance  
Room 1170, 2329 West Mall (University Services Building)  
Vancouver, BC V6T 1Z4  
Telephone: 604-827-4494  
Fax: 604-822-8636

John Dehlin

OCW Consortium Director

<http://OCWconsortium.org>

Utah State University

2830 Old Main Hill

Logan, UT 84322-2830

Phone: 435.881.4419

Email: [johndehlin@gmail.com](mailto:johndehlin@gmail.com)



Appendix D

Mockup of End User Survey

OCW (OCW), otherwise known as an open learning initiative or open educational resources, is dedicated to the development of freely available, stand-alone college-level online course and teaching materials on a variety of topics. It includes items such as lecture notes, reading lists, course assignments, syllabi, study materials, simulations, and the like as used in current courses which are then made freely available on the Internet. Some of the OCW projects available to you include: Carnegie Mellon OpenLearningInitiative, Johns Hopkins Bloomberg School of Public Health OCW, Massachusetts Institute of Technology OCW, University of Norte Dame OCW, Tufts University OCW, University of California, Irvine OCW, and Utah State University OCW.

- 1) Please indicate how much of an *incentive* each of these aspects would be to you, where 5 means “very large incentive” and 1 means “not an incentive at all”. Please choose “do not know” if you feel you cannot answer this question.

	Very large incentive				Not at all
A. Some aspect here	5.....	4.....	3.....	2.....	1.....
B. Some aspect here	5.....	4.....	3.....	2.....	1.....
C. Some aspect here	5.....	4.....	3.....	2.....	1.....
D. Some aspect here	5.....	4.....	3.....	2.....	1.....
E. Another aspect listed here	5.....	4.....	3.....	2.....	1.....
F. Another aspect listed here	5.....	4.....	3.....	2.....	1.....
G. Another aspect listed here	5.....	4.....	3.....	2.....	1.....
H. Another aspect listed here	5.....	4.....	3.....	2.....	1.....
I. Another aspect listed here	5.....	4.....	3.....	2.....	1.....
J. Another aspect listed here	5.....	4.....	3.....	2.....	1.....

Other: \_\_\_\_\_

Do not know [ ]

- 2) Please indicate how much of a *disincentive* each of these aspects would be to you, where 5 means “very large disincentive” and 1 means “not at all a disincentive.” Please choose “do not know” if you feel you cannot answer this question.

	Very large disincentive				Not at all
A. Some aspect here	5.....	4.....	3.....	2.....	1.....
B. Some aspect here	5.....	4.....	3.....	2.....	1.....
C. Some aspect here	5.....	4.....	3.....	2.....	1.....
D. Some aspect here	5.....	4.....	3.....	2.....	1.....
E. Another aspect listed here	5.....	4.....	3.....	2.....	1.....
F. Another aspect listed here	5.....	4.....	3.....	2.....	1.....
G. Another aspect listed here	5.....	4.....	3.....	2.....	1.....
H. Another aspect listed here	5.....	4.....	3.....	2.....	1.....
I. Another aspect listed here	5.....	4.....	3.....	2.....	1.....
J. Another aspect listed here	5.....	4.....	3.....	2.....	1.....

Other: \_\_\_\_\_

Do not know [ ]

*Thank you for completing this survey. Please now place it in the enclosed envelope and drop it in the postal mail.*

Appendix E  
Letter of Information



College of Agriculture  
 4800 Old Main Hill,  
 Logan UT 84322-4800  
 Telephone: (435) 797-3521  
 Fax: (435) 797-3321

Dear Respondent,

I am inviting you to participate in a research project to study incentives and disincentives for OCW resources available to residents of Utah. I am doing this research as part of my Doctorate of Education studies at Utah State University located in Logan, Utah. OCW (OCW) is dedicated to the development of freely available, stand-alone college-level online course and teaching materials on a variety of topics. It includes items such as lecture notes, reading lists, course assignments, syllabi, study materials, simulations and the like as used in current courses which are then made freely available on the Internet. Some of the OCW projects available to you include:

- Carnegie Mellon OpenLearningInitiative at <http://www.cmu.edu/oli/>
- Johns Hopkins Bloomberg School of Public Health OCW at <http://OCW.jhsph.edu/>
- Massachusetts Institute of Technology OCW at <http://OCW.mit.edu/>
- University of Notre Dame OCW at <http://OCW.nd.edu/>
- Tufts University OCW at <http://OCW.tufts.edu/>
- University of California, Irvine OCW at <http://OCW.uci.edu/>, and
- Utah State University OCW at <http://OCW.usu.edu/>

We invite you to review some of these sites before taking the survey.

Along with this letter is a short questionnaire that asks about incentives and disincentives for people to use OCW. I am asking you to read the questionnaire, complete it and return it to me in the enclosed self-addressed envelope. It should take you about 2-3 minutes to complete. I have enclosed two quarters to compensate you for your time.

The results of this project will be used by educational institutions nationally and globally to access and improve their offerings of open-access educational resources. Through your participation I plan to gain a better understanding of factors affecting use of open educational resources. I hope to share my results by publishing in a scholarly journal and by making them publicly available on the Web. I know of no risks to you if you decide to participate in this survey and I guarantee that your responses will not be identified with you personally. You need not sign the questionnaire and your response will remain anonymous and confidential.

I hope you will take the time to complete this questionnaire and return it. Your participation is voluntary and there is no penalty if you do not participate. Regardless of whether you choose to participate, you may like to view a summary of my findings. Once the research is complete I will post the results at <http://www.mydeskdrawer.com>.

This project has been approved by the Institutional Review Board at Utah State University. If you have any questions or concerns about your rights you may contact the IRB at (435) 797-0567 or email at [true.fox@usu.edu](mailto:true.fox@usu.edu). If you have any questions or concerns about the research you may contact either Gary Straquadine or Anne Arendt.

---

Gary Straquadine, Principal Investigator  
 (435) 797-3521  
[garys@cc.usu.edu](mailto:garys@cc.usu.edu)

---

Anne Arendt, Student Researcher  
 (80) 796-1369  
[anne.arendt@aggiemail.usu.edu](mailto:anne.arendt@aggiemail.usu.edu)

Appendix F  
Informed Consent

*This consent document must be printed with your dept. letterhead on each page before being given to the participant*

Page 140 of 2

Date Created: \_\_\_\_\_

## INFORMED CONSENT

### An Assessment of Utah Resident Incentives and Disincentives for Use of OCW Resources

\*Introduction/ Purpose Graduate student Anne Arendt in the Department of Education at Utah State University is conducting a study to find out more about OCW. You have been asked to take part because you have been identified as a potential user within the state of Utah. There will be approximately 753 participants randomly chosen from across the state of Utah.

\*Procedures If you agree to be in this research study, all you will need to do is complete the enclosed survey and submit it in the enclosed addressed stamped envelope. It should take you a matter of minutes to complete. There is no personally identifying information on the survey, although your survey has been given a random ID which will be used to correlate your survey responses to your demographic information including gender, age, education, county, income, ethnicity and occupation but not to any personally identifying information.

New Findings During the course of this research study, you will be informed of any significant new findings, either good or bad, such as changes in the risks or benefits resulting from participation in the research, or new alternatives to participation that might cause you to change your mind about continuing in the study. If new information is obtained that is relevant or useful to you, or if the procedures and/or methods change at any time throughout this study, your consent to continue participating in this study will be obtained again.

\*Risks There are no anticipated risks to the individuals involved in this study.

\*Benefits There may not be any direct benefit to you from these procedures. The investigator and committee members, however, may learn more about Open Educational Resources and how they can be improved to better suit the needs and expectations of individuals throughout Utah, the nation, and the world.

Explanation & offer to answer questions Doctoral student Anne Arendt has explained this research study to you and answered your questions. If you have other questions or research-related problems, you may reach her at 801-796-1369 or via email at

aarendt@cc.usu.edu

Extra Cost(s) There are no costs for participating in this study.

Payment You will be paid half a dollar, enclosed in this envelope, for your participation in this study.

\*Voluntary nature of participation and right to withdraw without consequence

Participation in research is entirely voluntary. You may refuse to participate or withdraw at any time without consequence or loss of benefits.

\*Confidentiality Research records will be kept confidential, consistent with federal and state regulations. Only the investigator will have access to the data which will be kept in a locked file cabinet in a locked room, on a password protected computer, and password protected external hard drive. Personally identifiable information will be kept until completion of survey data collection, at which point any personally identifying information will be destroyed. A randomly assigned ID will be associated with each survey returned.

\*IRB Approval Statement The Institutional Review Board for the protection of human participants at USU has approved this research study. If you have any questions or concerns about your rights, you may contact the IRB at (435) 797-1821

\*Copy of consent You have been given one copy of this Informed Consent. Please retain it for your files.

\*Investigator Statement “I certify that the research study has been explained to the individual, by me or my research staff, and that the individual understands the nature and purpose, the possible risks and benefits associated with taking part in this research study. Any questions that have been raised have been answered.”

\*Signature of PI & student or Co-PI

---

*Signature of PI*  
 Gary Straquadine  
 Principal Investigator  
 (435)797-3521

---

*Signature of student*  
 Anne Arendt  
 Student Researcher  
 (801)796-1369

Agreement of Participant By submitting the attached survey, I agree to participate.

## Appendix G

### Incentives and Disincentives Categorized by Roger's Attributes of Innovation



## Incentives categorized by Roger's Attributes of Innovation

## Relative Advantage

1. Seeking additional information about a subject introduced in school
2. Comparing courses at different educational institutions
6. Enriching or supplementing study on a formal course
11. Shopping around for a college to attend
13. Improving my understanding of particular topics
22. Sampling courses or study before enrolling
29. Seeing more clearly see what I will be signing up for in a "regular" class

## Compatibility

- i3 Doing research
- i4 Furthering projects or programs
- i5 Improving my study skills
- i9 Learning for personal knowledge or enjoyment
- i10 Keeping my mind active
- i12 Pursuing in depth a topic that interests me
- i14 Improving professional knowledge or skills
- i15 Helping understand my own abilities to learn
- i18 Improving my teaching skills
- i19 Improving my performance in academic programs
- i21 Improving my own materials through inclusion of OCW content
- i30 Help in choosing my next course

## Complexity

- i8 Using and changing the materials for personal use
- i20 Saving time in creation of educational materials
- i24 Access is at my preferred pace
- i23 Gaining experience in online learning
- i25 Clear and familiar structure of materials

## Trialability

- i16 Freedom from discrimination on the basis of prior achievement
- i17 Available at any time
- i26 No cost for materials
- i27 Materials in an OCW are fairly easy to access and find
- i28 Tools which allow users to find materials in multiple OCW's
- i31 Can be accessed simultaneously by many people & infinitely replicated

## Observability

- i7 Two-way interaction and collaboration between groups
- i32 High quality & reliability because the content is produced by experts in the field
- i33 Seeing the communications of others
- i34 Communicating with others
- i35 Materials available are from leading universities

## Disincentives categorized by Roger's Attributes of Innovation

## Relative Advantage

- d1 The need to be a skilled self-studier or independent learner
- d4 Availability of this mode of teaching & learning is extremely variable
- d21 There is a lack of teacher-supplied motivation, feedback & direction
- d23 Content is not structured in a 'self-learn' or 'self-teach' method
- d27 Lack of ability to assess how I am doing to ensure I am learning
- d41 Concern that free resources lack quality
- d43 Not clear that unstructured communication on its own is very helpful to learning.

## Compatibility

- d6 There is no certificate or degree awarded
- d8 Concern about intellectual property
- d9 There is a mismatch to my local language or culture
- d10 Concern about feeling included
- d12 Education is not important for my social group or community
- d13 It goes against the norms or customs of my culture
- d14 Being discouraged from engaging in additional education
- d15 It goes against the norms or customs of my family or community (social)
- d16 Having no intent to learn at this level
- d26 It does not cover my topic of interest in the depth I desire

## Complexity

- d2 Lack of professional support provided by subject tutors or experts
- d3 Lack of guidance provided by support specialists
- d11 Concern about being competent or capable to study at this level
- d17 Not understanding how to use this resource
- d18 Not having the qualifications to use this resource
- d20 Concern about handling these new ways of learning
- d24 Content is produced & displayed in large chunks instead of bite-sized pieces of information
- d25 Feeling the material is overwhelming
- d28 Wanting personal support through encouraging self-reflection & guidance within some of the in-text activities and formal assessments
- d29 Lack of availability of guidance materials on study skills
- d37 Not having the qualifications or prior achievements necessary for access
- d38 Needing to learn & understand how to navigate and use such resources

## Triability

- d19 Concern about handling these new technologies
- d31 Limited or no access to a computer
- d32 Limited or no access to the Internet
- d33 Other technical barriers preventing easy use or reuse
- d34 Physical circumstances that limit my access
- d35 The cost of being online
- d36 Being geographically remote

- d39 Not knowing what resources exist
- d40 Not understanding what the resources are

Observability

- d5 Lack of awareness of how these tools can be used effectively
- d7 Lack of activities & events that facilitate participation in learning opportunities
- d22 Feeling educational materials & opportunities are not as open as possible
- d30 Lack of recording of learning & achievements in e-portfolios or journals
- d42 There is currently no accreditation tied with OCW

## Appendix H

Analysis of Incentives from Pilot Study of 44 Individuals

## INCENTIVES

Relative Advantage
1. Seeking additional information about a subject introduced in school
2. Comparing courses at different educational institutions
6. Enriching or supplementing study on a formal course
11. Shopping around for a college to attend
13. Improving my understanding of particular topics
22. Sampling courses or study before enrolling
29. Seeing more clearly see what I will be signing up for in a "regular" class

### Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.805	.804	7

### Inter-Item Correlation Matrix

	q1	q2	q6	q13	q22	q29	q11
q1	1.000	.418	.449	.270	.472	.462	.214
q2	.418	1.000	.186	.171	.635	.514	.594
q6	.449	.186	1.000	.415	.432	.182	.334
q13	.270	.171	.415	1.000	.242	.220	.103
q22	.472	.635	.432	.242	1.000	.633	.430
q29	.462	.514	.182	.220	.633	1.000	.382
q11	.214	.594	.334	.103	.430	.382	1.000

Compatibility
---------------

3. Doing research
4. Furthering projects or programs
5. Improving my study skills
9. Learning for personal knowledge or enjoyment
10. Keeping my mind active
12. Pursuing in depth a topic that interests me
14. Improving professional knowledge or skills
15. Helping understand my own abilities to learn
18. Improving my teaching skills
19. Improving my performance in academic programs
21. Improving my own materials through inclusion of OCW content
30. Help in choosing my next course

### Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.818	.825	12

### Inter-Item Correlation Matrix

	q3	q4	q5	q9	q10	q12	q14	q15	q18	q19	q21	q30
q3	1.000	.617	.346	.004	.305	.080	.194	.351	.205	.380	.413	.297
q4	.617	1.000	.509	.243	.367	.305	.504	.552	.051	.433	.273	.447
q5	.346	.509	1.000	.167	.385	.273	.336	.614	-.173	.320	-.047	.536
q9	.004	.243	.167	1.000	.635	.688	.569	.141	-.065	.041	-.085	-.183
q10	.305	.367	.385	.635	1.000	.585	.701	.462	.047	.339	.100	.230
q12	.080	.305	.273	.688	.585	1.000	.754	.243	-.148	.054	.077	-.055
q14	.194	.504	.336	.569	.701	.754	1.000	.539	-.063	.198	.121	.150
q15	.351	.552	.614	.141	.462	.243	.539	1.000	.000	.563	.302	.651
q18	.205	.051	-.173	-.065	.047	-.148	-.063	.000	1.000	.375	.372	-.118
q19	.380	.433	.320	.041	.339	.054	.198	.563	.375	1.000	.345	.645
q21	.413	.273	-.047	-.085	.100	.077	.121	.302	.372	.345	1.000	.102
q30	.297	.447	.536	-.183	.230	-.055	.150	.651	-.118	.645	.102	1.000

---

**Complexity**


---

- 8. Using and changing the materials for personal use
- 20. Saving time in creation of educational materials
- 24. Access is at my preferred pace
- 23. Gaining experience in online learning
- 25. Clear and familiar structure of materials

**Reliability Statistics**

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.729	.734	5

**Inter-Item Correlation Matrix**

	q8	q20	q24	q25	q23
q8	1.000	.362	.189	.366	.202
q20	.362	1.000	.404	.221	.382
q24	.189	.404	1.000	.508	.353
q25	.366	.221	.508	1.000	.571
q23	.202	.382	.353	.571	1.000

Trialability
--------------

- 16. Freedom from discrimination on the basis of prior achievement
- 17. Available at any time
- 26. No cost for materials
- 27. Materials in an OCW are fairly easy to access and find
- 28. Tools which allow users to find materials in multiple OCW's
- 31. Can be accessed simultaneously by many people & infinitely replicated

**Reliability Statistics**

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.788	.809	6

**Inter-Item Correlation Matrix**

	q16	q17	q26	q27	q28	q31
q16	1.000	-.061	.139	.326	.376	.410
q17	-.061	1.000	.782	.528	.428	.354
q26	.139	.782	1.000	.543	.404	.443
q27	.326	.528	.543	1.000	.620	.270
q28	.376	.428	.404	.620	1.000	.642
q31	.410	.354	.443	.270	.642	1.000



---

**Observability**


---

- 7. Two-way interaction and collaboration between groups
- 32. High quality & reliability because the content is produced by experts in the field
- 33. Seeing the communications of others
- 34. Communicating with others
- 35. Materials available are from leading universities

**Reliability Statistics**

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.820	.816	5

**Inter-Item Correlation Matrix**

	q7	q32	q33	q34	q35
q7	1.000	.241	.632	.651	.390
q32	.241	1.000	.374	.251	.629
q33	.632	.374	1.000	.858	.342
q34	.651	.251	.858	1.000	.339
q35	.390	.629	.342	.339	1.000

Appendix I

Analysis of Disincentives from Pilot Study of 44 Individuals

## DISINCENTIVES

## Relative Advantage

1. The need to be a skilled self-studier or independent learner
5. Availability of this mode of teaching & learning is extremely variable
- ~~11. Availability of alternative methods to find information online~~
23. There is a lack of teacher-supplied motivation, feedback & direction
25. Content is not structured in a 'self-learn' or 'self-teach' method
29. Lack of ability to assess how I am doing to ensure I am learning
43. Concern that free resources lack quality
45. Not clear that unstructured communication on its own is very helpful to learning.

Results with #11

## Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.778	.781	8

## Inter-Item Correlation Matrix

	q1	q5	q11	q23	q25	q29	q43	q45
q1	1.000	.214	-.037	.003	.005	-.050	.372	.308
q5	.214	1.000	.291	.313	.538	.280	.349	.277
q11	-.037	.291	1.000	.215	.314	.078	.139	.327
q23	.003	.313	.215	1.000	.698	.576	.415	.441
q25	.005	.538	.314	.698	1.000	.407	.532	.653
q29	-.050	.280	.078	.576	.407	1.000	.271	.226
q43	.372	.349	.139	.415	.532	.271	1.000	.480
q45	.308	.277	.327	.441	.653	.226	.480	1.000

Results without #11

**Reliability Statistics**

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.794	.800	7

**Inter-Item Correlation Matrix**

	q1	q5	q23	q25	q29	q43	q45
q1	1.000	.258	.132	.175	.081	.383	.349
q5	.258	1.000	.290	.520	.216	.402	.264
q23	.132	.290	1.000	.654	.620	.396	.451
q25	.175	.520	.654	1.000	.393	.489	.644
q29	.081	.216	.620	.393	1.000	.228	.242
q43	.383	.402	.396	.489	.228	1.000	.459
q45	.349	.264	.451	.644	.242	.459	1.000

---

**Compatibility**


---

- 7. There is no certificate or degree awarded
- 9. Concern about intellectual property
- 10. There is a mismatch to my local language or culture
- 12. Concern about feeling included
- 14. Education is not important for my social group or community
- 15. It goes against the norms or customs of my culture
- 16. Being discouraged from engaging in additional education
- 17. It goes against the norms or customers of my family or community (social)
- 18. Having no intent to learn at this level
- 28. It does not cover my topic of interest in the depth I desire

**Reliability Statistics**

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.894	.896	10

**Inter-Item Correlation Matrix**

	q7	q9	q10	q12	q14	q15	q16	q17	q18	q28
q7	1.000	.525	.331	.160	.090	.175	.137	.211	.043	.370
q9	.525	1.000	.624	.503	.457	.341	.431	.436	.264	.482
q10	.331	.624	1.000	.373	.485	.630	.548	.706	.368	.498
q12	.160	.503	.373	1.000	.538	.381	.517	.554	.346	.295
q14	.090	.457	.485	.538	1.000	.458	.750	.719	.583	.408
q15	.175	.341	.630	.381	.458	1.000	.649	.840	.421	.503
q16	.137	.431	.548	.517	.750	.649	1.000	.754	.643	.561
q17	.211	.436	.706	.554	.719	.840	.754	1.000	.578	.568
q18	.043	.264	.368	.346	.583	.421	.643	.578	1.000	.516
q28	.370	.482	.498	.295	.408	.503	.561	.568	.516	1.000

---

**Complexity**


---

- 3. Lack of professional support provided by subject tutors or experts
- 4. Lack of guidance provided by support specialists
- 13. Concern about being competent or capable to study at this level
- 19. Not understanding how to use this resource
- 20. Not having the qualifications to use this resource
- 22. Concern about handling these new ways of learning
- 26. Content is produced & displayed in large chunks instead of bite-sized pieces of information
- 27. Feeling the material is overwhelming
- 30. Wanting personal support through encouraging self-reflection & guidance within some of the in-text activities and formal assessments
- 31. Lack of availability of guidance materials on study skills
- 39. Not having the qualifications or prior achievements necessary for access
- 40. Needing to learn & understand how to navigate and use such resources

**Reliability Statistics**

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.926	.926	12

**Inter-Item Correlation Matrix**

	q3	q4	q13	q19	q20	q22	q26	q27	q30	q31	q39	q40
q3	1.000	.739	.513	.452	.432	.531	.299	.331	.477	.595	.286	.403
q4	.739	1.000	.545	.364	.377	.511	.333	.405	.467	.541	.288	.498
q13	.513	.545	1.000	.550	.781	.683	.589	.619	.370	.636	.737	.553
q19	.452	.364	.550	1.000	.701	.507	.510	.651	.208	.499	.591	.626
q20	.432	.377	.781	.701	1.000	.683	.621	.626	.441	.533	.716	.572
q22	.531	.511	.683	.507	.683	1.000	.558	.602	.479	.489	.529	.409
q26	.299	.333	.589	.510	.621	.558	1.000	.759	.193	.548	.588	.391
q27	.331	.405	.619	.651	.626	.602	.759	1.000	.285	.483	.612	.577
q30	.477	.467	.370	.208	.441	.479	.193	.285	1.000	.473	.370	.231
q31	.595	.541	.636	.499	.533	.489	.548	.483	.473	1.000	.496	.472
q39	.286	.288	.737	.591	.716	.529	.588	.612	.370	.496	1.000	.671
q40	.403	.498	.553	.626	.572	.409	.391	.577	.231	.472	.671	1.000

---

**Trialability**


---

~~2. The need to purchase books or items not provided online~~

21. Concern about handling these new technologies

33. Limited or no access to a computer

34. Limited or no access to the Internet

35. Other technical barriers preventing easy use or reuse

36. Physical circumstances that limit my access

37. The cost of being online

38. Being geographically remote

41. Not knowing what resources exist

42. Not understanding what the resources are

Results with #2 included:

**Reliability Statistics**

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.898	.894	10

**Inter-Item Correlation Matrix**

	q2	q21	q33	q34	q35	q36	q37	q38	q41	q42
q2	1.000	.400	.168	.173	.060	.137	.082	.064	.177	.152
q21	.400	1.000	.342	.360	.489	.543	.523	.474	.293	.253
q33	.168	.342	1.000	.958	.757	.749	.637	.440	.354	.328
q34	.173	.360	.958	1.000	.740	.771	.582	.418	.358	.329
q35	.060	.489	.757	.740	1.000	.798	.727	.573	.582	.557
q36	.137	.543	.749	.771	.798	1.000	.802	.634	.481	.468
q37	.082	.523	.637	.582	.727	.802	1.000	.763	.431	.346
q38	.064	.474	.440	.418	.573	.634	.763	1.000	.219	.176
q41	.177	.293	.354	.358	.582	.481	.431	.219	1.000	.934
q42	.152	.253	.328	.329	.557	.468	.346	.176	.934	1.000

Results without #2 :

**Reliability Statistics**

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.914	.911	9

**Inter-Item Correlation Matrix**

	q21	q33	q34	q35	q36	q37	q38	q41	q42
q21	1.000	.342	.360	.489	.543	.523	.474	.293	.253
q33	.342	1.000	.958	.757	.749	.637	.440	.354	.328
q34	.360	.958	1.000	.740	.771	.582	.418	.358	.329
q35	.489	.757	.740	1.000	.798	.727	.573	.582	.557
q36	.543	.749	.771	.798	1.000	.802	.634	.481	.468
q37	.523	.637	.582	.727	.802	1.000	.763	.431	.346
q38	.474	.440	.418	.573	.634	.763	1.000	.219	.176
q41	.293	.354	.358	.582	.481	.431	.219	1.000	.934
q42	.253	.328	.329	.557	.468	.346	.176	.934	1.000



Appendix J

Analysis of Incentives from Survey of 140 Individuals

## INCENTIVES

## Relative Advantage

- i1 Seeking additional information about a subject introduced in school
- i2 Comparing courses at different educational institutions
- i6 Enriching or supplementing study on a formal course
- i11 Shopping around for a college to attend
- i13 Improving my understanding of particular topics
- i22 Sampling courses or study before enrolling
- i29 Seeing more clearly see what I will be signing up for in a “regular” class

## Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.815	.804	7

## Inter-Item Correlation Matrix

	i1	i2	i6	i11	i13	i22	i29
i1	1.000	.322	.596	.353	.301	.319	.398
i2	.322	1.000	.359	.570	.075	.503	.568
i6	.596	.359	1.000	.295	.399	.358	.317
i11	.353	.570	.295	1.000	.073	.534	.567
i13	.301	.075	.399	.073	1.000	.120	.028
i22	.319	.503	.358	.534	.120	1.000	.690
i29	.398	.568	.317	.567	.028	.690	1.000

## Compatibility

- i3 Doing research
- i4 Furthering projects or programs
- i5 Improving my study skills
- i9 Learning for personal knowledge or enjoyment
- i10 Keeping my mind active
- i12 Pursuing in depth a topic that interests me
- i14 Improving professional knowledge or skills
- i15 Helping understand my own abilities to learn
- i18 Improving my teaching skills
- i19 Improving my performance in academic programs
- i21 Improving my own materials through inclusion of OCW content
- i30 Help in choosing my next course

## Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.857	.856	12

## Inter-Item Correlation Matrix

	i3	i4	i5	i9	i10	i12	i14	i15	i18	i19	i21	i30
i3	1.000	.511	.214	.194	.140	.488	.333	.219	.246	.295	.340	.165
i4	.511	1.000	.483	.109	.295	.388	.443	.428	.334	.469	.419	.331
i5	.214	.483	1.000	.167	.271	.288	.273	.742	.373	.619	.378	.587
i9	.194	.109	.167	1.000	.603	.462	.298	.313	.145	.075	.068	-.014
i10	.140	.295	.271	.603	1.000	.393	.334	.388	.145	.103	.078	.067
i12	.488	.388	.288	.462	.393	1.000	.484	.355	.256	.210	.249	.210
i14	.333	.443	.273	.298	.334	.484	1.000	.387	.284	.363	.396	.143
i15	.219	.428	.742	.313	.388	.355	.387	1.000	.419	.480	.407	.433
i18	.246	.334	.373	.145	.145	.256	.284	.419	1.000	.522	.525	.194
i19	.295	.469	.619	.075	.103	.210	.363	.480	.522	1.000	.615	.546
i21	.340	.419	.378	.068	.078	.249	.396	.407	.525	.615	1.000	.387
i30	.165	.331	.587	-.014	.067	.210	.143	.433	.194	.546	.387	1.000

## Complexity

- i8 Using and changing the materials for personal use
- i20 Saving time in creation of educational materials
- i23 Gaining experience in online learning
- i24 Access is at my preferred pace
- i25 Clear and familiar structure of materials

## Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.737	.748	5

## Inter-Item Correlation Matrix

	i8	i20	i23	i24	i25
i8	1.000	.329	.241	.283	.361
i20	.329	1.000	.312	.249	.368
i23	.241	.312	1.000	.470	.512
i24	.283	.249	.470	1.000	.605
i25	.361	.368	.512	.605	1.000

## Trialability

- i16 Freedom from discrimination on the basis of prior achievement
- li7 Available at any time
- i26 No cost for materials
- i27 Materials in an OCW are fairly easy to access and find
- i28 Tools which allow users to find materials in multiple OCW's
- i31 Can be accessed simultaneously by many people & infinitely replicated

## Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.723	.734	6

## Inter-Item Correlation Matrix

	i16	li7	i26	i27	i28	i31
i16	1.000	.156	.073	.167	.355	.494
li7	.156	1.000	.322	.472	.292	.292
i26	.073	.322	1.000	.349	.173	.305
i27	.167	.472	.349	1.000	.597	.352
i28	.355	.292	.173	.597	1.000	.334
i31	.494	.292	.305	.352	.334	1.000

## Observability

- i7 Two-way interaction and collaboration between groups
- i32 High quality & reliability because the content is produced by experts in the field
- i33 Seeing the communications of others
- i34 Communicating with others
- i35 Materials available are from leading universities

## Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.777	.770	5

## Inter-Item Correlation Matrix

	i7	i32	i33	i34	i35
i7	1.000	.257	.454	.579	.293
i32	.257	1.000	.378	.281	.364
i33	.454	.378	1.000	.814	.281
i34	.579	.281	.814	1.000	.307
i35	.293	.364	.281	.307	1.000

Appendix K

Analysis of Disincentives from Survey of 140 Individuals

## DISINCENTIVES

## Relative Advantage

- d1 The need to be a skilled self-studier or independent learner  
 d4 Availability of this mode of teaching & learning is extremely variable  
 d21 There is a lack of teacher-supplied motivation, feedback & direction  
 d23 Content is not structured in a 'self-learn' or 'self-teach' method  
 d27 Lack of ability to assess how I am doing to ensure I am learning  
 d41 Concern that free resources lack quality  
 d43 Not clear that unstructured communication on its own is very helpful to learning.

## Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.834	.835	7

## Inter-Item Correlation Matrix

	d1	d4	d21	d23	d27	d41	d43
d1	1.000	.448	.272	.298	.292	.347	.341
d4	.448	1.000	.367	.478	.437	.329	.383
d21	.272	.367	1.000	.457	.578	.380	.483
d23	.298	.478	.457	1.000	.534	.345	.522
d27	.292	.437	.578	.534	1.000	.434	.531
d41	.347	.329	.380	.345	.434	1.000	.549
d43	.341	.383	.483	.522	.531	.549	1.000

## Compatibility

- d6 There is no certificate or degree awarded  
 d8 Concern about intellectual property  
 d9 There is a mismatch to my local language or culture  
 d10 Concern about feeling included  
 d12 Education is not important for my social group or community  
 d13 It goes against the norms or customs of my culture  
 d14 Being discouraged from engaging in additional education  
 d15 It goes against the norms or customs of my family or community (social)  
 d16 Having no intent to learn at this level  
 d26 It does not cover my topic of interest in the depth I desire

## Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.885	.889	10

## Inter-Item Correlation Matrix

	d6	d8	d9	d10	d12	d13	d14	d15	d16	d26
d6	1.000	.158	.409	.306	.247	.159	.277	.205	.265	.290
d8	.158	1.000	.403	.375	.345	.419	.378	.346	.367	.358
d9	.409	.403	1.000	.519	.422	.431	.455	.496	.544	.397
d10	.306	.375	.519	1.000	.404	.565	.565	.549	.379	.236
d12	.247	.345	.422	.404	1.000	.712	.677	.697	.585	.363
d13	.159	.419	.431	.565	.712	1.000	.782	.881	.587	.354
d14	.277	.378	.455	.565	.677	.782	1.000	.782	.603	.361
d15	.205	.346	.496	.549	.697	.881	.782	1.000	.640	.346
d16	.265	.367	.544	.379	.585	.587	.603	.640	1.000	.415
d26	.290	.358	.397	.236	.363	.354	.361	.346	.415	1.000

## Complexity

- d2 Lack of professional support provided by subject tutors or experts
- d3 Lack of guidance provided by support specialists
- d11 Concern about being competent or capable to study at this level
- d17 Not understanding how to use this resource
- d18 Not having the qualifications to use this resource
- d20 Concern about handling these new ways of learning
- d24 Content is produced & displayed in large chunks instead of bite-sized pieces of information
- d25 Feeling the material is overwhelming
- d28 Wanting personal support through encouraging self-reflection & guidance within some of the in-text activities and formal assessments
- d29 Lack of availability of guidance materials on study skills
- d37 Not having the qualifications or prior achievements necessary for access
- d38 Needing to learn & understand how to navigate and use such resources

## Reliability Statistics



Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.921	.921	12

## Inter-Item Correlation Matrix

	d2	d3	d11	d17	d18	d20	d24	d25	d28	d29	d37	d38
d2	1.000	.835	.489	.428	.402	.408	.473	.468	.420	.521	.299	.388
d3	.835	1.000	.499	.459	.450	.412	.563	.537	.408	.507	.247	.420
d11	.489	.499	1.000	.509	.629	.617	.532	.509	.325	.506	.497	.509
d17	.428	.459	.509	1.000	.805	.598	.472	.544	.337	.401	.470	.539
d18	.402	.450	.629	.805	1.000	.683	.522	.589	.366	.470	.550	.552
d20	.408	.412	.617	.598	.683	1.000	.476	.498	.525	.495	.568	.571
d24	.473	.563	.532	.472	.522	.476	1.000	.694	.394	.563	.375	.494
d25	.468	.537	.509	.544	.589	.498	.694	1.000	.452	.542	.413	.417
d28	.420	.408	.325	.337	.366	.525	.394	.452	1.000	.607	.320	.365
d29	.521	.507	.506	.401	.470	.495	.563	.542	.607	1.000	.468	.480
d37	.299	.247	.497	.470	.550	.568	.375	.413	.320	.468	1.000	.720
d38	.388	.420	.509	.539	.552	.571	.494	.417	.365	.480	.720	1.000

## Triability

- d19 Concern about handling these new technologies
- d31 Limited or no access to a computer
- d32 Limited or no access to the Internet
- d33 Other technical barriers preventing easy use or reuse
- d34 Physical circumstances that limit my access
- d35 The cost of being online
- d36 Being geographically remote
- d39 Not knowing what resources exist
- d40 Not understanding what the resources are

## Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.926	.925	9

## Inter-Item Correlation Matrix

	d19	d31	d32	d33	d34	d35	d36	d39	d40
d19	1.000	.529	.516	.540	.509	.456	.499	.462	.541
d31	.529	1.000	.992	.837	.768	.517	.556	.449	.577
d32	.516	.992	1.000	.828	.769	.518	.551	.448	.582
d33	.540	.837	.828	1.000	.741	.497	.522	.532	.605
d34	.509	.768	.769	.741	1.000	.579	.691	.429	.551
d35	.456	.517	.518	.497	.579	1.000	.694	.352	.429
d36	.499	.556	.551	.522	.691	.694	1.000	.431	.537
d39	.462	.449	.448	.532	.429	.352	.431	1.000	.820
d40	.541	.577	.582	.605	.551	.429	.537	.820	1.000

## Observability

- d5 Lack of awareness of how these tools can be used effectively  
d7 Lack of activities & events that facilitate participation in learning opportunities  
d22 Feeling educational materials & opportunities are not as open as possible  
d30 Lack of recording of learning & achievements in e-portfolios or journals  
d42 There is currently no accreditation tied with OCW

## Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.754	.764	5

## Inter-Item Correlation Matrix

	d5	d7	d22	d30	d42
d5	1.000	.396	.534	.450	.141
d7	.396	1.000	.409	.444	.392
d22	.534	.409	1.000	.575	.222
d30	.450	.444	.575	1.000	.362
d42	.141	.392	.222	.362	1.000

Appendix L

Survey

**OCW (OCW) is dedicated to the development of freely available, stand-alone college-level online course and teaching materials on a variety of topics.** It includes items such as lecture notes, reading lists, course assignments, syllabi, study materials, simulations, and the like as used in current courses which are then made freely available on the Internet.

Some of the OCW projects available to you include:

- Carnegie Mellon OpenLearningInitiative at <http://www.cmu.edu/oli/>
- Johns Hopkins Bloomberg School of Public Health OCW at <http://OCW.jhsph.edu/>
- Massachusetts Institute of Technology OCW at <http://OCW.mit.edu/>
- University of Notre Dame OCW at <http://OCW.nd.edu/>
- Tufts University OCW at <http://OCW.tufts.edu/>
- University of California, Irvine OCW at <http://OCW.uci.edu/>, and
- Utah State University OCW at <http://OCW.usu.edu/>

Please indicate how much of an *INCENTIVE* each of these characteristics would be to you personally, where **1 means “not an incentive at all” and 5 means “very large incentive”**. Please choose “do not know” if you feel you cannot answer this question.

	Not	Large			
Seeking additional information about a subject introduced in school	1	2	3	4	5
Comparing courses at different educational institutions	1	2	3	4	5
Doing research	1	2	3	4	5
Furthering projects or programs	1	2	3	4	5
Improving my study skills	1	2	3	4	5
Enriching or supplementing study on a formal course	1	2	3	4	5
Two-way interaction and collaboration between groups	1	2	3	4	5
Using and changing the materials for personal use	1	2	3	4	5
Learning for personal knowledge or enjoyment	1	2	3	4	5
Keeping my mind active	1	2	3	4	5
Shopping around for a college to attend	1	2	3	4	5
Pursuing in depth a topic that interests me	1	2	3	4	5
Improving my understanding of particular topics	1	2	3	4	5
Improving professional knowledge or skills	1	2	3	4	5
Helping understand my own abilities to learn	1	2	3	4	5
Freedom from discrimination on the basis of prior achievement	1	2	3	4	5
Available at any time	1	2	3	4	5
Improving my teaching skills	1	2	3	4	5
Improving my performance in academic programs	1	2	3	4	5
Saving time in creation of educational materials	1	2	3	4	5
Improving my own materials through inclusion of OCW content	1	2	3	4	5
Sampling courses or study before enrolling	1	2	3	4	5
Gaining experience in online learning	1	2	3	4	5

Access is at my preferred pace	1	2	3	4	5
Clear and familiar structure of materials	1	2	3	4	5
No cost for materials	1	2	3	4	5
Materials in an OCW are fairly easy to access and find	1	2	3	4	5
Tools which allow users to find materials in multiple OCW's	1	2	3	4	5
Seeing more clearly see what I will be signing up for in a "regular" class	1	2	3	4	5
Help in choosing my next course	1	2	3	4	5
Can be accessed simultaneously by many people & infinitely replicated	1	2	3	4	5
High quality & reliability because the content is produced by experts in the field	1	2	3	4	5
Seeing the communications of others	1	2	3	4	5
Communicating with others	1	2	3	4	5
Materials available are from leading universities	1	2	3	4	5

Do not know:

Other: \_\_\_\_\_

Please indicate how much of a *DISINCENTIVE* each of these characteristics would be to you personally, where **1 means "not at all a disincentive" and 5 means "very large disincentive"**. Please choose "do not know" if you feel you cannot answer this question.

	Not	Large			
The need to be a skilled self-studier or independent learner	1	2	3	4	5
Lack of professional support provided by subject tutors or experts	1	2	3	4	5
Lack of guidance provided by support specialists	1	2	3	4	5
Availability of this mode of teaching & learning is extremely variable	1	2	3	4	5
Lack of awareness of how these tools can be used effectively	1	2	3	4	5
There is no certificate or degree awarded	1	2	3	4	5
Lack of activities & events that facilitate participation in learning opportunities	1	2	3	4	5
Concern about intellectual property	1	2	3	4	5
There is a mismatch to my local language or culture	1	2	3	4	5
Concern about feeling included	1	2	3	4	5
Concern about being competent or capable to study at this level	1	2	3	4	5
Education is not important for my social group or community	1	2	3	4	5
It goes against the norms or customs of my culture	1	2	3	4	5
Being discouraged from engaging in additional education	1	2	3	4	5
It goes against the norms or customs of my family or community (social)	1	2	3	4	5
Having no intent to learn at this level	1	2	3	4	5

Not understanding how to use this resource	1	2	3	4	5
Not having the qualifications to use this resource	1	2	3	4	5
Concern about handling these new technologies	1	2	3	4	5
Concern about handling these new ways of learning	1	2	3	4	5
There is a lack of teacher-supplied motivation, feedback & direction	1	2	3	4	5
Feeling educational materials & opportunities are not as open as possible	1	2	3	4	5
Content is not structured in a 'self-learn' or 'self-teach' method	1	2	3	4	5
Content is produced & displayed in large chunks instead of bite-sized pieces of information	1	2	3	4	5
Feeling the material is overwhelming	1	2	3	4	5
It does not cover my topic of interest in the depth I desire	1	2	3	4	5
Lack of ability to assess how I am doing to ensure I am learning	1	2	3	4	5
Wanting personal support through encouraging self-reflection & guidance within some of the in-text activities and formal assessments	1	2	3	4	5
Lack of availability of guidance materials on study skills	1	2	3	4	5
Lack of recording of learning & achievements in e-portfolios or journals	1	2	3	4	5
Limited or no access to a computer	1	2	3	4	5
Limited or no access to the Internet	1	2	3	4	5
Other technical barriers preventing easy use or reuse	1	2	3	4	5
Physical circumstances that limit my access	1	2	3	4	5
The cost of being online	1	2	3	4	5
Being geographically remote	1	2	3	4	5
Not having the qualifications or prior achievements necessary for access	1	2	3	4	5
Needing to learn & understand how to navigate and use such resources	1	2	3	4	5
Not knowing what resources exist	1	2	3	4	5
Not understanding what the resources are	1	2	3	4	5
Concern that free resources lack quality	1	2	3	4	5
There is currently no accreditation tied with OCW	1	2	3	4	5
Not clear that unstructured communication on its own is very helpful to learning.	1	2	3	4	5

Do not know:

Other: \_\_\_\_\_

*Thank you for completing this survey. Please now place it in the enclosed envelope and drop it in the postal mail.*

Appendix M

Reminder Letter 1

# UtahState University

College of Agriculture  
4800 Old Main Hill,  
Logan UT 84322-4800  
Telephone: (435) 797-3521  
Fax: (435) 797-3321

September 27, 2008

Recently you were sent a survey inviting you to participate in a research project to study incentives and disincentives for OCW resources made available to residents of Utah. I am doing this research as part of my Doctorate of Education studies at Utah State University located in Logan, Utah. For those who have responded I would like to send a sincere **thank you** for participating, and for those who have yet to send back the survey we encourage you to mail the survey as soon as possible in the postage-paid envelope that was sent along with the questionnaire. We count on your responses to help us in our effort. If you need another envelope and/or another questionnaire, email us at [anne.arendt@aggiemail.usu.edu](mailto:anne.arendt@aggiemail.usu.edu) and we will send you another.

The results of this project will be used by educational institutions nationally and globally to assess and improve their offerings of open-access educational resources. Through your participation I plan to gain a better understanding of factors affecting use of open educational resources and I hope to share my results by publishing in a scholarly journal as well as by making them publicly available on the Web for individuals all over the world to access. I know of no risks to you if you decide to participate in this survey and I guarantee that your responses will not be identified with you personally.

I hope you will take the time to complete this questionnaire and return it if you have not already done so. Your participation is voluntary and there is no penalty if you do not participate. Once the research is complete I will post the results at <http://www.mydeskdrawer.com>

The Institutional Review Board at Utah State University has approved this project. If you have any questions or concerns about your rights you may contact the IRB at (435) 797-0567 or email at [true.fox@usu.edu](mailto:true.fox@usu.edu). If you have any questions or concerns about the research you may contact either Gary Straquadine or Anne Arendt.

---

Gary Straquadine, Principal Investigator  
(435) 797-3521  
[garys@cc.usu.edu](mailto:garys@cc.usu.edu)

---

Anne Arendt, Student Researcher  
(80) 796-1369  
[anne.arendt@aggiemail.usu.edu](mailto:anne.arendt@aggiemail.usu.edu)



Appendix N

Reminder Letter 2

# UtahState University

College of Agriculture  
4800 Old Main Hill,  
Logan UT 84322-4800  
Telephone: (435) 797-3521  
Fax: (435) 797-3321

October 11, 2008

Recently you were sent a survey inviting you to participate in a research project to study incentives and disincentives for OCW resources made available to residents of Utah. I am doing this research as part of my Doctorate of Education studies at Utah State University located in Logan, Utah. **For those who have responded I would like to send a sincere THANK YOU for participating**, and for those who have yet to send back the survey we encourage you to mail the survey as soon as possible in the postage-paid envelope that was sent along with the questionnaire. We count on your responses to help us in our effort. **If you need another envelope and/or another questionnaire, email us at [anne.arendt@aggiemail.usu.edu](mailto:anne.arendt@aggiemail.usu.edu)** and we will send you another.

The results of this project will be used by educational institutions nationally and globally to assess and improve their offerings of open-access educational resources. Through your participation I plan to gain a better understanding of factors affecting use of open educational resources and I hope to share my results by publishing in a scholarly journal as well as by making them publicly available on the Web for individuals all over the world to access. I know of no risks to you if you decide to participate in this survey and I guarantee that your responses will not be identified with you personally.

I hope you will take the time to complete this questionnaire and return it if you have not already done so. Your participation is voluntary and there is no penalty if you do not participate. Once the research is complete I will post the results at <http://www.mydeskdrawer.com>

The Institutional Review Board at Utah State University has approved this project. If you have any questions or concerns about your rights you may contact the IRB at (435) 797-0567 or email at [true.fox@usu.edu](mailto:true.fox@usu.edu). If you have any questions or concerns about the research you may contact either Gary Straquadine or Anne Arendt.

---

Gary Straquadine, Principal Investigator  
(435) 797-3521  
[garys@cc.usu.edu](mailto:garys@cc.usu.edu)

---

Anne Arendt, Student Researcher  
(801) 796-1369  
[anne.arendt@aggiemail.usu.edu](mailto:anne.arendt@aggiemail.usu.edu)

Appendix O

Frequency Tables by Incentive

Table O-1

*Incentive Frequency Table for Incentive Question 1*

Variable		Frequency	Percent	Valid percent	Cumulative percent
Not at all an incentive	1	10	7.143	7.143	7.143
Small incentive	2	13	9.286	9.286	16.429
Incentive	3	35	25.000	25.000	41.429
Large incentive	4	50	35.714	35.714	77.143
Very large incentive	5	32	22.857	22.857	100.000
Total		140	100.000	100.000	
Missing		0	0.000		

*Note.* Incentive 1: Seeking additional information about a subject introduced in school.

Table O-2

*Incentive Frequency Table for Incentive Question 2*

Variable		Frequency	Percent	Valid percent	Cumulative percent
Not at all an incentive	1	29	20.714	20.714	20.714
Small incentive	2	28	20.000	20.000	40.714
Incentive	3	30	21.429	21.429	62.143
Large incentive	4	32	22.857	22.857	85.000
Very large incentive	5	21	15.000	15.000	100.000
Total		140	100.000	100.000	
Missing		0	0.000		

*Note.* Incentive 2: Comparing courses at different educational institutions.

Table O-3

*Incentive Frequency Table for Incentive Question 3*

Variable		Frequency	Percent	Valid percent	Cumulative percent
Not at all an incentive	1	5	3.571	3.597	3.597
Small incentive	2	8	5.714	5.755	9.353
Incentive	3	25	17.857	17.986	27.338
Large incentive	4	52	37.143	37.410	64.748
Very large incentive	5	49	35.000	35.252	100.000
Total		139	99.286	100.000	
Missing		1	0.714		

*Note.* Incentive 3: Doing research.

Table O-4

*Incentive Frequency Table for Incentive Question 4*

Variable	Frequency	Percent	Valid percent	Cumulative percent
Not at all an incentive	1	13	9.286	9.286
Small incentive	2	11	7.857	17.143
Incentive	3	37	26.429	43.571
Large incentive	4	55	39.286	82.857
Very large incentive	5	24	17.143	100.000
Total	140	100.000	100.000	
Missing	0	0.000		

*Note.* Incentive 4: Furthering projects or programs.

Table O-5

*Incentive Frequency Table for Incentive Question 5*

Variable	Frequency	Percent	Valid percent	Cumulative percent
Not at all an incentive	1	20	14.286	14.286
Small incentive	2	16	11.429	25.714
Incentive	3	25	17.857	43.571
Large incentive	4	45	32.143	75.714
Very large incentive	5	34	24.286	100.000
Total	140	100.000	100.000	
Missing	0	0.000		

*Note.* Incentive 5: Improving my study skills.

Table O-6

*Incentive Frequency Table for Incentive Question 6*

Variable	Frequency	Percent	Valid percent	Cumulative percent
Not at all an incentive	1	11	7.857	7.857
Small incentive	2	10	7.143	15.000
Incentive	3	33	23.571	38.571
Large incentive	4	52	37.143	75.714
Very large incentive	5	34	24.286	100.000
Total	140	100.000	100.000	
Missing	0	0.000		

*Note.* Incentive 6: Enriching or supplementing study on a formal course.

Table O-7

*Incentive Frequency Table for Incentive Question 7*

Variable		Frequency	Percent	Valid percent	Cumulative percent
Not at all an incentive	1	21	15.000	15.108	15.108
Small incentive	2	31	22.143	22.302	37.410
Incentive	3	40	28.571	28.777	66.187
Large incentive	4	30	21.429	21.583	87.770
Very large incentive	5	17	12.143	12.230	100.000
Total		139	99.286	100.000	
Missing		1	0.714		

*Note.* Incentive 7: Two-way interaction and collaboration between groups.

Table O-8

*Incentive Frequency Table for Incentive Question 8*

Variable		Frequency	Percent	Valid percent	Cumulative percent
Not at all an incentive	1	16	11.429	11.511	11.511
Small incentive	2	14	10.000	10.072	21.583
Incentive	3	50	35.714	35.971	57.554
Large incentive	4	35	25.000	25.180	82.734
Very large incentive	5	24	17.143	17.266	100.000
Total		139	99.286	100.000	
Missing		1	0.714		

*Note.* Incentive 8: Using and changing the materials for personal use.

Table O-9

*Incentive Frequency Table for Incentive Question 9*

Variable		Frequency	Percent	Valid percent	Cumulative percent
Not at all an incentive	1	3	2.143	2.143	2.143
Small incentive	2	3	2.143	2.143	4.286
Incentive	3	21	15.000	15.000	19.286
Large incentive	4	46	32.857	32.857	52.143
Very large incentive	5	67	47.857	47.857	100.000
Total		140	100.000	100.000	
Missing					

*Note.* Incentive 9: Learning for personal knowledge or enjoyment.

Table O-10

*Incentive Frequency Table for Incentive Question 10*

Variable	Frequency	Percent	Valid percent	Cumulative percent
Not at all an incentive	1	0	0.000	0.000
Small incentive	2	10	7.143	7.143
Incentive	3	24	17.143	24.286
Large incentive	4	56	40.000	64.286
Very large incentive	5	50	35.714	100.000
Total	140	100.000	100.000	
Missing	0	0.000		

*Note.* Incentive 10: Keeping my mind active.

Table O-11

*Incentive Frequency Table for Incentive Question 11*

Variable	Frequency	Percent	Valid percent	Cumulative percent
Not at all an incentive	1	40	28.571	28.571
Small incentive	2	28	20.000	48.571
Incentive	3	29	20.714	69.286
Large incentive	4	27	19.286	88.571
Very large incentive	5	16	11.429	100.000
Total	140	100.000	100.000	
Missing	0	0.000		

*Note.* Incentive 11: Shopping around for a college to attend.

Table O-12

*Incentive Frequency Table for Incentive Question 12*

Variable	Frequency	Percent	Valid percent	Cumulative percent
Not at all an incentive	1	2	1.429	1.439
Small incentive	2	8	5.714	7.194
Incentive	3	11	7.857	15.108
Large incentive	4	51	36.429	51.799
Very large incentive	5	67	47.857	100.000
Total	139	99.286	100.000	
Missing	1	0.714		

*Note.* Incentive 12: Pursuing in depth a topic that interests me.

Table O-13

*Incentive Frequency Table for Incentive Question 13*

Variable	Frequency	Percent	Valid percent	Cumulative percent
Not at all an incentive	1	1	0.714	0.714
Small incentive	2	3	2.143	2.857
Incentive	3	22	15.714	18.571
Large incentive	4	65	46.429	65.000
Very large incentive	5	49	35.000	100.000
Total	140	100.000	100.000	
Missing	0	0.000		

*Note.* Incentive 13: Improving my understanding of particular topics.

Table O-14

*Incentive Frequency Table for Incentive Question 14*

Variable	Frequency	Percent	Valid percent	Cumulative percent
Not at all an incentive	1	3	2.143	2.143
Small incentive	2	6	4.286	6.429
Incentive	3	16	11.429	17.857
Large incentive	4	56	40.000	57.857
Very large incentive	5	59	42.143	100.000
Total	140	100.000	100.000	
Missing	0	0.000		

*Note.* Incentive 14: Improving professional knowledge or skills.

Table O-15

*Incentive Frequency Table for Incentive Question 15*

Variable	Frequency	Percent	Valid percent	Cumulative percent
Not at all an incentive	1	15	10.714	10.714
Small incentive	2	17	12.143	22.857
Incentive	3	39	27.857	50.714
Large incentive	4	35	25.000	75.714
Very large incentive	5	34	24.286	100.000
Total	140	100.000	100.000	
Missing	0	0.000		

*Note.* Incentive 15: Helping understand my own abilities to learn.



Table O-16

*Incentive Frequency Table for Incentive Question 16*

Variable	Frequency	Percent	Valid percent	Cumulative percent
Not at all an incentive	1	39	27.857	27.857
Small incentive	2	29	20.714	48.571
Incentive	3	34	24.286	72.857
Large incentive	4	19	13.571	86.429
Very large incentive	5	19	13.571	100.000
Total	140	100.000	100.000	
Missing	0	0.000		

*Note.* Incentive 16: Freedom from discrimination on the basis of prior achievement.

Table O-17

*Incentive Frequency Table for Incentive Question 17*

Variable	Frequency	Percent	Valid percent	Cumulative percent
Not at all an incentive	1	4	2.857	2.857
Small incentive	2	1	0.714	3.571
Incentive	3	12	8.571	12.143
Large incentive	4	48	34.286	46.429
Very large incentive	5	75	53.571	100.000
Total	140	100.000	100.000	
Missing	0	0.000		

*Note.* Incentive 17: Available at any time.

Table O-18

*Incentive Frequency Table for Incentive Question 18*

Variable	Frequency	Percent	Valid percent	Cumulative percent
Not at all an incentive	1	24	17.143	17.143
Small incentive	2	26	18.571	35.714
Incentive	3	35	25.000	60.714
Large incentive	4	32	22.857	83.571
Very large incentive	5	23	16.429	100.000
Total	140	100.000	100.000	
Missing	0	0.000		

*Note.* Incentive 18: Improving my teaching skills.

Table O-19

*Incentive Frequency Table for Incentive Question 19*

Variable	Frequency	Percent	Valid percent	Cumulative percent
Not at all an incentive	1	22	15.714	15.714
Small incentive	2	19	13.571	29.286
Incentive	3	25	17.857	47.143
Large incentive	4	48	34.286	81.429
Very large incentive	5	26	18.571	100.000
Total	140	100.000	100.000	
Missing	0	0.000		

*Note.* Incentive 19: Improving my performance in academic programs.

Table O-20

*Incentive Frequency Table for Incentive Question 20*

Variable	Frequency	Percent	Valid percent	Cumulative percent
Not at all an incentive	1	29	20.714	20.863
Small incentive	2	15	10.714	31.655
Incentive	3	26	18.571	50.360
Large incentive	4	42	30.000	80.576
Very large incentive	5	27	19.286	100.000
Total	139	99.286	100.000	
Missing	1	0.714		

*Note.* Incentive 20: Saving time in creation of educational materials.

Table O-21

*Incentive Frequency Table for Incentive Question 21*

Variable	Frequency	Percent	Valid percent	Cumulative percent
Not at all an incentive	1	31	22.143	22.143
Small incentive	2	18	12.857	35.000
Incentive	3	28	20.000	55.000
Large incentive	4	39	27.857	82.857
Very large incentive	5	24	17.143	100.000
Total	140	100.000	100.000	
Missing	0	0.000		

*Note.* Incentive 21: Improving my own materials through inclusion of OCW content.

Table O-22

*Incentive Frequency Table for Incentive Question 22*

Variable	Frequency	Percent	Valid percent	Cumulative percent
Not at all an incentive	1	22	15.714	15.714
Small incentive	2	17	12.143	27.857
Incentive	3	28	20.000	47.857
Large incentive	4	37	26.429	74.286
Very large incentive	5	36	25.714	100.000
Total	140	100.000	100.000	
Missing	0	0.000		

*Note.* Incentive 22: Sampling courses or study before enrolling.

Table O-23

*Incentive Frequency Table for Incentive Question 23*

Variable	Frequency	Percent	Valid percent	Cumulative percent
Not at all an incentive	1	14	10.000	10.000
Small incentive	2	20	14.286	24.286
Incentive	3	30	21.429	45.714
Large incentive	4	49	35.000	80.714
Very large incentive	5	26	18.571	99.286
Total	1	0.714	0.714	100.000
Missing	0	0.000		

*Note.* Incentive 23: Gaining experience in online learning.

Table O-24

*Incentive Frequency Table for Incentive Question 24*

Variable	Frequency	Percent	Valid percent	Cumulative percent
Not at all an incentive	1	6	4.286	4.286
Small incentive	2	7	5.000	9.286
Incentive	3	23	16.429	25.714
Large incentive	4	48	34.286	60.000
Very large incentive	5	56	40.000	100.000
Total	140	100.000	100.000	
Missing	0	0.000		

*Note.* Incentive 24: Access is at my preferred pace.

Table O-25

*Incentive Frequency Table for Incentive Question 25*

Variable	Frequency	Percent	Valid percent	Cumulative percent
Not at all an incentive	1	10	7.143	7.194
Small incentive	2	13	9.286	16.547
Incentive	3	33	23.571	40.288
Large incentive	4	55	39.286	79.856
Very large incentive	5	28	20.000	100.000
Total	139	99.286	100.000	
Missing	1	0.714		

*Note.* Incentive 25: Clear and familiar structure of materials.

Table O-26

*Incentive Frequency Table for Incentive Question 26*

Variable	Frequency	Percent	Valid percent	Cumulative percent
Not at all an incentive	1	0	0.000	0.000
Small incentive	2	2	1.429	1.429
Incentive	3	9	6.429	7.857
Large incentive	4	34	24.286	32.143
Very large incentive	5	95	67.857	100.000
Total	140	100.000	100.000	
Missing	0	0.000		

*Note.* Incentive 26: No cost for materials.

Table O-27

*Incentive Frequency Table for Incentive Question 27*

	Frequency	Percent	Valid Percent	Cumulative Percent
Not at all an incentive	1	2	1.429	1.429
Small incentive	2	10	7.143	8.571
Incentive	3	17	12.143	20.714
Large incentive	4	51	36.429	57.143
Very large incentive	5	60	42.857	100.000
Total	140	100.000	100.000	
Missing	0	0.000		

*Note.* Incentive 27: Materials in an OCW are fairly easy to access and find.

Table O-28

*Incentive Frequency Table for Incentive Question 28*

	Frequency	Percent	Valid Percent	Cumulative Percent
Not at all an incentive	1	6	4.286	4.348
Small incentive	2	10	7.143	11.594
Incentive	3	25	17.857	29.710
Large incentive	4	61	43.571	73.913
Very large incentive	5	36	25.714	100.000
Total		138	98.571	100.000
Missing		2	1.429	

*Note.* Incentive 28: Tools which allow users to find materials in multiple OCWs.

Table O-29

*Incentive Frequency Table for Incentive Question 29*

	Frequency	Percent	Valid Percent	Cumulative Percent
Not at all an incentive	1	24	17.143	17.266
Small incentive	2	15	10.714	28.058
Incentive	3	26	18.571	46.763
Large incentive	4	41	29.286	76.259
Very large incentive	5	33	23.571	100.000
Total		139	99.286	100.000
Missing		1	0.714	

*Note.* Incentive 29: Seeing more clearly what I will be signing up for in a 'regular' class.

Table O-30

*Incentive Frequency Table for Incentive Question 30*

Variable	Frequency	Percent	Valid percent	Cumulative percent
Not at all an incentive	1	25	17.857	17.857
Small incentive	2	18	12.857	30.714
Incentive	3	30	21.429	52.143
Large incentive	4	39	27.857	80.000
Very large incentive	5	28	20.000	100.000
Total		140	100.000	100.000
Missing		0	0.000	

*Note.* Incentive 30: Help in choosing my next course.

Table O-31

*Incentive Frequency Table for Incentive Question 31*

Variable	Frequency	Percent	Valid percent	Cumulative percent
Not at all an incentive	1	17	12.143	12.143
Small incentive	2	18	12.857	25.000
Incentive	3	32	22.857	47.857
Large incentive	4	38	27.143	75.000
Very large incentive	5	35	25.000	100.000
Total	140	100.000	100.000	
Missing	0	0.000		

*Note.* Incentive 31: Can be accessed simultaneously by many people & infinitely replicated.

Table O-32

*Incentive Frequency Table for Incentive Question 32*

Variable	Frequency	Percent	Valid percent	Cumulative percent
Not at all an incentive	1	5	3.571	3.571
Small incentive	2	8	5.714	9.286
Incentive	3	17	12.143	21.429
Large incentive	4	50	35.714	57.143
Very large incentive	5	60	42.857	100.000
Total	140	100.000	100.000	
Missing	0	0.000		

*Note.* Incentive 32: High quality & reliability because the content is produced by experts in the field.

Table O-33

*Incentive Frequency Table for Incentive Question 33*

Variable	Frequency	Percent	Valid percent	Cumulative percent
Not at all an incentive	1	21	15.000	15.000
Small incentive	2	21	15.000	30.000
Incentive	3	45	32.143	62.143
Large incentive	4	35	25.000	87.143
Very large incentive	5	18	12.857	100.000
Total	140	100.000	100.000	
Missing	0	0.000		

*Note.* Incentive 33: Seeing the communications of others.

Table O-34

*Incentive Frequency Table for Incentive Question 34*

Variable	Frequency	Percent	Valid percent	Cumulative percent
Not at all an incentive	1	20	14.286	14.388
Small incentive	2	23	16.429	30.935
Incentive	3	35	25.000	56.115
Large incentive	4	39	27.857	84.173
Very large incentive	5	22	15.714	100.000
Total		139	99.286	100.000
Missing		1	0.714	

*Note.* Incentive 34: Communicating with others.

Table O-35

*Incentive Frequency Table for Incentive Question 35*

Variable	Frequency	Percent	Valid percent	Cumulative percent
Not at all an incentive	1	2	1.429	1.429
Small incentive	2	7	5.000	6.429
Incentive	3	23	16.429	22.857
Large incentive	4	56	40.000	62.857
Very large incentive	5	52	37.143	100.000
Total		140	100.000	100.000
Missing		0	0.000	

*Note.* Incentive 35: Materials available are from leading universities.

Appendix P

Frequency Tables by Disincentive



Table P-1

*Disincentive Frequency Table for Disincentive Question 1*

Variable	Frequency	Percent	Valid percent	Cumulative percent
Not at all a disincentive	1	38	27.143	27.737
Small disincentive	2	32	22.857	51.095
Disincentive	3	36	25.714	77.372
Large disincentive	4	21	15.000	92.701
Very large disincentive	5	10	7.143	100.000
Total		137	97.857	100.000
Missing		3	2.143	

*Note.* Disincentive 1: The need to be a skilled self-studier or independent learner.

Table P-2

*Disincentive Frequency Table for Disincentive Question 2*

Variable	Frequency	Percent	Valid percent	Cumulative percent
Not at all a disincentive	1	21	15.000	15.217
Small disincentive	2	16	11.429	26.812
Disincentive	3	42	30.000	57.246
Large disincentive	4	40	28.571	86.232
Very large disincentive	5	19	13.571	100.000
Total		138	98.571	100.000
Missing		2	1.429	

*Note.* Disincentive 2: Lack of professional support provided by subject tutors or experts.

Table P-3

*Disincentive Frequency Table for Disincentive Question 3*

Variable	Frequency	Percent	Valid percent	Cumulative percent
Not at all a disincentive	1	22	15.714	15.942
Small disincentive	2	20	14.286	30.435
Disincentive	3	36	25.714	56.522
Large disincentive	4	43	30.714	87.681
Very large disincentive	5	17	12.143	100.000
Total		138	98.571	100.000
Missing		2	1.429	

*Note.* Lack of guidance provide by support specialists.

Table P-4

*Disincentive Frequency Table for Disincentive Question 4*

Variable		Frequency	Percent	Valid percent	Cumulative percent
Not at all a disincentive	1	22	15.714	16.176	16.176
Small disincentive	2	27	19.286	19.853	36.029
Disincentive	3	53	37.857	38.971	75.000
Large disincentive	4	21	15.000	15.441	90.441
Very large disincentive	5	13	9.286	9.559	100.000
Total		136	97.143	100.000	
Missing		4	2.857		

*Note.* Disincentive 4: Availability of this mode of teaching & learning is extremely variable.

Table P-5

*Disincentive Frequency Table for Disincentive Question 5*

Variable		Frequency	Percent	Valid percent	Cumulative percent
Not at all a disincentive	1	21	15.000	15.441	15.441
Small disincentive	2	22	15.714	16.176	31.618
Disincentive	3	43	30.714	31.618	63.235
Large disincentive	4	35	25.000	25.735	88.971
Very large disincentive	5	15	10.714	11.029	100.000
Total		136	97.143	100.000	
Missing		4	2.857		

*Note.* Disincentive 5: Lack of awareness of how these tools can be used effectively.

Table P-6

*Disincentive Frequency Table for Disincentive Question 6*

Variable		Frequency	Percent	Valid percent	Cumulative percent
Not at all a disincentive	1	31	22.143	22.143	22.143
Small disincentive	2	13	9.286	9.286	31.429
Disincentive	3	27	19.286	19.286	50.714
Large disincentive	4	24	17.143	17.143	67.857
Very large disincentive	5	45	32.143	32.143	100.000
Total		140	100.000	100.000	
Missing					

*Note.* Disincentive 6: There is no certificate or degree awarded.

Tale P-7

*Disincentive Frequency Table for Disincentive Question 7*

Variable	Frequency	Percent	Valid percent	Cumulative percent
Not at all a disincentive	1	27	19.286	19.565
Small disincentive	2	25	17.857	37.681
Disincentive	3	45	32.143	70.290
Large disincentive	4	32	22.857	93.478
Very large disincentive	5	9	6.429	100.000
Total		138	98.571	100.000
Missing		2	1.429	

*Note.* Disincentive 7: Lack of activities & events that facilitate participation in learning opportunities.

Table P-8

*Disincentive Frequency Table for Disincentive Question 8*

Variable	Frequency	Percent	Valid percent	Cumulative percent
Not at all a disincentive	1	34	24.286	24.460
Small disincentive	2	30	21.429	46.043
Disincentive	3	31	22.143	68.345
Large disincentive	4	34	24.286	92.806
Very large disincentive	5	10	7.143	100.000
Total		139	99.286	100.000
Missing		1	0.714	

*Note.* Disincentive 8: Concern about intellectual property.

Table P-9

*Disincentive Frequency Table for Disincentive Question 9*

Variable	Frequency	Percent	Valid percent	Cumulative percent
Not at all a disincentive	1	68	48.571	49.635
Small disincentive	2	12	8.571	58.394
Disincentive	3	23	16.429	75.182
Large disincentive	4	12	8.571	83.942
Very large disincentive	5	22	15.714	100.000
Total		137	97.857	100.000
Missing		3	2.143	

*Note.* Disincentive 9: There is a mismatch to my local language or culture.

Table P-10

*Disincentive Frequency Table for Disincentive Question 10*

Variable	Frequency	Percent	Valid percent	Cumulative percent
Not at all a disincentive	1	69	49.286	49.286
Small disincentive	2	27	19.286	68.571
Disincentive	3	28	20.000	88.571
Large disincentive	4	10	7.143	95.714
Very large disincentive	5	6	4.286	100.000
Total		140	100.000	100.000
Missing				

*Note.* Disincentive 10: Concern about feeling included.

Table P-11

*Disincentive Frequency Table for Disincentive Question 11*

Variable	Frequency	Percent	Valid percent	Cumulative percent
Not at all a disincentive	1	52	37.143	37.410
Small disincentive	2	27	19.286	56.835
Disincentive	3	33	23.571	80.576
Large disincentive	4	22	15.714	96.403
Very large disincentive	5	5	3.571	100.000
Total		139	99.286	100.000
Missing		1	0.714	

*Note.* Disincentive 11: Concern about being competent or capable to study at this level.

Table P-12

*Disincentive Frequency Table for Disincentive Question 12*

Variable	Frequency	Percent	Valid percent	Cumulative percent
Not at all a disincentive	1	71	50.714	51.449
Small disincentive	2	12	8.571	60.145
Disincentive	3	28	20.000	80.435
Large disincentive	4	16	11.429	92.029
Very large disincentive	5	11	7.857	100.000
Total		138	98.571	100.000
Missing		2	1.429	

*Note.* Disincentive 12: Education is not important for my social group or community.

Table P-13

*Disincentive Frequency Table for Disincentive Question 13*

Variable	Frequency	Percent	Valid percent	Cumulative percent
Not at all a disincentive	1	80	57.143	58.394
Small disincentive	2	24	17.143	75.912
Disincentive	3	15	10.714	86.861
Large disincentive	4	9	6.429	93.431
Very large disincentive	5	9	6.429	100.000
Total		137	97.857	100.000
Missing		3	2.143	

*Note.* Disincentive 13: It goes against the norms or customs of my culture.

Table P-14

*Disincentive Frequency Table for Disincentive Question 14*

Variable	Frequency	Percent	Valid percent	Cumulative percent
Not at all a disincentive	1	69	49.286	49.640
Small disincentive	2	26	18.571	68.345
Disincentive	3	19	13.571	82.014
Large disincentive	4	17	12.143	94.245
Very large disincentive	5	8	5.714	100.000
Total		139	99.286	100.000
Missing		1	0.714	

*Note.* Disincentive 14: Being discouraged from engaging in additional education.

Table P-15

*Disincentive Frequency Table for Disincentive Question 15*

Variable	Frequency	Percent	Valid percent	Cumulative percent
Not at all a disincentive	1	84	60.000	60.870
Small disincentive	2	25	17.857	78.986
Disincentive	3	16	11.429	90.580
Large disincentive	4	7	5.000	95.652
Very large disincentive	5	6	4.286	100.000
Total		138	98.571	100.000
Missing		2	1.429	

*Note.* Disincentive 15: It goes against the norms or customs of my family or community (social).

Table P-16

*Disincentive Frequency Table for Disincentive Question 16*

Variable	Frequency	Percent	Valid percent	Cumulative percent
Not at all a disincentive	1	58	41.429	41.727
Small disincentive	2	25	17.857	59.712
Disincentive	3	31	22.143	82.014
Large disincentive	4	17	12.143	94.245
Very large disincentive	5	8	5.714	100.000
Total	139	99.286	100.000	
Missing	1	0.714		

*Note.* Disincentive 16: Having no intent to learn at this level.

Table P-17

*Disincentive Frequency Table for Disincentive Question 17*

Variable	Frequency	Percent	Valid percent	Cumulative percent
Not at all a disincentive	1	36	25.714	25.899
Small disincentive	2	25	17.857	43.885
Disincentive	3	29	20.714	64.748
Large disincentive	4	29	20.714	85.612
Very large disincentive	5	20	14.286	100.000
Total	139	99.286	100.000	
Missing	1	0.714		

*Note.* Disincentive 17: Not understanding how to use this resource.

Table P-18

*Disincentive Frequency Table for Disincentive Question 18*

Variable	Frequency	Percent	Valid percent	Cumulative percent
Not at all a disincentive	1	44	31.429	31.655
Small disincentive	2	24	17.143	48.921
Disincentive	3	34	24.286	73.381
Large disincentive	4	25	17.857	91.367
Very large disincentive	5	12	8.571	100.000
Total	139	99.286	100.000	
Missing	1	0.714		

*Note.* Disincentive 18: Not having the qualifications to use this resource.

Table P-19

*Disincentive Frequency Table for Disincentive Question 19*

Variable	Frequency	Percent	Valid percent	Cumulative percent
Not at all a disincentive	1	47	33.571	33.571
Small disincentive	2	32	22.857	56.429
Disincentive	3	29	20.714	77.143
Large disincentive	4	23	16.429	93.571
Very large disincentive	5	9	6.429	100.000
Total				
Missing				

*Note.* Disincentive 19: Concern about handling these new technologies.

Table P-20

*Disincentive Frequency Table for Disincentive Question 20*

Variable	Frequency	Percent	Valid percent	Cumulative percent
Not at all a disincentive	1	40	28.571	28.571
Small disincentive	2	36	25.714	54.286
Disincentive	3	38	27.143	81.429
Large disincentive	4	22	15.714	97.143
Very large disincentive	5	4	2.857	100.000
Total	140	100.000	100.000	
Missing				

*Note.* Disincentive 20: Concern about handling these new ways of learning.

Table P-21

*Disincentive Frequency Table for Disincentive Question 21*

Variable	Frequency	Percent	Valid percent	Cumulative percent
Not at all a disincentive	1	29	20.714	20.714
Small disincentive	2	27	19.286	40.000
Disincentive	3	30	21.429	61.429
Large disincentive	4	37	26.429	87.857
Very large disincentive	5	17	12.143	100.000
Total	140	100.000	100.000	
Missing				

*Note.* Disincentive 21: There is a lack of teacher-supplied motivation, feedback & direction.

Table P-22

*Disincentive Frequency Table for Disincentive Question 22*

Variable		Frequency	Percent	Valid percent	Cumulative percent
Not at all a disincentive	1	30	21.429	21.739	21.739
Small disincentive	2	29	20.714	21.014	42.754
Disincentive	3	40	28.571	28.986	71.739
Large disincentive	4	33	23.571	23.913	95.652
Very large disincentive	5	6	4.286	4.348	100.000
Total		138	98.571	100.000	
Missing		2	1.429		

*Note.* Disincentive 22: Feeling educational materials & opportunities are not as open as possible.

Table P-23

*Disincentive Frequency Table for Disincentive Question 23*

Variable		Frequency	Percent	Valid percent	Cumulative percent
Not at all a disincentive	1	25	17.857	18.248	18.248
Small disincentive	2	27	19.286	19.708	37.956
Disincentive	3	42	30.000	30.657	68.613
Large disincentive	4	30	21.429	21.898	90.511
Very large disincentive	5	13	9.286	9.489	100.000
Total		137	97.857	100.000	
Missing		3	2.143		

*Note.* Disincentive 23: Content is not structured in a 'self-learn' or 'self-teach' method.

Table P-24

*Disincentive Frequency Table for Disincentive Question 24*

Variable		Frequency	Percent	Valid percent	Cumulative percent
Not at all a disincentive	1	29	20.714	20.863	20.863
Small disincentive	2	23	16.429	16.547	37.410
Disincentive	3	51	36.429	36.691	74.101
Large disincentive	4	27	19.286	19.424	93.525
Very large disincentive	5	9	6.429	6.475	100.000
Total		139	99.286	100.000	
Missing		1	0.714		

*Note.* Disincentive 24: Content is produced & displayed in large chunks instead of bite-sized pieces of information.



Table P-25

*Disincentive Frequency Table for Disincentive Question 25*

Variable	Frequency	Percent	Valid percent	Cumulative percent
Not at all a disincentive	1	24	17.143	17.266
Small disincentive	2	21	15.000	32.374
Disincentive	3	39	27.857	60.432
Large disincentive	4	33	23.571	84.173
Very large disincentive	5	22	15.714	100.000
Total	139	99.286	100.000	
Missing	1	0.714		

*Note.* Disincentive 25: Feeling the materials is overwhelming.

Table P-26

*Disincentive Frequency Table for Disincentive Question 26*

Variable	Frequency	Percent	Valid percent	Cumulative percent
Not at all a disincentive	1	21	15.000	15.441
Small disincentive	2	20	14.286	30.147
Disincentive	3	33	23.571	54.412
Large disincentive	4	39	27.857	83.088
Very large disincentive	5	23	16.429	100.000
Total	136	97.143	100.000	
Missing	4	2.857		

*Note.* Disincentive 26: It does not cover my topic of interest in the depth I desire.

Table P-27

*Disincentive Frequency Table for Disincentive Question 37*

Variable	Frequency	Percent	Valid percent	Cumulative percent
Not at all a disincentive	1	26	18.571	18.571
Small disincentive	2	20	14.286	32.857
Disincentive	3	41	29.286	62.143
Large disincentive	4	38	27.143	89.286
Very large disincentive	5	15	10.714	100.000
Total	140	100.000	100.000	
Missing				

*Note.* Disincentive 27: Lack of ability to assess how I am doing to ensure I am learning.

Table P-28

*Disincentive Frequency Table for Disincentive Question 28*

Variable	Frequency	Percent	Valid percent	Cumulative percent
Not at all a disincentive	1	32	22.857	23.022
Small disincentive	2	28	20.000	43.165
Disincentive	3	47	33.571	76.978
Large disincentive	4	23	16.429	93.525
Very large disincentive	5	9	6.429	100.000
Total	139	99.286	100.000	
Missing	1	0.714		

*Note.* Disincentive 28: Wanting personal support through encouraging self-reflection & guidance within some of the in-text activities and formal assessments.

Table P-29

*Disincentive Frequency Table for Disincentive Question 29*

Variable	Frequency	Percent	Valid percent	Cumulative percent
Not at all a disincentive	1	31	22.143	22.628
Small disincentive	2	28	20.000	43.066
Disincentive	3	33	23.571	67.153
Large disincentive	4	37	26.429	94.161
Very large disincentive	5	8	5.714	100.000
Total	137	97.857	100.000	
Missing	3	2.143		

*Note.* Disincentive 29: Lack of availability of guidance materials on study skills.

Table P-30

*Disincentive Frequency Table for Disincentive Question 30*

Variable	Frequency	Percent	Valid percent	Cumulative percent
Not at all a disincentive	1	37	26.429	26.619
Small disincentive	2	33	23.571	50.360
Disincentive	3	37	26.429	76.978
Large disincentive	4	27	19.286	96.403
Very large disincentive	5	5	3.571	100.000
Total	139	99.286	100.000	
Missing	1	0.714		

*Note.* Disincentive 30: Lack of recording of learning & achievements in e-portfolios or journals.

Table P-31

*Disincentive Frequency Table for Disincentive Question 31*

Variable	Frequency	Percent	Valid percent	Cumulative percent
Not at all a disincentive	1	69	49.286	49.286
Small disincentive	2	10	7.143	56.429
Disincentive	3	8	5.714	62.143
Large disincentive	4	18	12.857	75.000
Very large disincentive	5	35	25.000	100.000
Total		140	100.000	100.000
Missing				

*Note.* Disincentive 31: Limited or no access to a computer.

Table P-32

*Disincentive Frequency Table for Disincentive Question 32*

Variable	Frequency	Percent	Valid percent	Cumulative percent
Not at all a disincentive	1	67	47.857	47.857
Small disincentive	2	13	9.286	57.143
Disincentive	3	8	5.714	62.857
Large disincentive	4	16	11.429	74.286
Very large disincentive	5	36	25.714	100.000
Total		140	100.000	100.000
Missing				

*Note.* Disincentive 32: Limited or no access to the Internet.

Table P-33

*Disincentive Frequency Table for Disincentive Question 33*

Variable	Frequency	Percent	Valid percent	Cumulative percent
Not at all a disincentive	1	49	35.000	35.000
Small disincentive	2	24	17.143	52.143
Disincentive	3	24	17.143	69.286
Large disincentive	4	26	18.571	87.857
Very large disincentive	5	17	12.143	100.000
Total		140	100.000	100.000
Missing				

*Note.* Disincentive 33: Other technical barriers preventing easy use or reuse.

Table P-34

*Disincentive Frequency Table for Disincentive Question 34*

Variable	Frequency	Percent	Valid percent	Cumulative percent
Not at all a disincentive	1	68	48.571	48.921
Small disincentive	2	22	15.714	64.748
Disincentive	3	14	10.000	74.820
Large disincentive	4	23	16.429	91.367
Very large disincentive	5	12	8.571	100.000
Total	139	99.286	100.000	
Missing	1	0.714		

*Note.* Disincentive 34: Physical circumstances that limit my access.

Table P-35

*Disincentive Frequency Table for Disincentive Question 35*

Variable	Frequency	Percent	Valid percent	Cumulative percent
Not at all a disincentive	1	70	50.000	50.000
Small disincentive	2	22	15.714	65.714
Disincentive	3	21	15.000	80.714
Large disincentive	4	15	10.714	91.429
Very large disincentive	5	12	8.571	100.000
Total	140	100.000	100.000	
Missing				

*Note.* Disincentive 35: the cost of being online.

Table P-36

*Disincentive Frequency Table for Disincentive Question 36*

Variable	Frequency	Percent	Valid percent	Cumulative percent
Not at all a disincentive	1	79	56.429	56.835
Small disincentive	2	22	15.714	72.662
Disincentive	3	17	12.143	84.892
Large disincentive	4	12	8.571	93.525
Very large disincentive	5	9	6.429	100.000
Total	139	99.286	100.000	
Missing	1	0.714		

*Note.* Disincentive 36: Being geographically remote.

Table P-37

*Disincentive Frequency Table for Disincentive Question 37*

Variable	Frequency	Percent	Valid percent	Cumulative percent
Not at all a disincentive	1	59	42.143	42.143
Small disincentive	2	23	16.429	58.571
Disincentive	3	27	19.286	77.857
Large disincentive	4	22	15.714	93.571
Very large disincentive	5	9	6.429	100.000
Total	140	100.000	100.000	
Missing				

*Note.* Disincentive 37: Not having the qualifications or prior achievements necessary for access.

Table P-38

*Disincentive Frequency Table for Disincentive Question 38*

Variable	Frequency	Percent	Valid percent	Cumulative percent
Not at all a disincentive	1	47	33.571	33.571
Small disincentive	2	26	18.571	52.143
Disincentive	3	33	23.571	75.714
Large disincentive	4	28	20.000	95.714
Very large disincentive	5	6	4.286	100.000
Total	140	100.000	100.000	
Missing				

*Note.* Disincentive 38: Needing to learn and understand how to navigate and use such resources.

Table P-39

*Disincentive Frequency Table for Disincentive Question 39*

Variable	Frequency	Percent	Valid percent	Cumulative percent
Not at all a disincentive	1	28	20.000	20.000
Small disincentive	2	22	15.714	35.714
Disincentive	3	41	29.286	65.000
Large disincentive	4	31	22.143	87.143
Very large disincentive	5	18	12.857	100.000
Total	140	100.000	100.000	
Missing				

*Note.* Disincentive 39: Not knowing what resources exist.

Table P-40

*Disincentive Frequency Table for Disincentive Question 40*

Variable		Frequency	Percent	Valid percent	Cumulative percent
Not at all a disincentive	1	32	22.857	22.857	22.857
Small disincentive	2	24	17.143	17.143	40.000
Disincentive	3	33	23.571	23.571	63.571
Large disincentive	4	36	25.714	25.714	89.286
Very large disincentive	5	15	10.714	10.714	100.000
Total		140	100.000	100.000	
Missing					

*Note.* Disincentive 40: Not understanding what the resources are.

Table P-41

*Disincentive Frequency Table for Disincentive Question 41*

Variable		Frequency	Percent	Valid percent	Cumulative percent
Not at all a disincentive	1	47	33.571	33.571	33.571
Small disincentive	2	24	17.143	17.143	50.714
Disincentive	3	32	22.857	22.857	73.571
Large disincentive	4	28	20.000	20.000	93.571
Very large disincentive	5	9	6.429	6.429	100.000
Total		140	100.000	100.000	
Missing					

*Note.* Disincentive 41: Concern that free resources lack quality.

Table P-42

*Disincentive Frequency Table for Disincentive Question 42*

Variable		Frequency	Percent	Valid percent	Cumulative percent
Not at all a disincentive	1	36	25.714	25.714	25.714
Small disincentive	2	13	9.286	9.286	35.000
Disincentive	3	30	21.429	21.429	56.429
Large disincentive	4	34	24.286	24.286	80.714
Very large disincentive	5	27	19.286	19.286	100.000
Total		140	100.000	100.000	
Missing					

*Note.* Disincentive 42: There is currently no accreditation tied with OCW.

Table P-43

*Disincentive Frequency Table for Disincentive Question 43*

Variable		Frequency	Percent	Valid percent	Cumulative percent
Not at all a disincentive	1	41	29.286	29.286	29.286
Small disincentive	2	15	10.714	10.714	40.000
Disincentive	3	59	42.143	42.143	82.143
Large disincentive	4	20	14.286	14.286	96.429
Very large disincentive	5	5	3.571	3.571	100.000
Total		140	100.000	100.000	
Missing					

*Note.* Disincentive 43: Not clear that unstructured communication on its own is very helpful to learning.

Appendix Q

Mean Scores for Incentives by Age



Table Q-1

*Comparison of the Mean Scores of Incentives by Age (N = 140)*

Incentive #	20-25		26-30		31-35		36-40		41-45		46-50		51-55		56-60		61-65		Unknown		Total	
	Mean	n	Mean	n	Mean	n	Mean	n	Mean	n	Mean	n	Mean	n	Mean	n	Mean	n	Mean	n	Mean	n
i1	3.6	5	4	22	3.93	15	3.74	19	3.41	17	3.38	21	3.2	5	3.32	25	3.86	7	2.5	4	3.58	140
i2	2.6	5	3.14	22	3.73	15	2.53	19	3	17	3.19	21	2.8	5	2.44	25	2.29	7	3.25	4	2.91	140
i3	3.6	5	4	22	4.33	15	3.84	19	3.76	17	3.95	21	3.6	5	3.72	25	3.71	7	4	4	3.89	140
i4	3.6	5	3.59	22	3.87	15	3.58	19	3.53	17	3.24	21	3	5	3.4	25	2.86	7	3.75	4	3.47	140
i5	4	5	3.36	22	4	15	3.68	19	3.76	17	3.33	21	3.4	5	2.76	25	3	7	3	4	3.41	140
i6	3.6	5	3.82	22	3.87	15	4.05	19	3.35	17	3.38	21	3.8	5	3.24	25	3.71	7	4.25	4	3.63	140
i7	2.8	5	3.09	22	3.4	15	3.05	19	3.06	17	2.57	21	3.2	5	2.68	25	2.83	6	2.75	4	2.94	139
i8	3.4	5	3.45	22	3.47	15	3.53	19	3.12	17	3.1	21	3.6	5	3.08	25	3.17	6	2.5	4	3.27	139
i9	4	5	4.09	22	4.33	15	4.58	19	3.94	17	4.1	21	4.2	5	4.24	25	4.57	7	4.25	4	4.22	140
i10	4	5	4.14	22	3.93	15	4.16	19	3.94	17	3.9	21	3.4	5	4.24	25	4.14	7	4	4	4.04	140
i11	2.8	5	2.82	22	3.07	15	2.63	19	3.24	17	2.9	21	1.4	5	2.12	25	2	7	2.25	4	2.65	140
i12	4.4	5	4.09	22	4.47	15	4.53	19	4.47	17	4.14	21	3.75	4	4.04	25	4.14	7	4.25	4	4.24	139
i13	3.8	5	4.18	22	4.4	15	4.47	19	4	17	3.9	21	4	5	4.08	25	3.86	7	4.25	4	4.13	140
i14	3.8	5	4.45	22	4.07	15	4.53	19	4.18	17	4	21	4	5	4	25	4.14	7	3.5	4	4.16	140
i15	3.6	5	3.45	22	3.8	15	3.63	19	3.41	17	3.19	21	3.6	5	3.16	25	3	7	3.25	4	3.4	140
i16	3.4	5	2.45	22	3.13	15	2.68	19	2.82	17	2.14	21	2	5	2.8	25	2.29	7	3	4	2.64	140
i17	4.4	5	4.45	22	4.53	15	4.37	19	4.06	17	4.33	21	4.2	5	4.4	25	4.29	7	4.25	4	4.35	140
i18	3.4	5	3.18	22	3.47	15	3.21	19	2.94	17	2.52	21	4	5	2.88	25	3.14	7	1.75	4	3.03	140
i19	3.4	5	3.82	22	3.8	15	3.53	19	3.47	17	2.9	21	3.6	5	2.64	25	2.71	7	2.25	4	3.26	140
i20	3.2	5	3.59	22	4	15	3.53	19	3.18	17	2.48	21	3	4	2.84	25	2.57	7	2.75	4	3.17	139
i21	3.4	5	3.18	22	3.93	15	3.32	19	2.76	17	2.76	21	3.8	5	2.76	25	2.43	7	2	4	3.05	140

*(Table continues)*

Incentive #	20-25		26-30		31-35		36-40		41-45		46-50		51-55		56-60		61-65		Unknown		Total	
	Mean	<i>n</i>	Mean	<i>n</i>	Mean	<i>n</i>	Mean	<i>n</i>	Mean	<i>n</i>	Mean	<i>n</i>	Mean	<i>n</i>	Mean	<i>n</i>	Mean	<i>n</i>	Mean	<i>n</i>	Mean	<i>n</i>
i22	4.2	5	3.77	22	3.87	15	3.58	19	3.53	17	3.43	21	2.6	5	2.72	25	2.43	7	2	4	3.34	140
i23	3.6	5	3.23	22	3.87	15	3.58	19	3.53	17	3.43	21	3.2	5	3.36	25	2.43	7	5	4	3.46	140
i24	4.4	5	3.86	22	4.4	15	3.89	19	4.12	17	4.29	21	4.4	5	3.72	25	3.57	7	3.5	4	4.01	140
i25	4.2	5	3.59	22	3.8	15	3.89	19	3.47	17	3.43	21	4.2	5	3.25	24	3.29	7	2.75	4	3.56	139
i26	5	5	4.82	22	4.73	15	4.58	19	4.41	17	4.67	21	4.8	5	4.4	25	4	7	4.5	4	4.59	140
i27	4.6	5	4.18	22	4.4	15	4.16	19	3.94	17	4.05	21	4.4	5	4.2	25	3.14	7	4	4	4.12	140
i28	3.8	5	3.86	22	4.2	15	4	18	3.59	17	3.48	21	4.2	5	3.84	25	3.14	7	4.33	3	3.8	138
i29	4.4	5	3.64	22	4	15	3.32	19	3.41	17	3.5	20	2.6	5	2.68	25	2.57	7	2.5	4	3.32	139
i30	4.4	5	3.45	22	3.93	15	3.21	19	3.47	17	3.24	21	2.4	5	2.64	25	2.14	7	2.25	4	3.19	140
i31	4.2	5	3.82	22	4.13	15	3.16	19	3.41	17	3.05	21	2.8	5	3.4	25	3	7	1.75	4	3.4	140
i32	4.2	5	4	22	4.27	15	4.42	19	3.88	17	4.14	21	3.8	5	4.16	25	3.57	7	3.5	4	4.09	140
i33	3.4	5	3	22	3.27	15	3.26	19	3.24	17	2.57	21	3	5	3.12	25	2.86	7	3	4	3.06	140
i34	3.2	5	3.14	22	3.27	15	3.21	19	3.65	17	2.9	21	2.8	5	3.04	24	2.86	7	3	4	3.14	139
i35	4	5	4.36	22	4.2	15	4.26	19	3.94	17	4.05	21	3.4	5	4.16	25	3.29	7	3.25	4	4.06	140

Appendix R

Pearson Product-Moment Correlations Between Age and Incentives

Table R-1

*Correlation for Age and Incentives*

Incentive		Age
Incentive 1: Seeking additional information about a subject introduced in school	Pearson correlation	-.1685
	Sig. (2-tailed)	.0499
	<i>N</i>	136
Correlation is significant at the 0.05 level (2-tailed).		
Incentive 2: Comparing courses at different educational institutions	Pearson correlation	-.1826
	Sig. (2-tailed)	.0334
	<i>N</i>	136
Correlation is significant at the 0.05 level (2-tailed).		
Incentive 3: Doing research	Pearson correlation	-.0951
	Sig. (2-tailed)	.2708
	<i>N</i>	136
Incentive 4: Furthering projects or programs	Pearson correlation	-.1399
	Sig. (2-tailed)	.1042
	<i>N</i>	136
Incentive 5: Improving my study skills	Pearson correlation	-.2046
	Sig. (2-tailed)	.0169
	<i>N</i>	136
Correlation is significant at the 0.05 level (2-tailed).		
Incentive 6: Enriching or supplementing study on a formal course	Pearson correlation	-.156
	Sig. (2-tailed)	.0697
	<i>N</i>	136
Incentive 7: Two-way interaction and collaboration between groups	Pearson correlation	-.1351
	Sig. (2-tailed)	.1182
	<i>N</i>	135
Incentive 8: Using and changing the materials for personal use	Pearson correlation	-.1049
	Sig. (2-tailed)	.2262
	<i>N</i>	135

*(Table continues)*

Incentive		Age
Incentive 9: Learning for personal knowledge or enjoyment	Pearson correlation	.0523
	Sig. (2-tailed)	.5451
	<i>N</i>	136
Incentive 10: Keeping my mind active	Pearson correlation	.0241
	Sig. (2-tailed)	.7807
	<i>N</i>	136
Incentive 11: Shopping around for a college to attend	Pearson correlation	-.2085
	Sig. (2-tailed)	.0148
	<i>N</i>	136
Correlation is significant at the 0.05 level (2-tailed).		
Incentive 12: Pursuing in depth a topic that interests me	Pearson correlation	-.0967
	Sig. (2-tailed)	.2646
	<i>N</i>	135
Incentive 13: Improving my understanding of particular topics	Pearson correlation	-.1149
	Sig. (2-tailed)	.1829
	<i>N</i>	136
Incentive 14: Improving professional knowledge or skills	Pearson correlation	-.1068
	Sig. (2-tailed)	.216
	<i>N</i>	136
Incentive 15: Helping understand my own abilities to learn	Pearson correlation	-.1317
	Sig. (2-tailed)	.1263
	<i>N</i>	136
Incentive 16: Freedom from discrimination on the basis of prior achievement	Pearson correlation	-.0836
	Sig. (2-tailed)	.3332
	<i>N</i>	136
Incentive 17: Available at any time	Pearson correlation	-.0641
	Sig. (2-tailed)	.4582
	<i>N</i>	136
Incentive 18: Improving my teaching skills	Pearson correlation	-.1101
	Sig. (2-tailed)	.2021
	<i>N</i>	136

*(Table continues)*

Incentive		Age
Incentive 19: Improving my performance in academic programs	Pearson correlation	-.296
	Sig. (2-tailed)	.0005
	<i>N</i>	136
Correlation is significant at the 0.01 level (2-tailed).		
Incentive 20: Saving time in creation of educational materials	Pearson correlation	-.2658
	Sig. (2-tailed)	.0018
	<i>N</i>	135
Correlation is significant at the 0.01 level (2-tailed).		
Incentive 21: Improving my own materials through inclusion of OCW content	Pearson correlation	-.2046
	Sig. (2-tailed)	.0169
	<i>N</i>	136
Correlation is significant at the 0.05 level (2-tailed).		
Incentive 22: Sampling courses or study before enrolling	Pearson correlation	-.3358
	Sig. (2-tailed)	.0001
	<i>N</i>	136
Correlation is significant at the 0.01 level (2-tailed).		
Incentive 23: Gaining experience in online learning	Pearson correlation	-.1153
	Sig. (2-tailed)	.1813
	<i>N</i>	136
Incentive 24: Access is at my preferred pace	Pearson correlation	-.1091
	Sig. (2-tailed)	.206
	<i>N</i>	136
Incentive 25: Clear and familiar structure of materials	Pearson correlation	-.1567
	Sig. (2-tailed)	.0696
	<i>N</i>	135
Incentive 26: No cost for materials	Pearson correlation	-.2612
	Sig. (2-tailed)	.0021
	<i>N</i>	136
Correlation is significant at the 0.01 level (2-tailed).		

(Table continues)

Incentive		Age
Incentive 27: Materials in an OCW are fairly easy to access and find	Pearson correlation	-.1564
	Sig. (2-tailed)	.069
	<i>N</i>	136
Incentive 28: Tools which allow users to find materials in multiple OCWs	Pearson correlation	-.121
	Sig. (2-tailed)	.162
	<i>N</i>	135
Incentive 29: Seeing more clearly what I will be signing up for in a 'regular' class	Pearson correlation	-.3175
	Sig. (2-tailed)	.0002
	<i>N</i>	135
Correlation is significant at the 0.01 level (2-tailed).		
Incentive 30: Help in choosing my next course	Pearson correlation	-.3311
	Sig. (2-tailed)	.0001
	<i>N</i>	136
Correlation is significant at the 0.01 level (2-tailed).		
Incentive 31: Can be accessed simultaneously by many people & infinitely replicated	Pearson correlation	-.2168
	Sig. (2-tailed)	.0112
	<i>N</i>	136
Correlation is significant at the 0.05 level (2-tailed).		
Incentive 32: High quality & reliability because the content is produced by experts in the field	Pearson correlation	-.0632
	Sig. (2-tailed)	.465
	<i>N</i>	136
Incentive 33: Seeing the communications of others	Pearson correlation	-.0687
	Sig. (2-tailed)	.4269
	<i>N</i>	136
Incentive 34: Communicating with others	Pearson correlation	-.0739
	Sig. (2-tailed)	.3944
	<i>N</i>	135
Incentive 35: Materials available are from leading universities	Pearson correlation	-.1809
	Sig. (2-tailed)	.035
	<i>N</i>	136
Correlation is significant at the 0.05 level (2-tailed).		

Appendix S

Pearson Product-Moment Correlations Between Income and Incentives



Table S-1

*Correlation for Income and Incentives*

Incentives		Income
Incentive 1: Seeking additional information about a subject introduced in school	Pearson correlation	-.1655
	Sig. (2-tailed)	.0542
	<i>N</i>	136
Incentive 2: Comparing courses at different educational institutions	Pearson correlation	-.1665
	Sig. (2-tailed)	.0526
	<i>N</i>	136
Incentive 3: Doing research	Pearson correlation	-.0087
	Sig. (2-tailed)	.9201
	<i>N</i>	136
Incentive 4: Furthering projects or programs	Pearson correlation	-.1373
	Sig. (2-tailed)	.111
	<i>N</i>	136
Incentive 5: Improving my study skills	Pearson correlation	-.1544
	Sig. (2-tailed)	.0727
	<i>N</i>	136
Incentive 6: Enriching or supplementing study on a formal course	Pearson correlation	-.1032
	Sig. (2-tailed)	.232
	<i>N</i>	136
Incentive 7: Two-way interaction and collaboration between groups	Pearson correlation	-.1417
	Sig. (2-tailed)	.1012
	<i>N</i>	135
Incentive 8: Using and changing the materials for personal use	Pearson correlation	-.1316
	Sig. (2-tailed)	.128
	<i>N</i>	135
Incentive 9: Learning for personal knowledge or enjoyment	Pearson correlation	.0877
	Sig. (2-tailed)	.3099
	<i>N</i>	136
Incentive 10: Keeping my mind active	Pearson correlation	-.1234
	Sig. (2-tailed)	.1523
	<i>N</i>	136

*(Table continues)*

Incentives		Income
Incentive 11: Shopping around for a college to attend	Pearson correlation	-.206
	Sig. (2-tailed)	.0161
	<i>N</i>	136
Correlation is significant at the .05 level (2-tailed).		
Incentive 12: Pursuing in depth a topic that interests me	Pearson correlation	-.0994
	Sig. (2-tailed)	.2512
	<i>N</i>	135
Incentive 13: Improving my understanding of particular topics	Pearson correlation	-.0385
	Sig. (2-tailed)	.6565
	<i>N</i>	136
Incentive 14: Improving professional knowledge or skills	Pearson correlation	-.0474
	Sig. (2-tailed)	.5835
	<i>N</i>	136
Incentive 15: Helping understand my own abilities to learn	Pearson correlation	-.1734
	Sig. (2-tailed)	.0435
	<i>N</i>	136
Correlation is significant at the .05 level (2-tailed).		
Incentive 16: Freedom from discrimination on the basis of prior achievement	Pearson correlation	-.2156
	Sig. (2-tailed)	.0117
	<i>N</i>	136
Correlation is significant at the .05 level (2-tailed).		
Incentive 17: Available at any time	Pearson correlation	-.107
	Sig. (2-tailed)	.2151
	<i>N</i>	136
Incentive 18: Improving my teaching skills	Pearson correlation	-.0029
	Sig. (2-tailed)	.9733
	<i>N</i>	136
Incentive 19: Improving my performance in academic programs	Pearson correlation	-.1934
	Sig. (2-tailed)	.0241
	<i>N</i>	136
Correlation is significant at the .05 level (2-tailed).		

(table continues)

Incentives		Income
Incentive 20: Saving time in creation of educational materials	Pearson correlation	-.1785
	Sig. (2-tailed)	.0384
	<i>N</i>	135
Correlation is significant at the .05 level (2-tailed).		
Incentive 21: Improving my own materials through inclusion of OCW content	Pearson correlation	-.104
	Sig. (2-tailed)	.2284
	<i>N</i>	136
Incentive 22: Sampling courses or study before enrolling	Pearson correlation	-.2267
	Sig. (2-tailed)	.0079
	<i>N</i>	136
Correlation is significant at the .01 level (2-tailed).		
Incentive 23: Gaining experience in online learning	Pearson correlation	-.1726
	Sig. (2-tailed)	.0445
	<i>N</i>	136
Correlation is significant at the .05 level (2-tailed).		
Incentive 24: Access is at my preferred pace	Pearson correlation	-.1531
	Sig. (2-tailed)	.0752
	<i>N</i>	136
Incentive 25: Clear and familiar structure of materials	Pearson correlation	-.2362
	Sig. (2-tailed)	.0058
	<i>N</i>	135
Correlation is significant at the .01 level (2-tailed).		
Incentive 26: No cost for materials	Pearson correlation	-.3067
	Sig. (2-tailed)	.0003
	<i>N</i>	136
Correlation is significant at the .01 level (2-tailed).		
Incentive 27: Materials in an OCW are fairly easy to access and find	Pearson correlation	-.1047
	Sig. (2-tailed)	.225
	<i>N</i>	136

(table continues)

Incentives		Income
Incentive 28: Tools which allow users to find materials in multiple OCWs	Pearson correlation	-.1004
	Sig. (2-tailed)	.2464
	<i>N</i>	135
Incentive 29: Seeing more clearly what I will be signing up for in a 'regular' class	Pearson correlation	-.2256
	Sig. (2-tailed)	.0085
	<i>N</i>	135
Correlation is significant at the .01 level (2-tailed).		
Incentive 30: Help in choosing my next course	Pearson correlation	-.2405
	Sig. (2-tailed)	.0048
	<i>N</i>	136
Correlation is significant at the .01 level (2-tailed).		
Incentive 31: Can be accessed simultaneously by many people & infinitely replicated	Pearson correlation	-.2289
	Sig. (2-tailed)	.0074
	<i>N</i>	136
Correlation is significant at the .01 level (2-tailed).		
Incentive 32: High quality & reliability because the content is produced by experts in the field	Pearson correlation	-.1212
	Sig. (2-tailed)	.1599
	<i>N</i>	136
Incentive 33: Seeing the communications of others	Pearson correlation	-.1009
	Sig. (2-tailed)	.2423
	<i>N</i>	136
Incentive 34: Communicating with others	Pearson correlation	-.1831
	Sig. (2-tailed)	.0335
	<i>N</i>	135
Correlation is significant at the .05 level (2-tailed).		
Income of Individual	Pearson correlation	1
	Sig. (2-tailed)	
	<i>N</i>	136
Incentive 35: Materials available are from leading universities	Pearson correlation	-.052
	Sig. (2-tailed)	.5474
	<i>N</i>	136

Appendix T

Mean Scores for Incentives by Gender

Table T-1

*Comparison of the Mean Scores of Incentives by Gender (N=140)*

Incentive	Female (n = 48)			Male (n = 88)			Unknown (n = 4)			Total (N = 140)		
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	n	SD
i1 Seeking additional information about a subject introduced in school	3.56	48	1.32	3.64	88	1.03	2.5	4	1.29	3.58	140	1.15
i2 Comparing courses at different educational institutions	2.69	48	1.42	3.02	88	1.32	3.25	4	1.71	2.91	140	1.36
i3 Doing research	4.04	48	1.05	3.8	88	1.13	4	4	0.82	3.89	140	1.09
i4 Furthering projects or programs	3.4	48	1.3	3.5	88	1.08	3.75	4	0.5	3.47	140	1.15
i5 Improving my study skills	3.44	48	1.56	3.41	88	1.25	3	4	1.15	3.41	140	1.35
i6 Enriching or supplementing study on a formal course	3.54	48	1.27	3.65	88	1.1	4.25	4	0.96	3.63	140	1.16
i7 Two-way interaction and collaboration between groups	2.94	48	1.29	2.94	87	1.22	2.75	4	1.26	2.94	139	1.24
i8 Using and changing the materials for personal use	3.33	48	1.28	3.26	87	1.18	2.5	4	0.58	3.27	139	1.2
i9 Learning for personal knowledge or enjoyment	4.4	48	0.87	4.13	88	0.96	4.25	4	0.96	4.22	140	0.93
i10 Keeping my mind active	4.19	48	0.87	3.97	88	0.93	4	4	0.82	4.04	140	0.9
i11 Shopping around for a college to attend	2.85	48	1.49	2.56	88	1.29	2.25	4	1.89	2.65	140	1.37
i12 Pursuing in depth a topic that interests me	4.36	47	0.92	4.18	88	0.95	4.25	4	0.5	4.24	139	0.93
i13 Improving my understanding of particular topics	4.27	48	0.74	4.05	88	0.84	4.25	4	0.5	4.13	140	0.8
i14 Improving professional knowledge or skills	4.17	48	1.02	4.18	88	0.89	3.5	4	1	4.16	140	0.94
i15 Helping understand my own abilities to learn	3.6	48	1.44	3.3	88	1.19	3.25	4	0.96	3.4	140	1.27
i16 Freedom from discrimination on the basis of prior achievement	2.54	48	1.46	2.68	88	1.35	3	4	0.82	2.64	140	1.37
i17 Available at any time	4.44	48	0.94	4.31	88	0.88	4.25	4	0.5	4.35	140	0.89

*(Table continues)*

Incentive		Female ( <i>n</i> = 48)			Male ( <i>n</i> = 88)			Unknown ( <i>n</i> = 4)			Total ( <i>N</i> = 140)		
		Mean	<i>n</i>	SD	Mean	<i>n</i>	SD	Mean	<i>n</i>	SD	Mean	<i>n</i>	SD
i18	Improving my teaching skills	3.44	48	1.3	2.86	88	1.3	1.75	4	0.96	3.03	140	1.33
i19	Improving my performance in academic programs	3.44	48	1.43	3.22	88	1.28	2.25	4	1.26	3.26	140	1.34
i20	Saving time in creation of educational materials	3.45	47	1.35	3.03	88	1.44	2.75	4	1.5	3.17	139	1.42
i21	Improving my own materials through inclusion of OCW content	3.23	48	1.42	3	88	1.4	2	4	1.41	3.05	140	1.41
i22	Sampling courses or study before enrolling	3.38	48	1.47	3.39	88	1.33	2	4	1.41	3.34	140	1.39
i23	Gaining experience in online learning	3.46	48	1.22	3.39	88	1.23	5	4	6.06	3.46	140	1.52
i24	Access is at my preferred pace	4	48	1.17	4.03	88	1.02	3.5	4	1.29	4.01	140	1.08
i25	Clear and familiar structure of materials	3.69	48	1.21	3.53	87	1.07	2.75	4	1.5	3.56	139	1.13
i26	No cost for materials	4.71	48	0.54	4.52	88	0.74	4.5	4	0.58	4.59	140	0.68
i27	Materials in an OCW are fairly easy to access and find	4.38	48	0.94	3.99	88	0.99	4	4	0.82	4.12	140	0.98
i28	Tools which allow users to find materials in multiple OCW's	3.85	48	1.07	3.76	87	1.05	4.33	3	0.58	3.8	138	1.05
i29	Seeing more clearly see what I will be signing up for in a "regular" class	3.4	47	1.57	3.31	88	1.29	2.5	4	1.73	3.32	139	1.4
i30	Help in choosing my next course	3.15	48	1.53	3.26	88	1.26	2.25	4	1.89	3.19	140	1.38
i31	Can be accessed simultaneously by many people & infinitely replicated	3.54	48	1.4	3.4	88	1.25	1.75	4	0.96	3.4	140	1.32
i32	High quality & reliability because the content is produced by experts in the field	4.06	48	1.17	4.13	88	0.94	3.5	4	1.73	4.09	140	1.05
i33	Seeing the communications of others	3.19	48	1.3	2.99	88	1.22	3	4	0.82	3.06	140	1.23
i34	Communicating with others	3.27	48	1.51	3.08	87	1.16	3	4	0.82	3.14	139	1.28
i35	Materials available are from leading universities	4.17	48	0.86	4.05	88	0.92	3.25	4	1.71	4.06	140	0.93

Appendix U

Point Bi-Serial Correlation Coefficients Between Gender and Incentives



Table U-1

*Correlations for Gender and Incentives*

Incentive		Gender
Incentive 1: seeking additional information about a subject introduced in school	Pearson correlation	.0312
	Sig. (2-tailed)	.7186
	<i>N</i>	136
Incentive 2: comparing courses at different educational institutions	Pearson correlation	.1182
	Sig. (2-tailed)	.1705
	<i>N</i>	136
Incentive 3: doing research	Pearson correlation	-.1071
	Sig. (2-tailed)	.2146
	<i>N</i>	136
Incentive 4: furthering projects or programs	Pearson correlation	.0431
	Sig. (2-tailed)	.6187
	<i>N</i>	136
Incentive 5: improving my study skills	Pearson correlation	-.01
	Sig. (2-tailed)	.9077
	<i>N</i>	136
Incentive 6: enriching or supplementing study on a formal course	Pearson correlation	.0438
	Sig. (2-tailed)	.6129
	<i>N</i>	136
Incentive 7: two-way interaction and collaboration between groups	Pearson correlation	.0019
	Sig. (2-tailed)	.9822
	<i>N</i>	135
Incentive 8: using and changing the materials for personal use	Pearson correlation	-.0274
	Sig. (2-tailed)	.7523
	<i>N</i>	135
Incentive 9: learning for personal knowledge or enjoyment	Pearson correlation	-.1393
	Sig. (2-tailed)	.1058
	<i>N</i>	136

*(Table continues)*

Incentive		Gender
Incentive 10: keeping my mind active	Pearson correlation	-.1168
	Sig. (2-tailed)	.1756
	<i>N</i>	136
Incentive 11: shopping around for a college to attend	Pearson correlation	-.1047
	Sig. (2-tailed)	.225
	<i>N</i>	136
Incentive 12: pursuing in depth a topic that interests me	Pearson correlation	-.0913
	Sig. (2-tailed)	.2923
	<i>N</i>	135
Incentive 13: improving my understanding of particular topics	Pearson correlation	-.1332
	Sig. (2-tailed)	.122
	<i>N</i>	136
Incentive 14: improving professional knowledge or skills	Pearson correlation	.0078
	Sig. (2-tailed)	.9284
	<i>N</i>	136
Incentive 15: helping understand my own abilities to learn	Pearson correlation	-.1153
	Sig. (2-tailed)	.1814
	<i>N</i>	136
Incentive 16: freedom from discrimination on the basis of prior achievement	Pearson correlation	.0485
	Sig. (2-tailed)	.5752
	<i>N</i>	136
Incentive 17: available at any time	Pearson correlation	-.0697
	Sig. (2-tailed)	.4198
	<i>N</i>	136
Incentive 18: improving my teaching skills	Pearson correlation	-.208
	Sig. (2-tailed)	.0151
	<i>N</i>	136
Correlation is significant at the .05 level (2-tailed).		
Incentive 19: improving my performance in academic programs	Pearson correlation	-.0797
	Sig. (2-tailed)	.3565
	<i>N</i>	136

(Table continues)

Incentive		Gender
Incentive 20: saving time in creation of educational materials	Pearson correlation	-.1391
	Sig. (2-tailed)	.1076
	<i>N</i>	135
Incentive 21: improving my own materials through inclusion of OCW content	Pearson correlation	-.0783
	Sig. (2-tailed)	.3649
	<i>N</i>	136
Incentive 22: sampling courses or study before enrolling	Pearson correlation	.004
	Sig. (2-tailed)	.9635
	<i>N</i>	136
Incentive 23: gaining experience in online learning	Pearson correlation	-.0283
	Sig. (2-tailed)	.7437
	<i>N</i>	136
Incentive 24: access is at my preferred pace	Pearson correlation	.0153
	Sig. (2-tailed)	.86
	<i>N</i>	136
Incentive 25: clear and familiar structure of materials	Pearson correlation	-.0684
	Sig. (2-tailed)	.4307
	<i>N</i>	135
Incentive 26: no cost for materials	Pearson correlation	-.1304
	Sig. (2-tailed)	.1303
	<i>N</i>	136
Incentive 27: materials in an OCW are fairly easy to access and find	Pearson correlation	-.1882
	Sig. (2-tailed)	.0282
	<i>N</i>	136
Correlation is significant at the .05 level (2-tailed).		
Incentive 28: tools which allow users to find materials in multiple OCWs	Pearson correlation	-.0437
	Sig. (2-tailed)	.6152
	<i>N</i>	135
Incentive 29: seeing more clearly what i will be signing up for in a 'regular' class	Pearson correlation	-.0336
	Sig. (2-tailed)	.6992
	<i>N</i>	135

(Table continues)

Incentive		Gender
Incentive 30: help in choosing my next course	Pearson correlation	.0408
	Sig. (2-tailed)	.6374
	<i>N</i>	136
Incentive 31: can be accessed simultaneously by many people & infinitely replicated	Pearson correlation	-.0532
	Sig. (2-tailed)	.5387
	<i>N</i>	136
Incentive 32: high quality & reliability because the content is produced by experts in the field	Pearson correlation	.0292
	Sig. (2-tailed)	.736
	<i>N</i>	136
Incentive 33: seeing the communications of others	Pearson correlation	-.0766
	Sig. (2-tailed)	.3756
	<i>N</i>	136
Incentive 34: communicating with others	Pearson correlation	-.0706
	Sig. (2-tailed)	.4159
	<i>N</i>	135
Incentive 35: materials available are from leading universities	Pearson correlation	-.0647
	Sig. (2-tailed)	.4541
	<i>N</i>	136

Appendix V

Mean Scores of Incentives by Education

Table V-1

*Comparison of the Mean Scores of Incentives by Education Level (N = 140)*

Incentives	Completed high school		Completed college		Completed graduate school		Attended vocational tech		Unknown		Total	
	Mean	n	Mean	n	Mean	n	Mean	n	Mean	n	Mean	n
i1 Seeking additional information about a subject introduced in school	3.6	65	3.6	43	3.59	27	5	1	2.5	4	3.58	140
i2 Comparing courses at different educational institutions	3.11	65	2.91	43	2.33	27	5	1	3.25	4	2.91	140
i3 Doing research	3.85	65	3.95	43	3.81	27	5	1	4	4	3.89	140
i4 Furthering projects or programs	3.52	65	3.42	43	3.33	27	5	1	3.75	4	3.47	140
i5 Improving my study skills	3.57	65	3.53	43	2.81	27	5	1	3	4	3.41	140
i6 Enriching or supplementing study on a formal course	3.57	65	3.77	43	3.48	27	3	1	4.25	4	3.63	140
i7 Two-way interaction and collaboration between groups	3	65	2.91	43	2.85	26	3	1	2.75	4	2.94	139
i8 Using and changing the materials for personal use	3.25	65	3.3	43	3.38	26	3	1	2.5	4	3.27	139
i9 Learning for personal knowledge or enjoyment	4.18	65	4.19	43	4.37	27	4	1	4.25	4	4.22	140
i10 Keeping my mind active	4.11	65	3.91	43	4.07	27	5	1	4	4	4.04	140
i11 Shopping around for a college to attend	2.71	65	2.98	43	1.96	27	5	1	2.25	4	2.65	140
i12 Pursuing in depth a topic that interests me	4.05	65	4.44	43	4.38	26	5	1	4.25	4	4.24	139
i13 Improving my understanding of particular topics	4.03	65	4.21	43	4.26	27	3	1	4.25	4	4.13	140
i14 Improving professional knowledge or skills	4	65	4.35	43	4.3	27	5	1	3.5	4	4.16	140
i15 Helping understand my own abilities to learn	3.51	65	3.28	43	3.3	27	5	1	3.25	4	3.4	140
i16 Freedom from discrimination on the basis of prior achievement	2.8	65	2.67	43	2.15	27	3	1	3	4	2.64	140
i17 Available at any time	4.37	65	4.37	43	4.33	27	3	1	4.25	4	4.35	140
i18 Improving my teaching skills	2.94	65	3.19	43	3.19	27	3	1	1.75	4	3.03	140
i19 Improving my performance in academic programs	3.4	65	3.42	43	2.85	27	3	1	2.25	4	3.26	140
i20 Saving time in creation of educational materials	3.28	65	3.26	43	2.81	26	3	1	2.75	4	3.17	139
i21 Improving my own materials through inclusion of OCW content	3.06	65	3.3	43	2.78	27	3	1	2	4	3.05	140
i22 Sampling courses or study before enrolling	3.69	65	3.42	43	2.59	27	3	1	2	4	3.34	140

*(Table continues)*

Incentives		Completed high school		Completed college		Completed graduate school		Attended vocational tech		Unknown		Total	
		Mean	<i>n</i>	Mean	<i>n</i>	Mean	<i>n</i>	Mean	<i>n</i>	Mean	<i>n</i>	Mean	<i>n</i>
i23	Gaining experience in online learning	3.57	65	3.58	43	2.78	27	3	1	5	4	3.46	140
i24	Access is at my preferred pace	3.97	65	4.33	43	3.63	27	5	1	3.5	4	4.01	140
i25	Clear and familiar structure of materials	3.6	65	3.76	42	3.22	27	5	1	2.75	4	3.56	139
i26	No cost for materials	4.62	65	4.7	43	4.33	27	5	1	4.5	4	4.59	140
i27	Materials in an OCW are fairly easy to access and find	4.2	65	4.16	43	3.85	27	5	1	4	4	4.12	140
i28	Tools which allow users to find materials in multiple OCW's	3.75	65	3.93	42	3.67	27	4	1	4.33	3	3.8	138
i29	Seeing more clearly see what I will be signing up for in a "regular" class	3.51	65	3.55	42	2.56	27	5	1	2.5	4	3.32	139
i30	Help in choosing my next course	3.42	65	3.42	43	2.37	27	5	1	2.25	4	3.19	140
i31	Can be accessed simultaneously by many people & infinitely replicated	3.48	65	3.65	43	3.07	27	3	1	1.75	4	3.4	140
i32	High quality & reliability because the content is produced by experts in the field	4.03	65	4.26	43	4	27	5	1	3.5	4	4.09	140
i33	Seeing the communications of others	2.91	65	3.42	43	2.78	27	5	1	3	4	3.06	140
i34	Communicating with others	3.18	65	3.21	43	2.88	26	5	1	3	4	3.14	139
i35	Materials available are from leading universities	4.14	65	4.21	43	3.81	27	3	1	3.25	4	4.06	140

Appendix W

Spearman's RHO Correlation Coefficients between Education and Incentives



Table W-1

*Correlation for Education and Incentives*

Incentives		Education
Incentive 1: Seeking additional information about a subject introduced in school	Spearman's rho	-.0238
	Sig. (2-tailed)	.7837
	<i>N</i>	136
Incentive 2: Comparing courses at different educational institutions	Spearman's rho	-.2159
	Sig. (2-tailed)	.0116
	<i>N</i>	136
Correlation is significant at the .05 level (2-tailed).		
Incentive 3: Doing research	Spearman's rho	-.0261
	Sig. (2-tailed)	.7631
	<i>N</i>	136
Incentive 4: Furthering projects or programs	Spearman's rho	-.0832
	Sig. (2-tailed)	.3354
	<i>N</i>	136
Incentive 5: Improving my study skills	Spearman's rho	-.1899
	Sig. (2-tailed)	.0268
	<i>N</i>	136
Correlation is significant at the .05 level (2-tailed).		
Incentive 6: Enriching or supplementing study on a formal course	Spearman's rho	.001
	Sig. (2-tailed)	.9905
	<i>N</i>	136
Incentive 7: Two-way interaction and collaboration between groups	Spearman's rho	-.0566
	Sig. (2-tailed)	.5146
	<i>N</i>	135
Incentive 8: Using and changing the materials for personal use	Spearman's rho	.0273
	Sig. (2-tailed)	.7533
	<i>N</i>	135
Incentive 9: Learning for personal knowledge or enjoyment	Spearman's rho	.0583
	Sig. (2-tailed)	.5002
	<i>N</i>	136
Incentive 10: Keeping my mind active	Spearman's rho	-.0598
	Sig. (2-tailed)	.4894
	<i>N</i>	136

*(Table continues)*

Incentives		Education
Incentive 11: Shopping around for a college to attend	Spearman's rho	-.152
	Sig. (2-tailed)	.0773
	<i>N</i>	136
Incentive 12: Pursuing in depth a topic that interests me	Spearman's rho	.1447
	Sig. (2-tailed)	.094
	<i>N</i>	135
Incentive 13: Improving my understanding of particular topics	Spearman's rho	.1491
	Sig. (2-tailed)	.0831
	<i>N</i>	136
Incentive 14: Improving professional knowledge or skills	Spearman's rho	.1071
	Sig. (2-tailed)	.2148
	<i>N</i>	136
Incentive 15: Helping understand my own abilities to learn	Spearman's rho	-.0879
	Sig. (2-tailed)	.3091
	<i>N</i>	136
Incentive 16: Freedom from discrimination on the basis of prior achievement	Spearman's rho	-.1559
	Sig. (2-tailed)	.0699
	<i>N</i>	136
Incentive 17: Available at any time	Spearman's rho	.0425
	Sig. (2-tailed)	.6232
	<i>N</i>	136
Incentive 18: Improving my teaching skills	Spearman's rho	.0833
	Sig. (2-tailed)	.3349
	<i>N</i>	136
Incentive 19: Improving my performance in academic programs	Spearman's rho	-.1253
	Sig. (2-tailed)	.1461
	<i>N</i>	136
Incentive 20: Saving time in creation of educational materials	Spearman's rho	-.0884
	Sig. (2-tailed)	.3078
	<i>N</i>	135
Incentive 21: Improving my own materials through inclusion of OCW content	Spearman's rho	-.0241
	Sig. (2-tailed)	.7809
	<i>N</i>	136

(Table continues)

Incentives		Education
Incentive 22: Sampling courses or study before enrolling	Spearman's rho	-.2517
	Sig. (2-tailed)	.0031
	<i>N</i>	136
Correlation is significant at the .01 level (2-tailed).		
Incentive 23: Gaining experience in online learning	Spearman's rho	-.1869
	Sig. (2-tailed)	.0294
	<i>N</i>	136
Correlation is significant at the .05 level (2-tailed).		
Incentive 24: Access is at my preferred pace	Spearman's rho	-.046
	Sig. (2-tailed)	.5951
	<i>N</i>	136
Incentive 25: Clear and familiar structure of materials	Spearman's rho	-.1038
	Sig. (2-tailed)	.2307
	<i>N</i>	135
Incentive 26: No cost for materials	Spearman's rho	-.0617
	Sig. (2-tailed)	.4753
	<i>N</i>	136
Incentive 27: Materials in an OCW are fairly easy to access and find	Spearman's rho	-.1345
	Sig. (2-tailed)	.1184
	<i>N</i>	136
Incentive 28: Tools which allow users to find materials in multiple OCWs	Spearman's rho	-.0339
	Sig. (2-tailed)	.6963
	<i>N</i>	135
Incentive 29: Seeing more clearly what I will be signing up for in a 'regular' class	Spearman's rho	-.2008
	Sig. (2-tailed)	.0195
	<i>N</i>	135
Correlation is significant at the .05 level (2-tailed).		
Incentive 30: Help in choosing my next course	Spearman's rho	-.232
	Sig. (2-tailed)	.0066
	<i>N</i>	136
Correlation is significant at the .01 level (2-tailed).		
Incentive 31: Can be accessed simultaneously by many people & infinitely replicated	Spearman's rho	-.0594
	Sig. (2-tailed)	.4924
	<i>N</i>	136

(Table continues)

Incentives		Education
Incentive 32: High quality & reliability because the content is produced by experts in	Spearman's rho	.0026
	Sig. (2-tailed)	.9763
	<i>N</i>	136
Incentive 33: Seeing the communications of others	Spearman's rho	.0168
	Sig. (2-tailed)	.8459
	<i>N</i>	136
Incentive 34: Communicating with others	Spearman's rho	-.0858
	Sig. (2-tailed)	.3222
	<i>N</i>	135
Incentive 35: Materials available are from leading universities	Spearman's rho	-.1022
	Sig. (2-tailed)	.2366
	<i>N</i>	136

Appendix X

Eta Correlation Ratio Between County and Incentives

Table X-1

*Measure of Association Between Incentives and County*

Measures of association	Incentive	Eta	Eta Squared	Variance accounted for (%)
i1 * county	Seeking additional information about a subject introduced in school	0.406970628	0.165625092	16.56
i2 * county	Comparing courses at different educational institutions	0.340473425	0.115922153	11.59
i3 * county	Doing research	0.286213057	0.081917914	8.19
i4 * county	Furthering projects or programs	0.264317042	0.069863499	6.99
i5 * county	Improving my study skills	0.343829002	0.118218382	11.82
i6 * county	Enriching or supplementing study on a formal course	0.326636742	0.106691562	10.67
i7 * county	Two-way interaction and collaboration between groups	0.297015682	0.088218315	8.82
i8 * county	Using and changing the materials for personal use	0.319672743	0.102190663	10.22
i9 * county	Learning for personal knowledge or enjoyment	0.277786777	0.077165494	7.72
i10 * county	Keeping my mind active	0.372427585	0.138702306	13.87
i11 * county	Shopping around for a college to attend	0.306555849	0.093976489	9.40
i12 * county	Pursuing in depth a topic that interests me	0.32427533	0.105154489	10.52
i13 * county	Improving my understanding of particular topics	0.302465584	0.09148543	9.15
i14 * county	Improving professional knowledge or skills	0.29685477	0.088122754	8.81
i15 * county	Helping understand my own abilities to learn	0.304805469	0.092906374	9.29
i16 * county	Freedom from discrimination on the basis of prior achievement	0.279141523	0.07791999	7.79
i17 * county	Available at any time	0.287841401	0.082852672	8.29
i18 * county	Improving my teaching skills	0.387454577	0.15012105	15.01
i19 * county	Improving my performance in academic programs	0.315735522	0.09968892	9.97
i20 * county	Saving time in creation of educational materials	0.31194702	0.097310943	9.73

*(Table continues)*

Measures of association	Incentive	Eta	Eta Squared	Variance accounted for (%)
i21 * county	Improving my own materials through inclusion of OCW content	0.378900082	0.143565272	14.36
i22 * county	Sampling courses or study before enrolling	0.431383216	0.186091479	18.61
i23 * county	Gaining experience in online learning	0.289538498	0.083832542	8.38
i24 * county	Access is at my preferred pace	0.308609874	0.095240054	9.52
i25 * county	Clear and familiar structure of materials	0.377084694	0.142192866	14.22
i26 * county	No cost for materials	0.332215942	0.110367432	11.04
i27 * county	Materials in an OCW are fairly easy to access and find	0.322952673	0.104298429	10.43
i28 * county	Tools which allow users to find materials in multiple OCW's	0.218058788	0.047549635	4.75
i29 * county	Seeing more clearly see what I will be signing up for in a "regular" class	0.279747246	0.078258522	7.83
i30 * county	Help in choosing my next course	0.259754266	0.067472279	6.75
i31 * county	Can be accessed simultaneously by many people & infinitely replicated	0.402877314	0.16231013	16.23
i32 * county	High quality & reliability because the content is produced by experts in the field	0.330459687	0.109203605	10.92
i33 * county	Seeing the communications of others	0.339197442	0.115054905	11.51
i34 * county	Communicating with others	0.32917155	0.10835391	10.84
i35 * county	Materials available are from leading universities	0.227069442	0.051560531	5.16

Appendix Y

Eta Correlation Ratio Between Occupation and Incentives



Table Y-1

*Measure of Association Between Incentives and Occupation*

Measures of Association	Incentives	Eta	Eta squared	Variance accounted for (%)
i1 * occupation	Seeking additional information about a subject introduced in school	0.297741338	0.088649904	8.86
i2 * occupation	Comparing courses at different educational institutions	0.293854731	0.086350603	8.64
i3 * occupation	Doing research	0.304513257	0.092728324	9.27
i4 * occupation	Furthering projects or programs	0.249892332	0.062446177	6.24
i5 * occupation	Improving my study skills	0.329259415	0.108411762	10.84
i6 * occupation	Enriching or supplementing study on a formal course	0.316067147	0.099898442	9.99
i7 * occupation	Two-way interaction and collaboration between groups	0.242933982	0.05901692	5.90
i8 * occupation	Using and changing the materials for personal use	0.255807521	0.065437488	6.54
i9 * occupation	Learning for personal knowledge or enjoyment	0.284821748	0.081123428	8.11
i10 * occupation	Keeping my mind active	0.318832822	0.101654368	10.17
i11 * occupation	Shopping around for a college to attend	0.327755347	0.107423568	10.74
i12 * occupation	Pursuing in depth a topic that interests me	0.284579589	0.080985542	8.10
i13 * occupation	Improving my understanding of particular topics	0.344273049	0.118523933	11.85
i14 * occupation	Improving professional knowledge or skills	0.371840478	0.138265341	13.83
i15 * occupation	Helping understand my own abilities to learn	0.316912367	0.100433448	10.04
i16 * occupation	Freedom from discrimination on the basis of prior achievement	0.273303115	0.074694593	7.47
i17 * occupation	Available at any time	0.418730236	0.175335011	17.53

*(Table continues)*

Measures of Association	Incentives	Eta	Eta squared	Variance accounted for (%)
i18 * occupation	Improving my teaching skills	0.406639076	0.165355338	16.54
i19 * occupation	Improving my performance in academic programs	0.335170039	0.112338955	11.23
i20 * occupation	Saving time in creation of educational materials	0.31303967	0.097993835	9.80
i21 * occupation	Improving my own materials through inclusion of OCW content	0.316180528	0.099970126	10.00
i22 * occupation	Sampling courses or study before enrolling	0.383999341	0.147455494	14.75
i23 * occupation	Gaining experience in online learning	0.304048614	0.09244556	9.24
i24 * occupation	Access is at my preferred pace	0.231188596	0.053448167	5.34
i25 * occupation	Clear and familiar structure of materials	0.290081066	0.084147025	8.41
i26 * occupation	No cost for materials	0.260172392	0.067689674	6.77
i27 * occupation	Materials in an OCW are fairly easy to access and find	0.340823746	0.116160826	11.62
i28 * occupation	Tools which allow users to find materials in multiple OCW's	0.260910189	0.068074126	6.81
i29 * occupation	Seeing more clearly see what I will be signing up for in a "regular" class	0.308054091	0.094897323	9.49
i30 * occupation	Help in choosing my next course	0.368521272	0.135807928	13.58
i31 * occupation	Can be accessed simultaneously by many people & infinitely replicated	0.421512951	0.177673168	17.77
i32 * occupation	High quality & reliability because the content is produced by experts in the field	0.328710778	0.108050775	10.81
i33 * occupation	Seeing the communications of others	0.285748633	0.081652282	8.17
i34 * occupation	Communicating with others	0.336294755	0.113094162	11.31
i35 * occupation	Materials available are from leading universities	0.324699733	0.105429916	10.54

Appendix Z

Eta Correlation Ratio Between Ethnicity and Incentives

Table Z-1

*Measure of Association Between Incentives and Ethnicity*

Measures of association	Incentives	Eta	Eta squared	Variance accounted for (%)
i1 * Ethnic code	Seeking additional information about a subject introduced in school	0.280321277	0.078580018	7.86
i2 * Ethnic code	Comparing courses at different educational institutions	0.230943747	0.053335015	5.33
i3 * Ethnic code	Doing research	0.208818293	0.04360508	4.36
i4 * Ethnic code	Furthering projects or programs	0.310244584	0.096251702	9.63
i5 * Ethnic code	Improving my study skills	0.177521065	0.031513728	3.15
i6 * Ethnic code	Enriching or supplementing study on a formal course	0.273107799	0.07458787	7.46
i7 * Ethnic code	Two-way interaction and collaboration between groups	0.320267321	0.102571157	10.26
i8 * Ethnic code	Using and changing the materials for personal use	0.276338618	0.076363032	7.64
i9 * Ethnic code	Learning for personal knowledge or enjoyment	0.300410677	0.090246575	9.02
i10 * Ethnic code	Keeping my mind active	0.239240794	0.057236157	5.72
i11 * Ethnic code	Shopping around for a college to attend	0.281841783	0.079434791	7.94
i12 * Ethnic code	Pursuing in depth a topic that interests me	0.245672935	0.060355191	6.04
i13 * Ethnic code	Improving my understanding of particular topics	0.270456261	0.073146589	7.31
i14 * Ethnic code	Improving professional knowledge or skills	0.270866666	0.073368751	7.34
i15 * Ethnic code	Helping understand my own abilities to learn	0.22144818	0.049039297	4.90
i16 * Ethnic code	Freedom from discrimination on the basis of prior achievement	0.206991462	0.042845465	4.28
i17 * Ethnic code	Available at any time	0.220687056	0.048702777	4.87
i18 * Ethnic code	Improving my teaching skills	0.262102878	0.068697918	6.87

*(Table continues)*

Measures of association	Incentives	Eta	Eta squared	Variance accounted for (%)
i19 * Ethnic code	Improving my performance in academic programs	0.327475341	0.107240099	10.72
i20 * Ethnic code	Saving time in creation of educational materials	0.268925045	0.07232068	7.23
i21 * Ethnic code	Improving my own materials through inclusion of OCW content	0.300475862	0.090285744	9.03
i22 * Ethnic code	Sampling courses or study before enrolling	0.265869469	0.070686574	7.07
i23 * Ethnic code	Gaining experience in online learning	0.224434735	0.05037095	5.04
i24 * Ethnic code	Access is at my preferred pace	0.21598449	0.0466493	4.66
i25 * Ethnic code	Clear and familiar structure of materials	0.246241459	0.060634856	6.06
i26 * Ethnic code	No cost for materials	0.150129147	0.022538761	2.25
i27 * Ethnic code	Materials in an OCW are fairly easy to access and find	0.242719863	0.058912932	5.89
i28 * Ethnic code	Tools which allow users to find materials in multiple OCW's	0.256304843	0.065692173	6.57
i29 * Ethnic code	Seeing more clearly see what I will be signing up for in a "regular" class	0.360498017	0.129958821	13.00
i30 * Ethnic code	Help in choosing my next course	0.301347433	0.090810276	9.08
i31 * Ethnic code	Can be accessed simultaneously by many people & infinitely replicated	0.333697064	0.11135373	11.14
i32 * Ethnic code	High quality & reliability because the content is produced by experts in the field	0.255012716	0.065031485	6.50
i33 * Ethnic code	Seeing the communications of others	0.228951036	0.052418577	5.24
i34 * Ethnic code	Communicating with others	0.261746653	0.06851131	6.85
i35 * Ethnic code	Materials available are from leading universities	0.286592078	0.082135019	8.21

Appendix AA

Mean Scores of Disincentives by Age

Table AA-1

*Comparison of the Mean Scores of Disincentives by Age (N = 140)*

Disincentives	20-25		26-30		31-35		36-40		41-45		46-50		51-55		56-60		61-65		Unknown	
	Mean	<i>n</i>	Mean	<i>n</i>	Mean	<i>n</i>	Mean	<i>n</i>	Mean	<i>n</i>	Mean	<i>n</i>	Mean	<i>n</i>	Mean	<i>n</i>	Mean	<i>n</i>	Mean	<i>n</i>
d1	3	5	2.64	22	2.36	14	2.44	18	2.71	17	2.35	20	3.2	5	2.56	25	2	7	1.75	4
d2	3.6	5	3.36	22	3.64	14	3.21	19	3.35	17	3.35	20	2.2	5	2.56	25	3.43	7	1.75	4
d3	3.4	5	3.09	22	3.64	14	3.05	19	3.47	17	3.2	20	3.2	5	2.52	25	3.43	7	1.75	4
d4	3	5	2.73	22	2.93	14	3.16	19	3.41	17	2.53	19	2.6	5	2.58	24	2.57	7	2.25	4
d5	2.8	5	3	20	3.27	15	3.37	19	3.35	17	2.7	20	2.4	5	2.75	24	3.14	7	2.75	4
d6	3.4	5	3.14	22	4.07	15	3.21	19	3.94	17	3.1	21	2.6	5	2.76	25	3.57	7	3	4
d7	3.4	5	2.86	22	3.4	15	2.53	19	3.35	17	2.75	20	2.6	5	2.25	24	2.43	7	2.5	4
d8	3.6	5	2.82	22	2.47	15	2.53	19	3.29	17	2.8	20	3	5	2.36	25	1.71	7	2.5	4
d9	2.8	5	1.95	22	3	14	2.11	18	3.24	17	2.35	20	1.4	5	2.16	25	1.71	7	1.75	4
d10	3	5	1.91	22	2.27	15	1.63	19	2.35	17	1.95	21	2	5	1.72	25	2	7	1.75	4
d11	3.2	5	2.19	21	2.27	15	2.21	19	2.82	17	2.62	21	2	5	1.8	25	2.14	7	1.75	4
d12	2.4	5	2	21	2.73	15	1.95	19	2.41	17	2.45	20	2.6	5	1.68	25	1.57	7	2.5	4
d13	2.2	5	1.68	22	1.79	14	1.83	18	2.18	17	2.25	20	2	5	1.6	25	1.14	7	2	4
d14	2.4	5	1.91	22	1.93	15	2.16	19	2.35	17	2.5	20	2	5	1.64	25	1.71	7	2.25	4
d15	2.2	5	1.59	22	1.64	14	1.84	19	2.06	17	1.95	20	1.8	5	1.48	25	1.29	7	1.75	4
d16	2.4	5	2.14	22	2.13	15	2.32	19	2.71	17	2.5	20	2.2	5	1.88	25	1.57	7	2.25	4
d17	3	5	2.77	22	2.93	15	2.74	19	3.65	17	2.85	20	2.6	5	2.32	25	2.43	7	2.5	4
d18	2.8	5	2.64	22	2.53	15	2.63	19	3.29	17	2.4	20	2.6	5	2.16	25	1.71	7	2.75	4
d19	2.8	5	2.32	22	2.4	15	2.42	19	3.18	17	2.38	21	2.4	5	2	25	1.71	7	2.5	4

*(Table continues)*

Disincentives	20-25		26-30		31-35		36-40		41-45		46-50		51-55		56-60		61-65		Unknown	
	Mean	<i>n</i>	Mean	<i>n</i>	Mean	<i>n</i>	Mean	<i>n</i>	Mean	<i>n</i>	Mean	<i>n</i>	Mean	<i>n</i>	Mean	<i>n</i>	Mean	<i>n</i>	Mean	<i>n</i>
d20	3.2	5	2.27	22	2.4	15	2.32	19	3.18	17	2.48	21	2	5	1.92	25	2	7	2.5	4
d21	4	5	3.55	22	3.4	15	2.68	19	3.41	17	3.05	21	2.6	5	2	25	2.14	7	1.5	4
d22	3.2	5	2.73	22	3	15	2.74	19	3.18	17	2.62	21	2.4	5	2.17	23	2.43	7	2.25	4
d23	4	5	2.64	22	2.79	14	3.16	19	3.06	17	3.15	20	2.2	5	2.52	25	2.5	6	2.25	4
d24	3.6	5	2.82	22	3.21	14	2.53	19	3.12	17	2.86	21	2.4	5	2.4	25	2.43	7	1.5	4
d25	4	5	3	22	3.43	14	3.11	19	3.47	17	3.05	21	3	5	2.6	25	2.57	7	2.75	4
d26	3.6	5	3.09	22	3.43	14	3.22	18	3.41	17	3.1	20	3	5	3.13	24	2.86	7	2.25	4
d27	4	5	3.18	22	3.47	15	2.74	19	3.53	17	2.9	21	2.4	5	2.36	25	2.86	7	2.5	4
d28	2.6	5	2.68	22	2.93	14	2.79	19	3.06	17	2.57	21	2.4	5	2.24	25	2.43	7	2.25	4
d29	3.2	5	2.82	22	3	14	3.05	19	2.94	17	2.86	21	2	4	2.28	25	2.5	6	1.5	4
d30	2.8	5	2.41	22	3.21	14	2.74	19	2.53	17	2.71	21	2.2	5	2	25	2.29	7	1.5	4
d31	3.2	5	2.68	22	2.13	15	2.11	19	2.94	17	2.95	21	3	5	2.32	25	2.14	7	3.25	4
d32	3.2	5	2.68	22	2.13	15	2.11	19	2.88	17	3	21	3	5	2.36	25	2.14	7	3.25	4
d33	2.8	5	2.41	22	2.8	15	2.32	19	2.65	17	2.57	21	3	5	2.52	25	2.43	7	2.75	4
d34	2	5	2.14	22	1.8	15	2	19	2.63	16	2.57	21	2.6	5	1.92	25	2.29	7	2.75	4
d35	2.4	5	1.73	22	1.87	15	2.26	19	3	17	2.05	21	2	5	1.84	25	2.71	7	1.75	4
d36	2.2	5	1.86	22	1.6	15	1.61	18	2.47	17	2.19	21	1.6	5	1.68	25	2.14	7	2.25	4
d37	2.6	5	2	22	2.13	15	2.32	19	2.59	17	2.57	21	1.8	5	2.16	25	2.29	7	2.25	4
d38	3.2	5	2.23	22	2.27	15	2.16	19	2.94	17	2.67	21	2.4	5	2.28	25	2.14	7	2.5	4
d39	2.8	5	2.45	22	3	15	2.95	19	3.41	17	3.29	21	3	5	2.72	25	3	7	2.25	4
d40	3.6	5	2.64	22	2.87	15	2.68	19	3.35	17	3.24	21	2.8	5	2.48	25	2.71	7	2	4
d41	3.2	5	2.64	22	2.67	15	2.37	19	3.06	17	2.38	21	2.6	5	2.16	25	1.71	7	2	4
d42	4	5	3.41	22	3.33	15	2.74	19	3.35	17	3.14	21	3	5	2.36	25	2.71	7	2.5	4
d43	3.8	5	2.36	22	2.6	15	2.42	19	2.88	17	2.38	21	2.6	5	2.28	25	2.71	7	2.25	4



Appendix BB

Pearson Product-Moment Correlations Between Age and Disincentives

Table BB-1

*Correlation for Age and Disincentives*

Disincentives		Age
Disincentive 1: The need to be a skilled self-studier or independent learner	Pearson correlation	-.026
	Sig. (2-tailed)	.766
	<i>N</i>	133
Disincentive 2: Lack of professional support provided by subject tutors or experts	Pearson correlation	-.2008
	Sig. (2-tailed)	.02
	<i>N</i>	134
Correlation is significant at the .05 level (2-tailed).		
Disincentive 3: Lack of guidance provided by support specialists	Pearson correlation	-.1245
	Sig. (2-tailed)	.1518
	<i>N</i>	134
Disincentive 4: Availability of this mode of teaching & learning is extremely variable	Pearson correlation	-.0961
	Sig. (2-tailed)	.273
	<i>N</i>	132
Disincentive 5: Lack of awareness of how these tools can be used effectively	Pearson correlation	-.0722
	Sig. (2-tailed)	.4106
	<i>N</i>	132
Disincentive 6: There is no certificate or degree awarded	Pearson correlation	-.1132
	Sig. (2-tailed)	.1894
	<i>N</i>	136
Disincentive 7: Lack of activities & events that facilitate participation in learning opportunities	Pearson correlation	-.2225
	Sig. (2-tailed)	.0098
	<i>N</i>	134
Correlation is significant at the .01 level (2-tailed).		
Disincentive 8: Concern about intellectual property	Pearson correlation	-.1645
	Sig. (2-tailed)	.0566
	<i>N</i>	135
Disincentive 9: There is a mismatch to my local language or culture	Pearson correlation	-.0662
	Sig. (2-tailed)	.4489
	<i>N</i>	133

*(Table continues)*

Disincentives		Age
Disincentive 10: Concern about feeling included	Pearson correlation	-.0793
	Sig. (2-tailed)	.3589
	<i>N</i>	136
Disincentive 11: Concern about being competent or capable to study at this level	Pearson correlation	-.1068
	Sig. (2-tailed)	.2178
	<i>N</i>	135
Disincentive 12: Education is not important for my social group or community	Pearson correlation	-.0884
	Sig. (2-tailed)	.3099
	<i>N</i>	134
Disincentive 13: It goes against the norms or customs of my culture	Pearson correlation	-.0415
	Sig. (2-tailed)	.6354
	<i>N</i>	133
Disincentive 14: Being discouraged from engaging in additional education	Pearson correlation	-.0506
	Sig. (2-tailed)	.5602
	<i>N</i>	135
Disincentive 15: It goes against the norms or customs of my family or community (social)	Pearson correlation	-.0558
	Sig. (2-tailed)	.5218
	<i>N</i>	134
Disincentive 16: Having no intent to learn at this level	Pearson correlation	-.0716
	Sig. (2-tailed)	.409
	<i>N</i>	135
Disincentive 17: Not understanding how to use this resource	Pearson correlation	-.0989
	Sig. (2-tailed)	.2536
	<i>N</i>	135
Disincentive 18: Not having the qualifications to use this resource	Pearson correlation	-.1411
	Sig. (2-tailed)	.1026
	<i>N</i>	135
Disincentive 19: Concern about handling these new technologies	Pearson correlation	-.1192
	Sig. (2-tailed)	.1668
	<i>N</i>	136

(Table continues)

Disincentives		Age
Disincentive 20: Concern about handling these new ways of learning	Pearson correlation	-.1334
	Sig. (2-tailed)	.1216
	<i>N</i>	136
Disincentive 21: There is a lack of teacher-supplied motivation, feedback & direction	Pearson correlation	-.3895
	Sig. (2-tailed)	0
	<i>N</i>	136
Correlation is significant at the .01 level (2-tailed).		
Disincentive 22: Feeling educational materials & opportunities are not as open as possible	Pearson correlation	-.1907
	Sig. (2-tailed)	.0273
	<i>N</i>	134
Correlation is significant at the .05 level (2-tailed).		
Disincentive 23: Content is not structured in a 'self-learn' or 'self-teach' method	Pearson correlation	-.1171
	Sig. (2-tailed)	.1795
	<i>N</i>	133
Disincentive 24: Content is produced & displayed in large chunks instead of bite-sized pieces of information	Pearson correlation	-.1683
	Sig. (2-tailed)	.0511
	<i>N</i>	135
Disincentive 25: Feeling the material is overwhelming	Pearson correlation	-.1716
	Sig. (2-tailed)	.0466
	<i>N</i>	135
Correlation is significant at the .05 level (2-tailed).		
Disincentive 26: It does not cover my topic of interest in the depth I desire	Pearson correlation	-.0585
	Sig. (2-tailed)	.505
	<i>N</i>	132
Disincentive 27: Lack of ability to assess how I am doing to ensure I am learning	Pearson correlation	-.2383
	Sig. (2-tailed)	.0052
	<i>N</i>	136
Correlation is significant at the .01 level (2-tailed).		

(Table continues)

Disincentives		Age
Disincentive 28: Wanting personal support through encouraging self-reflection & guidance within some of the in-text activities and formal assessments	Pearson correlation	-.1386
	Sig. (2-tailed)	.1088
	<i>N</i>	135
Disincentive 29: Lack of availability of guidance materials on study skills	Pearson correlation	-.1869
	Sig. (2-tailed)	.0312
	<i>N</i>	133
Correlation is significant at the .05 level (2-tailed).		
Disincentive 30: Lack of recording of learning & achievements in e-portfolios or journals	Pearson correlation	-.1681
	Sig. (2-tailed)	.0513
	<i>N</i>	135
Disincentive 31: Limited or no access to a computer	Pearson correlation	-.0223
	Sig. (2-tailed)	.7964
	<i>N</i>	136
Disincentive 32: Limited or no access to the Internet	Pearson correlation	-.0154
	Sig. (2-tailed)	.8587
	<i>N</i>	136
Disincentive 33: Other technical barriers preventing easy use or reuse	Pearson correlation	.0047
	Sig. (2-tailed)	.9564
	<i>N</i>	136
Disincentive 34: Physical circumstances that limit my access	Pearson correlation	.0495
	Sig. (2-tailed)	.5688
	<i>N</i>	135
Disincentive 35: The cost of being online	Pearson correlation	.0428
	Sig. (2-tailed)	.6211
	<i>N</i>	136
Disincentive 36: Being geographically remote	Pearson correlation	.0245
	Sig. (2-tailed)	.778
	<i>N</i>	135
Disincentive 37: Not having the qualifications or prior achievements necessary for access	Pearson correlation	.0181
	Sig. (2-tailed)	.8344
	<i>N</i>	136

(Table continues)

Disincentives		Age
Disincentive 38: Needing to learn & understand how to navigate and use such resources	Pearson correlation	-.0041
	Sig. (2-tailed)	.9626
	<i>N</i>	136
Disincentive 39: Not knowing what resources exist	Pearson correlation	.0679
	Sig. (2-tailed)	.4325
	<i>N</i>	136
Disincentive 40: Not understanding what the resources are	Pearson correlation	-.0438
	Sig. (2-tailed)	.6124
	<i>N</i>	136
Disincentive 41: Concern that free resources lack quality	Pearson correlation	-.1676
	Sig. (2-tailed)	.0512
	<i>N</i>	136
Disincentive 42: There is currently no accreditation tied with OCW	Pearson correlation	-.2062
	Sig. (2-tailed)	.016
	<i>N</i>	136
Correlation is significant at the .05 level (2-tailed).		
Disincentive 43: Not clear that unstructured communication on its own is very helpful to learning.	Pearson correlation	-.0735
	Sig. (2-tailed)	.3949
	<i>N</i>	136

Appendix CC

Pearson Product-Moment Correlations Between Income and Disincentives

Table CC-1

*Correlation for Income and Disincentives*

<i>Disincentives</i>		Income
Disincentive 1: The need to be a skilled self-studier or independent learnerd1	Pearson correlation	-.068
	Sig. (2-tailed)	.437
	N	133
Disincentive 2: Lack of professional support provided by subject tutors or experts	Pearson correlation	-.1764
	Sig. (2-tailed)	.0414
	N	134
Correlation is significant at the .05 level (2-tailed).		
Disincentive 3: Lack of guidance provided by support specialists	Pearson correlation	-.1265
	Sig. (2-tailed)	.1453
	N	134
Disincentive 4: Availability of this mode of teaching & learning is extremely variable	Pearson correlation	-.0276
	Sig. (2-tailed)	.7538
	N	132
Disincentive 5: Lack of awareness of how these tools can be used effectively	Pearson correlation	-.0082
	Sig. (2-tailed)	.9259
	N	132
Disincentive 6: There is no certificate or degree awarded	Pearson correlation	-.106
	Sig. (2-tailed)	.2193
	N	136
Disincentive 7: Lack of activities & events that facilitate participation in learning opportunities	Pearson correlation	-.0105
	Sig. (2-tailed)	.9039
	N	134
Disincentive 8: Concern about intellectual property	Pearson correlation	.0149
	Sig. (2-tailed)	.8641
	N	135
Disincentive 9: There is a mismatch to my local language or culture	Pearson correlation	.1169
	Sig. (2-tailed)	.1803
	N	133
Disincentive 10: Concern about feeling included0	Pearson correlation	-.0112
	Sig. (2-tailed)	.8975
	N	136
Disincentive 11: Concern about being competent or capable to study at this level	Pearson correlation	.0419
	Sig. (2-tailed)	.6293
	N	135
Disincentive 12: Education is not important for my social group or community	Pearson correlation	-.1107
	Sig. (2-tailed)	.2028
	N	134

*(Table continues)*



<i>Disincentives</i>		Income
Disincentive 13: It goes against the norms or customs of my culture	Pearson correlation	-.0742
	Sig. (2-tailed)	.3963
	<i>N</i>	133
Disincentive 14: Being discouraged from engaging in additional education	Pearson correlation	-.1022
	Sig. (2-tailed)	.2384
	<i>N</i>	135
Disincentive 15: It goes against the norms or customs of my family or community (social)	Pearson correlation	-.0323
	Sig. (2-tailed)	.7109
	<i>N</i>	134
Disincentive 16: Having no intent to learn at this level	Pearson correlation	-.0611
	Sig. (2-tailed)	.4818
	<i>N</i>	135
Disincentive 17: Not understanding how to use this resource	Pearson correlation	-.0915
	Sig. (2-tailed)	.2915
	<i>N</i>	135
Disincentive 18: Not having the qualifications to use this resource	Pearson correlation	-.0992
	Sig. (2-tailed)	.2523
	<i>N</i>	135
Disincentive 19: Concern about handling these new technologies	Pearson correlation	-.0455
	Sig. (2-tailed)	.5985
	<i>N</i>	136
Disincentive 20: Concern about handling these new ways of learning	Pearson correlation	-.0481
	Sig. (2-tailed)	.5779
	<i>N</i>	136
Disincentive 21: There is a lack of teacher-supplied motivation, feedback & direction	Pearson correlation	-.1368
	Sig. (2-tailed)	.1122
	<i>N</i>	136
Disincentive 22: Feeling educational materials & opportunities are not as open as possible	Pearson correlation	-.1798
	Sig. (2-tailed)	.0376
	<i>N</i>	134
Correlation is significant at the .05 level (2-tailed).		
Disincentive 23: Content is not structured in a 'self-learn' or 'self-teach' method	Pearson correlation	-.2745
	Sig. (2-tailed)	.0014
	<i>N</i>	133
Correlation is significant at the .01 level (2-tailed).		
Disincentive 24: Content is produced & displayed in large chunks instead of bite-sized pieces of information	Pearson correlation	-.1655
	Sig. (2-tailed)	.0551
	<i>N</i>	135
Disincentive 25: Feeling the material is overwhelming	Pearson correlation	-.1379
	Sig. (2-tailed)	.1106
	<i>N</i>	135

(Table continues)

<i>Disincentives</i>		Income
Disincentive 26: It does not cover my topic of interest in the depth I desire	Pearson correlation	-.0351
	Sig. (2-tailed)	.6893
	<i>N</i>	132
Disincentive 27: Lack of ability to assess how I am doing to ensure I am learning	Pearson correlation	-.0582
	Sig. (2-tailed)	.5012
	<i>N</i>	136
Disincentive 28: Wanting personal support through encouraging self-reflection & guidance within some of the in-text activities and formal assessments	Pearson correlation	-.0292
	Sig. (2-tailed)	.7366
	<i>N</i>	135
Disincentive 29: Lack of availability of guidance materials on study skills	Pearson correlation	-.215
	Sig. (2-tailed)	.0129
	<i>N</i>	133
Disincentive 30: Lack of recording of learning & achievements in e-portfolios or journals	Pearson correlation	-.1501
	Sig. (2-tailed)	.0823
	<i>N</i>	135
Disincentive 31: Limited or no access to a computer	Pearson correlation	-.1425
	Sig. (2-tailed)	.0979
	<i>N</i>	136
Disincentive 32: Limited or no access to the Internet	Pearson correlation	-.1162
	Sig. (2-tailed)	.1778
	<i>N</i>	136
Disincentive 33: Other technical barriers preventing easy use or reuse	Pearson correlation	-.0487
	Sig. (2-tailed)	.5735
	<i>N</i>	136
Disincentive 34: Physical circumstances that limit my access	Pearson correlation	-.0313
	Sig. (2-tailed)	.7182
	<i>N</i>	135
Disincentive 35: The cost of being online	Pearson correlation	.0083
	Sig. (2-tailed)	.9239
	<i>N</i>	136
Disincentive 36: Being geographically remote	Pearson correlation	.0375
	Sig. (2-tailed)	.6662
	<i>N</i>	135
Disincentive 37: Not having the qualifications or prior achievements necessary for access	Pearson correlation	-.0503
	Sig. (2-tailed)	.5611
	<i>N</i>	136
Disincentive 38: Needing to learn & understand how to navigate and use such resources	Pearson correlation	.0266
	Sig. (2-tailed)	.7585
	<i>N</i>	136
Disincentive 39: Not knowing what resources exist	Pearson correlation	.0561
	Sig. (2-tailed)	.5168
	<i>N</i>	136

(Table continues)

<i>Disincentives</i>		Income
Disincentive 40: Not understanding what the resources are	Pearson correlation	.0058
	Sig. (2-tailed)	.9467
	<i>N</i>	136
Disincentive 41: Concern that free resources lack quality	Pearson correlation	.026
	Sig. (2-tailed)	.764
	<i>N</i>	136
Disincentive 42: There is currently no accreditation tied with OCW	Pearson correlation	-.0722
	Sig. (2-tailed)	.4038
	<i>N</i>	136
Disincentive 43: Not clear that unstructured communication on its own is very helpful to learning.	Pearson correlation	-.0601
	Sig. (2-tailed)	.4873
	<i>N</i>	136

Appendix DD

Mean Scores for Disincentives by Gender

Table DD-1

*Comparison of the Mean Scores of Disincentives by Gender (N = 140)*

Disincentives	Female (n = 48)			Male (n = 88)			Unknown (n = 4)			Total (N = 140)		
	Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	N	SD
d1 The need to be a skilled self-studier or independent learner	2.52	46	1.26	2.54	87	1.24	1.75	4	1.5	2.51	137	1.25
d2 Lack of professional support provided by subject tutors or experts	3.04	47	1.37	3.26	87	1.14	1.75	4	1.5	3.14	138	1.25
d3 Lack of guidance provided by support specialists	3.09	47	1.4	3.16	87	1.15	1.75	4	1.5	3.09	138	1.26
d4 Availability of this mode of teaching & learning is extremely variable	2.83	47	1.15	2.85	85	1.18	2.25	4	1.26	2.82	136	1.17
d5 Lack of awareness of how these tools can be used effectively	3.13	46	1.29	2.95	86	1.18	2.75	4	1.5	3.01	136	1.22
d6 There is no certificate or degree awarded	3.33	48	1.62	3.26	88	1.52	3	4	1.41	3.28	140	1.54
d7 Lack of activities & events that facilitate participation in learning opportunities	2.87	46	1.28	2.76	88	1.13	2.5	4	1.73	2.79	138	1.19
d8 Concern about intellectual property	2.77	47	1.32	2.65	88	1.25	2.5	4	1.73	2.68	139	1.28
d9 There is a mismatch to my local language or culture	2.34	47	1.61	2.35	86	1.52	1.75	4	1.5	2.33	137	1.54
d10 Concern about feeling included	2.15	48	1.37	1.9	88	1.04	1.75	4	1.5	1.98	140	1.17
d11 Concern about being competent or capable to study at this level	2.21	48	1.34	2.36	87	1.15	1.75	4	1.5	2.29	139	1.22
d12 Education is not important for my social group or community	2.09	47	1.46	2.18	87	1.34	2.5	4	1.29	2.16	138	1.37
d13 It goes against the norms or customs of my culture	1.91	46	1.43	1.82	87	1.15	2	4	1.15	1.85	137	1.24
d14 Being discouraged from engaging in additional education	1.98	47	1.42	2.09	88	1.21	2.25	4	1.5	2.06	139	1.28
d15 It goes against the norms or customs of my family or community (social)	1.7	47	1.23	1.76	87	1.08	1.75	4	0.96	1.74	138	1.12
d16 Having no intent to learn at this level	2.09	47	1.33	2.3	88	1.25	2.25	4	0.96	2.22	139	1.27
d17 Not understanding how to use this resource	2.64	47	1.5	2.9	88	1.34	2.5	4	1.91	2.8	139	1.4
d18 Not having the qualifications to use this resource	2.36	47	1.39	2.64	88	1.27	2.75	4	2.06	2.55	139	1.33
d19 Concern about handling these new technologies	2.46	48	1.38	2.35	88	1.21	2.5	4	1.73	2.39	140	1.28

*(Table continues)*

Disincentives		Female (n = 48)			Male (n = 88)			Unknown (n = 4)			Total (N = 140)		
		Mean	n	SD	Mean	n	SD	Mean	n	SD	Mean	N	SD
d20	Concern about handling these new ways of learning	2.44	48	1.27	2.35	88	1.07	2.5	4	1.29	2.39	140	1.14
d21	There is a lack of teacher-supplied motivation, feedback & direction	3.06	48	1.45	2.88	88	1.25	1.5	4	1	2.9	140	1.33
d22	Feeling educational materials & opportunities are not as open as possible	2.6	47	1.28	2.75	87	1.12	2.25	4	1.5	2.68	138	1.18
d23	Content is not structured in a 'self-learn' or 'self-teach' method	2.66	47	1.27	2.98	86	1.21	2.25	4	0.96	2.85	137	1.23
d24	Content is produced & displayed in large chunks instead of bite-sized pieces of information	2.75	48	1.28	2.79	87	1.11	1.5	4	1	2.74	139	1.18
d25	Feeling the material is overwhelming	3.17	48	1.23	3.01	87	1.33	2.75	4	2.06	3.06	139	1.31
d26	It does not cover my topic of interest in the depth I desire	3.06	47	1.13	3.27	85	1.38	2.25	4	1.5	3.17	136	1.31
d27	Lack of ability to assess how I am doing to ensure I am learning	3	48	1.27	2.98	88	1.27	2.5	4	1.29	2.97	140	1.26
d28	Wanting personal support through encouraging self-reflection & guidance within some of the in-text activities and formal assessments	2.77	48	1.21	2.57	87	1.16	2.25	4	1.89	2.63	139	1.19
d29	Lack of availability of guidance materials on study skills	2.81	48	1.33	2.74	85	1.2	1.5	4	0.58	2.73	137	1.25
d30	Lack of recording of learning & achievements in e-portfolios or journals	2.63	48	1.33	2.47	87	1.1	1.5	4	0.58	2.5	139	1.18
d31	Limited or no access to a computer	2.44	48	1.81	2.61	88	1.7	3.25	4	1.71	2.57	140	1.73
d32	Limited or no access to the Internet	2.44	48	1.79	2.63	88	1.71	3.25	4	1.71	2.58	140	1.73
d33	Other technical barriers preventing easy use or reuse	2.58	48	1.5	2.53	88	1.41	2.75	4	1.71	2.56	140	1.44
d34	Physical circumstances that limit my access	2.08	48	1.5	2.24	87	1.36	2.75	4	1.71	2.2	139	1.42
d35	The cost of being online	2.04	48	1.52	2.18	88	1.27	1.75	4	1.5	2.12	140	1.36
d36	Being geographically remote	2.09	47	1.52	1.82	88	1.12	2.25	4	1.5	1.92	139	1.27
d37	Not having the qualifications or prior achievements necessary for access	2.23	48	1.42	2.31	88	1.28	2.25	4	1.5	2.28	140	1.33
d38	Needing to learn & understand how to navigate and use such resources	2.42	48	1.43	2.43	88	1.15	2.5	4	1.73	2.43	140	1.26
d39	Not knowing what resources exist	2.96	48	1.49	2.93	88	1.19	2.25	4	1.5	2.92	140	1.3

(Table continues)

		Female ( <i>n</i> = 48)			Male ( <i>n</i> = 88)			Unknown ( <i>n</i> = 4)			Total ( <i>N</i> = 140)		
Disincentives		Mean	<i>n</i>	SD	Mean	<i>n</i>	SD	Mean	<i>n</i>	SD	Mean	<i>N</i>	SD
d40	Not understanding what the resources are	2.88	48	1.47	2.86	88	1.25	2	4	1.15	2.84	140	1.33
d41	Concern that free resources lack quality	2.42	48	1.4	2.55	88	1.27	2	4	1.41	2.49	140	1.31
d42	There is currently no accreditation tied with OCW	2.88	48	1.5	3.13	88	1.44	2.5	4	1.73	3.02	140	1.47
d43	Not clear that unstructured communication on its own is very helpful to learning.	2.38	48	1.21	2.61	88	1.1	2.25	4	1.89	2.52	140	1.16

Appendix EE

Point Bi-Serial Correlation Coefficients Between Gender and Disincentives



Table EE-1

*Correlations for Gender and Disincentives*

Disincentives		Gender
Disincentive 1: The need to be a skilled self-studier or independent learner	Pearson Correlation	.0071
	Sig. (2-tailed)	.9352
	<i>N</i>	133
Disincentive 2: Lack of professional support provided by subject tutors or experts	Pearson Correlation	.087
	Sig. (2-tailed)	.3175
	<i>N</i>	134
Disincentive 3: Lack of guidance provided by support specialists	Pearson Correlation	.0294
	Sig. (2-tailed)	.7364
	<i>N</i>	134
Disincentive 4: Availability of this mode of teaching & learning is extremely variable	Pearson Correlation	.0071
	Sig. (2-tailed)	.9353
	<i>N</i>	132
Disincentive 5: Lack of awareness of how these tools can be used effectively	Pearson Correlation	-.0696
	Sig. (2-tailed)	.4281
	<i>N</i>	132
Disincentive 6: There is no certificate or degree awarded	Pearson Correlation	-.0223
	Sig. (2-tailed)	.7967
	<i>N</i>	136
Disincentive 7: Lack of activities & events that facilitate participation in learning	Pearson Correlation	-.0437
	Sig. (2-tailed)	.6165
	<i>N</i>	134
Disincentive 8: Concern about intellectual property	Pearson Correlation	-.0444
	Sig. (2-tailed)	.6089
	<i>N</i>	135
Disincentive 9: There is a mismatch to my local language or culture	Pearson Correlation	.0026
	Sig. (2-tailed)	.9762
	<i>N</i>	133

*(Table continues)*

Disincentives		Gender
Disincentive 10: Concern about feeling included	Pearson Correlation	-.1019
	Sig. (2-tailed)	.2376
	<i>N</i>	136
Disincentive 11: Concern about being competent or capable to study at this level	Pearson Correlation	.0584
	Sig. (2-tailed)	.501
	<i>N</i>	135
Disincentive 12: Education is not important for my social group or community	Pearson Correlation	.0343
	Sig. (2-tailed)	.6939
	<i>N</i>	134
Disincentive 13: It goes against the norms or customs of my culture	Pearson Correlation	-.0371
	Sig. (2-tailed)	.6712
	<i>N</i>	133
Disincentive 14: Being discouraged from engaging in additional education	Pearson Correlation	.0418
	Sig. (2-tailed)	.6302
	<i>N</i>	135
Disincentive 15: It goes against the norms or customs of my family or community (social)	Pearson Correlation	.0239
	Sig. (2-tailed)	.7836
	<i>N</i>	134
Disincentive 16: Having no intent to learn at this level	Pearson Correlation	.0786
	Sig. (2-tailed)	.3648
	<i>N</i>	135
Disincentive 17: Not understanding how to use this resource	Pearson Correlation	.0889
	Sig. (2-tailed)	.3053
	<i>N</i>	135
Disincentive 18: Not having the qualifications to use this resource	Pearson Correlation	.0999
	Sig. (2-tailed)	.2489
	<i>N</i>	135
Disincentive 19: Concern about handling these new technologies	Pearson Correlation	-.04
	Sig. (2-tailed)	.6438
	<i>N</i>	136

(Table continues)

Disincentives		Gender
Disincentive 20: Concern about handling these new ways of learning	Pearson Correlation	-.0358
	Sig. (2-tailed)	.6791
	<i>N</i>	136
Disincentive 21: There is a lack of teacher-supplied motivation, feedback & direction	Pearson Correlation	-.0681
	Sig. (2-tailed)	.4309
	<i>N</i>	136
Disincentive 22: Feeling educational materials & opportunities are not as open as possible	Pearson Correlation	.0616
	Sig. (2-tailed)	.4797
	<i>N</i>	134
Disincentive 23: Content is not structured in a 'self-learn' or 'self-teach' method	Pearson Correlation	.1232
	Sig. (2-tailed)	.1579
	<i>N</i>	133
Disincentive 24: Content is produced & displayed in large chunks instead of bite-sized pieces of information	Pearson Correlation	.0177
	Sig. (2-tailed)	.8385
	<i>N</i>	135
Disincentive 25: Feeling the material is overwhelming	Pearson Correlation	-.0576
	Sig. (2-tailed)	.5069
	<i>N</i>	135
Disincentive 26: It does not cover my topic of interest in the depth I desire	Pearson Correlation	.0765
	Sig. (2-tailed)	.3831
	<i>N</i>	132
Disincentive 27: Lack of ability to assess how I am doing to ensure I am learning	Pearson Correlation	-.0086
	Sig. (2-tailed)	.9207
	<i>N</i>	136
Disincentive 28: Wanting personal support through encouraging self-reflection & guidance within some of the in-text activities and formal assessments	Pearson Correlation	-.0802
	Sig. (2-tailed)	.3551
	<i>N</i>	135

*(Table continues)*

Disincentives		Gender
Disincentive 29: Lack of availability of guidance materials on study skills	Pearson Correlation	-.0277
	Sig. (2-tailed)	.7519
	<i>N</i>	133
Disincentive 30: Lack of recording of learning & achievements in e-portfolios or journals	Pearson Correlation	-.0624
	Sig. (2-tailed)	.472
	<i>N</i>	135
Disincentive 31: Limited or no access to a computer	Pearson Correlation	.0486
	Sig. (2-tailed)	.5741
	<i>N</i>	136
Disincentive 32: Limited or no access to the Internet	Pearson Correlation	.0519
	Sig. (2-tailed)	.5485
	<i>N</i>	136
Disincentive 33: Other technical barriers preventing easy use or reuse	Pearson Correlation	-.0165
	Sig. (2-tailed)	.8491
	<i>N</i>	136
Disincentive 34: Physical circumstances that limit my access	Pearson Correlation	.0539
	Sig. (2-tailed)	.535
	<i>N</i>	135
Disincentive 35: The cost of being online	Pearson Correlation	.0494
	Sig. (2-tailed)	.5676
	<i>N</i>	136
Disincentive 36: Being geographically remote	Pearson Correlation	-.1003
	Sig. (2-tailed)	.247
	<i>N</i>	135
Disincentive 37: Not having the qualifications or prior achievements necessary for access	Pearson Correlation	.0281
	Sig. (2-tailed)	.7455
	<i>N</i>	136
Disincentive 38: Needing to learn & understand how to navigate and use such resources	Pearson Correlation	.0058
	Sig. (2-tailed)	.9465
	<i>N</i>	136
Disincentive 39: Not knowing what resources exist	Pearson Correlation	-.0098
	Sig. (2-tailed)	.9099
	<i>N</i>	136

(Table continues)

Disincentives		Gender
Disincentive 40: Not understanding what the resources are	Pearson Correlation	-.0041
	Sig. (2-tailed)	.9621
	<i>N</i>	136
Disincentive 41: Concern that free resources lack quality	Pearson Correlation	.0471
	Sig. (2-tailed)	.5859
	<i>N</i>	136
Disincentive 42: There is currently no accreditation tied with OCW	Pearson Correlation	.082
	Sig. (2-tailed)	.3427
	<i>N</i>	136
Disincentive 43: Not clear that unstructured communication on its own is very helpful to learning.	Pearson Correlation	.1003
	Sig. (2-tailed)	.2454
	<i>N</i>	136

Appendix FF

Mean Scores of Disincentives by Education

Table FF-1

*Comparison of the Mean Scores of Disincentives by Education Level (N = 140)*

Disincentives	Completed high school		Completed college		Completed graduate school		Attended vocational tech		Unknown		Total	
	Mean	<i>n</i>	Mean	<i>n</i>	Mean	<i>n</i>	Mean	<i>n</i>	Mean	<i>n</i>	Mean	<i>n</i>
d1 The need to be a skilled self-studier or independent learner	2.51	63	2.6	42	2.48	27	3	1	1.75	4	2.51	137
d2 Lack of professional support provided by subject tutors or experts	3.38	63	3.16	43	2.7	27	5	1	1.75	4	3.14	138
d3 Lack of guidance provided by support specialists	3.27	63	3.05	43	2.89	27	5	1	1.75	4	3.09	138
d4 Availability of this mode of teaching & learning is extremely variable	2.85	62	2.79	42	2.81	27	5	1	2.25	4	2.82	136
d5 Lack of awareness of how these tools can be used effectively	3.0	63	3.12	41	2.85	27	4.0	1	2.75	4	3.01	136
d6 There is no certificate or degree awarded	3.37	65	3.4	43	2.85	27	5	1	3	4	3.28	140
d7 Lack of activities & events that facilitate participation in learning opportunities	2.88	64	2.88	43	2.46	26	3	1	2.5	4	2.79	138
d8 Concern about intellectual property	2.7	64	2.91	43	2.3	27	3	1	2.5	4	2.68	139
d9 There is a mismatch to my local language or culture	2.3	64	2.55	42	2.04	26	5	1	1.75	4	2.33	137
d10 Concern about feeling included	1.98	65	2.16	43	1.63	27	4	1	1.75	4	1.98	140
d11 Concern about being competent or capable to study at this level	2.47	64	2.33	43	1.78	27	5	1	1.75	4	2.29	139
d12 Education is not important for my social group or community	2.25	65	2.22	41	1.74	27	4	1	2.5	4	2.16	138
d13 It goes against the norms or customs of my culture	1.81	63	2.12	42	1.48	27	3	1	2	4	1.85	137
d14 Being discouraged from engaging in additional education	2.19	64	2.09	43	1.56	27	5	1	2.25	4	2.06	139

*(Table continues)*

		Completed high school		Completed college		Completed graduate school		Attended vocational tech		Unknown		Total	
Disincentives		Mean	<i>n</i>	Mean	<i>n</i>	Mean	<i>n</i>	Mean	<i>n</i>	Mean	<i>n</i>	Mean	<i>n</i>
d15	It goes against the norms or customs of my family or community (social)	1.75	63	1.93	43	1.37	27	3	1	1.75	4	1.74	138
d16	Having no intent to learn at this level	2.36	64	2.33	43	1.7	27	3	1	2.25	4	2.22	139
d17	Not understanding how to use this resource	2.88	64	2.88	43	2.52	27	3	1	2.5	4	2.8	139
d18	Not having the qualifications to use this resource	2.69	64	2.63	43	2.04	27	3	1	2.75	4	2.55	139
d19	Concern about handling these new technologies	2.54	65	2.4	43	2	27	3	1	2.5	4	2.39	140
d20	Concern about handling these new ways of learning	2.49	65	2.42	43	1.96	27	5	1	2.5	4	2.39	140
d21	There is a lack of teacher-supplied motivation, feedback & direction	3.12	65	2.98	43	2.44	27	3	1	1.5	4	2.9	140
d22	Feeling educational materials & opportunities are not as open as possible	2.8	65	2.71	42	2.38	26	3	1	2.25	4	2.68	138
d23	Content is not structured in a 'self-learn' or 'self-teach' method	3.02	64	2.95	42	2.27	26	5	1	2.25	4	2.85	137
d24	Content is produced & displayed in large chunks instead of bite-sized pieces of information	2.97	64	2.74	43	2.3	27	5	1	1.5	4	2.74	139
d25	Feeling the material is overwhelming	3.17	64	3.02	43	2.81	27	5	1	2.75	4	3.06	139
d26	It does not cover my topic of interest in the depth I desire	3.27	63	3.15	41	3.07	27	4	1	2.25	4	3.17	136
d27	Lack of ability to assess how I am doing to ensure I am learning	3.03	65	3.05	43	2.7	27	5	1	2.5	4	2.97	140
d28	Wanting personal support through encouraging self-reflection & guidance within some of the in-text activities and formal assessments	2.75	64	2.65	43	2.33	27	4	1	2.25	4	2.63	139

(Table continues)



		Completed high school		Completed college		Completed graduate school		Attended vocational tech		Unknown		Total	
Disincentives		Mean	<i>n</i>	Mean	<i>n</i>	Mean	<i>n</i>	Mean	<i>n</i>	Mean	<i>n</i>	Mean	<i>n</i>
d29	Lack of availability of guidance materials on study skills	2.86	63	2.88	42	2.33	27	4	1	1.5	4	2.73	137
d30	Lack of recording of learning & achievements in e-portfolios or journals	2.48	64	2.84	43	2.07	27	4	1	1.5	4	2.5	139
d31	Limited or no access to a computer	2.68	65	2.51	43	2.22	27	5	1	3.25	4	2.57	140
d32	Limited or no access to the Internet	2.69	65	2.51	43	2.22	27	5	1	3.25	4	2.58	140
d33	Other technical barriers preventing easy use or reuse	2.49	65	2.63	43	2.52	27	4	1	2.75	4	2.56	140
d34	Physical circumstances that limit my access	2.19	64	2.12	43	2.26	27	3	1	2.75	4	2.2	139
d35	The cost of being online	2.02	65	2.26	43	2.11	27	5	1	1.75	4	2.12	140
d36	Being geographically remote	1.8	65	2.02	42	1.96	27	3	1	2.25	4	1.92	139
d37	Not having the qualifications or prior achievements necessary for access	2.25	65	2.44	43	2.04	27	4	1	2.25	4	2.28	140
d38	Needing to learn & understand how to navigate and use such resources	2.4	65	2.58	43	2.19	27	4	1	2.5	4	2.43	140
d39	Not knowing what resources exist	2.83	65	3.09	43	2.89	27	5	1	2.25	4	2.92	140
d40	Not understanding what the resources are	2.92	65	2.98	43	2.48	27	5	1	2	4	2.84	140
d41	Concern that free resources lack quality	2.37	65	2.91	43	2.15	27	3	1	2	4	2.49	140
d42	There is currently no accreditation tied with OCW	3.15	65	3.16	43	2.56	27	3	1	2.5	4	3.02	140
d43	Not clear that unstructured communication on its own is very helpful to learning.	2.48	65	2.72	43	2.33	27	3	1	2.25	4	2.52	140

## Appendix GG

Spearman's RHO Correlation Coefficients Between Education and Disincentives

Table GG-1

*Correlation for Education and Disincentives*

Disincentives		Education
Disincentive 1: The need to be a skilled self-studier or independent learner	Spearman's rho	-.0105
	Sig. (2-tailed)	.9045
	<i>N</i>	133
Disincentive 2: Lack of professional support provided by subject tutors or experts	Spearman's rho	-.2249
	Sig. (2-tailed)	.009
	<i>N</i>	134
Correlation is significant at the .01 level (2-tailed).		
Disincentive 3: Lack of guidance provided by support specialists	Spearman's rho	
	Sig. (2-tailed)	-.1354
	<i>N</i>	.1188
Disincentive 4: Availability of this mode of teaching & learning is extremely variable	Spearman's rho	134
	Sig. (2-tailed)	-.0457
	<i>N</i>	.6032
Disincentive 5: Lack of awareness of how these tools can be used effectively	Spearman's rho	132
	Sig. (2-tailed)	-.0129
	<i>N</i>	.8836
Disincentive 6: There is no certificate or degree awarded	Spearman's rho	132
	Sig. (2-tailed)	-.0994
	<i>N</i>	.2496
Disincentive 7: Lack of activities & events that facilitate participation in learning opportunities	Spearman's rho	136
	Sig. (2-tailed)	-.1
	<i>N</i>	.2503
Disincentive 8: Concern about intellectual property	Spearman's rho	134
	Sig. (2-tailed)	-.079
	<i>N</i>	.3624
Disincentive 9: There is a mismatch to my local language or culture	Spearman's rho	135
	Sig. (2-tailed)	-.048
	<i>N</i>	.583
	Spearman's rho	133

*(Table continues)*

Disincentives	Education	
Disincentive 10: Concern about feeling included	Sig. (2-tailed)	-.094
	<i>N</i>	.2762
	Spearman's rho	136
Disincentive 11: Concern about being competent or capable to study at this level	Sig. (2-tailed)	-.2082
	<i>N</i>	.0154
	Spearman's rho	135
Correlation is significant at the .05 level (2-tailed).		
Disincentive 12: Education is not important for my social group or community	Sig. (2-tailed)	-.141
	<i>N</i>	.1041
	Spearman's rho	134
Disincentive 13: It goes against the norms or customs of my culture	Sig. (2-tailed)	-.0683
	<i>N</i>	.4349
	Spearman's rho	133
Disincentive 14: Being discouraged from engaging in additional education	Sig. (2-tailed)	-.1814
	<i>N</i>	.0353
	Spearman's rho	135
Correlation is significant at the .05 level (2-tailed).		
Disincentive 15: It goes against the norms or customs of my family or community (social)	Sig. (2-tailed)	-.0841
	<i>N</i>	.3338
	Spearman's rho	134
Disincentive 16: Having no intent to learn at this level	Sig. (2-tailed)	-.1616
	<i>N</i>	.0611
	Spearman's rho	135
Disincentive 17: Not understanding how to use this resource	Sig. (2-tailed)	-.0778
	<i>N</i>	.3697
	Spearman's rho	135
Disincentive 18: Not having the qualifications to use this resource	Sig. (2-tailed)	-.1611
	<i>N</i>	.062
	Spearman's rho	135
Disincentive 19: Concern about handling these new technologies	Sig. (2-tailed)	-.1516
	<i>N</i>	.0781
	Spearman's rho	136

(Table continues)

Disincentives		Education
Disincentive 20: Concern about handling these new ways of learning	Spearman's rho	-.18
	Sig. (2-tailed)	.0359
	<i>N</i>	136
Correlation is significant at the .05 level (2-tailed).		
Disincentive 21: There is a lack of teacher-supplied motivation, feedback & direction	Spearman's rho	-.1666
	Sig. (2-tailed)	.0526
	<i>N</i>	136
Correlation is significant at the .05 level (2-tailed).		
Disincentive 22: Feeling educational materials & opportunities are not as open as possible	Spearman's rho	-.1212
	Sig. (2-tailed)	.1631
	<i>N</i>	134
Correlation is significant at the .05 level (2-tailed).		
Disincentive 23: Content is not structured in a 'self-learn' or 'self-teach' method	Spearman's rho	-.2094
	Sig. (2-tailed)	.0156
	<i>N</i>	133
Correlation is significant at the .05 level (2-tailed).		
Disincentive 24: Content is produced & displayed in large chunks instead of bite-sized pieces of information	Spearman's rho	-.2232
	Sig. (2-tailed)	.0093
	<i>N</i>	135
Correlation is significant at the .01 level (2-tailed).		
Disincentive 25: Feeling the material is overwhelming	Spearman's rho	-.1247
	Sig. (2-tailed)	.1495
	<i>N</i>	135
Correlation is significant at the .05 level (2-tailed).		
Disincentive 26: It does not cover my topic of interest in the depth I desire	Spearman's rho	-.0709
	Sig. (2-tailed)	.4192
	<i>N</i>	132
Correlation is not significant at the .05 level (2-tailed).		
Disincentive 27: Lack of ability to assess how I am doing to ensure I am learning	Spearman's rho	-.0875
	Sig. (2-tailed)	.311
	<i>N</i>	136
Correlation is not significant at the .05 level (2-tailed).		
Disincentive 28: Wanting personal support through encouraging self-reflection & guidance within some of the in-text activities and formal assessments	Spearman's rho	-.1371
	Sig. (2-tailed)	.1127
	<i>N</i>	135

(Table continues)

Disincentives		Education
Disincentive 29: Lack of availability of guidance materials on study skills	Spearman's rho	-.1354
	Sig. (2-tailed)	.1202
	<i>N</i>	133
Disincentive 30: Lack of recording of learning & achievements in e-portfolios or journals	Spearman's rho	-.0733
	Sig. (2-tailed)	.3979
	<i>N</i>	135
Disincentive 31: Limited or no access to a computer	Spearman's rho	-.1119
	Sig. (2-tailed)	.1948
	<i>N</i>	136
Disincentive 32: Limited or no access to the Internet	Spearman's rho	-.1142
	Sig. (2-tailed)	.1855
	<i>N</i>	136
Disincentive 33: Other technical barriers preventing easy use or reuse	Spearman's rho	.0048
	Sig. (2-tailed)	.9557
	<i>N</i>	136
Disincentive 34: Physical circumstances that limit my access	Spearman's rho	-.022
	Sig. (2-tailed)	.7998
	<i>N</i>	135
Disincentive 35: The cost of being online	Spearman's rho	-.001
	Sig. (2-tailed)	.991
	<i>N</i>	136
Disincentive 36: Being geographically remote	Spearman's rho	.042
	Sig. (2-tailed)	.6289
	<i>N</i>	135
Disincentive 37: Not having the qualifications or prior achievements necessary for access	Spearman's rho	-.0552
	Sig. (2-tailed)	.5236
	<i>N</i>	136
Disincentive 38: Needing to learn & understand how to navigate and use such resources	Spearman's rho	-.0564
	Sig. (2-tailed)	.5141
	<i>N</i>	136

(Table continues)

Disincentives		Education
Disincentive 39: Not knowing what resources exist	Spearman's rho	.0263
	Sig. (2-tailed)	.7609
	<i>N</i>	136
Disincentive 40: Not understanding what the resources are	Spearman's rho	-.1141
	Sig. (2-tailed)	.186
	<i>N</i>	136
Disincentive 41: Concern that free resources lack quality	Spearman's rho	.0111
	Sig. (2-tailed)	.8977
	<i>N</i>	136
Disincentive 42: There is currently no accreditation tied with OCW	Spearman's rho	-.1146
	Sig. (2-tailed)	.1842
	<i>N</i>	136
Disincentive 43: Not clear that unstructured communication on its own is very helpful to learning.	Spearman's rho	.0095
	Sig. (2-tailed)	.9125
	<i>N</i>	136

Appendix HH

Eta Correlation Ratio Between County and Disincentives



Table HH-1

*Measure of Association between Disincentives and County*

Measures of association		Eta	Eta squared	Variance accounted for (%)
d1 * county	The need to be a skilled self-studier or independent learner	0.317637423	0.100893533	10.09
d2 * county	Lack of professional support provided by subject tutors or experts	0.318029733	0.101142911	10.11
d3 * county	Lack of guidance provided by support specialists	0.302544407	0.091533118	9.15
d4 * county	Availability of this mode of teaching & learning is extremely variable	0.349329974	0.122031431	12.20
d5 * county	Lack of awareness of how these tools can be used effectively	0.271878268	0.073917792	7.39
d6 * county	There is no certificate or degree awarded	0.320972087	0.10302308	10.30
d7 * county	Lack of activities & events that facilitate participation in learning opportunities	0.31205612	0.097379022	9.74
d8 * county	Concern about intellectual property	0.293187346	0.08595882	8.60
d9 * county	There is a mismatch to my local language or culture	0.383981915	0.147442111	14.74
d10 * county	Concern about feeling included	0.287007282	0.08237318	8.24
d11 * county	Concern about being competent or capable to study at this level	0.26833201	0.072002068	7.20
d12 * county	Education is not important for my social group or community	0.297120002	0.088280296	8.83
d13 * county	It goes against the norms or customs of my culture	0.413518616	0.170997646	17.10
d14 * county	Being discouraged from engaging in additional education	0.308130382	0.094944333	9.49
d15 * county	It goes against the norms or customs of my family or community (social)	0.434879197	0.189119916	18.91
d16 * county	Having no intent to learn at this level	0.329691089	0.108696214	10.87
d17 * county	Not understanding how to use this resource	0.253260462	0.064140862	6.41
d18 * county	Not having the qualifications to use this resource	0.307637362	0.094640746	9.46
d19 * county	Concern about handling these new technologies	0.307502523	0.094557802	9.46
d20 * county	Concern about handling these new ways of learning	0.296402364	0.087854362	8.79
d21 * county	There is a lack of teacher-supplied motivation, feedback & direction	0.318946453	0.10172684	10.17
d22 * county	Feeling educational materials & opportunities are not as open as possible	0.295414135	0.087269511	8.73

*(Table continues)*

Measures of association		Eta	Eta squared	Variance accounted for (%)
d23 * county	Content is not structured in a 'self-learn' or 'self-teach' method	0.293351872	0.086055321	8.61
d24 * county	Content is produced & displayed in large chunks instead of bite-sized pieces of information	0.338652787	0.11468571	11.47
d25 * county	Feeling the material is overwhelming	0.281635396	0.079318496	7.93
d26 * county	It does not cover my topic of interest in the depth I desire	0.40140283	0.161124232	16.11
d27 * county	Lack of ability to assess how I am doing to ensure I am learning	0.28703977	0.082391829	8.24
d28 * county	Wanting personal support through encouraging self-reflection & guidance within some of the in-text activities and formal assessments	0.30500776	0.093029734	9.30
d29 * county	Lack of availability of guidance materials on study skills	0.303226351	0.09194622	9.19
d30 * county	Lack of recording of learning & achievements in e-portfolios or journals	0.306196742	0.093756445	9.38
d31 * county	Limited or no access to a computer	0.339422601	0.115207702	11.52
d32 * county	Limited or no access to the Internet	0.338517848	0.114594334	11.46
d33 * county	Other technical barriers preventing easy use or reuse	0.334923038	0.112173441	11.22
d34 * county	Physical circumstances that limit my access	0.336677076	0.113351453	11.34
d35 * county	The cost of being online	0.407755363	0.166264436	16.63
d36 * county	Being geographically remote	0.350005078	0.122503554	12.25
d37 * county	Not having the qualifications or prior achievements necessary for access	0.390340071	0.152365371	15.24
d38 * county	Needing to learn & understand how to navigate and use such resources	0.389481881	0.151696136	15.17
d39 * county	Not knowing what resources exist	0.406732826	0.165431592	16.54
d40 * county	Not understanding what the resources are	0.370015337	0.13691135	13.69
d41 * county	Concern that free resources lack quality	0.347970183	0.121083248	12.11
d42 * county	There is currently no accreditation tied with OCW	0.363773021	0.132330811	13.23
d43 * county	Not clear that unstructured communication on its own is very helpful to learning.	0.326458419	0.106575099	10.66

Appendix II

Eta Correlation Between Occupation and Disincentives

Table II-1

*Measure of Association between Disincentives and Occupation*

Measures of association		Eta	Eta squared	Variance accounted for (%)
d1 * occupation	The need to be a skilled self-studier or independent learner	0.37450	0.14025	14.02
d2 * occupation	Lack of professional support provided by subject tutors or experts	0.39650	0.15721	15.72
d3 * occupation	Lack of guidance provided by support specialists	0.40688	0.16555	16.56
d4 * occupation	Availability of this mode of teaching & learning is extremely variable	0.34080	0.11614	11.61
d5 * occupation	Lack of awareness of how these tools can be used effectively	0.31238	0.09758	9.76
d6 * occupation	There is no certificate or degree awarded	0.38078	0.14499	14.50
d7 * occupation	Lack of activities & events that facilitate participation in learning opportunities	0.31336	0.09819	9.82
d8 * occupation	Concern about intellectual property	0.35926	0.12907	12.91
d9 * occupation	There is a mismatch to my local language or culture	0.28718	0.08247	8.25
d10 * occupation	Concern about feeling included	0.39694	0.15756	15.76
d11 * occupation	Concern about being competent or capable to study at this level	0.34634	0.11995	12.00
d12 * occupation	Education is not important for my social group or community	0.28255	0.07984	7.98
d13 * occupation	It goes against the norms or customs of my culture	0.30316	0.09191	9.19
d14 * occupation	Being discouraged from engaging in additional education	0.33964	0.11535	11.54
d15 * occupation	It goes against the norms or customs of my family or community (social)	0.26212	0.06870	6.87
d16 * occupation	Having no intent to learn at this level	0.37729	0.14235	14.23
d17 * occupation	Not understanding how to use this resource	0.28474	0.08108	8.11
d18 * occupation	Not having the qualifications to use this resource	0.32917	0.10835	10.84
d19 * occupation	Concern about handling these new technologies	0.42194	0.17803	17.80
d20 * occupation	Concern about handling these new ways of learning	0.37483	0.14050	14.05
d21 * occupation	There is a lack of teacher-supplied motivation, feedback & direction	0.34261	0.11738	11.74

*(Table continues)*

Measures of association		Eta	Eta squared	Variance accounted for (%)
d22 * occupation	Feeling educational materials & opportunities are not as open as possible	0.36937	0.13644	13.64
d23 * occupation	Content is not structured in a 'self-learn' or 'self-teach' method	0.35200	0.12390	12.39
d24 * occupation	Content is produced & displayed in large chunks instead of bite-sized pieces of information	0.42363	0.17946	17.95
d25 * occupation	Feeling the material is overwhelming	0.26617	0.07084	7.08
d26 * occupation	It does not cover my topic of interest in the depth I desire	0.32983	0.10879	10.88
d27 * occupation	Lack of ability to assess how I am doing to ensure I am learning	0.29681	0.08810	8.81
d28 * occupation	Wanting personal support through encouraging self-reflection & guidance within some of the in-text activities and formal assessments	0.34083	0.11617	11.62
d29 * occupation	Lack of availability of guidance materials on study skills	0.40811	0.16656	16.66
d30 * occupation	Lack of recording of learning & achievements in e-portfolios or journals	0.30719	0.09436	9.44
d31 * occupation	Limited or no access to a computer	0.24081	0.05799	5.80
d32 * occupation	Limited or no access to the Internet	0.22805	0.05201	5.20
d33 * occupation	Other technical barriers preventing easy use or reuse	0.25561	0.06534	6.53
d34 * occupation	Physical circumstances that limit my access	0.25680	0.06595	6.59
d35 * occupation	The cost of being online	0.30448	0.09271	9.27
d36 * occupation	Being geographically remote	0.30500	0.09302	9.30
d37 * occupation	Not having the qualifications or prior achievements necessary for access	0.31501	0.09923	9.92
d38 * occupation	Needing to learn & understand how to navigate and use such resources	0.27974	0.07826	7.83
d39 * occupation	Not knowing what resources exist	0.32261	0.10407	10.41
d40 * occupation	Not understanding what the resources are	0.34373	0.11815	11.81
d41 * occupation	Concern that free resources lack quality	0.41256	0.17021	17.02
d42 * occupation	There is currently no accreditation tied with OCW	0.34384	0.11822	11.82
d43 * occupation	Not clear that unstructured communication on its own is very helpful to learning.	0.26756	0.07159	7.16

Appendix JJ

Eta Correlation Ratio Between Ethnicity and Disincentives

Table JJ-1

*Measure of Association Between Disincentives and Ethnicity*

Measures of association		Eta	Eta squared	Variance accounted for (%)
d1 * Ethnic code	The need to be a skilled self-studier or independent learner	0.19587	0.03836	3.84
d2 * Ethnic code	Lack of professional support provided by subject tutors or experts	0.32250	0.10401	10.40
d3 * Ethnic code	Lack of guidance provided by support specialists	0.27780	0.07717	7.72
d4 * Ethnic code	Availability of this mode of teaching & learning is extremely variable	0.21945	0.04816	4.82
d5 * Ethnic code	Lack of awareness of how these tools can be used effectively	0.23022	0.05300	5.30
d6 * Ethnic code	There is no certificate or degree awarded	0.27441	0.07530	7.53
d7 * Ethnic code	Lack of activities & events that facilitate participation in learning opportunities	0.24348	0.05928	5.93
d8 * Ethnic code	Concern about intellectual property	0.22445	0.05038	5.04
d9 * Ethnic code	There is a mismatch to my local language or culture	0.21764	0.04737	4.74
d10 * Ethnic code	Concern about feeling included	0.21070	0.04439	4.44
d11 * Ethnic code	Concern about being competent or capable to study at this level	0.31169	0.09715	9.72
d12 * Ethnic code	Education is not important for my social group or community	0.20449	0.04182	4.18
d13 * Ethnic code	It goes against the norms or customs of my culture	0.25923	0.06720	6.72
d14 * Ethnic code	Being discouraged from engaging in additional education	0.25908	0.06712	6.71
d15 * Ethnic code	It goes against the norms or customs of my family or community (social)	0.22447	0.05039	5.04
d16 * Ethnic code	Having no intent to learn at this level	0.27618	0.07628	7.63
d17 * Ethnic code	Not understanding how to use this resource	0.27796	0.07726	7.73
d18 * Ethnic code	Not having the qualifications to use this resource	0.24414	0.05960	5.96
d19 * Ethnic code	Concern about handling these new technologies	0.26475	0.07009	7.01
d20 * Ethnic code	Concern about handling these new ways of learning	0.31626	0.10002	10.00
d21 * Ethnic code	There is a lack of teacher-supplied motivation, feedback & direction	0.31265	0.09775	9.77
d22 * Ethnic code	Feeling educational materials & opportunities are not as open as possible	0.25316	0.06409	6.41
d23 * Ethnic code	Content is not structured in a 'self-learn' or 'self-teach' method	0.24002	0.05761	5.76

*(Table continues)*

Measures of association		Eta	Eta squared	Variance accounted for (%)
d24 * Ethnic code	Content is produced & displayed in large chunks instead of bite-sized pieces of information	0.24321	0.05915	5.92
d25 * Ethnic code	Feeling the material is overwhelming	0.15833	0.02507	2.51
d26 * Ethnic code	It does not cover my topic of interest in the depth I desire	0.23580	0.05560	5.56
d27 * Ethnic code	Lack of ability to assess how I am doing to ensure I am learning	0.19728	0.03892	3.89
d28 * Ethnic code	Wanting personal support through encouraging self-reflection & guidance within some of the in-text activities and formal assessments	0.29173	0.08511	8.51
d29 * Ethnic code	Lack of availability of guidance materials on study skills	0.25013	0.06257	6.26
d30 * Ethnic code	Lack of recording of learning & achievements in e-portfolios or journals	0.26444	0.06993	6.99
d31 * Ethnic code	Limited or no access to a computer	0.22701	0.05153	5.15
d32 * Ethnic code	Limited or no access to the Internet	0.23126	0.05348	5.35
d33 * Ethnic code	Other technical barriers preventing easy use or reuse	0.21933	0.04811	4.81
d34 * Ethnic code	Physical circumstances that limit my access	0.17205	0.02960	2.96
d35 * Ethnic code	The cost of being online	0.33934	0.11515	11.51
d36 * Ethnic code	Being geographically remote	0.27256	0.07429	7.43
d37 * Ethnic code	Not having the qualifications or prior achievements necessary for access	0.41508	0.17229	17.23
d38 * Ethnic code	Needing to learn & understand how to navigate and use such resources	0.27806	0.07732	7.73
d39 * Ethnic code	Not knowing what resources exist	0.26757	0.07159	7.16
d40 * Ethnic code	Not understanding what the resources are	0.27837	0.07749	7.75
d41 * Ethnic code	Concern that free resources lack quality	0.25682	0.06596	6.60
d42 * Ethnic code	There is currently no accreditation tied with OCW	0.23984	0.05752	5.75
d43 * Ethnic code	Not clear that unstructured communication on its own is very helpful to learning.	0.22157	0.04909	4.91



Appendix KK

Comparison of Demographics of Respondents and Nonrespondents

Table KK-1

*Comparison of Demographics of Respondents and Nonrespondents*

Demographic variables	Valid responses ( <i>n</i> = 140)		Nonrespondent demographics ( <i>n</i> = 544)		Difference
	<i>N</i>	%	<i>N</i>	%	%
<b>Gender</b>					
Female	48	34.29	226	41.54	-7.25
Male	88	62.86	318	58.46	4.40
Unknown	4	2.86		.00	2.86
<b>Occupation</b>					
Professional/technical	49	35.00	141	25.92	9.08
Administrative/managerial	19	13.57	66	12.13	1.44
Sales/service	11	7.86	38	6.99	.87
Clerical/white collar	7	5.00	37	6.80	-1.80
Craftsman/blue collar	13	9.29	80	14.71	-5.42
Student	6	4.29	30	5.51	-1.22
House maker	11	7.86	47	8.64	-.78
Retired	1	.71	14	2.57	-1.86
Self-employed	1	.71	5	.92	-.21
Self-employed prof/tech	4	2.86	16	2.94	-.08
Self-employed management	2	1.43	8	1.47	-.04
Self-employed sales/marketing			7	1.29	-1.29
Self-employed clerical			1	.18	-.18
Self-employed student	1	.71	3	.55	.16
Self-employed homemaker	2	1.43	3	.55	.88
Self-employed other	4	2.86	1	.18	2.68
Financial professional			2	.37	-.37
Medical professional	1	.71	3	.55	.16
Other	8	5.71	42	7.72	-2.01
<b>Ethnic code</b>					
Southern European	2	1.43	2	.37	1.06
French	1	.71	9	1.65	-.94
German	5	3.57	41	7.54	-3.97
Hispanic	4	2.86	24	4.41	-1.55

*(Table continues)*

Demographic variables	Valid responses ( <i>n</i> = 140)		Nonrespondent demographics ( <i>n</i> = 544)		Difference
	<i>N</i>	%	<i>N</i>	%	%
Italian			6	1.10	-1.10
Jewish	2	1.43	9	1.65	-.22
Miscellaneous	2	1.43	3	.55	.88
Northern European	98	70.00	347	63.79	6.21
Asian	2	1.43	8	1.47	-.04
Polynesian			1	.18	-.18
Scottish/Irish	20	14.29	90	16.54	-2.25
African American			4	.74	-.74
Unknown	4	2.86		.00	2.86
Age of individual					
18			1	.18	-.18
20	1	.71	3	.55	.16
22	2	1.43	8	1.47	-.04
24	2	1.43	19	3.49	-2.06
26	6	4.29	22	4.04	.25
28	11	7.86	38	6.99	.87
30	5	3.57	32	5.88	-2.31
32	6	4.29	33	6.07	-1.78
34	9	6.43	37	6.80	-.37
36	5	3.57	19	3.49	.08
38	10	7.14	22	4.04	3.10
40	4	2.86	25	4.60	-1.74
42	5	3.57	29	5.33	-1.76
44	12	8.57	16	2.94	5.63
46	8	5.71	32	5.88	-.17
48	7	5.00	29	5.33	-.33
50	6	4.29	20	3.68	.61
52	3	2.14	22	4.04	-1.90
54	2	1.43	28	5.15	-3.72
56	9	6.43	25	4.60	1.83
58	10	7.14	26	4.78	2.36
60	6	4.29	26	4.78	-.49
62	4	2.86	11	2.02	.84
64	3	2.14	21	3.86	-1.72
Unknown	4	2.86		.00	2.86

(Table continues)

Demographic variables	Valid responses ( <i>n</i> = 140)		Nonrespondent demographics ( <i>n</i> = 544)		Difference
	<i>N</i>	%	<i>N</i>	%	%
<b>Level of schooling</b>					
Completed high school	65	46.43	299	54.96	-8.53
Completed college	43	30.71	162	29.78	.93
Completed graduate school	27	19.29	66	12.13	7.16
Attended vocational/tech	1	.71	17	3.13	-2.42
Unknown	4	2.86		.00	2.86
<b>Estimated income</b>					
Under \$15,000	4	2.86	30	5.51	-2.65
\$15,000-\$19,999	5	3.57	12	2.21	1.36
\$20,000-\$29,999	10	7.14	34	6.25	.89
\$30,000-\$39,999	16	11.43	62	11.40	.03
\$40,000-\$49,999	13	9.29	62	11.40	-2.11
\$50,000-\$74,999	39	27.86	151	27.76	.10
\$75,000-\$99,999	23	16.43	76	13.97	2.46
\$100,000-\$124,999	16	11.43	40	7.35	4.08
\$125,000 or more	10	7.14	77	14.15	-7.01
Unknown	4	2.86		.00	2.86
<b>County</b>					
Beaver			1	.18	-.18
Box elder	2	1.42	10	1.83	-.41
Cache	13	9.26	26	4.76	4.50
Carbon	2	1.43	5	.92	.51
Davis	15	10.71	64	11.76	-1.05
Duchesne			3	.54	-.54
Grand			2	.37	-.37
Iron	3	2.14	8	1.47	.67
Juab			2	.37	-.37
Kane	2	1.43	2	.37	1.06
Millard			4	.73	-.73
Morgan	1	.71	1	.18	.53
Piute			1	.18	-.18
Salt lake	51	36.42	202	37.12	-.70
San juan			2	.37	-.37
Sanpete	1	.71	1	.18	.53

(Table continues)

Demographic variables	Valid responses ( <i>n</i> = 140)		Nonrespondent demographics ( <i>n</i> = 544)		Difference
	<i>N</i>	%	<i>N</i>	%	%
Sevier			4	.73	-.73
Summit	2	1.43	11	2.01	-.58
Tooele	3	2.14	13	2.38	-.24
Uintah	2	1.43	7	1.29	.14
Utah	23	16.41	94	17.27	-.86
Wasatch			6	1.10	-1.10
Washington	2	1.42	29	5.32	-3.90
Weber	14	9.99	46	8.44	1.55
Unknown	4	2.86		.00	2.86

## CURRICULUM VITAE

ANNE ARENDT

## ADDRESS

840 North 1020 East  
Pleasant Grove, UT 840  
Home: 801-796-1369; Cell: 801-319-0615  
anne.arendt@uvu.edu or anne.arendt@aggiemail.usu.edu

## EMPLOYMENT HISTORY

Web Resource Director  
Utah Valley State College: 11/2004 to present  
<http://www.uvu.edu>

Overall management of all client side activity on public Web site, approximately 38,000 pages maintained by approximately 200 areas/editors on campus (dispersed Web content management). Work in cooperation with Web Development Services and Web Advisory Committee to design and implement a newly restructured Web site. Incorporate stronger marketing and design role in Internet usage in relation to print and other materials. Identify and work with content contributors, developers, and owners to continually improve their Web presence. Information available at <http://www.uvu.edu/wrs/>

Adjunct Instructor  
Utah Valley State College: 9/2004 to present

Adjunct traditional instructor for:

- Web Content Development (ISYS 2450 - Fall 04)
- Multimedia Project Management (MCT 3220 - Fall 05; Spring 06; Spring 07; Fall 08)
- English 0990 (ENGH0990 - Fall 05; Fall 06)

Adjunct Instructor

University of Phoenix: 8/2003 to present  
<http://utah.phoenix.edu/>

Adjunct online and/or on ground instructor for:

- The Internet: Concepts and Applications (WEB 350)
- Web Programming I (WEB 410)
- Web Programming II (WEB420)
- Multimedia Integration and Design (WEB 425)
- Project Planning and Implementation (CMGT 410)

Adjunct Instructor  
 City University Online: 7/2003 to 12/2008  
<http://www.cityu.edu/>

Adjunct online and/or distance instructor for:

- Web Site Design I (CS350)
- Introduction to Server-side languages (CS453)
- Web Programming Languages: Server Side (CS524)
- Intermediate Web Publishing (CS544)

Served separate contracts as:

- Content developer for online or distance education versions of:
  - Web Site Design I (CS350)
  - Introduction to Server-side languages (CS453)
  - Intermediate Web Publishing (CS544)
- Prior Learning Evaluator
  - Practical Web Design (CS452)
  - Introduction to Server-side languages (CS453)

Resource Manager/Instructional Designer  
 Utah Valley State College: 1/2003 to 11/2004  
<http://www.uvsc.edu/disted/>

Manager of the distance education development team: Managed seven developers, one graphic artist, and one closed captioning technician. The distance education department at UVSC offers courses via broadcast and cable television courses, internet courses, and live interactive courses. We have approximately 75 to 100 courses offered via distance education a semester. Incorporated role of instructional designer for the latter portion of my employment with Distance Education, working with instructors to design and develop course content.

Senior Web Producer  
 Walden University/Sylvan Online Higher Education: 10/1/2002 to 1/2003  
<http://www.waldenu.edu/>

Responsible for assessing project proposals, establishing specifications, project managing, and ensuring success of large projects affecting processes throughout the University. This includes communication with all affected parties, ensuring timely delivery of results, and ensuring continued value in the outcome. Included Web and application programming duties as well.

Director of Web and Application Development  
Walden University: 11/2000 to 10/1/2002  
<http://www.waldenu.edu/>

Provided vision, oversaw planning, and guided implementation of all aspects of web-based and database-driven technology, both in support of the academic needs of the University, and as a means of enhancing the institution's management and operations. Primary producer and developer on new Web-based projects and innovations which made use of Dreamweaver, CGI Perl, Javascript, Lotus Notes, and Cold Fusion. I managed five full time employees in the areas of Web and Database development. Set priorities on projects competing for limited bandwidth by working with the employees in the Web and Applications area, management, and requesting staff.

Online Instructor  
Walden Institute: 6/2001 to 6/2002  
Online instructor for:

- Web Development and Protocols
- Web Security Technical Management

Developed content for each of the above areas per separate contract.

Web Team Manager  
Smyth Companies, Inc.: 5/1999 to 11/2000  
<http://www.smythco.com/>

Provided leadership in the planning, development, and management of the Smyth Companies Website. Evaluated and analyzed for effectiveness the continually evolving site. All Web page development and incorporation into the site E-Commerce capabilities developed by the Director of Information Technology. Included presentations to clients regarding new E-Commerce system. Developed a Web Team consisting of approximately 15 members from throughout the company to assist in the evaluation of this continually evolving site who met on a weekly basis to determine needs and help establish priorities. Reason for leaving: Invited back by previous employer.

Manager of Web Development and User Services  
Walden University: 11/1997 to 5/1999  
<http://www.waldenu.edu/>

Worked with faculty, students, administrators and staff to develop information technology services to achieve the best possible service within allocated resources. One outcome of this was the continuing development of the Website, as well as the



development and implementation of our first online classroom environment which was created by myself-and the system administrator using bulletin boards, mailing lists, and the like on Apache. Supported students and faculty in their growing understanding of the Internet and its capabilities by offering advanced level user service support, managing help desk staff, and by offering short training seminars during residencies throughout the United States on topics such as library database usage, using the Internet as a research tool, and fundamentals of computers. Developed a Web Team consisting of approximately 10 staff members from throughout the organization to assist in assessment, content development, and page development for the continually evolving and growing - in both complexity and importance - Web site.

Microcomputer Support Specialist  
Walden University: 4/1994 to 11/1997

Primary help line support for Walden for all audiences - students, staff, faculty, and administration. This included on-site hardware repair, off-site phone and email support, and on-site software support and training. My duties included managing three part time workers in this area. Implemented and supervised the integration of technical resources into academic, operational, and administrative functions; and enhanced productivity and service through technology and training. This includes the development of Walden's original Financial Aid database and also original Web site.

Note: I also worked part time for Walden doing Paradox database programming (DOS and later Windows) for their custom built Student Database System from 6/1993 to 12/1994 which led to this initial position with Walden.

Consultant for Database Integration  
University of Minnesota Hospital Dept. of Medicine: 4/1994 to 6/1995

Continued development and offered troubleshooting support of the custom-built database I had made to assist in performing the functions of my previous job that continued to be used for accounting administration and institutional research.

Accounts Specialist and Computer Support  
University of Minnesota Hospital Dept. of Medicine: 12/1989 to 4/1994

Maintained departmental accounts for four divisions including Graduate Education and Administration. Duties included creation of all forms of accounting documents such as purchase orders, account transfers, vouchers, etc., balancing of accounts, reconciliation of inconsistencies or discrepancies, and notifications of overspending or approaching budget limits. Developed a Microsoft Access database that interacted directly with the University

CUFS/AIS Unix based system accounting system. This permitted real-time reporting of account statuses, customized reporting, and customized query building of multiple accounts. Maintained the 20 user Medicine Administration Novell 3.11 network, including maintenance and installation of workstations and software.

## EDUCATION

### Doctorate of Education

Emphasis: Teaching and Learning in Higher Education

7/2004 to present

Utah State University

GPA: 3.76

Dissertation topic: An Assessment of Utah Resident Incentives and Disincentives for Use of OpenCourseWare Resources

*Note: Masters level degrees done in tandem*

### Masters of Business Administration (MBA) in Information Systems

11/95 to 11/99

University of Minnesota Carlson School of Management

GPA: 3.4, Credit Hours: 50.00

### Master of Science (MS) in Educational Change and Technology Innovation

11/95 to 11/98

Walden University

GPA: 3.92, Credit Hours: 42.00

Thesis: The Online Learning Environment as Compared to Traditional Classroom Educational Environments

### Continuing Education

1992 to 1995

University of Minnesota College of Liberal Arts

GPA: 3.4 Credit Hours: 58.00 (total now: 288.00)

Courses in areas of interest including planning theory, management, and operations

### Bachelor of Arts in English

1987 to 1992

University of Minnesota College of Liberal Arts

GPA: 3.15, Credit Hours: 230.00

## CERTIFICATIONS

Project Management Professional

Through the Project Management Institute effective February 24, 2003.

D number 13889948

## PAPERS AND PRESENTATIONS

Web Standards – What they Are and Why Educators Should Care About Them. Utah Valley State College Teaching with Technology Idea Exchange. Technology Enhanced Teaching Center. 30 minute presentation. Orem, UT. June 2006.

Work 24/7 Without Even Being There: Using the Web to Answer Questions and Share Content. Office Professionals Conference – Creating a Successful Vision, 45 minute presentation. Utah Valley State College. Orem, UT. April 2006.

A Comparison of Online Classroom Environments. Utah Valley State College Teaching with Technology Idea Exchange. Technology Enhanced Teaching Center. 30 minute presentation. Orem, UT. June 2005.

Changing the Way We Communicate: Marketing for Academic Libraries. 2005 Utah Library Association (ULA) The Times They Are a Changin'. Hour presentation with Gretchen Freeman, Salt Lake County Library and Micahel Hooper, BYU. Ogden, UT. May 11-13, 2005.

The Plight of Single Username and Passcode; Short paper for Association for the Advancement of Computing in Education: Society for Information Technology and Teacher Education; Atlanta, GA; March 1-6, 2004.

Single Username and Passcode; Presentation at the Dialogues in Networked Teaching and Learning Conference; Utah Valley State College; Orem, UT; February 21, 2003.

Continual Transition in an On-line Education Environment, with Andy Abbott. International Conference on Technology and Education; Santa Fe, New Mexico; March 8-11, 1998.

Distance Education and the On-line Environment: Managing the Effects of Rapid Change with Lee Thomas and Richard Brown; Teaching, Learning & Technology: A Global Search for Innovative Learning Strategies (Ninth International Conference on College Teaching and Learning); Jacksonville, FL; April 15-18, 1997.