Maintaining Academic Integrity in Online Courses at Arizona State University

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Table of Contents

Introduction	2
Why Students Cheat	2
How Students Cheat	3
Essay Mills and Study Services	3
Online vs. On-Ground	4
ASU Strategies for Academic Integrity	5
Identity Verification	5
Safeguarding Exams	6
Academic Integrity Features in Blackboard	6
Exam Proctoring	7
Plagiarism Detection	10
Pedagogical Strategies	10
Building Student Awareness	11
Responding to Cheating: Final Thoughts	12

Introduction

Academic integrity is integral to teaching and learning. At Arizona State University (ASU), we are committed to the integrity of our students and the credibility and rigor of our degree programs -- both on-campus and online.

Today, ASU Online serves nearly 26,000 students and has grown from six to over 100 degree programs. With this significant growth in online learning comes legitimate concerns regarding academic integrity, where there is a separation of time and distance between the instructor and student. Failure to maintain academic integrity in our online programs can threaten the university's reputation, accreditation status and the continued growth of our online program offerings.

The following report documents some of the realities of academic cheating in higher education and catalogs many of the tools and techniques used by the university to maintain integrity in our online programs.

Why Students Cheat

Before we try to combat academic cheating, we must first examine why students cheat. The most common reasons students cheat are related to "perceived necessity"¹ and general lack of awareness and understanding of academic integrity. According to a 2009 study published in the *Journal of Business Ethics,* researchers found those who admitted to cheating -- whether face-to-face or in an on-line environment -- were motivated by a "desire to get ahead" more than any other factor.²

Perceived necessity entails general college pressures: time constraints, academic competitiveness and fear of failure or academic disqualification. Those who are short on time and must earn a certain grade on an assignment or exam to maintain academic standing are more likely to use technology to find the information they need in a hurry.

Academic integrity is a blurry concept for many college students, which often leads to cheating in the form of plagiarism. While some students blatantly plagiarize by copying and pasting borrowed passages into written assignments, it is more common that plagiarism is unintentional. Often plagiarizing occurs because students are unaware that a citation is required, they don't know how to give credit for borrowed work or they don't understand that summarizing or paraphrasing requires a citation.

The more students are focused on extrinsic motivations than intrinsic -- the genuine desire to master material - the more likely they will cheat. By assisting both face-to-face students and online students to see the importance of understanding the material and its value to their learning process, we reduce their inclination to engage in dishonest behaviors.³

¹ <u>https://www.insidehighered.com/news/2012/03/16/arizona-survey-examines-student-cheating-faculty-responses</u>

² https://www.jstor.org/stable/40784704?seq=1 - page_scan_tab_contents

³ http://jme.sagepub.com/content/19/2/205.refs

How Students Cheat

With the advent of online education, new methods of cheating have evolved. Before the Internet, cheating was generally limited to individual incidents using more traditional methods (e.g., cheat sheets, writing on hands or arms). Today, technology has expanded the reach of cheaters, allowing outsiders into classrooms both online and on-campus. With more advanced methods (cell phones, online resources and organized and,

"On the Internet, nobody knows you're a dog

(by PETER STEINER/The New Yorker magazine (1993))

in some instances, for-profit cheating), there is no limit to the lengths students can go to "make the grade."

Companies and freelancers openly advertise their services to help students cheat, assuming students' identities and taking entire online courses in their place. With more than seven million⁴ students taking at least one online course, there are millions of potential customers. One company, No Need to Study, will take your online class, take exams and write essays all for a hefty price tag -- but students pay for it. In August, the company touted it "helped" 2,127 students and took 1,003 tests. Another company, Executive Academics, uses a remote test taker, hidden duplicate screens and smartphones to assist students with taking a test.

Although research shows cheating isn't necessarily more common online than in face to face settings, it does require different external monitoring and protocols to ensure academic integrity.

Essay Mills and Study Services

College term paper, dissertations and theses writing services (also known as essay mills or paper mills) date back to the 1940s in the U.S. The number and availability of these services expanded greatly in the 1970's. With the advent of online courses and the internet, essay mills were even easier to locate and use.⁵ ⁶ While some states do have laws designed to curb the proliferation of essay mills, they seem to have had little effect.⁷

The irony is that many of these essay mills produce unusable content. Dan Airely, a Duke University professor and researcher, conducted an experiment where he hired four different essay writing services to create a 12page term paper. What he received amounted to gibberish.⁸ Nonetheless, concerns about these services continue and measures should be taken to limit their effectiveness. The following are techniques faculty can employ for this purpose, some of which are also mentioned below under pedagogical strategies:⁹

Create assignments that are closely tied to the course lectures, discussions and readings.

- 1. Require abstracts for writing assignments.
- Require annotated bibliographies with writing assignments. 2.



⁴ http://www.onlinelearningsurvey.com/reports/changingcourse.pdf

https://www.jstor.org/stable/2148993?seq=1#page scan tab contents

https://net.educause.edu/ir/library/pdf/erm0153.pdf

⁷ http://usatoday30.usatoday.com/news/education/2009-11-19-termpapers19 VA N.htm

⁸ http://www.nytimes.com/2012/06/29/books/the-honest-truth-about-dishonesty-by-dan-ariely.html

⁹ https://www.plagiarismtoday.com/2012/02/09/are-essay-mills-worth-worrying-about/

- 3. Require full citations with writing assignments and discussion posts.
- 4. Create assignments that require students to incorporate their personal interests and experiences.
- 5. Require drafts of papers before the final version is due.

Another resource is study services that sell lecture notes, test questions, papers and other course-related materials. In recent years, faculty have been alarmed to find ASU course materials available at some of these services. While it is possible in some cases to have the material removed following cease and desist letters, stemming the tide of content is more than most can manage. Plus, if the university or faculty cannot prove copyright ownership, "study services" maintain they have a legal right to distribute them.

The strategies for dealing with essay mills apply to "study services" as well. Generally, the goal is to make cheating unnecessary and unattractive by creating pedagogically sound course design. Here are a few additional tips to consider:¹⁰

- 1. Give students copies of old tests as study guides.
- 2. Change test questions, discussion prompts and assignment topics each term.
- 3. Give open-book exams.

Online vs. On-Ground

Cheating has existed since the introduction of tests. Nonetheless, online coursework presents an emerging and unique challenge that we do not face with on-campus courses. How much does cheating online differ from on-campus?

The best available research suggests that cheating is comparable across learning modalities. A 2010 study by Marshall University, for example, focused on the cheating behaviors of 635 undergraduate and graduate students in both on-campus and online courses. The findings showed there were no significant differences in *self-admitted* cheating. Of those who admitted to cheating, 32.7% admitted to online cheating and 32.1% admitted to cheating in a live class.¹¹ These findings are similar to others in the comparison of online versus traditional classes. ^{12 13}

Although the results of these studies suggest a similar propensity to cheat across modalities, there is a higher correlation of online cheating when there is "relative anonymity and separation between instructor and student."¹⁴ Those universities with strong online communities dramatically increase online students' connection to the university. With the launch of the ASU Online Student Success Center, our online students will have interactive, individualized support allowing them to discuss career and personal goals to drive affinity with the university and improve retention.

¹⁰ <u>http://www.colorado.edu/assett/articles/courseher</u>

¹¹ http://mds.marshall.edu/cgi/viewcontent.cgi?article=1000&context=eft_faculty

¹² http://eric.ed.gov/?id=EJ904058

¹³ http://ugs.usf.edu/pdf/courses/0708/cheat online pap.pdf

¹⁴ http://www.westga.edu/~distance/ojdla/fall123/stuber123.html

ASU Strategies for Academic Integrity

Identity Verification

How do we know that the online students are who they say they are? Since the Higher Education Opportunity Act of 2008, academic institutions receiving Title IV funding are required to verify the identities of its enrolled online education students. Student identity authentication is necessary to ensure student identity and protect the university from institutional liability.

The following are some of the ID tools ASU currently uses or is piloting:

ASURITE – The ASURITE single sign-on username and password provides access to many ASU systems, including the Blackboard Learning Management System. All ASU students receive an ASURITE account which acts as the foundation for electronic identity verification at the university.

Acxiom Challenge Questions – Acxiom is a verification tool used prior to exams in Blackboard. With Acxiom, challenge questions based on public records are presented to students as a way of confirming their identity. The tool was first used in ASU Online as a stand-alone feature and was then incorporated into the ProctorU proctoring process.

KeyTrac Keyboard Biometrics – KeyTrac is used to record typing behavior for a student profile. The tool is then used prior to exams (or randomly throughout a course) to verify identity against the recorded profile. According to KeyTrac, on average, only two people in 10,000 have a similar typing behavior. The tool was first used in ASU Online as a stand-alone feature and was then incorporated into the ProctorU proctoring process.

ProctorU UCard Identity Profile – ASU Online conducted a pilot using the ProctorU UCard identity verification profile tool. For the pilot, 5,000 students recorded identity profiles with a head shot photo, government issued ID capture, Acxiom challenge questions and KeyTrac keyboard biometrics. The profile was then used for verification purposes prior to exams. The profile could also be used randomly throughout courses to check identity. The UCard pilot is currently on hold, but the experiment established the potential for implementing a system like this with online campus students.

RPNow by Software Secure – RPNow is the primary proctoring service for online exams at ASU. For identity verification purposes, RPNow uses ASURITE, a headshot photo and government issued (or ASU Sun Card) capture. It combines convenience with the assurance of catching any violations of exam integrity by using Software Secure's record and review model. This combination leads to the most cost-effective method of ensuring program integrity on the market that best meets the needs of students. edX has been using RPNow since 2015 for GFA coursework.

Duo Mobile -ASU recently implemented the two-factor identity authentication tool Duo Mobile, which uses a device such as a mobile phone or tablet to provide a second form of verification in addition to the ASURITE username and password. Currently, Duo Mobile is not required for students, but EdPlus is evaluating the possibilities for using the process for online course access. <u>More information</u> about the program.

EdPlus is current planning pilots for the following identity verification products:

True Key by Intel – True Key uses a facial log and fingerprint analysis for identification and access to websites and apps across devices.

Usher Mobile Identity Platform by MicroStrategy – Usher uses multi-factor authentication with the native device capabilities of smartphones, including biometric fingerprint technology.

Safeguarding Exams

Although the emphasis on technology as it relates to academic integrity tends to focus on the negative, technology is having a positive impact, creating more sophisticated, customized online exams that prevent cheating.

The following are technologies ASU is currently utilizing to protect against academic dishonesty.

Academic Integrity Features in Blackboard

The following is a list of many of the features in the Blackboard Learning Management System that help prevent cheating in online quizzes and exams. ASU faculty routinely use multiple features for each exam.

- 1. Randomize test questions from large question pools.
- 2. Show one exam question at a time.
- 3. Prohibit backtracking in exams.
- 4. Set availability dates for exams.
- 5. Set time limits on exams.
- 6. Password protect exams.
- 7. Track the time and duration of exam access.
- 8. Randomize the answers for multiple choice exam questions.
- 9. Limit the types of feedback shown to students after exam completion.
- 10. Ask students to acknowledge their awareness of ASU's Academic Integrity Policy as part of exams or syllabus quizzes.
- 11. Use a lock-down web browser for exams. Respondus Lockdown Browser is a plug-in used in Blackboard to secure the web browser during exams. This prevents students from going to other web locations, switch applications, taking screenshots, copying questions or printing.

As mentioned earlier, the ASURITE username and password is used by all students to gain access to the Blackboard system. Faculty and academic units can also elect to use the above proctoring service during exams (Software Secure RPNow, ProctorU, Respondus Monitor).

Exam Proctoring

Online proctoring is an important marker for online academic integrity and credibility. The dramatic increase in the use of exam proctoring in online courses has led to the hiring of an ASU *Online Proctoring Coordinator* in Fall 2016. The proctoring coordinator will manage proctoring tools and services used in online program courses, as well as iCourses.

ASU faculty and departments currently use a number of different proctoring services to protect the integrity of online exams, including:

ProctorU

ASU Online conducted a pilot test of ProctorU in 2010, which led to full use by most of the university. ProctorU provides live remote proctoring, where a trained proctor can monitor up to six exams from a proctoring center (located in Arizona, Texas, California or Alabama). A government issued photo ID (or ASU Sun Card), headshot photo, challenge questions and keystroke biometrics are used for multifactor identity verification. The proctors work to intervene when students violate proctoring guidelines during exams and flag incidents for reports that are delivered to faculty.

Here is the most recent usage data for ProctorU at ASU:

Spring and Summer 2016				
8,721	949	98	16	
test takers	exams	instructors	departments	

697 incidents were reported by ProctorU during this time period. The breakdown by incident type is listed below. You will notice that there is a wide range of severity levels.

287	Exam Submission	At the beginning of the proctored session, the proctor asks the student to notify the proctor upon completion of the student's exam so that the proctor can verify the exam was submitted properly and that the student also logged out of their test delivery system. If the student does not do this while still connected to the proctor and decides to leave the exam session early, this will trigger a report.
126	Learning Management System (LMS) Logout	The student submitted their exam, but did not allow the proctor to observe the student completely log out of the test delivery platform. The report is generated to document that the student could still possibly be logged into the LMS and could potentially re-access the exam. For exams that are secured with a password, the student would still be locked out of accessing the exam content.
121	Lost Connection	The student's internet connection dropped and visibility of the student video and desktop feed was lost for a length of time greater than 5 minutes.

54	Academic Integrity	There was some sort of aberrant behavior that the proctor observed during the course of the exam. Some examples would include:		
		 Another person walking in the room with the student Witnessing the student using non-permitted resources The student intentionally disconnecting from their proctor during the exam 		
36	Unpermitted Break	If the student takes a break during their exam it triggers this report. More often than not, this is an emergency bathroom break.		
32	Failed Authentication	If the student fails their public record-based quiz, it triggers this report. A 2nd form of photo ID is checked and the student is allowed to proceed with their exam.		
31	No Authentication	The student did not pass their primary method of authentication and the proctor had to check a secondary form of ID. The most common example of this is an international student who was not able to generate the public record quiz used to verify student identity. If a quiz cannot be generated or a student fails that quiz, a 2nd form of photo ID is checked instead and a report is generated.		
5	Student Conduct	If the student uses vulgar or inflammatory language towards the proctor a report is generated.		
3	Institution Request	This field is for all reports that have been requested on behalf of an instructor. These reports are filed for sessions that do not necessarily warrant a standard incident report, but provide as much detail as possible about the exam session.		
2	Password Issue	If the exam is not secured with a password when it should have been according to the exam notes, this report is generated to let the instructor know that a student accessed their exam without the password enabled.		

Software Secure RPNow

During Spring 2016, ASU conducted an RFP process to establish enterprise proctoring solutions for the university. Software Secure's RPNow, ProctorU and Respondus Monitor were awarded contracts, with RPNow becoming the primary solution for proctoring using human proctors. With the RPNow model, student exams are recorded and then reviewed by human proctors in the Philippines. RPNow requires a government issued photo ID (or ASU Sun Card), along with a head shot photo, for identity verification. The proctors flag incidents and deliver reports to faculty. Here is the most recent usage data for RPNow at ASU:

	Fall 2016	
74	60	18,431
courses	instructors	seats

15,032 incidents in 36,920 exam sessions resulted in proctor comments using RPNow from 8/5/2016 to 11//7/2016. The Top 10 breakdown by incident type is listed below.

Fall 2016				
Violation	Count of Comments	% of Top 10	% of Total	
Reference materials	7142	56%	48%	
Did not show allowed materials to the camera	1085	9%	7%	
Photo ID not confirmed	913	7%	6%	
Headsets	859	7%	6%	
TV or Radio	793	6%	5%	
Someone else in the room	767	6%	5%	
Left the room	373	3%	2%	
Out of view of camera	291	2%	2%	
Looking somewhere else	262	2%	2%	
Photo ID not provided	204	2%	1%	
Total for Top 10	12689	84%		
Grand Total	15032			

Respondus Monitor

Respondus Monitor is a proctoring tool used to record online exam events in Blackboard for optional review by faculty or staff. Monitor has been in use at ASU since 2013. Here is the most recent usage data for Respondus Monitor at the university:

August 1, 2015 – July 31, 2016		August 1, 2016 – October 12, 2016	
176,974	25,372	26,747	
exam sessions	seats (one student in one course)	exam sessions	

Plagiarism Detection

SafeAssign is a plagiarism software tool integrated in the ASU Blackboard learning management system. It identifies whether resources within assignments have been properly cited, and it cross-checks submissions against all previous submissions to identify duplicated work to ensure originality. Faculty have the option of submitting student work through SafeAssign, or building SafeAssign assignments, which require students to run their work through the tool prior to submitting assignments for grading.

2015-2016 SafeAssign Usage Data

Total SafeAssign submissions for ASU Online courses: 357,480

Session	Spring 2015	Summer 2015	Fall 2015	Spring 2016	Summer 2016
Α	135	153	161	186	205
В	155	144	176	198	170
C	N/A	33	N/A	N/A	53

Number of courses using SafeAssign by term:

Pedagogical Strategies

Course design strategies are the first line of defense in maintaining academic integrity in online courses. The following is a list of some of the pedagogical strategies used by ASU faculty and promoted by EdPlus Instructional Designers:

- 1. Assess learning often and use a variety of assessment methods.
- 2. Include a mix of high- and low-stakes assessments.

- 3. Consider assessment approaches other than objective testing (e.g., papers, discussions, portfolios, projects, journals, peer review, debate, role play).
- 4. Require abstracts with writing assignments.
- 5. Require annotated bibliographies with writing assignments.
- 6. Require full citations with writing assignments and discussion posts.
- 7. Create assignments that require students to incorporate their personal interests and experiences.
- 8. Require drafts of papers before the final version is due.
- 9. Create assignments that require presentations
- 10. Clarify the connection between learning objectives and assignment tasks.
- 11. Provide custom rubrics and detailed grading criteria.
- 12. Ask students to discuss the assignment research methods they used and provide summary statements.
- 13. Make assignments cumulative (assignments done in installments).
- 14. Give open-book exams.
- 15. Administer oral exams via phone or web conferencing.
- 16. Ask students to expand on their work in follow-up questions.
- 17. State expectations for the time needed to complete assignments.
- 18. Change test questions, discussion prompts and assignment topics each term.

Building Student Awareness

Community Building

Community building strategies focus on raising the level of student awareness of academic integrity in general. At ASU, we promote these techniques in the following areas:

- ASU orientation courses, ASU 10, 11 and 42 all include integrity quizzes;
- ASU Libraries and the Office of the Provost distribute information for students and faculty on academic integrity and cheating;

ASU Libraries Academic Integrity Module

o https://www.asu.edu/lib/tutorials/storyline/academic-integrity/story.html

- ASU Libraries Plagiarism Awareness Module
 - o https://www.asu.edu/lib/tutorials/storyline/plagiarism-awareness/story.html
- many ASU Online courses include syllabus quizzes that address academic integrity;
- and the ASU Online standard course structure template includes a section on academic integrity.

The following is a list of some of the integrity community building solutions used at ASU:

- 1. Define cheating and proactively discuss cheating scenarios with students.
- 2. Emphasize academic integrity throughout the semester, not just at the start.
- 3. Present the main reasons students cheat and discuss them.
- 4. Provide students with information on how to avoid plagiarism.
- 5. Provide students with research and study skills resources.
- 6. Provide information on ASU Writing Centers and Libraries.
- 7. Ask students to discuss their thoughts on the Student Academic Integrity Policy.

- 8. Ask students how they can create a community of honesty and integrity.
- 9. Ask students to develop and commit to a class honor code.
- 10. Ask students to restate or cite the Student Academic Integrity Policy in a writing sample.
- 11. Inform students in advance about any planned use of technology solutions for promoting academic integrity.
- 12. Define situations where collaboration is and is not appropriate.
- 13. Foster a sense of respect and community within courses in order to build rapport and establish a foundation for integrity.

Responding to Cheating: Final Thoughts

Part of the solution to maintaining academic integrity at the university is to respond appropriately to integrity violations. Detailed information about the university policies and procedures can be found at the Office of the University Provost website: <u>https://provost.asu.edu/academic-integrity/policy</u>.

ASU Graduate Education also offers a website devoted to academic integrity. It includes information for faculty on detecting and responding to violations: <u>https://graduate.asu.edu/academic-integrity</u>.

Due to our continued growth in digital learning and commitment to our students, faculty and staff, ASU will hire a Director of Academic Integrity who will be responsible for addressing academically dishonest behavior and assist the university with upholding our high academic ethical standards. In Fall 2016, the university formed an Academic Integrity Committee, with representatives from around the university, who will address integrity issues that have arisen at both the undergraduate and graduate levels.