

Spring 2009

SAFEASSIGN TRANSITION REPORT



THE FLORIDA STATE UNIVERSITY
ACADEMIC & PROFESSIONAL PROGRAM SERVICES

SafeAssign Transition Report

Spring 2009

Academic & Professional Program Services

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Executive Summary

In spring 2009, Academic & Professional Program Services evaluated *SafeAssign*, an anti-plagiarism product that comes bundled with the *Blackboard* system used at Florida State University. The initiative to replace *Turnitin* with *SafeAssign* was launched in order to reduce operating expenses and streamline anti-plagiarism support through product integration with *Blackboard*. The transition project had three main objectives: (1) evaluate the product's effectiveness; (2) ensure its technical stability and reliability; and (3) offer user training and support to ensure a smooth transition.

Product evaluation started with a review of the pertinent literature, which yielded definitions and a set of commonly used evaluation criteria for anti-plagiarism tools. Both products were evaluated with respect to a selection of these criteria by means of five sets of documents, including previously published manuscripts, systematically fabricated texts, and original student papers. Results showed that *SafeAssign* has a more sophisticated matching algorithm, effectively detecting paraphrased texts. Overall it was determined that both tools effectively support instructors in their effort to detect and prevent plagiarism.

SafeAssign was installed on the production *Blackboard* server and systematically tested for functionality and stability. The tests found no software bugs or other technical issues that would prevent effective use throughout the university. FSU instructors were notified of the transition efforts by means of *Blackboard* announcements, direct emails, and a comprehensive web page that outlined the effort and provided access to related resources. All current *Turnitin* users were explicitly invited to pilot test the alternative product and participate in one of three *SafeAssign* workshops offered by the Center for Teaching and Learning. A concise handbook and one-page job aide were created to further support new users in their transition.

Based on the preliminary results of this transition effort, Academic & Professional Program Services is confident of the effectiveness of *SafeAssign*, and based on cost effectiveness recommends its use as the standard anti-plagiarism tool for FSU.

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Introduction

This report provides detailed information about the initiative to replace the anti-plagiarism tool *Turnitin* with *SafeAssign* as the standard used at Florida State University. In this report we first discuss the background and rationale for the initiative, summarize the results of a user survey that was conducted at the end of the fall 2008 semester, and outline the transition plan. Next, we present the coordinated efforts to manage the transition to *SafeAssign*, including the evaluation of the product, its technical implementation, and training and support services offered to FSU users.

In our effort to remain concise we present mainly summarized information. For more details the interested reader is referred to the appendices which contain copies of all instruments as well as detailed descriptions of evaluation methods and text samples.

Background and Rationale

In late fall 2008, the Academic & Professional Program Services received an unexpected bill for the renewal of a license for *Turnitin*, the product that had been used at FSU over the past years to help detect and prevent cases of plagiarism. The new yearly license fee quoted was approximately the same as FSU pays for the yearly license of its course management system, *Blackboard*. In light of the current mandate to reduce expenses it seemed logical to select the alternative product, *SafeAssign*, which comes bundled with *Blackboard* and is included in its licensing fee. However, the FSU community had not had sufficient opportunity to prepare for the transition. Therefore, the decision was made to negotiate a limited extension of the *Turnitin* license to allow for product evaluation, technical implementation and testing, and user training and support.

User Survey

In December 2008, a survey with five open-ended questions was sent to 373 FSU faculty members and teaching assistants who had used *Turnitin* at least once in the past 12 months. We received 126 responses (34%). In general, the message was clear: *Turnitin* addressed an important need for the university by reducing plagiarism. Most

users indicated that they would not be opposed to replacing *Turnitin* with *SafeAssign* as long as that tool proved effective and offered equivalent functionality. Numerous concerns focused on the data sources used to detect plagiarism, notably the fact that *Turnitin* contains a large number of FSU papers, which may be copied by other FSU students¹. A copy of the survey can be found in [Appendix A](#). A summary of responses to the individual questions is included in [Appendix B](#).

Transition Plan

A transition team was formed consisting of Jean-Marc Wise (Project Manager), Aaron Kim (Product Evaluation), Kyle Stierwalt (Technical Implementation), and Haihong Hu (User Training and Support). The team was charged with planning and implementation of the transition. The plan consisted of four parallel efforts:

1. **Planning and Dissemination.** Jean-Marc Wise was in charge of planning and managing the overall transition effort, which included timely and effective dissemination of the transition efforts. The dissemination strategy included direct email contact with affected users, multiple messages and announcements in *Blackboard*, and updated information on the website. The dissemination strategy was infused in the other three major transition efforts, product evaluation, technical implementation, and user training and support. More details on dissemination are included in the section [Dissemination, User Training, and Support](#).
2. **Product Evaluation.** Aaron Kim was charged with designing and implementing an evaluation plan to determine the effectiveness of *SafeAssign* and identify the advantages and disadvantages of adopting it as the new standard in place of *Turnitin*. The summary of this evaluation is included in the section [Product Evaluation](#). Details about the methodology and findings are included in the corresponding appendices.

¹ It should be noted that both *Turnitin* and *SafeAssign* offer direct load functionality to include batches of student papers in their institutional database. Therefore, access to any number of previous student papers can be controlled by instructors when necessary.

3. **Technical Implementation.** The product had to be installed and tested in both the test and the production environment. Kyle Stierwalt was in charge of this effort. As the leader of the *Blackboard* support team, Kyle was also responsible for coordinating technical support for the product and researching answers to technical questions. Please see the section [Technical Implementation](#) for a summary on installation, functional testing, and troubleshooting.
4. **User Training and Support.** A systematic plan for providing user training and support was designed by Dr. Helen Hu. This included the development instructional materials, workshops, and website resources. These efforts are described in more detail in the section [Dissemination, User Training and Support](#). Additional details are included in the corresponding appendices.

The first part of the transition, when FSU users would still have access to *Turnitin*, was set for the spring 2009 semester. According to the plan, by the end of the spring the product was evaluated with respect to its effectiveness, the technical implementation was completed and tested, and all affected users at FSU were informed of the transition. Users had also been offered the opportunity to learn how to use the *SafeAssign* with minimal effort, attend workshops if desired, and participate in a pilot test to compare the effectiveness of the two products.

The second part of the transition is scheduled for the summer 2009, when *SafeAssign* will be offered exclusively. User training and support will continue to be offered and the software will be promoted for use by all FSU instructors. The plan includes the deployment of additional surveys to instructors and students in order to capture user attitudes and to proactively address user issues and technical problems. These surveys will also raise awareness of the problem of plagiarism and the opportunity to address it systematically by promoting the use of *SafeAssign* for all graded writing assignments.

Product Evaluation

The goal of the product evaluation was to determine if *SafeAssign* was an effective anti-plagiarism tool that could be recommended for standard use at Florida State University. The team started with a review of the relevant literature in order to define the problem of plagiarism and to determine which variables and criteria should be used for the evaluation. Based on the results of this review, both products were tested and evaluated with respect to their effectiveness.

In the following, we present a concise review of the literature followed by a description of the methodology and a discussion of the results. The appendices contain detailed documentation on the instruments and materials used for the evaluation.

Literature Review

Institutions of higher education are facing an increasing challenge to effectively promote and enforce academic honesty and integrity. While rapid advances in information technology offer great benefits to both students and faculty by making huge amounts of information available at the click of a mouse and by facilitating electronic communication, this same technology also opens the door to new types of dishonest behavior including accessing unauthorized materials during exams and copying text from sources without providing appropriate references. Coupled with the challenge of increasing class sizes which make individual support and attention more difficult, the temptation to cheat is often too great to resist. Survey studies conducted in recent years show an alarmingly high percentage of students admitting to have engaged in unethical conduct (McCabe, 2005; Villano, 2006; Stephens, Young & Calabrese, 2007).

Plagiarism and Plagiarism Detection

Among the different forms of dishonest behavior in education, plagiarism stands out as a particularly complex and challenging problem. Park (2003) provides an excellent overview, discussing plagiarism from a variety of perspectives in the literature. The complexity of the problem becomes evident in the different forms of plagiarism summarized by Park as: (1) stealing or buying someone else's work entirely; (2) getting

someone else to write a paper and handing it in as one's own; (3) including copied text passages without proper reference; and (4) paraphrasing text without proper reference (p. 475). Park argues that the problem is aggravated due to inconsistent teaching of academic writing and insufficient modeling of appropriate behaviors. According to Park, surveys have also shown a diverse spectrum of attitudes among students with respect to the severity and seriousness of plagiarism as an infraction on academic honesty. While the trends identified in studies over the past decade show variation between disciplines, countries, and level of study, there appears to be consensus that plagiarism overall has been increasing (p. 478). Studies conducted since Park's review confirm this trend (Jocoy & DiBiase, 2006; Villano, 2006; Stephens, Young & Calabrese, 2007).

Advances in search technology and automated text analysis have produced a number of automated tools to detect plagiarism. Several reviews and evaluations of these systems have been published in recent years (Evans, 2006; Maurer, Kappe, & Zaka, 2006; McKeever, 2006) providing a rich basis of comparison in terms of functionality, pricing, and effectiveness of the various tools. As has been shown in the past, these tools not only make the task of detecting cases of plagiarism easier, they also serve as an effective deterrent and offer an opportunity to teach students the importance of academic integrity in writing and how to avoid plagiarism (Braumoeller & Gaines, 2001).

Measuring the Effectiveness of Anti-Plagiarism Tools

The review of the literature revealed no evidence of any established standards for measuring the effectiveness of anti-plagiarism tools. Nevertheless, the studies and evaluations reviewed did contain a number of common properties that are typically considered when evaluating such tools. These criteria are summarized below.

- *Matching algorithm.* Common algorithms include comparison by words, phrases, sentences, and paragraphs. The intelligence of the search algorithm arguably affects the effectiveness of the tool in terms of detection given different levels of effort to plagiarize, such as replacing individual words, changing the order of words or sentences, or paraphrasing text.

- *Search corpus.* The ability of the tool to effectively apply its matching algorithm is limited by its ability to find potential sources. Typical source bases include:
 - Internet
 - Various publication databases
 - Institutional database (containing all student papers submitted at the institution through the tool)
 - Shared proprietary database (an option offered by some tools to collect submissions from different institutions who use the tool, with permission of the author)
- *Storage options.* The tool should allow the submitter to control whether the document will be stored for future comparisons (e.g. institutional database).
- *Submission options.* The tool should allow both students and instructors to submit documents. Ideally, it should also allow instructors to submit documents in bulk.
- *Document formats.* The tool should accept common text formats, for example, RTF, PDF, and MS Word.
- *User-friendliness.* An effective tool should be easy to use and ideally require minimal training.
- *Quality of report.* The report should fulfill the purpose of the tool, i.e. it should allow the user to quickly identify suspected cases of plagiarism.
 - In many cases, this includes an “originality score” or “plagiarism index” – a single number that supposedly indicates what percentage of the examined paper is plagiarized. The precise determination of this index depends on the matching algorithm and is typically not publicized.
- *Follow-up functionality.* The tool should allow the user to follow up on suspected cases by providing access to the source.
- *Response time.* Given the fast response times of search engines, users expect responses to automated services to happen within seconds rather than minutes.

- *Administrative effort.* Installation and maintenance of the software need to be considered.
- *Accessibility and stability.* Given the criticality of this service, the software should be readily accessible to all users at the university, should be free of bugs, and should exhibit minimal downtimes.
- *Licensing structure and cost.* Some tools require substantial licensing fees while others are free. Licensing may be calculated as a flat rate for an institution, by number of users or by frequency of usage.

This catalogue of criteria served as a framework to guide the methodology of our evaluation of *SafeAssign*. Since the tool was slated to replace the current software, the criteria were also applied to *Turnitin* in order to establish a baseline for comparison.

Methodology

A comparative analysis of the two products was performed by means of dual-submitting various sets of documents to both tools and measuring the performance with respect to the variable identified in the literature. The following describes the variables used for comparison, selection of documents for the data sets, procedures, and methods of analysis used for the comparison.

Variables

Based on the findings from the review of the literature, the following variables were selected for the comparison of the products:

- **Matching score.** This is also known as the originality score and represents the percent of text in the document that the software flagged as non-original, i.e. copied from an identified source. The exact calculation of the score is proprietary and therefore the scores do not have the exact same meaning for the two products. However, since this score is the main indicator used by instructors to determine whether a case requires additional scrutiny, the variable was included in the comparison as an overall measure.

- **Number of sources.** The number of sources found was used as an indicator of the scope of the sources searched by each product. This variable was measured by counting the number of sources detected on the first submission.
- **Storage options.** The two products were compared based on examining whether documents could be submitted without being stored in the institutional database.
- **Submission options.** The two products were compared based on examining which options were available to instructors and student for submitting documents.
- **Document formats.** The two products were compared based on examining the list of accepted document formats.
- **Licensing structure and cost.** The two products were compared based on examining the corresponding license agreements.

The following variables are qualitative and rather subjective in nature. The scope of the evaluation did not allow a large-scale comparison of these variables. The findings discussed in the results section are impressions of individuals who volunteered their opinions and are not representative of the FSU user population. A set of surveys is under development to measure these variables more systematically during the summer 2009 term.

- **Quality of report**
- **User-friendliness**
- **Follow-up functionality**
- **Response time**
- **Administrative effort**
- **Accessibility and stability**

Data Sets

Five paper sets were created:

- **Original, unaltered papers** were retrieved from a variety of sources that are likely used by students to find support material for papers. The sources included search engines, news sites, paper mills, collections of scholarly papers, and thesis and dissertations. The main purpose of this set was to identify the scope of sources that are covered by the two tools. If the source is found by the tool, the report would indicate a 100% matching score for each submission. Please see [Appendix C](#) for a complete list of documents used in Set 1.
- **Papers were fabricated** on three levels of sophistication, applying known strategies of plagiarism. This test was designed to measure detection accuracy of the matching algorithm rather than scope of the search. Therefore, we ensured that the two tools found the sources of all text passages that were used for the tests. Set 2 consisted of simple copying and pasting of text passages from different sources (see [Appendix D](#) for details); Set 3 consisted of altering pasted text passages by changing the order of phrases and replacing certain words (see [Appendix E](#) for details); Set 4 was created by completely paraphrasing the original text passage (see [Appendix F](#) for details.).
- **Student papers** from fall 2008 and spring 2009 constituted Set 5. The papers were selected from a convenience sample of courses from different FSU colleges. The papers represent a variety of writing assignments for five different courses. For reasons of confidentiality, the papers are not included in the appendices.²

Procedures

- The papers in each set were renamed according to a neutral naming convention in order to keep the corpus organized and prevent mistakes during submission of the documents.

² The papers were retrieved by permission of the instructor and with the understanding that they would be treated confidentially, submitted as drafts so as not to be included in the institutional database, and that the results would not be associated with the authors.

- Each set of documents was submitted using the direct submit method that allows an instructor to upload a set of documents in a single submission. See [Appendix G](#) for screen captures of the upload screens of the two tools. This method facilitates bulk submissions and prevents mistakes.³
- All documents were submitted as drafts in order to prevent contamination of the institutional database and to preserve the rights of students to refuse inclusion of their documents in the institutional database.
- A database with the generic names of all documents was created in order to keep track of measured values from the submissions and to perform statistical analyses of the collected data.

Methods of Analysis

- The quantitative variables were compared by means of the matching score and the number of source that both tools produced. Pair-wise t-tests were employed to compare the variables.
- Extensive qualitative analysis of variables was beyond the scope of this evaluation project. However, originality reports of both tools were carefully reviewed to understand what matching scores mean and how to use the reports. Review of originality reports are in [Appendix H](#).
- Anecdotal evidence for additional qualitative variables was reported without further analysis.

³ In those cases where the paper had already been submitted to the institutional database by the instructor, the scores were accessed from the original submission.

Results

Matching Score

The matching score is used by most instructors as the primary indicator of whether a student may have plagiarized in a paper. The score was compared for all five paper sets. The results of performance testing are summarized in Table 1.

Table 1: Performance Testing Results by Paper Set

Set	Paper Type	N	SA score(%)		TII score (%)		Pair-wise t-test
			Mean	SD	Mean	SD	
1	Original	64	53.00	38.75	47.81	40.46	0.361
2	Simple	10	62.50	36.31	58.40	31.60	0.499
3	Partial paraphrase	10	92.80	12.61	81.20	4.32	0.011*
4	Complete paraphrase	5	21.20	18.83	11.60	15.13	0.033*
5	Student paper	212	11.66	15.92	11.08	14.75	0.604

*significant at $p = .05$ level.

As illustrated in Table 1, significant differences with respect to matching scores between the two products were only measured for sets 3 and 4, which contained fabricated papers that simulated different levels of plagiarism. A closer look at the two sets reveals that *SafeAssign* was more successful at detecting higher levels of plagiarism, including both partial and full paraphrasing.

Table 2: Detail Results of Testing with Paper Sets 3 and 4

Set 3: Partial Paraphrase			Set 4: Complete Paraphrase		
Filename	SA	TII	Filename	SA	TII
Set3_Paper_01	100	88	Set4_Paper_01	46	37
Set3_Paper_02	100	87	Set4_Paper_02	10	0
Set3_Paper_03	99	83	Set4_Paper_03	0	0
Set3_Paper_04	100	82	Set4_Paper_04	15	6
Set3_Paper_05	100	81	Set4_Paper_05	35	16
Set3_Paper_06	64	81			
Set3_Paper_07	100	80			
Set3_Paper_08	100	78			
Set3_Paper_09	87	79			
Set3_Paper_10	78	73			
Mean	928	812	Mean	106	58
SD	12.61	4.32	SD	18.83	15.13

Table 2 shows the detailed results of the two sets. *Turnitin* apparently operates with a word-by-word matching algorithm which is less suitable for detecting cases where the student exerted some effort to hide the fact that the submitted text is not their original writing. This difference is important for the effectiveness of the product.

Finally, the matching score variable was measured for student papers from five different courses from the College of Arts and Sciences, the College of Business, and the College of Education. Table 3 provides a summary of the detailed results for the test with Set 5 that contained student papers.

Table 3: Performance Testing Results - Paper set 5, Actual Student Papers

Course	Assignment	N	SA score (%)		TII score (%)		Assignment Type	Length
			Mean	SD	Mean	SD		
A	1	16	34.69	19.52	0.50	0.82	Essay type quiz	2~4 pages
	2	16	3.63	2.94	5.13	3.76	Short paper	5~9 pages
	3	16	9.19	7.40	7.38	6.01	Short paper	4~9 pages
B	1	21	3.00	3.97	3.14	3.07	Project paper	6~12 pages
	2	20	6.05	6.95	5.10	7.68	Project paper	6~12 pages
C	1	22	19.45	23.70	24.32	24.20	Short paper	4~8 pages
D	1	20	17.55	19.15	4.00	8.78	Short paper	6~9 pages
	2	20	2.50	5.86	1.25	1.74	Short paper	6~9 pages
E	1	31	8.32	10.61	20.29	13.19	Essay type quiz	1~2 pages
	2	30	14.23	15.33	23.50	14.52	Essay type quiz	1~2 pages
Total		212	11.59	15.93	11.08	14.75		

As mentioned above, the paired-sample t-test showed no significant differences for this set of papers, indicating that the two products performed similarly well with respect to the matching score variable.

Number of Sources

The number of sources was compared for 123 student papers whose originality reports are accessible at the time of data collection. Table 4 summarizes these findings. *Turnitin* refers significantly more papers as sources for matching texts. However, this result does not mean that *Turnitin* performed better than *SafeAssign* with respect to identifying potential sources of plagiarism. A closer look and follow-up tests revealed that *SafeAssign* is more selective in its reporting, listing the main contributing sources rather than a complete list of sources on the first pass. When a given text is reanalyzed, *SafeAssign* consistently returns a greater number of sources.

Table 4. Test Result of the Number of Sources

	SA	TII
Total	390	1200
N	123	123
Mean	3.17	9.76
SD	3.25	9.76
t-test	0.00*	

*Significant at $p = .05$ level

As noted above, this difference must be interpreted in the context of both products having identified similar matching scores for these sets. The fact that *Turnitin* found additional sources did not contribute to the effectiveness of the task. In fact, it may be argued that *SafeAssign* offers a better solution since it minimizes the need to review additional sources that contributed little to the overall case of plagiarism.

Other Variables Measured

- **Response time.** Response time or processing time of both tools varies. Since neither of the two products indicates the response time directly, it was difficult to accurately measure this variable. Frequently checking the report page to see whether a report is ready was the only available option. Response times of *Turnitin* ranged from 30 seconds to 5 minutes; response times of *SafeAssign* ranged from 1 minute to 30 minutes. In rare cases, *SafeAssign* took several hours to produce the originality reports. The difference in response time could be attributed to the difference in matching algorithms. While longer response times could be seen as an inconvenience, most cases do not require instant feedback and therefore the variable is less critical.
- **Storage options.** Both tools allow users (instructors) to choose whether documents could be submitted without being stored in the institutional database.
- **Submission options.** Other than student submission, which is individual paper upload, *Turnitin* offers individual paper upload, cut & paste, bulk upload, and zip file upload. *SafeAssign* offers a single upload option, which is more like attaching a file. As mentioned above, the screen captures of both tools' upload options are in [Appendix G](#).

- **Document formats.** The two products were compared based on examining the list of accepted document formats.

Document Formats	SafeAssign	Turnitin
Microsoft Word (doc. & docx)	✓	✓
WordPerfect		✓
OpenOffice (.odt)	✓	
PostScript		✓
Plain text	✓	✓
PDF	✓	✓
RTF	✓	✓
HTML	✓	✓
ZIP	✓	✓

- **Licensing structure and cost.** *SafeAssign* comes bundled with *Blackboard* and therefore does not require a separate license fee. *Turnitin* requires a separate yearly license fee which was quoted in December 2008 at over \$80,000.

Anecdotal Evidence for Additional Variables

As mentioned, the scope of this evaluation did not allow a systematic investigation of some qualitative variable. Nevertheless, we did collect anecdotal evidence from a small number of individuals who provided their opinions.

- **Quality of report.** Some *Turnitin* users mentioned that they preferred the automatic side-by-side display of texts for comparison. Other users indicated that they were pleased with the way *SafeAssign* displayed the results.
- **User-friendliness.** There was no feedback on the user-friendliness of either tool. Few users of *SafeAssign* elected to attend one of the offered workshops, which may indicate that the product is relatively easy to use.
- **Follow-up functionality.** Both products offer the critical functionality necessary to follow up on any flagged text portions, providing references and direct access to the source of the potential plagiarized text. A handful of *Turnitin* users were unhappy about the perceived lack of follow-up functionality offered by *SafeAssign*. Most notably, *SafeAssign* does not offer

the option to exclude texts within quotation marks and bibliographic reference. One other comment included *Turnitin*'s ability to sort the display in different ways. While useful, this functionality is not necessarily critical since these portions often make up only a small percentage of the flagged text. Additionally, text enclosed in quotation marks may still be identified as excessive or irrelevant, and the student may still not have referenced the source correctly or appropriately. Thus, neither of the two products should be used without the critical review of all flagged text by instructors, regardless of score.

- **Accessibility and stability.** The survey of *Turnitin* users conducted in December 2008 revealed that over 50% of the respondents had experienced some type of issue accessing or using the product. Only a handful of cases were reported where students had trouble accessing *SafeAssign*.
- **Administrative effort.** According to the report of the technical support team, the two products do not differ in their amount of administrative effort required for installation and maintenance.

The following section summarizes the technical implementation of *SafeAssign* at Florida State University. Information on installation, functional testing, and troubleshooting are included.

Technical Implementation

In this section we provide information regarding the technical implementation of *SafeAssign* at Florida State University. The effort was coordinated by Kyle Stierwalt.

Installation

- *SafeAssign* was first installed on a test system running *Blackboard 7* in March 2008.
- In fall 2008, *SafeAssign* was upgraded to the current version, 1.2.15.
- *SafeAssign* was installed on the production *Blackboard 7* server in December 2008. The following parameters were set:
 - Show Student ID: Disable
 - Allow *SafeAssignments* in Organizations: Enabled
 - Institution Release Statement: Disabled/Blank
 - Global Reference Database: Enabled

Detailed installation notes are included in [Appendix I](#).

Functional Testing

Functional testing of the software was carried out by members of the transition team. *SafeAssign* was systematically tested to confirm the following:

- Accessibility and stability of the product, and
- Execution of all functions as specified in the software documentation

The team did not identify any software bugs or other technical irregularities. Additionally, as noted in the next section, none of the users reported any technical problems.

Troubleshooting

Only four *SafeAssign* trouble tickets were logged by the support group. The problems experienced were related to browser settings and were not product specific.

Dissemination, User Training, and Support

A critical component of the transition project was the preparation of users through dissemination, training, and support. The following section summarizes these efforts. Details are available in the corresponding appendices.

Dissemination

The dissemination strategy included the following components:

- **Initial survey.** As discussed [above](#), a survey was sent to all current *Turnitin* users to collect their attitudes about anti-plagiarism efforts and raise their awareness of a potential change in products. (December 2008)
- **Web site news item.** A news item introducing the new anti-plagiarism tool was placed on the front page of the Center for Teaching and Learning site. (December 2008) <http://learningforlife.fsu.edu/ctl/index.cfm>
- **Web page update.** The web page dealing with plagiarism and *Turnitin* was updated to include information about the transition and *SafeAssign*. (December 2008)
<http://learningforlife.fsu.edu/ctl/explore/bestPractices/safeAssign.cfm>
- **Announcement in *Blackboard*.** A permanent announcement was posted in *Blackboard* referencing the transition from *Turnitin* to *SafeAssign*. Additionally, a reference to *SafeAssign* was included on the *Blackboard* support tab. (December 2008)
- **Direct email notifications** to all current users of *Turnitin*. The email announced the transition project, included links to the corresponding web pages, and encouraged users to familiarize themselves with the product. Users were also encouraged to participate in a pilot study to help evaluate the product's effectiveness. (February 2009)
- **Message before use of *Turnitin*.** A message was created to be displayed whenever a user was inserting a new *Turnitin* assignment in *Blackboard*. The message alerted the users of the transition, encouraged them to use *SafeAssign*

instead, and asked them to acknowledge having read the notification before allowing them to proceed using *Turnitin*. (February 2009)

A sample announcement is included in [Appendix J](#).

Training

The Center for Teaching and Learning was charged with designing and implementing appropriate training to help users transition to *SafeAssign*. The effort was led by Dr. Helen Hu. The following instructional materials were developed:

- ***SafeAssign Manual***. A concise *SafeAssign* manual was created that steps new users through the process of creating an assignment and reviewing the report. A copy of the handbook is available online at:
<http://learningforlife.fsu.edu/ctl/explore/bestPractices/FSUSafeAssignManual09.pdf>
- ***SafeAssign Job Aide***. A card quick reference card was produced and made available online to reduce the time experienced users would have to spend to transition to the new product.
<http://learningforlife.fsu.edu/ctl/explore/bestPractices/SafeAssignCard.pdf>
- ***SafeAssign workshop***. A workshop was designed to train users who may need more help with the transition. The workshop was offered once per month starting on January 22nd, 2009. Please see [Appendix K](#) for an outline and [Appendix L](#) for workshop evaluations.

Support

All faculty support experts at the Center for Teaching and Learning were trained to offer *SafeAssign* end user support via telephone, email, and in face-to-face meetings. Requests for such support were very limited and were typically resolved by referring the user to the resources available on the web site. No problem incidents were logged and casual feedback about the transition collected from the instructors was neutral overall. Only a handful of email exchanges were logged that pointed out some limitations of

SafeAssign as compared to the features of *Turnitin*. These individuals did feel strongly that these features helped them investigate suspected cases of plagiarism more easily.

Conclusion

This report described in detail the efforts that were undertaken by the transition team of the Academic & Professional Program Services to validate *SafeAssign* as the new standard anti-plagiarism tool for Florida State University and to provide a smooth transition for instructors.

The results of the product evaluation showed no evidence that would prevent recommending *SafeAssign* as the standard anti-plagiarism tool for Florida State University. While the two products showed similar effectiveness overall, *SafeAssign* was found to be significantly more effective in detecting higher levels of plagiarism, including partial and full paraphrasing. Qualitative differences in functionality identified between the two evaluated products were anecdotal and classify as user preferences rather than core functionality impacting the effectiveness of the tool.

The technical implementation and testing proved that *SafeAssign* is stable and free of software bugs. As described in the report, users were repeatedly informed of the transition and given ample opportunity to learn how to use the new tool. Support materials, training, and individual support continue to be available through the Center for Teaching and Learning.

Based on the results of the transition project, the team can confidently support the adoption of *SafeAssign* as the new standard tool for anti-plagiarism at Florida State University.

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Appendices

Appendix A: Turnitin User Survey

1. Explain briefly how you use *Turnitin*. (e.g. What type of student assignments you use it for, what you look for in the reports, and how the results impact the student's grade on the assignment.)

2. Have you experienced any problems with *Turnitin*? If yes, please explain.

3. How would you feel if the university decided to switch to the alternative product included in Blackboard, *SafeAssign*?

4. What would be the consequences for you if the university decided not to renew the license for *Turnitin* and did not provide any alternative tool to check for plagiarism?

5. Please add any other comments you would like to share to help the university make an informed decision on this topic.

Appendix B: Summary of Responses to User Survey

Question 1: *Explain briefly how you use Turnitin. (E.g. What type of student assignments you use it for, what you look for in the reports, and how the results impact the student's grade on the assignment.)*

Many respondents indicated that they use *Turnitin* for all their writing assignments, while some reserve the use for critical assignments, such as term papers. In most instances, the users look for a specific percentage on the plagiarism report as a flag for further investigation. Some ask their students to check their own reports and resubmit in order to reach an acceptable score. Violations can lead to required revisions, rejection of the paper, and in some cases, reporting of honor code violation to university officials. Impact on student grades depends on the situation, the interpretation of the report, and the findings of subsequent investigations.

Question 2: *Have you experienced any problems with Turnitin? If yes, please explain.*

Over half of the respondents reported having experienced technical problems or user errors. Problems included error messages using the tool with a Mac, lost assignments, missing reports, problems reading the format of the report, steep learning curve, and ample opportunity for user error for both students and instructors.

Question 3: *How would you feel if the university decided to switch to the alternative product included in Blackboard, SafeAssign?*

The vast majority of respondents noted that they did not know anything about *SafeAssign*. (Apparently, including the link to the tool in the email survey invitation didn't prompt too many respondents to review information about *SafeAssign* before proceeding to answer the survey.) Nevertheless, most respondents indicated that they would not be opposed to switching if the functionality and user-friendliness of *SafeAssign* was comparable. Most concerns were focused on the database used by *SafeAssign* and the fact that many FSU student papers from previous semesters would not be included for comparison. Others emphasized the importance of the software to function without error. Some respondents are concerned about having to learn a new tool.

Question 4: *What would be the consequences for you if the university decided not to renew the license for Turnitin and did not provide any alternative tool to check for plagiarism?*

The message is loud and clear: Losing the functionality provided by *Turnitin* would cause significant issues. Plagiarism is seen as a real problem, especially in undergraduate sections, and the large number of students per section makes detection unreasonable without the use of a tool. Most respondents showed a strong reaction, and serious political consequences should be expected if the switch should lead to a sense of decreased effectiveness or increased technical problems. This clearly is a touchy and controversial subject. Faculty members do not like to see quality of instruction and institutional credibility sacrificed on account of budget constraints. Providing adequate training and support for *SafeAssign* in addition to ensuring adequate, error-free performance, will be crucial for a successful transition.

Question 5: *Please add any other comments you would like to share to help the university make an informed decision on this topic.*

Most respondents used this opportunity to stress again how important plagiarism-detection service is for them, how it saves time, provides critical and objective evidence needed to increase FSU's reputation as a credible research and teaching institution, and should therefore not be removed.

Appendix C: List of Documents in Set 1

Found 10 papers (text sources) from the Internet paper mills, 10 from other online sources (e.g., news, online document such as Wikipedia), and 19 scholarly papers from various disciplines (education, psychology, mathematics, engineering, chemistry, and social study).

1. Copied entire body of the text from the original paper and pasted them in a MS Word document to prepare a paper for submission (without repeated text such as journal title on top of each page)
2. We also used the downloaded papers when the formats SA and TII can process (e.g., MS Word, HTML, PDF, etc)

The following filenames are linked to actual paper available for download.

Type	Filename
Paper-mill	SAE_SP09_101_Children in Poverty.doc

Paper-mill	SAE_SP09_102_AfrAm-middle class_Original.doc
Paper-mill	SAE_SP09_103_AI_Original.doc
Paper-mill	SAE_SP09_104_How stress affect our brain_Original.doc
Paper-mill	SAE_SP09_105_Healthcare Problem for women_Original.doc
Paper-mill	SP_TI_009 - Paper-mill.doc
Paper-mill	SAE_SP09_004 - Paper-mill.doc
Paper-mill	hiv.pdf
Paper-mill	Huckleberry Marck Twain.doc
Paper-mill	Human.doc
Internet	SAE_SP09_Int_001 - http://tallahassee.com/section/NEWS01
Internet	SAE_SP09_Int_002 - http://www.nytimes.com/2009/03/13/opinion/13Gelb.html?_r=1&ref=opinion
Internet	SAE_SP09_Int_003 - http://www.politico.com/news/stories/0309/19961.html
Internet	SAE_SP09_Int_004 - http://www.miamiherald.com/457/story/947431.html
Internet	SAE_SP09_Int_005 - http://www.denverpost.com/breakingnews/ci_11901424
Internet	SAE_SP09_Int_006 - http://www.cbsnews.com/stories/2008/01/28/politics/main3762263.shtml?source=search_story
Internet	SAE_SP09_Int_007 - http://transcripts.cnn.com/TRANSCRIPTS/0903/08/fzgps.01.html
Internet	SAE_SP09_Int_008 - http://www.unc.edu/~sunnyliu/inls258/Introduction_to_Knowledge_Management.html
Internet	SAE_SP09_Int_009 - http://www.mediationconference.com.au/html/Accreditation.html#draft
Internet	SAE_SP09_Int_010 - http://kidshealth.org/teen/your_mind/problems/bullies.html
Scholarly	Fair to students.pdf
Scholarly	Hooper et al2007-Plagiarism a forerunner of misconduct.pdf
Scholarly	McCabe2005-Cheating in NA Perspective.pdf
Scholarly	Anti-plagiarism Strategies.pdf
Scholarly	Download_Document.html
Scholarly	07.pdf
Scholarly	Anderman_et_al2001_Learning_to_value_math.pdf
Scholarly	Braunstein_Welch2002_FinLit_Overview.pdf
Scholarly	Hernon_Schwartz_2002-Measuring_CS.pdf
Scholarly	Rust_Metters_1995_Math_model_customer_Satisfaction.pdf
Scholarly	Stevens_et_al_1995-Dineserv.pdf
Scholarly	an-instrument-for-measuring.pdf
Scholarly	nnano.2008.362.pdf
Scholarly	nnano.2008.361.pdf
Scholarly	SAE_SP09_106 Men Are Dogs.doc
Scholarly	SAE_SP09_107 Social Support and Coping.doc
Scholarly	SAE_SP09_108 Factors Associated with Plagiarism.doc
Scholarly	SAE_SP09_109 Faculty Attitudes.doc
Scholarly	SAE_SP10_110 The Scholarship of Teaching.doc

Appendix D: Fabrication of Documents in Set 2

1. Found one of each paper mill, news article, scholarly paper, student paper, and unpublished institutional paper through the Internet and FSU library website.

2. Copied texts from each and pasted them in a MS Word document to prepare five different papers as follows.

- Scholarly papers:
Searched FSU library website and downloaded a full-text journal article from SpringerLink -- used only parts
 - Source: (Scholarly) Jensen, C. B., & Markussen, R. (2007). The unbearable lightness of organizational learning theory: Organizations, information technologies, and complexities of learning in theory and practice. *Learning Inquiry*, 1, 203-218.
- News article:
 - Googled and found a CNN report -- used only parts
<http://edition.cnn.com/2008/TECH/science/08/07/robot.teachers/index.html>
- Paper-mill paper:
Used one I Googled and found in a paper-mill on 2/22/09 -- used only parts
 - <http://www.researchpapers-on-time.com/samples.html>, 2/22/09
- Institutional papers (To check against FSU Institutional database):
Searched FSU library website and downloaded a full-text dissertation -- used only parts
 - Bosseler, M. (2005). How can students use the potential of technology and the Internet in an elementary science club as the conduit for conducting science inquiry? Unpublished doctoral dissertation. Florida State University.
- Mixed bag:
Used parts that are not used in the other four crafted papers.

3. Created another 5 papers using multiple sources as follows:

- Scholarly papers
Found 4 scholarly papers from ERIC database
 - Bischooping, K., & Bell, S. (1998). Gender and contradictory definitions of university accessibility. *Review of Higher Education*, 21(2), 179-194. Retrieved from *www.csa.com
 - Payne, M. A. (1996). Some effects of sex, age, and household structure in family drawings of Barbadian children. *The Journal of Social Psychology*, 136, 567-78.
 - Gerald Tindal, G. & Nolet, V. (1996). Serving students in middle school content classes: A heuristic study of critical variables linking instruction and assessment. *The Journal of Special Education*, 29, 414-32.
 - The role of reflection on pre-service teachers' development in the context of a professional development school Anne Reilley Freese,

Teacher Education and Curriculum Studies, University of Hawaii,
Honolulu, HI 96822, USA

- News article:
 - <http://www.cnn.com/2009/TECH/science/02/02/alaska.volcano/index.html>
 - <http://abcnews.go.com/WhatWouldYouDo/story?id=6794318&page=1>
 - <http://www.cbsnews.com/stories/2009/01/26/earlyshow/health/main4753425.shtml>
 - <http://www.msnbc.msn.com/id/28996368/>
 - <http://www.foxnews.com/story/0,2933,487205,00.html>
- Paper-mill paper:
 - http://www.cheathouse.com/essay/essay_view.php?p_essay_id=48638
 - <http://www.termpaperslab.com/term-papers/79850.html>
 - <http://www.oppapers.com/essays/American-Beauty-And-Its-Music/67944>
 - <http://www.free-researchpapers.com/dbs/a6/cot34.shtml>
 - <http://www.researchpapers-on-time.com/samples.html>, 2/22/09
- Student papers (To check against FSU Institutional database – previous course)
 - Paper 1 - SDS 4481 / Spring 2008
 - Paper 2 - SDS 4481 / Spring 2008
 - Paper 3 - SDS 4481 / Spring 2008
- Mixed bag:
 - Used parts that are not used in the other four crafted papers.

Appendix E: Fabrication of Documents in Set 3

Paper set 3 (Low level of fabrications)

To test paraphrased texts, we chose texts that are easily found and checked against by both SA and TII, which would be texts from “paper mills.” We prepared five papers with texts from the paper mills and five papers from academic journals. If the tools check word-to-word match only, they would not detect any. But if the tools detect also resembling sentences that may have same meaning as claimed, they would detect some or most of paraphrased texts. In order to measure different performance depending on the amount of paraphrasing, paper set 3 is partially paraphrased and paper set 4 is completely paraphrased.

1. Found five different paper mill papers
 - a. Children in poverty, http://www.classictermpapers.com/sample_paper.php

- b. African American middle class, http://www.classictermpapers.com/sample_paper.php
 - c. Artificial intelligence, <http://www.perfecttermpapers.com/samples.html>
 - d. How stress affects our brain, http://www.classictermpapers.com/sample_paper.php
 - e. The scope of health-care problem for women in America, http://www.classictermpapers.com/sample_paper.php
2. Found five different scholarly papers from ERIC database
- a. Knox, D., Vail-Smith, K., & Zusman, M. (2008). "Men are dogs": Is the stereotype justified? data on the cheating college male. *College Student Journal*, 42(4), 1015-1022.
 - b. Devereux, J. M., Hastings, R. P., Noone, S. J., Firth, A., & Totsika, V. (2009). Social support and coping as mediators or moderators of the impact of work stressors on burnout in intellectual disability support staff. *Research in Developmental Disabilities: A Multidisciplinary Journal*, 30(2), 367-377.
 - c. Bennett, R. (2005). Factors associated with student plagiarism in a post-1992 university. *Assessment and Evaluation in Higher Education*, 30(2), 137-162.
 - d. Volpe, R., Davidson, L., & Bell, M. C. (2008). Faculty attitudes and behaviors concerning student cheating. *College Student Journal*, 42(1), 164-175.
 - e. Walker, J. D., Baepler, P., & Cohen, B. (2008). The scholarship of teaching and learning paradox: Results without rewards. *College Teaching*, 56(3), 183-190.
3. Copied parts of a paper and pasted them in a MS Word document
4. Partially paraphrased the text by:
- a. switching about half of all meaningful words – noun, verb, adjective, adverb, and other words that are crucial for sentence composition
 - b. change sentence composition (e.g., passive tense) – half of all sentences
 - c. omit some paragraphs – simulating insertion of text
 - d. keep the same paragraph composition and maintain the logic to keep the meaning the same as the original text

Table E.1. Sample Paraphrase – partial paraphrase

Original	Paraphrased
Artificial Intelligence is the engineering and the science of making intelligent machines with some level of learning, especially intelligent computer programs that can think and learn. Artificial Intelligence is actually related to the task of using computers and other machines to understand human intelligence, but Artificial Intelligence does not have to confine itself to methods that can be observable biologically. The main goal of Artificial Intelligence is to make computer programs and	Artificial Intelligence is the manufacturing* and the science of creating intelligent machines with some form of learning, especially intelligent software programs that can think and be taught ; Artificial Intelligence is actually related to the chore of using computers and other software to understand human ability , but Artificial Intelligence does not have to confine itself to techniques that can be observable physiologically . The main goal of Artificial Intelligence is to make computer programs and

robots that can solve complex problems and achieve particular goals. However, many scientists involved in specific research areas are much less motivated and ambitious.

mechanisms that can solve complex **tasks** and achieve particular **benchmarks**; however, many scientists involved in **certain** research areas are much less motivated and **determined**.

*Switched words are in red.

Appendix F: Fabrication of Documents in Set 4

Paper set 4 (Paraphrase or high level of fabricating effort)

We used the same first five papers in the paper set 3 for the paper set 4 to be comparable.

1. Used the partially paraphrased papers from the paper set 3 (first five)
2. Completely paraphrased text by:
 - a. switching all meaningful words – noun, verb, adjective, adverb, and other words that are crucial for sentence composition
 - b. change sentence composition (e.g., passive tense)
 - c. omit some paragraphs – simulating insertion of text
 - d. keep the same paragraph composition and maintain the logic to keep the meaning the same as the original text
 - e. paraphrased the text by (one paper was intentionally kept the sentence composition to test whether each tool produces different results)

Table F.1. Sample Paraphrase – complete paraphrase

Original	Paraphrased
Artificial Intelligence is the engineering and the science of making intelligent machines with some level of learning, especially intelligent computer programs that can think and learn. Artificial Intelligence is actually related to the task of using computers and other machines to understand human intelligence, but Artificial Intelligence does not have to confine itself to methods that can be observable biologically. The main goal of Artificial Intelligence is to make computer programs and robots that can solve complex problems and achieve particular goals. However, many scientists involved in specific research areas are much less motivated and ambitious.	AI is intellectual ability that engineers and scientists try to give machines so that they can do what human does such as learning and thinking. AI is in fact pertaining to the job that uses computers and other devices to learn and simulate human intelligence. AI has, however, a major goal: to enable machines to solve problems and to perform particular tasks. Despite continuing technological advances, many people who worked on various AI research projects are not very excited and inspired.

Table F.2. Sample Paraphrase – complete paraphrase with the same sentence composition

Original	Paraphrased
American women healthcare problem:	Healthcare problem of american women:

When most of us think of contemporary issues concerning feminism and health care the first thing that occupies our mind is the question of sexuality and reproduction such as mortality of birth control or abortion.

Health is not merely the absence of disease; it's a lifestyle. Whether it's getting enough sleep, relaxing after a stressful day, or enjoying a hobby, it's important to take time to be good to yourself. Health concerns associated with smoking include cancer, lung disease, and early menopause, infertility, and pregnancy complications. Smoking triples the risk of dying from heart disease among those who are middle-aged.

Obesity is at an all time high in the United States, and the epidemic may be getting worse. Those who are overweight or obese have increased chances of diseases and conditions such as diabetes, high blood pressure, heart disease, and stroke.

Major issues concerning feminism and health care are often thought to be limited to only sexuality and reproduction.

Being healthy is not the absence of disease; it's a lifestyle. It is a choice. Smoking triples the risk of dying from heart disease among those who are middle-aged. Health concerns associated with smoking include cancer, early menopause, infertility, and complications during pregnancy.

For the American woman, obesity has reached an all time high, and the epidemic continues to get worse. Overweight women increase their chances of high blood pressure, diabetes, heart disease, and even stroke.

Appendix G: Screen Captures

G.1. SafeAssign File Upload Screen

Paper Submission

Submission Options

Submit as draft (do not add papers to Institutional Search Database)

Skip Plagiarism Checking (only add papers to Institutional Search Database)

File Upload

Upload File

*File To Attach

Acceptable File Formats: .zip, .doc, .docx, .odt, .txt, .pdf, .rtf and .html

Copy/Paste Document

* Paper Title

* Paper Text

Submit

G.2. Turnitin File Upload Screen

submit paper: by file upload

submit a paper by:
file upload ▼

author
non-enrolled student ▼

first name *

last name *

submission title *

browse for the file to upload *

The paper you are submitting will not be added to any paper repository.

We currently accept document files of the following types: MS Word, WordPerfect, PostScript, PDF, HTML, RTF, and plain text. File size limit: 10 MB

Appendix H: Detailed Report Review

As some studies suggested, it is the instructor who make a judgment whether one plagiarized or not since a matching score itself cannot give a verdict. (Dahl, 2007; Evans, 2006). Thus, it is very important to understand that there is no clear-cut threshold of plagiarism. Both tools, for that reason, displays color coded bar-type indicator on top of the report to indicate the probability of plagiarism along with the matching percentage. Screen shots of the SafeAssign and Turnitin reports are presented below. In addition to the overall score, colored indicator, and other information on top, both reports also provide tools for instructor to examine body of text itself such as highlighting texts, showing original texts, and access to the original sources. Each tool has advantages and disadvantages.

The following two figures show how each tool handle matching texts differently. SafeAssign highlights and displays the original and submitted texts side-by-side so that instructors can determine. Turnitin also provides a similar function that highlights a big chunk of texts and provides the source on the side. To see the original text, users need to click to open the original text. To further examine how these tools react to paraphrased texts, we used completed paraphrased texts, which are the paper set 4. Figure 3 and 4 shows the reports of each tool and illustrate how they handle paraphrased texts differently. Turnitin still detects the same words used in sentences but does not highlight sentences as potential plagiarism while SafeAssign highlights as plagiarized sentences. This evidences may suggests a clear difference between two tools in terms of performance when dealing with carefully plagiarized papers, which plagiarize ideas and logic, not simple copy-and-paste texts. SafeAssign claims that it is capable of detecting the texts that have the same meaning. If this is an evidence of such a claim, SafeAssign performs to a degree which it is supposed to.

Figure 1. SafeAssign Report Screenshot 1 – Paper 3, Paper Set 3

The screenshot displays the SafeAssign report interface. At the top left is the SafeAssign logo with the text "by Blackboard". At the top right are "Help" and "Close" links. The main content is divided into three sections: "Paper Information", "Suspected Sources", and "Paper Text".

Paper Information

Owner: APT Evaluation	Folder: Crafted_level3	Save report to disk:
Filename: SAE_SP09_103_AI_level3.doc	Submitted: Apr 13 2009 13:33:04 EDT	Print version:
Matching: 99%	Paper ID: 22022593	Direct link

Suspected Sources

Click on a source to view the original, or click on the magnifying glass to see the source highlighted in the text below.

- <http://www.perfecttermpapers.com/samples.html>
- Another user's paper: Owner: Aaron Kim; Submitted: Feb 26 2009 15:44:08 EST; Filename: SAE_SP09_103_AI_Original.doc

Re-process the paper without the selected sources

Paper Text

SAE_SP09_103 Level 3 4/9/09 Q Same structure with partial paraphrase 1

Artificial Intelligence

1	URL:	http://www.perfecttermpapers.com/samples.html
	Matching:	67%
	Uploaded Manuscript:	The main issue is that despite gains, we still cannot differentiate in general what types and levels of computational steps we want to call clever
	Internet Source:	The main problem is that despite of advancements, we still cannot distinguish in general what kinds and levels of computational procedures we want to call intelligent

Intelligence is to make computer programs and mechanisms that can solve complex tasks and achieve particular benchmarks; however, many scientists involved in certain research areas are much less motivated and determined.

"Artificial Intelligence is the study of techniques in which computers can be made to finish tasks, at which, at present, people are better." (Elaine, Kevin, 1990) Artificial Intelligence is normally described as the way of making mechanisms do things and perform tasks that ask about some level of intelligence when performed by homo-

Figure 2. Turnitin Report Screenshot 1 – Paper 3, Paper Set 3

turnitin Originality Report

crafted 3 level 3
by Cpl3_3 Cat

Processed on: 04-13-09 1:38 PM EDT
ID: 93078079
Word Count: 612
Submitted: 1

Similarity: 81% ■ [exclude quoted](#) [exclude bibliography](#) mode: [show highest matches together](#)

1 81% match (student papers from 02/26/09)
Class Intro to SafeAssign
Assignment Stress Test 2
Paper ID: [88284706](#)

Artificial Intelligence Intelligence, in any shape, is the computational part of the talent to accomplish individual tasks or achieve results in the life; there are various types and levels of intellect in people, many creatures and some machines. The main issue is that despite gains, we still cannot differentiate in general what types and levels of computational steps we want to call clever. Artificial Intelligence is the manufacturing and the science of creating intelligent machines with some form of learning, especially intelligent software programs that can think and be taught; Artificial Intelligence is actually related to the chore of using computers and other software to understand human ability, but Artificial Intelligence does not have to confine itself to techniques that can be observable physiologically. The main goal of Artificial Intelligence is to make computer programs and mechanisms that can solve complex tasks and achieve particular benchmarks; however, many scientists involved in certain research areas are much less motivated and determined. "Artificial Intelligence is the study of techniques in which computers can be made to finish tasks, at which, at present, people are better." (Elaine, Kevin, 1990) Artificial Intelligence is normally described as the way of making mechanisms do things and perform tasks that ask about some level of intelligence when performed by homo-sapiens; artificial Intelligence has had some short success and it has boiled down some areas of research. However, for fifty years since the start of Artificial Intelligence have we seen only very slow progression and progress. Artificial Intelligence is the moving goal and it does not include issues and goals which cannot be finished well by humans and software. A computer program or any mechanism could be described as artificially clever if it can

Figure 3. SafeAssign Report Screenshot 1 – Paper 4, Paper Set 4

nice to yourself whether you sleep enough, relax after work, or do what you like to do. Smoking-related health issues for women include lung disease, cancer, early menopause, pregnancy problems, and so on. 2 Smoking

URL:	http://www.classictermpapers.com/women_healthcare_problem.php Matching:66%
1 Uploaded Manuscript:	Smoking-related health issues for women include lung disease, cancer, early menopause, pregnancy problems, and so on
Internet Source:	Health concerns associated with smoking include cancer, lung disease, and early menopause, infertility, and pregnancy complications

agencies such as AHRQ (Agency For Healthcare Research and Quality) and CDC (Centers For Disease Control)

Figure 2. Turnitin Report Screenshot 1 – Paper 5, Paper Set 4

free condition but rather a way of life. It is crucial to make an effort to be nice to yourself whether you sleep enough, relax after work, or do what you like to do. Smoking- related health issues for women include lung disease, cancer, early menopause, pregnancy problems, and so on. Smoking increases

the risk of heart disease among middle-aged

1

Appendix I: SafeAssign Installation Notes

Production Installation, December 17, 2008

Show Student ID: Disable

Allow SafeAssignments in Organizations: Enabled

Institution Release Statement: Disabled/Blank

The optional Release Statement will be automatically added to every new SafeAssignment and displayed to students during submission.

Global Reference Database: Enabled

Submitting to the SafeAssign Global Reference Database allows papers from other institutions to be checked against your students' paper to protect the originality of their work. To learn more about the Global Reference Database click [here](#).

1) How does your Global Reference Database work?

Blackboard's Global Reference Database is a separate database where students voluntarily donate copies of their papers to help prevent plagiarism. It is separated from each institution's internal database, where all papers are stored by each corresponding institution, and students are free to select the option to check their papers without submitting them to the Global Reference Database.

2) Are you claiming ownership on the content submitted to your Global Reference Database?

No, we are only authorized to store extra copies of student papers that were volunteered and use them for plagiarism prevention purposes.

3) What is the size of your Global Reference Database?

Our Global Reference Database is a new product, so its current size is not an indication of its future potential. We expect accelerating growth, based on rapidly increasing adoption of this new service among our clients.

4) What if a student decides to remove a paper from the Global Reference Database?

Students submit their papers to the database voluntarily and agree not to remove papers in the future.

5) Are students forced to submit papers to the Global Reference Database by your company or by institutions they are enrolled into?

All papers are submitted to the Global Reference Database voluntarily, and students are free to choose not to submit their papers to this database. Instructors can still use the service effectively, even when students choose not to submit their papers to the Global Reference Database.

SafeAssign License Agreement:

SOFTWARE LICENSE AGREEMENT FOR SAFEASSIGN™ BUILDING
BLOCK/POWERLINK SOFTWARE

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Appendix J: Blackboard Announcement

New Anti-plagiarism Tool Available in Bb

Posted: December 22, 2008

Blackboard User Support Group - APPS

The Florida State University Blackboard User Support Group will be piloting the **SafeAssign** anti-plagiarism tool during the Spring 2009 semester. SafeAssign is now integrated into the Blackboard system and will provide user friendly and easily interpreted reports at no additional cost to the University. The purpose of the pilot is to allow a comparison of SafeAssign to Turnitin in order to make a more informed decision regarding the cost effectiveness of the current Turnitin tool. We have negotiated with the Turnitin vendor to extend our contract through the Spring semester in order to allow instructors currently using Turnitin the opportunity to compare the two products. Other considerations in comparing the two applications are:

- Ease of use and need for user training
- Instructor satisfaction with SafeAssign compared to Turnitin
- Functionality of the two systems and vendor support resources
- Cost and efficiency

We encourage all Turnitin users to take advantage of this pilot. SafeAssign instructions for faculty and students are available in the Support Tab within Blackboard. Faculty interested in participating in the pilot or learning more about SafeAssign may **register online** for one of three upcoming SafeAssign workshops. For additional assistance, please contact the Blackboard User Support Group at help@campus.fsu.edu.

Appendix K: Workshop Materials

SafeAssign

Haihong (Helen) Hu, PhD
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hhu@campus.fsu.edu

Center for Teaching and Learning
Academic & Professional Program
Services
Florida State University
Spring 2009

Objectives:

- This session helps participants learn:
 1. About SafeAssign
 2. To create a SafeAssignment
 3. To access student submissions & grade student's assignment
 4. To review the SA (SafeAssign) Report
 5. To upload files using Direct Submit

About SafeAssign

- **SafeAssign**
 - a tool within Blackboard to prevent plagiarism
- **SafeAssign databases including:**
 - The Internet
 - Proquest/ABI Inform
 - Institutional database
 - Global Reference Database

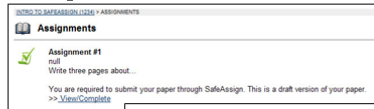
About SafeAssign

The following file types can be submitted to SafeAssign:

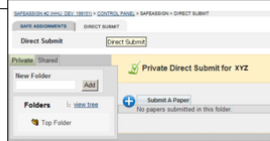
- doc and .docx – Microsoft Word
 - odt – OpenOffice.org Writer
 - pdf – Adobe PDF
 - txt – Plain text
 - rtf – Rich text
 - htm or .html – Web page
 - zip – Package of multiple files in any of the above formats (Direct Submit only)
- (Source: Stony Brook University)*

Ways Instructors Can Use SafeAssign:

1. SafeAssignment



2. Direct Submit



Creating a SafeAssignment

- Step 1: Log in
- Step 2: Select your Course
- Step 3: Sync the Course
- Step 4: Select Content Areas
- Step 5: Select SafeAssignment
- Step 6: Enter Information
- Optional Announcement
- Creating a Draft Version SafeAssignment

Activity #1: Creating a Safe Assignment

Assignment #	L-Name	F-Name
1		
2		
3		
4		
5		
6		
7		

Accessing Student Submissions

- Step 1: Select SafeAssign
 - Control Panel>Course Tools > SafeAssign > Assignment # X> View
- Step 2: View Report

Student ID	Student Name	Text	File	Matching	SA Report	Submitted	
	Anderson, Jane			100%	✓	Thu Dec 18 13:42:31 EST 2008	[Clear Attempt]
	Boyd, Daniel			100%	✓	Fri Dec 19 14:21:19 EST 2008	[Clear Attempt]
	Curtis, James			100%	✓	Fri Dec 19 10:11:22 EST 2008	[Clear Attempt]

(Source: Bb Instructor Manual)

Grading a SafeAssignment

- Step 1: Select Gradebook
 - Control Panel > Assessment > Gradebook
- Step 2: Open Modify Grade
- Step 3: Review Student Work
- Step 4: Assign a Numeric Grade
- Step 5: Submit

Reviewing the SA (SafeAssign) Report

- Step 1: Select SA Icon
- Step 2: View Percentage
 - Scores below 15 percent:
 - some quotes and few common phrases or blocks of text
 - do not require further analysis
 - Scores between 15 percent and 40 percent:
 - extensive quoted or paraphrased material
 - should be reviewed to determine if the matching content is properly attributed
 - Scores over 40 percent:
 - quoted or paraphrased text in excess
 - should be reviewed for plagiarism.
- Step 3: View Comments
- Step 4: Suspected Sources

Activity #2: Accessing Student Submissions & Grading a SafeAssignment

Submitting Papers via Direct Submit

- Step 1: Select SafeAssign
 - Control Panel > Course Tools > SafeAssign > Direct Submit tab
- Step 2: Select Private or Shared Tab
- Step 3: Create Folder
- Step 4: Upload a File or Package
- Step 5: Click Submit

Activity #3: Submitting Papers via Direct Submit

References:

- FSU SafeAssign page:
<http://learningforlife.fsu.edu/ctl/explore/bestPractices/safeAssign.cfm>
- FSU Instructor Manual link
<http://learningforlife.fsu.edu/ctl/explore/bestPractices/FSUSafeAssignManual09.pdf>
- Blackboard SafeAssign Wiki:
<http://kb.blackboard.com/display/SAFE/Home.jsessioid=F990EDEF0BC56A267A71CE4DF182F7631>
- Stony Brook University:
https://it.stonybrook.edu/FacultyServices/Software/BlackboardLMS/Documents/safeassign_instructors.pdf

Appendix L: Workshop Evaluations

Blackboard SafeAssign: Deter Plagiarism Summary Report

Description:

SafeAssign, a Blackboard plagiarism deterrent tool, analyzes the originality of student papers and encourages students to produce intellectually honest work. Participants will learn how to set up SafeAssign assignments in Blackboard and review originality reports.

Scheduled Workshops:

January 22, 2009 – 9 enrolled, 6 attended

March 5, 2009 – 5 enrolled, 4 attended

April 1, 2009 – 9 enrolled, 2 attended

Total Enrolled: 23

Total Attended: 12

Custom Workshop:

Educational Psychology & Leadership Systems – 6 attended

Session Evaluation Summary:

Questions 1 -10: Strongly Agree or Agree

- Q1. Content supported the objectives of the session: 100%
- Q2. Content was relevant to work as an instructor: 100%
- Q3. Session provided ideas or skills applicable to my courses: 100%
- Q4. Session provided useful handouts or materials: 100%
- Q5. Session used good examples that related to the content: 100%
- Q6. Session made good use of visuals: 100%
- Q7. Objectives were clearly presented: 100%
- Q8. Presenter actively involved participants: 100%
- Q9. Presenter was knowledgeable: 100%
- Q10. Content presented in an understandable manner: 100%

Session Evaluation Comments:

Question 11: What did you like best about the session?

Provided handouts
Good handouts and overview
It was good
Presenter was very patient and helpful
Run through examples from our course
Helen is cool!
Very patient
Handouts!!!

What other Teaching Strategies would you like to learn more about?

Innovative techniques in online course instruction
Building the database
Attaching/linking files to SafeAssign assignments
Constructing test on Bb

Sessions for spring are not a good time for me

Other Comments

Great job!
Helen is awesome – she asks questions, follows up questions to make sure we have the answers. She’s patient & fun!