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FINAL REPORT FOR CHESNUTT LIBRARY FELLOWS INFORMATION LITERACY PROGRAM (Final report)

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FINAL REPORT FOR CHESNUTT LIBRARY FELLOWS

INFORMATION LITERACY PROGRAM

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1. INTRODUCTION

In the Spring Semester of 2017, the course Math 142 (Calculus with Analytic Geometry I) has been redesigned with the aim to incorporate specific Information Literacy Assignments. *The goals of the Information Literacy Assignments are:*

1) to help students improve their writing skills while focusing on course concepts, and

2) to familiarize students with the Charles W. Chesnutt Library's resources and services.

This project gives students a great opportunity to practice and to strengthen their information literacy skills while practicing and understanding mathematics concepts. The course Math 142 is the first course of a three-semester sequence in Calculus with Analytical Geometry and includes the studies of graphs, functions, limits, differentiation, application of differentiation, integration, and application of the definite integral, which is a required course for STEM major. The prerequisites for this course are Math 129 (Precalculus Mathematics I) and Math 130 (Precalculus Mathematics II) or Math 131(Algebra and Trigonometry). A graphing calculator is required for this course. Two sections of the Math 142 course have been offered in the Spring Semester of 2017. The syllabus for the section Math 142-01 has been redesigned and new assignments have

been included in the evaluation criteria. A number of 35 students have been registered for this section.

2. INFORMATION LITERACY ASSIGNMENTS DESIGNED FOR MATH 142

In designing the assignments for the course Math 142, we had in mind the ACRL Information Literacy Standards 1-5. The Information Literacy Assignments cover the five standards of Information Literacy Competency for Higher Education:

Standard 1. The information literate student determines the nature and extent of the information needed;

Standard 2. The information literate student accesses needed information effectively and efficiently;

Standard 3. The information literate student evaluates information and its sources critically and incorporates selected information into his or her knowledge base and value system;

Standard 4. The information literate student, individually or as a member of a group, uses information effectively to accomplish a specific purpose;

Standard 5. The information literate student understands many of the economic, legal, and social issues surrounding the use of information and accesses and uses information ethically and legally.

Therefore, the following Information Literacy Assignments have been proposed: Information Literacy Workshop, Information Literacy Pre- and Post-Tests, and Information Literacy Course Project.

2.1. INFORMATION LITERACY WORKSHOP. This assignment incorporates ACRL Standards: 1, 2, and 4. Students have attended a workshop on information literacy presented by Mrs. Jan Whitfield on February 1, 2017. *The goals of this assignment are: 1) to inform students about the Chesnutt Library's resources and services, and 2) to show students how to search online*

mathematics databases and locate books and mathematical journals in the library's catalog. The assignment has been assessed via the Pre- and Post-Tests before and, respectively, after the Information Literacy Workshop. The presentation given by Mrs. Whitfield has been also made available to students on the Canvas course website.

2.2 INFORMATION LITERACY PRE- AND POST-TESTS. The ACRL Standards addressed by this assignment are 1, 2, and 4. Students have been asked to take the Pre- and Post-tests on information literacy skills. *The goal of this assignment is to test students' information literacy skills.* Each test contains 20 multiple-choice questions.

2.3 INFORMATION LITERACY COURSE PROJECT. The assignment incorporates all five ACRL Standards. In this assignment, each student is required to conduct a search on a famous mathematician who had significantly contributed to the development of calculus, in particular, to the topics covered in the class MATH 142. As a result, each student is required to report his/her findings and conclusion by writing a 4 to 5 page paper. *The goal of this assignment is to help students improve their writing skills while understanding course concepts*. For assessment, a grading rubric has been provided. The number of the online and printed sources has been considered as well.

3. RESULTS

In this section, we present the data obtained from assessing the information literacy outcomes.

3.1. INFORMATION LITERACY WORKSHOP. For this assignment, the students' participation rate was 85.7% (30 out of 35 students have been attended the workshop).

3.2 INFORMATION LITERACY PRE- AND POST-TESTS. The student participation rate was 62.9% (22 out of 35 students have taken both tests). The average score for the Pre-Test was 15.5 (out of 20) and for the Post-Test was 15 (out of 20). The students' scores range from 11 (2 students) to 20 (1 student) for Pre-Test and from 10 (2 students) to 20 (1 student) for Post-Test. On the other hand, 28 students have taken the Pre-Test with an average score of 80% and 22 students have taken the Post-Test with an average score of 75%.

3.4 INFORMATION LITERACY COURSE PROJECT. Student participation rate for this assignment was 40% (14 out of 35 students). MATH 142-01 is an 8 o'clock morning class. It is a challenge for some students to show up the class on time. After midterm grade was posted, five students with poor attendance withdrew from the class. Another eight students also with poor attendance stopped attending the class. Although these eight students didn't withdraw from the class, they chose to give up. Therefore, throughout the whole semester, the number of students that I actually worked with was 22. So it is reasonable to claim that student participation rate for this assignment should be 63.6% (14 out of 22 students). We have looked at the number of citations in the students' paper: online sources 57% (32 out of 56 citations), printed sources 43% (24 out of 56 citations). However, 1 student has not included any citation in his papers.

4. CONCLUSION AND DISCUSSIONS

In this paper, we have presented the results of incorporating Information Literacy Assignments in a Calculus course. The results show that the number of students participating in these assignments is not impressive. Since the students' participation in the pre- and post-tests was not so high, we recommend that these tests may be administered during the class time and be assigned as homework assignments. The result of pre-test is slightly better than that of the post-test. Although

both pre- and post-tests were administered during the class time, students had 20 minutes more for Pre-test than post-test, while only 10 minutes for students to complete post-test. So all the students finished post-test in a rush. Therefore, students should have plenty of time to finish both pre- and post-tests later on. Regarding the course project, the reasonable participation rate should be 63.6%. As for the citation, we can see that the number of online sources (57%) is higher than that of the printed sources (43%). It should be pointed out that the Instructor-Student interaction regarding the course projects should be improved. Only 5 students have received preliminary feedbacks which allowed them to improve their papers. Having in mind the results from this project, we conclude that incorporating Information Literacy Assignments in mathematics course may motivate students to get better engaged in understanding the course material. The instructor, Dong Wang, would be interested in designing the assignment on course projects for other courses, such as Math 262 (Modern Geometry).

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