

Development and Evaluation of Academic Learning Modules by the Faculty of Architecture and Fine Arts of Bulacan State University Using Grammarly Software by the Library Services

Dennis L. Estacio^a, Nerissa M. Valencia^b,
Maria Pretty Lay T. Abdala^{a,b*}

^a dennis.estacio@bulsu.edu.ph ^bneriisa.valencia@bulsu.edu.ph ^{a,b}pretty.abdala@bulsu.edu.ph
Bulacan State University, 3000, Philippines

Abstract

The use of modules encourages independent study. It direct students to practice or rehearse information. To gain mastery of the concepts, exercises are given following the progression of activities from easy to difficult. The arrangement of the exercises as such formalizes the level of difficulty that the learners can perform. Another benefit of using modules for instruction is the acquisition of a better self-study or learning skills among students. Students engage themselves in learning concepts presented in the module. This study used the descriptive method in the development and evaluation of academic learning modules. The modules were evaluated using Grammarly software to determine the plagiarized content and grammar correctness of each and every module. Findings shows that there are twelve Permanent and Part-time faculty members in the Architecture Program collaborated in developing 17 Modules, five faculty members in Fine Arts Program that produced 11 Modules and 2 faculty member in Landscape Architecture Program that produced 5 Modules. Based on the result of plagiarism check of the 33 modules run in Grammarly checker software, 66.66% or 22 out 33 of the modules contain above 10% detected plagiarized content. The results of Grammarly check is ranging from 60+% to 80+% at the average of correct grammar content. Researches of similar nature of the study may be conducted to validate the findings of the study.

Keywords: module, academic learning, development, evaluation, grammarly software

Introduction

Universities have found itself in a situation where they must respond to the technological revolution and reflect in their programs the technology elements and to benefit from this revolution product in activating its operations and achieve their goals and schooling education benefits of high-tech to plan and develop their curriculum implement, evaluate and develop such curriculum in order to keep pace, with the demands and

requirements of the present time. We need to think about searching information sources and information types in order to deal with current problems. Thinking right begets benefits, especially in education.

The use of modules is an alternative instructional design for the learning and satisfaction of the students. The students work on their own and the teacher's role is to guide and monitor the progress of the students in doing their individual tasks. With the use of the modules, students work on various activities that are interesting and challenging enough to maintain focus and attention (Cruickshank, D. et al., 2003). Developing Module is not an easy thing to do, the content need to be accurate and concise. One of the tools to ensure the quality of the module is the plagiarism and grammar check. The plagiarism checker is part of a robust writing app that offers advanced feedback on writing mechanics like grammar and spelling as well as more complex stylistic issues like word choice, conciseness, tone, and more.

Modules for learning are the products of practical reason and purposeful imagination. They are the outputs of insights and desire to address the needs of the learners. Modules should meet the needs and satisfy the interests, temper the attitudes, and preferences of the learners for whom they are made. If the main purpose for example in language teaching is enabling the learners become communicatively competent in the target language, which is English, there is a need for new kinds of language teaching modules (Hutchinson, T., 1987). The use of modules also encourages independent study. It directs students to practice or rehearse information. To gain mastery of the concepts, exercises are given following the progression of activities from easy to difficult. The arrangement of the exercises as such formalizes the level of difficulty that the learners can perform. Another benefit of using modules for instruction is the acquisition of a better self-study or learning skills among students. Students engage themselves in learning concepts presented in the module. They develop a sense of responsibility in accomplishing the tasks provided in the module. With little or no assistance from the teacher, the learners progress on their own. They are learning how to learn; they are empowered (Nardo, 2014).

Educators agree that the best teaching approaches is the one which lead to better education, and help teacher to succeed in initiating the favored changes with students, furthermore, this teaching approach includes planned procedures which teacher utilizes in dealing with his students in order to make education easy and smooth. Research findings have assured that there is no sole teaching approach better than another except under certain circumstances, current educational practices may be invalid nowadays because of the circumstances and considerations of old, are no longer the same, especially if we take into account the determination framework for most current practices which is the relationship between teacher- background and text book – under the current teaching practices abilities shall be weak for confronting two expansions : knowledge and population, to fulfill individuals aspiration and hopes that are increasingly expand and getting

larger, consequently, result in self-education programs and utilize the technology and clarify its role in the teaching system which provides the different presentation opportunities especially regarding the texts. Therefore, the need arises for the teaching approaches that are far from conventional approaches of school and the teachers, are more suitable for the modern age of information technology and the module approach is considered the modern approach of development (Alelaimat, A.R., et.al., 2012).

Research Objectives

This research study aims to determine the result of Grammarly Software used by the Library Service of Bulacan State University in terms of grammar correctness and plagiarized content in evaluating the developed Academic Learning Modules produced by the faculty of the College of Architecture and Fine Arts.

Research Methodology

This study used the descriptive method in the development and evaluation of academic learning modules. Before the development of the modules, a survey on the writing needs of the faculty was conducted. The results of the needs analysis became the basis of developing the modules. Upon identifying the needs, the subjects were grouped according to content designed for a whole term. The modules were evaluated using grammarly software to determine the plagiarized content and grammar correctness of each and every module. The software is under the University Library where in the Librarians took in-charge in administering the evaluation of the submitted modules. The corrections and appropriate revisions were communicated to the authors of the modules whom are the permanent and part-time faculty collaborated based on their area of specialization. The names of the faculty members were coded by “Faculty A to Faculty S” for ethical consideration.

Result Analysis and Discussion

This part of the research presents the College or Architecture and Fine Arts Permanent and Part-time Faculty that developed Modules based on their expertise and specialization. There are faculty collaborated in developing modules for the subject they use to teach and handle in the past semester.

Table No.1: Architecture Faculty as authors and their corresponding developed academic learning modules.

No.	Authors	Learning Modules
1.	Faculty A	Module in Architectural Design 03
2.	Faculty B	Architectural Correlation
		Planning and Sanitary Systems

3.	Faculty C	SPEC 513 – Specialization 3 - Project Management
4.	Faculty D/ Faculty E	AR 451-454D -Architectural Design 07
5.	Faculty D/ Faculty A	BT 05, Building Technology 05
6.	Faculty D/ Faculty A	BT 05, Building Technology 03
7.	Faculty F/ Faculty G	VC 211/211D Architectural Visual Communication III
8.	Faculty G	CADD 412/411L Computer Fundamentals I
9.	Faculty F/ Faculty G	VC211/211D Architectural Visual Communication V
10.	Faculty H	Architectural Design I
11.	Faculty I	CEA 413 Theory of Structures
		MECH 313 Static of Rigid Bodies
12.	Faculty J	Architectural Structures
		Surveying
13.	Faculty K	HOA 113 – History of Architecture 1
14.	Faculty K/ Faculty L	HOA 213 – History of Architecture 2
Total No. of Faculty: 12		Total No. of Modules: 17

There are twelve Permanent and Part-time faculty members in the Architecture Program who collaborated in developing Modules. Seventeen modules were produced based on the Curriculum of Architecture Program for the First Semester of 2020-2021.

Table No.2: Fine Arts Faculty as authors and their corresponding developed academic learning modules.

No.	Authors	Learning Modules
1.	Faculty M	Visual Design 1 / VD 201D
		Photography 1 / PHO 302D
2.	Faculty N	Visual Verbal Communication VVC 303/ VVC 413
		Research Methods
3.	Faculty O	Digital Design 3
		Techniques 1
		Digital Design 3
4.	Faculty P	Visual Perception 1/ VP102D
		Digital Design I/DD 204D
5.	Faculty Q	Materials I 104D
		Design Theory 413
Total No. of Faculty: 5		Total No. of Modules: 11

There are Five Permanent and Part-time faculty members in the Fine Arts Program who collaborated in developing Modules. Eleven modules were produced based on the Curriculum of Fine Arts Program for the First Semester of 2020-2021.

Table No.3: Landscape Architecture Faculty as authors and their corresponding developed academic learning modules.

No.	Authors	Learning Modules
1.	Faculty R	Landscape Design 1 (LA111/112D)
		Hardscape Materials II (HC212/211D)
		Applied Landscape Ecology (LE213)___
2.	Faculty S	MAT 211/212D - Softscape Materials
		SU 313 - Utilities for Site and Landscape
Total No. of Faculty: 2		Total No. of Modules:5

There are two faculty members in the Landscape Architecture Program who collaborated in developing Modules. Five modules were produced based on the Curriculum of Architecture Program for the First Semester of 2020-2021.

Table No.4: Result of Plagiarism Percentage and Grammarly Percentage per Modules developed by Architecture Faculty.

No.	Authors	Learning Modules	Plagiarism Percentage	Grammarly Percentage
1.	Faculty A	Module in Architectural Design 03	13.75%	82.5%
2.	Faculty B	Architectural Correlation	22.5%	67.3%
		Planning and Sanitary Systems	9.7%	64.4%
3.	Faculty C	SPEC 513 – Specialization 3 - Project Management	2.2%	63.6%%
4.	Faculty D/ Faculty E	AR 451-454D -Architectural Design 07	19%	80.6%
5.	Faculty D/ Faculty A	BT 05, Building Technology 05	21.7%	76.7%
6.	Faculty D/ Faculty A	BT 03, Building Technology 03	11.3%	80.9%
7.	Faculty F/ Faculty G	VC 211/211D Architectural Visual Communication III	36%	69%
8.	Faculty G	CADD 412/411L Computer Fundamentals I	81%	70%
9.	Faculty F/ Faculty G	VC211/211D Architectural Visual Communication V	36%	69%
10.	Faculty H	Architectural Design I	17%	65.75
11.	Faculty I	CEA 413 Theory of Structures	31.20%	83.20%
		MECH 313 Static of Rigid Bodies	47.38%	57.25%
12.	Faculty J	Architectural Structures	27.8%	66.7%
		Surveying	33.3%	75.5%

13.	Faculty K	HOA 113 – History of Architecture 1	1.4%	83.1%
14.	Faculty K/ Faculty L	HOA 213 – History of Architecture 2	2.8%	84%

Out of seventeen modules developed by the faculty of Architecture, HOA 113 – History of Architecture 1, got the lowest Plagiarism percentage of 1.4% followed by SPEC 513 – Specialization 3 - Project Management with 2.2% Plagiarism percentage. MECH 313 Static of Rigid Bodies got the highest Plagiarism percentage of 47.38%. In terms of correct grammar percentage, Modules with the highest percentage of correct grammar run in the Grammarly Software is HOA 213 – History of Architecture 2 with 84% correct grammar while MECH 313 Static of Rigid Bodies got the lowest correct grammar of 57.25%.

Table No.5: Result of Plagiarism Percentage and Grammarly Percentage per Modules developed by Fine Arts Faculty.

No.	Authors	Learning Modules	Plagiarism Percentage	Grammarly Percentage
1.	Faculty M	Visual Design 1 / VD 201D	38%	62%
		Photography 1 / PHO 302D	78.5%	75.75%
2.	Faculty N	Visual Verbal Communication VVC 303/ VVC 413	24%	92%
		Research Methods	7%	74.8%
3.	Faculty O	Digital Design 3	1%	76%
		Techniques 1	6%	67%
		Digital Design 3	1%	76.3%
4.	Faculty P	Visual Perception 1/ VP102D	33%	76%
		Digital Design I/DD 204D	75.6%	24.3%
5.	Faculty Q	Materials I 104D	3%	74%
		Design Theory 413	75%	7%

Module Digital Design 3 got the lowest Plagiarism Percentage of 1% while the Module with the highest plagiarism percentage run in the Grammarly Software is Photography 2 /PHO302D with 78.5%. The module with the highest percent of correct grammar is Visual Verbal Communication VVC 303/ VVC 413 with 92%, while the module with the lowest percent of correct grammar is Design Theory 413 with 7% only.

Table No.6: Result of Plagiarism Percentage and Grammarly Percentage per Modules developed by Landscape Architecture Faculty.

No.	Authors	Learning Modules	Plagiarism Percentage	Grammarly Percentage
1.	Faculty R	Landscape Design 1 (LA111/112D)	11.3%	73.6%
		Hardscape Materials II (HC212/211D)	1.5%	71.3%
		Applied Landscape Ecology (LE213)	1.8%	79%

2.	Faculty S	MAT 211/212D - Softscape Materials	11.25%	59.25%
		SU 313 - Utilities for Site and Landscape	30.75%	73.25%

Out of the five Modules developed by the two faculty of Landscape Architecture, one module got 30.75% of Plagiarism Percentage (SU 313 - Utilities for Site and Landscape), while the Module Applied Landscape Ecology (LE213) got the lowest percentage of 1.8%. Using Grammarly Software, Applied Landscape Ecology (LE213) got the highest percent of 79% of correct grammar while the Module MAT 211/212D - Softscape Materials got the lowest of 59.25% correct grammar.

Summary of Findings

Findings shows that there are twelve Permanent and Part-time faculty members in the Architecture Program collaborated in developing 17 Modules, five faculty members in Fine Arts Program that produced 11 Modules and 2 faculty member in Landscape Architecture Program that produced 5 Modules. Out of 33 Modules produced by the College of Architecture and Fine Arts, result showed that using the Grammarly Software, Module Digital Design 3 got the lowest Plagiarism Percentage of 1% while the module with the highest percent of correct grammar is Visual Verbal Communication VVC 303/ VVC 413 with 92%.

With the 10% allowable plagiarized content based upon the Research Manual of the University, it shows that 11 out of the 33 Modules of 33.33% met the allowable percentage of plagiarized content in each module. The 66.66% of the modules contain above 10% plagiarized content run in the Grammarly checker. Having 11.25% as high as 78.5% detected plagiarized content, it is also challenging for visual, mathematics and theory subjects to paraphrase the sentences to lessen the plagiarized content.

Result shows that module with the highest percent of correct grammar is Visual Verbal Communication VVC 303/ VVC 413 with 92%, while the module with the lowest percent of correct grammar is Design Theory 413 with 7% only. The modules result of grammarly check is ranging from 60+% to 80+% at the average of correct grammar.

Conclusion

The module's results of Grammarly check is ranging from 60+% to 80+% at the average of correct grammar, it can be concluded that Grammarly is a great spell and grammar checker. It is useful for faculty as it eliminates errors and helps with proofreading their papers. As a free tool, it is effective in checking for possible similarity; however, like any tool, the results should be confirmed.

Based on the result of plagiarism check of the 33 modules run in Grammarly checker software, the 66.66% or 22 out of 33 of the modules contain above 10% detected plagiarized content. It is widely known as a grammar checker and is very popular among various schools. However, it lacks functionality to detect academic misconduct effectively. To raise academic integrity, faculty need more sophisticated software than Grammarly. Originally Grammarly was introduced as a grammar and spelling checker for educational establishments, students, and individual users. For some researchers with experience in using Grammarly are advising to use other more reliable plagiarism checking tool for universities.

Still, it is not reliable as a plagiarism checker as its algorithms do not analyze the closed databases and sources. It is similar to Google as the tool scans open access resources only. Grammarly software can't be used as an efficient plagiarism checker for academic purposes. For this, the writer needs to assess whether content applied from outside sources has been properly cited - regardless of similarity. Sometimes it identifies a material copy-pasted from Wikipedia as an original content.

Experts' evaluation of the modules, particularly content editor's comments, recommendations and suggestions contributed to the improvement of the modules. The modules were supportive to the implementation of the curriculum and were within the control of the faculty.

Recommendation

1. Academic papers require more thorough checks through all possible databases. Licensed software and proven reliable and recommended by expert plagiarism checker and grammar checker should be used by the university library in evaluating the Modules developed by the faculty.

2. Faculty Module writers have to detect not just similarity in the papers, but find various types of cheating: various forms of text modification, contract cheating, authorship verification, cheating with references, etc. There is a lot of plagiarism detection software that targets academic institutions.

3. Grammarly, as a free tool, is believed to be effective in checking for possible similarity; however, like any tool, the results should be confirmed. Note; however, that Grammarly does not check for, nor identify plagiarism accurately as revealed by some researchers. For this, the writer needs to assess whether content applied from outside sources has been properly cited - regardless of similarity.

4. The functionality and algorithms of plagiarism software used by universities should be advanced, up-to-date, and improved every day. Such companies have to keep pace with the requirements and needs of educators/students and offer the proper solutions right away. The University has to invest in a more sophisticate plagiarism checker for dependability and accuracy.

5. Researches of similar nature of the study may be conducted to validate the findings of the study.

Acknowledgements

The authors would like to express it deep gratitude to the Administrators and Staff of the Bulacan State University Library for supplying the need data. Dr. Cecilia N. Gascon, University President of Bulacan State University for the encouragement to all the faculty to conduct and publish research.

References

- Alelaimat, A.R., et.al. (2012). *The Effect of Educational Modules Strategy on the Direct and Postponed Study's Achievement of Seventh Primary Grade Students in Science, in Comparison with the Conventional Approach*, Higher Education Studies Vol. 2, No. 2; June 2012
doi:10.5539/hes.v2n2p40 URL: <http://dx.doi.org/10.5539/hes.v2n2p40>
- Cho, K. and Schunn, C.D. (2007). *Scaffolded writing and rewriting in the discipline: A web-based reciprocal peer review system*. Computers & Education, 48 (3), 409-426.
- Cruickshank, D. et al. *The Act of Teaching*. Third Edition. 1221 Avenue of the Americas, New York, NY. McGraw Hill Companies. 2003.
- Defazio, J., Jones, J., Tennant, F., & Hook, S.A., (2010), *Academic literacy: The importance and impact of writing across the curriculum – a case study*, Journal of the Scholarship of Teaching and Learning, Vol. 10, No. 2, June 2010, pp. 34 - 47.
- Hamweete, W., (2014). *Quality Assurance in Modules at the Institute of Distance Education, the University of Zambia*, The University of Zambia, Institute of Distance Education webster.hamweete@unza.zm
- Hutchinson, T., and A. Waters. *English for specific purposes: A learning-centered approach*. Cambridge: Cambridge University Press. 1987.
- Jamil Abdul Rhman Abdul Salam (1998). "Self-learning by the teaching modules" 3rd edition, ALmanar for printing and auditing, Sanaa.
- Mohamed, M., Abdelmohsen and Abdullah., R. (2020). *The Development of Writing Module on Enhancing the Writing Skills of Omani General Foundation Program Students*, International Journal of Learning, Teaching and Educational Research Vol. 19, No. 9, pp. 363-381, September 2020 <https://doi.org/10.26803/ijlter.19.9.19>
- Nardo, MTB., & Hufana, ER., "Development and Evaluation of Modules in Technical Writing." American Journal of Educational Research, 2014, Vol. 2, No. 6, 341-350 Available online at <http://pubs.sciepub.com/education/2/6/2> © Science and Education Publishing DOI:10.12691/education-2-6-2
- Rabaeh, Mohammad Hassan (2007). *The effectiveness of the modules strategy based on perfection and research in*

gaining the chemical concepts for the students of the 10th grade in Jordan, Ph.D thesis Amman Arab University for higher studies.

Rofii, A., (2018). *Model of Contextual-Based Academic Writing Learning Module*, ENGLISH REVIEW: Journal of English Education Volume 6, Issue 2, June 2018
p-ISSN 2301-7554, e-ISSN 2541-3643 <https://journal.uniku.ac.id/index.php/ERJEE>

Traci H. (2001). Why corporations are using the interactive multimedia for sales, marketing and training.

Zaidan, Mohammad Abdul Hameed (1998). *The effectiveness of the teaching modules in the development of the production skills and the use of some teaching items for the students of technology classes, in the college of the quality education*, unpublished Master thesis\education college/ Al-Munufia University