

**ONLINE COMPUTER–AIDED INSTRUCTION
IN BASIC WEIGHT AND BALANCE
FOR AIRLINK INTERNATIONAL AVIATION COLLEGE**



An Undergraduate Research
Presented to the Faculty of
Computer Studies Department
College of Science and Computer Studies
De La Salle University – Dasmariñas

In Partial Fulfilment
of the Requirements for the Degree
Bachelor of Science in Information Technology

Leonor, Angelica C.

Pangan, Reslie E.

October 2014

ABSTRACT

The proponent's system, Online Computer Aided Instruction in Basic Weight and Balance, is dedicated to help first year students in BS and Associate in Aircraft Maintenance Technology of Airlink International Aviation College with their studies in the said subject. The purpose of the system is to present the lesson in three different ways and assess learning through quizzes and exercises. Multimedia concepts were integrated to enhance the presentation of the lessons. Information are in text, audio, and video. That way, interest of the student would be sustained. At the end of each lesson, there is a drill to assess student's learning. Scores would determine student's progress and are recorded for evaluation. Additional handouts and exercises may be posted by the faculty for supplement.

With the rating achieved from the surveys, it is concluded that OCAIBWB has met the expectations and needs of its users. Proponents conclude that students of Airlink International Aviation College will accept OCAIBWB as a new medium in enhancing learning experience. It is also conclude that OCAIBWB provides effective presentation of lessons according to the survey result. CAI is also a good way to cope with the lesson in case of absence in lecture classes. Automated checking of quizzes and computation of scores within the system would give ease to the faculty in grading students.

TABLE OF CONTENTS

	PAGE
Title Page	i
Approval Sheet	ii
Certification	iii
Acknowledgement	iv
Abstract	vi
Table of Contents	vii
List of Tables	xi
List of Figures	xii
Chapter 1 – Introduction	
1.1 Project Context	1
1.2 Purpose and Description	3
1.3 Statement of the Problem	3
1.4 Objectives	5
1.5 Significance of the Study	6

1.6 Scope and Limitation	7
Chapter 2 – Review of Related Literature	
2.1 Local Related Literature	10
2.1 Foreign Related Literature	14
Chapter 3 – Technical Background	
3.1 Research Paradigm	19
3.2 Concept of the Study	23
3.3 Conceptual Operation	24
Chapter 4 – Design and Methodology	
4.1 Project Development	26
4.2 Development Planning	27
4.3 Evaluation of the Project	34
Chapter 5 – Implemented Plan	
5.1 Resource Requirement	37
5.2 Installation Plan	39

Chapter 6 - Result and Discussion

6.1 Student Evaluation	41
6.2 Faculty Evaluation	44
6.3 Overall Evaluation of the System	47

Chapter 7 – Conclusion and Recommendation

7.1 Conclusion	49
7.2 Recommendation	49

List of References

51

Appendices

Appendix A – Survey Questionnaire	54
Appendix B – Course Syllabus	56
Appendix C – Conceptual Operation in OCAIBWB	58
Appendix D – Context Diagram of OCAIBWB	59
Appendix E – Level 0 Diagram of OCAIBWB	60
Appendix F – Child Diagram of Process 2.0	61
Appendix G– Screenshots	62
Appendix H – System Evaluation Survey for Student	74

Appendix I – System Evaluation Survey for Faculty 75

Appendix J – Curriculum Vitae 76



LIST OF TABLES

	PAGE
Table 5.2.1.1 – System Installation Plan of OCAIBWB	39
Table 5.2.3.1 – System User Training Plan of OCAIBWB	40
Table 6.1.1 – Student Evaluation for Interface	41
Table 6.1.2 – Student Evaluation for Content	42
Table 6.1.3 – Student Evaluation for Reliability	43
Table 6.1.4 – Student Evaluation for Overall System Rating	43
Table 6.1.5 – Overall System Analysis of Students	44
Table 6.2.1 – Faculty Evaluation for Content	45
Table 6.2.2 – Faculty Evaluation for Manageability	45
Table 6.2.3 – Faculty Evaluation for Reliability	46
Table 6.2.4 – Faculty Evaluation for Overall System Rating	46
Table 6.2.5 – Overall System Analysis of Faculty	47
Table 6.3.1 – Overall System Analysis of the System	45
Table 6.3.2 – List of Comments and Suggestions	48

LIST OF FIGURES

	PAGE
Figure 3.1.1 – V-Model	19
Figure 3.2.1 – IPO Diagram	23

