

“PicPACK” (PICTORIAL BOOK IN PACKAGING) MODULE: VISUAL COMMUNICATION KNOWLEDGE BOOSTER FOR ADOLESCENTS

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ABSTRACT: This study was conducted based on the need for an alternative approach to assist Visual Arts (VA) teachers and students to teach and learn the product Packaging topic in Visual Art Education (VAE) This research also assesses its effectiveness and students' intrinsic motivation. The pictorial book was developed using the Design Develop Research (DDR) method by considering the design, pedagogical and contents of its learning material. The PicPack Module was evaluated by two experts during the pre-production and post-production stage. After obtaining the consensus from the experts, the research was conducted through Single-Group Post-Test-Only Design upon purposive sampling consisting of one VA teacher and 50 forms four VA students with 23 males and 27 females. Students showed positive attitudes toward learning using the PicPack Module. Findings revealed that the development of the PicPack Module is applicable and has its potentiality to be realized at secondary schools for art education in Malaysia.

Keywords: Visual Art Education, Packaging, Pictorial Book, Visual Communication

1. INTRODUCTION

Visual Communication (VC) is one of the sub-topics in the Visual Art Education syllabus in Malaysia. Under VC syllabus, the topic of Graphic Design incorporates the sub-topics of Packaging, Brochures, Logo, Symbol, Corporate Identity, and Multimedia. Visual communication has various sub-topics which may take a lot of proper planning for teachers to disseminate all the necessary knowledge. Importantly, only two weeks is allocated to teach all the topics in the curriculum. [1]. By learning about product packaging, students not only learn about its art and design but are also exposed to survival skills such as consumer rights, nutrition, and recycling. In marketing, the packaging functions like a shield that protects the products from possible damage during storing, selling, transporting, and other quality impairment factors [2]. Importantly, it was also mentioned that product packaging controls consumers' buying power. Therefore, it is a bonus for art students to explore the art of packaging in detail to understand the elements of good packaging as a consumer and as a designer, Mastura [3] reported that Malaysia is known for its unique products, but with poor representation in packaging. For this reason, many products experience difficulty to be sold abroad. By mastering the product packaging topic, students get to learn the appropriate media, technique, and process to be employed in producing quality packaging while exploring other innovative methods which may include using recyclable materials. The Pictorial book is also aimed for VA teachers to use as a teaching aid in product packaging.

BACKGROUND OF RESEARCH

The Art stream did not get much critical attention at school until the recent change of development in educational concerns.

Prior to this educational development, many stakeholders which include parents and students have doubts about the advantages of studying art. The educational policy which subtly 'label' low achieving students through enlisting them in the art stream has also contributed to the derogatory assumptions of art education [4]. Nevertheless, art education has received greater attention in recent years when many kinds of research in various art studies and other fields which include scientific investigations revealed its

potential and advantages towards a holistic development. The use of pictorial books has been proven to be advantageous in previous researches. DeFauw and Saad [5] stated that picture books prompted students to be more involved in the writing process, share their learning, and generate better comprehension with the authentic audience while subsequently share their understanding of the knowledge. Liu, et. al. [6]; Hsiao and Shih [7] mentioned that picture book can improve children's environmental knowledge and influence their everyday lives. Also, Oliveira, et. al. [8]; Van den Heuvel-Panhuizen, et. al. [9], findings demonstrated that the picture books reading program used with kindergarten children had a positive impact in their mathematic performance. Ruth [10] mentioned that picture books can be utilized as teaching aids to encourage reading among children. Significantly, formal teaching and learning aid focussing on product packing for VAE have yet to be made available [11]. The development of an appropriate Packaging Module and Pictorial Book can provide teachers and students with solutions as well as alternatives to enhance VAE pedagogical practices in Malaysia secondary school.

A. Research Objectives

The aims of this study are to examine students' performance after the implementation of the *PicPack* Module which consists of Pictorial Book and interactive multimedia teaching material as a teaching and learning aid for Visual Art Education at secondary schools.

Methodology

This research applies the Design and Development Method [12] that focuses on the development of the (*PicPack*) Pictorial Book of Packaging Module through the subject of Visual Art Education at secondary schools. The present study employed the survey method to gather participants' feedbacks during their learning experience using the (*PicPack*) Pictorial Book of Packaging Module. The study will examine the students' responses regarding the application of the Pictorial Book of Packaging (*PicPack*) Module in Visual Art Education. Consequently, data will be used to identify any impediments while using the *PicPack* to improve the module.

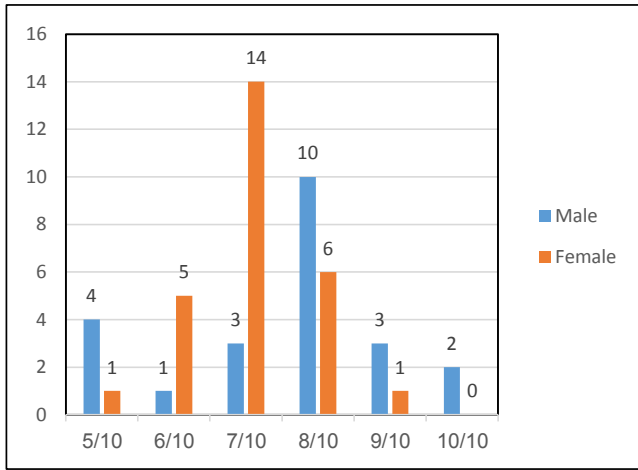


Figure 1 – Students' score for a summative test based on gender

Single-Group Post-Test-Only Design

The Single-Group Post-Test-Only Design was used for this study as it was suggested by McMillan [13] that it is sensible when the respondents' level of knowledge, attitude, or skill of the subject before treatment can be equal, and not be treated by the respondents' past experiences. The samples involved in the implementation and evaluation of the module pack are 40 forms of four VA students. All the respondents were selected based on purposive sampling because all of them have been taught the basics in the packaging topic during form three and must be prepared for the form five VAE examinations; therefore, this is a significant factor for the researchers in selecting the samples. It is reasonable for the researchers to conjecture that the respondents only have limited knowledge of the packaging topic before the treatment began. The samples were exposed to an experimental treatment which is learning and teaching using the Pictorial Book of Packaging, the Packaging module, and the PowerPoint slides. Then, the students were asked to answer ten multiple-choice questions (MCQ) about the packaging topic. These MCQ questions are used for evaluation to gauge whether the pictorial book technique can help students in learning the packaging topic. To avoid any biases, the researchers had asked the VA teacher to conduct the lesson and mark the students' test papers. Subsequently, the students are assigned to produce product packaging with pictorial instructions. This hands-on activity is conducted to measure the students' understanding after using the packaging template given in the pictorial book. It was observed that the context is authentic to the extent that it reflected learning had taken place from the students' actual execution of the activity. McMillan [13] stated that performance-based assessment has the advantage of providing an immediate and holistic measure of thinking skills that are usually indirectly assessed in a written test and are closely tied to instructions. The marks are given by the teacher based on the "Kajian Rekaan Seni Visual" (Visual Art Design Exploration) or KRSV rubric. Quantitative data obtained from the questionnaire will be analyzed using SPSS to provide descriptive and inferential analyses. The descriptive statistics will reveal the frequency and percentage of items which being investigated and are also used to analyze the students' responses in evaluating the

product along with their motivation towards learning on the packaging topic using the pictorial book technique. Meanwhile, the inferential statistical analysis started with analyzing for T-test score to identify whether there is any significant difference between male and female students' test results.

II. FINDINGS

A. Result Evaluation from VA Students – Summative Test

The summative evaluation reveals the student's understanding of the packaging information. The questions were selected based on the packaging topic from the previous VA final year examination questions. There are 10 objectives questions. Four male students attained the lowest marks with two others achieving a perfect score often. Significantly, most of the male students scored eight over ten. Noticeably, none of the female students got all the right answers in the test, but one student managed a nine over ten. The majority of the female students scored seven over ten.

B. T-Test – Differences between Genders in the Summative Test

Table 1: Students Group Statistics – Students' Score on Summative Test

Gender N=50	Mean	t-Value	p-Value
Male	7.57	1.493	0.145
Female	7.04		

The results indicate that there is no significant difference between male and female students for their summative test score $t(1.49) = 33.62$, $p\text{-value} = 0.145$. That is, the average score of male students in this section is $M = 7.57$, $SD = 1.5$, revealing that there is no significant difference of their performance to the female students' score ($M = 7.04$, $SD = 0.85$).

C. Results Evaluation from VA Students – Hands-On Activity

The hands-on evaluation was based on the tea packaging product that the students created. Part of KRSV rubrics is used in the marking and scoring. The teacher does not adopt all the rubrics criteria as the research focuses on certain requirements. Part of the rubrics that the teacher used are Knowledge and Understanding, Process and Technique, Product, and Values. These are the score that was given by the teacher for the students' artworks. The total marks based on the rubric is 58 and the marks attained are converted to a percentage. The highest score attained is 93% (one male and one female student) and the lowest score is 78% (3 male and 4 female students).

D. T-Test – Differences between Genders in Hands-on Activity

Table 2: Students' group statistic – Students' score for hands-on activity

Gender N=50	Mean	t-Value	p-Value
Male	84.78	0.396	0.694
Female	84.29		

The results indicate that there is no significant difference between male and female students' scores for their hands-on activity, $t(0.396) = 41.11$, $p\text{-value} = 0.694$. That is, the average score for male students' in this section is $M = 84.78$, $SD = 4.8$, demonstrating no significant difference from the female students' score of $M = 84.29$, $SD = 3.7$.

E. Results Evaluation from VA Students – PicPack Module Usability Survey

Students are given a set of usability questionnaires that are divided into six sections with 21 questions on a Likert scale of strongly disagree, disagree, agree, and strongly agree. There are six sections in the questionnaire namely; Section One: Students' Demography, Section Two: Pictorial Book Format, Section Three: Content of the Pictorial Book, Section Four: Material of the Pictorial Book, Section Five: Activities in the Pictorial Book, and Section Six: Student's motivation towards learning using the Pictorial Book Technique. The following section demonstrated all the results of the analysis for the questionnaire.

F. Students' View on the Pictorial Book Format

Table 4 illustrates that the majority of the students find the format of the Pictorial book agreeable with 94% of the students agree and 6% disagree on items numbers 1, 3, and 4. While 92% agree and 8% disagree on items 2 and 5.

Table 3: Students' View on the Pictorial Book Format

	N=50	Disagree	Agree
Q1) Graphic design for the front and back cover of the pictorial book is appropriate and interesting	6%		94%
Q2) The size of the module is compatible with the needs of the students	8%		92%
Q3) Font/typeface used is appropriate and easy to read	6%		94%
Q4) Thickness of the module is sufficient	6%		94%
Q5) The quality of pictorial book binding/printing	8%		92%

G. Students' View on the Content of the Pictorial Book

Results also demonstrated that all of the students view the content in the pictorial book to be agreeable with the images and diagrams have helped them to comprehend the packaging topic that satisfies the learning outcomes. Additionally, 94% of the students agree that the content has been arranged in an orderly manner and helped them achieved the learning outcomes. Meanwhile, 86% of the students agreed that the learning outcome is clear by using the pictorial book.

Table 4: Students' view on the Contents of the Pictorial Book

	N=50	Disagree	Agree
Q6) Learning outcomes is clear by using the pictorial book	14%		86%
Q7) Content of the pictorial book is arranged in order and help students achieve the learning outcomes	6%		94%
Q8) Detailed topics in the form of image/diagram help students to understand the packaging topic	0%		100%

H. Students' View on the Material of the Pictorial Book

Table 6 displays that 98% of the students agree that all the references and proposed additional reading materials are easily accessible. Meanwhile, 96% of the students agree that the learning materials provided are appropriate and the diagrams, illustration and table have clearly presented.

Table 5: Students' view on the Material of the Pictorial Book

	N=50	Disagree	Agree
Q9) Learning materials are appropriate and help in a learning session	4%		96%
Q10) Quality of the diagrams, illustrations and tables are clearly shown	4%		96%
Q11) List of references and the proposed additional readings materials are easily accessible	2%		98%

I. Students' View on the Activities in the Pictorial Book

Based on Table 6, 96% of the students consider the activities and exercises in the pictorial book helped them master the packaging topic and that the appropriate guidance is given in solving the activities. Meanwhile, 92% of the students find that comments and feedback from the activities helped them master the course requirements. Additionally, 88% of the students view that the activities and exercises in the pictorial book are appropriate.

Table 6: Students' view on the Activities in the Pictorial Book

	N=50	Disagree	Agree
Q12) Activities and exercises in the pictorial book are appropriate	12%		88%
Q13) Activities and exercises help students in mastering the packaging topic	4%		96%
Q14) Appropriate guidance is given in solving activities and exercises	4%		96%
Q15) Comments and feedbacks from the activities help students master the course requirements	8%		92%

J. Students' Motivation towards Learning the Pictorial Book

Table 7 demonstrated the students' feedbacks on motivation toward using the pictorial book technique in their learning. It is tabulated that 98% of the students believe that each activity in the pictorial book increased their understanding of the packaging topic. Interestingly, 96% reported that they like the activities in the pictorial books. Meanwhile, 94% of the students are very interested in learning the technique of using a pictorial book for VAE. Noteworthy, 92% of the students are very interested in the VAE learning activities and they are also fully satisfied upon completing the activities in the pictorial book. Nevertheless, it is worthy to note that 10% of the students dislike the pictorial book technique when it necessitates them to think critically in completing the activities.

Table 7: Students' motivation toward learning the Pictorial Book

	N=50	Disagree	Agree
Q16) Students are very interested in the VAE learning activities	8%		92%
Q17) Each activity in the pictorial book increasing students' understanding on the packaging topic	2%		98%
Q18) Students like the activities in the pictorial book	4%		96%
Q19) Students are very interested in learning the technique of pictorial book in learning VAE	6%		94%
Q20) Students are fully satisfied upon completion of the activities in the pictorial book	8%		92%
Q21) I love the pictorial book technique that requires me to think carefully to complete the activities	10%		90%

III. CONCLUSION

Education has seen a lot of paradigm shifts, especially in the past recent years. Teachers are encouraged to adopt and adapt all the recourses around them to improve not only teaching methods and techniques but also learning. The PicPack is an example of teaching and learning innovation that can be further developed for pedagogical development not only in the VAE but also amended to suit the needs of

other subjects especially when low achievers or highly visual students are concerned. Findings from this research demonstrated that teachers are interested to be trained in utilizing the PickPack as teaching and learning aid. Hence, it would be constructive if the PickPack could be further enhanced to meet the full requirement of the educational curriculum. It may be times that the PickPack is perfected as the Secondary School Standard Curriculum (KSSM) is newly introduced.

Importantly, the PickPack Module is also helpful for teachers in saving a lot of resources such as time and money since the pack has included all the necessary materials needed during teaching and learning. At the same time, it helped teachers to control the class and deliver the lessons professionally. Consequently, using the module pack could improve the delivery of knowledge as teachers are recommended to participate as co-designers in the design and development phase based on their expertise. Eventually, more modules on other subjects or topics could be developed. Importantly, the PickPack Module encourages more student-centered learning, in which it gives more opportunities for students to take control of their learning while the teachers facilitate when necessary. Consequently, it is students will have more exposure to problem-solving which encourages the development of critical thinking skills. This is in line with the ZPD theory by Vygotsky [14] where teachers act as a supporter who provides scaffoldings and guidance to students in the learning sessions.

It is very promising that the PickPack Module encourages students to share their thoughts and opinions with others as the pack promotes problem-solving in its activities which consequently would develop students' critical thinking skills. On a more motivating view, these activities should be able to improve students' confidence especially those who are considered as academically challenged. It was shared by Booker [15] that sharing of students' works and opinions may trigger some impressions and help build students' self-esteem and confidence. Since the PickPack module is viewed to be fun and provide students with an open slate to demonstrate their talent and creativity, it had proven that such method had successfully assisted in students' ease of understanding for the selected topic and showcased that students are able to demonstrate good performance in the evaluation. It is constructive to learn that students were also able to display positive cooperative learning through the problem-solving activities included in the module pack which enhances their higher-order thinking skills (HOTS). Subsequently, the students could further improve their cognitive operations such as making inferences and analyzing for understanding and increase performance [16]

Overall, VA teachers and students who have experienced the process of teaching and learning using the PicPack Module are very supportive of this module and hope that the module can be integrated into the VAE curriculum. Based on the views and experiences by the VA teachers who had used the PicPack Module, they have identified that the module can provide new experiences to encourage students' classroom engagement.

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