

Implementing Project Based Learning Approach to Graphic Design Course

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Abstract This purpose of study is to develop an instructional model that can be used to overcome learning problems of commercial graphic design drafting course. The model consists of learning materials, study guide, lecture manual, assignment and practice for the learner learning process. This research used the research and development model of Borg, Gall, and Gall (3) which adapt the systematic Design of Instruction model of Dick, Carey, and Carey (11). As for the results of the research showed that There was significant difference between pre-test score ($X=64.4$) and pos-test score ($X=78.80$). T test score indicates that the difference between pre and posttest significantly differ due to student improvement in doing their task and assignments.

Keywords: *project based learning, borg and gall development model, graphic design course*

Cite This Article: Menul Teguh Riyanti, Tuti Nuriah Erwin, and Suriani S.H., "Implementing Project Based Learning Approach to Graphic Design Course." *American Journal of Educational Research*, vol. 5, no. 5 (2017): 559-563. doi: 10.12691/education-5-5-13.

1. Introduction

Commercial Graphic Design Drafting is a prerequisite for social graphic design course. Those are the main courses of the study program of visual communication design of the art and design Faculty of the Trisakti University. There are learning problems faced by the student in commercial graphic design course. In fact the students have low motivation and lack of interest in learning commercial graphic design drafting course. The students have low ability in analyzing the problems the completing their course assignments. Besides they have no adequate knowledge in understanding the course content.

The majority of the students the enrolled in this course have low grade in their final course assignments or project. These learning problems happened probably due as student's low learning motivation and their lack of interest in learning commercial graphic design course. Most of the students have no intense attention to study the content of the course.

Besides, the student feel boring with unvariative learning practices. In order to improve learning problems, it is necessary for the faculty to develop a new approach and model of instruction that able to enhance students' learning achievement in commercial graphic design drafting course in visual communication study program.

2. Purposes of Research

This purpose of study is to develop an instructional model that can be used to overcome learning problems of commercial graphic design drafting course. The model

consists of learning materials, study guide, lecture manual, assignment and practice for the learner of learning process. In addition, the instructional model of Commercial Graphic Design Drafting Course include assessments components for measuring students' learning achievement.

The learning materials of Graphic Design Drafting Course include assessment components for measuring students' learning achievements. The learning material of Graphic Design Drafting Course consist of learning content that should be learned by the students to achieve stated instructional goal.

3. Research Method

This research used the research and development model of Borg, Gall, and Gall [3] which adapt the systematic Design of Instruction model of Dick, Carey, and Carey (2005) the Systematic Design of Instruction consists of several steps used to design and develop instructional programs such as:

1. Identity Instructional goals;
2. Consists Instructional analysis;
3. Analyze learners and context;
4. Write performance objectives;
5. Develop assessments instruments;
6. Develop instructional strategy;
7. Develop and select instructional materials;
8. Design and conduct formative evaluation of instructional;
9. Design and conduct summative evaluation;
10. Revise instruction;

The model of Instructional system design of Dick, Carey, and Carey [11] can be shown in the following figure:

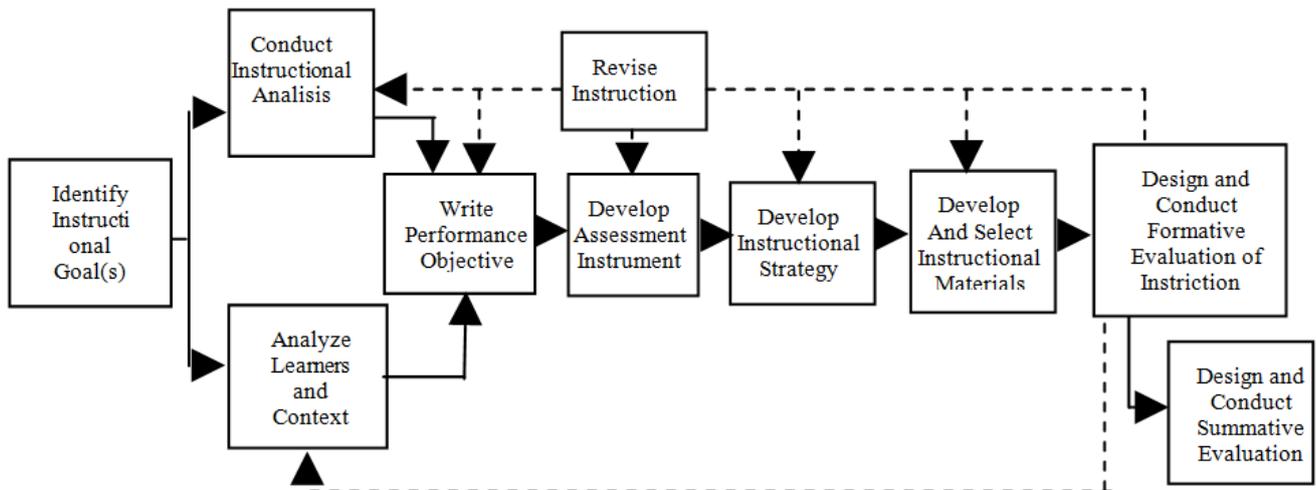


Figure 1. The model of Instructional system design of Dick, Carey, and Carey (11)

The steps 1-7 is phase of development write steps 8-10 phase of trial out and revision of the program. This study implemented formative evaluation. Steps which consists of; one-to-one evaluation sessions; small group evaluation session; and field evaluation session. The Study involved content specialist and instructional designer validate the accuracy of the developed model in terms of content and instructional design in addition, the study involved 25 respondents participated in formative evaluation sessions of the systematic design of instruction model.

4. Literature Review

Instruction is learning designed to assist learner to achieve predetermined learning objectives [7]. The program of instruction has to be designed and developed in order to achieve optimum result. Designing and developing an instructional program should be done in systematic and systemic ways. The program of instruction is viewed success if able to: (1) help the students to achieve the predetermined objectives; (2) motivate the students to retention of instructional content higher; (4) enable the students to apply the instructional content. In order as attain the above criteria. It is necessary for the faculty to apply appropriate instructional approach that make the students achieve the learning competences in design and art course such Commercial Graphic Design and Drafting course an instructional model which applied have to be designed and developed to solve the students' learning problem. One of the learning approach that can be used to solve learning problems of the student is project based learning.

Project based learning (PBL) is a model for classroom activity that shifts away from the usual classroom practices of short, isolated, teacher centered lessons educational technology division, ministry of education [8]. A model of project based learning consists of some important characteristic such as:

- Be anchored in core curriculum and multidisciplinary;
- Involve students in sustained effort overtime;
- Involve students in decision making;
- Be collaborative;

- Have a clear real-world connections;
- Use systematic assessment: both long the way and end product.

Research done by kanevsky and keighley (2003) noted that implementing project based learning made the students enthusiast and active in exploring knowledge and skills learned. The use of project based learning hinder the students from boring and unmotivated in conducting learning process.

Although PBL is not parallel. There is some truth behind most of these claims. The project based learning is a powerful method that does the following:

- Motivate students;
- Prepares students for further learning activities;
- Help the students meet the standard and doing well in test;
- Allows teacher to teach in more satisfying way;
- Provides schools to connect with parents, communities and wide world.

Cakici and Turkmen [2] conducted a research of the effect of project based learning approach on children achievement and attitude in science. The findings of their study indicated that students carrying and project-based activities gad significantly higher achievement than those who continued taking routine teaching in science course. However, there was not a significant difference between the control group and experimental group for their attitude towards such course.

Thomas [5] in Levine and Mosier [3] define the project based learning as: complex tasks, based on challenging questions or problems. That involve students in design, problem solving, decision making, or investigative activities; gives students the opportunity as work relativity alternomously over extended periods of time, and culminate in realistic products or presentations. (p1).

Hung, Hwang, and Huang conducted a research of implementing a project based digital story telling approach for improving students learning motivation, problem solving competence and learning achieving the results of their study indicated that project based digital story telling approach not only enhanced the student learning achievement and problem solving competence but also improve their learning attitude and motivation.

Holm (2011) conducted a study of reviewing the literature effectiveness and pre-kindergarten 12 th grade classroom. The result of the study indicated that project - based learning is beneficial, with positive outcomes including increases in level of student engagement, heightened interest in content more robust development of problem solving strategies, and greater depth of learning and transfer of skills to new situations.

Implementing problem based learning approach provide some benefits to students that include:

- Increased attendance, growth in self-reliance, and improved attitudes toward learning [6].
- Academic gains equal to or better than those generated by other models, with students involved in projects taking greater responsibility for their own learning than during more traditional classroom activities [1]
- Opportunities to develop complex skills, such as higher-order thinking, problem-solving, collaborating, and communicating [1]
- Access to a broader range of learning opportunities in the classroom, providing a strategy for engaging culturally diverse learners [9]

"....One of the major advantages of project work is that it makes school more like real life. It's an in-depth investigation of a real-world topic worthy of children's attention and effort." (SYLVIA CHARD).

Solving highly complex problems requires that students have both fundamental skills (reading, writing, and math) and 21st century skills (teamwork, problem solving, research gathering, time management, information synthesizing, utilizing high tech tools). With this combination of skills, students become directors and managers of their learning process, guided and mentored by a skilled teacher. These 21st century skills include: (1) personal and social responsibility; (2) planning, critical thinking, reasoning, and creativity; (3) strong communication skills, both for interpersonal and presentation needs; (4) cross-cultural understanding; (5) visualizing and decision making; (6) knowing how and when to use technology and choosing the most appropriate tool for the task. (<https://www.edutopia.org/project-based-learning-guide-importance>).

5. Result and Discussion

The result of this study is classified into these parts: (1) One-to-one try out, (2) Small group try out; and (3) field

trial these formative evaluations steps user conducted systematically to attain optimum result of the program.

One-to-one try out

The aim of this steps to get information regarding the initial response of the respondent toward the prototype of the program the result of the one-to-one steps of this formative evaluation can be shown in the [Table 1](#).

Inputs obtained after the test of one to one are as follows:

- (1) Need to fix some typing errors that still exist
- (2) Images and illustrations shall be given the source, and
- (3) The titles of each chapter and sub chapter use larger fonts and bold, to be visible and different.

5.1. Trial Field

The field test after the product was revised and passed the expert review stage, one to one test and small group test. The implementation of field trial is in line with the course of the course of Commercial Graphic Planning which takes place 5 meetings every Friday, 13.00 - 17.00 wib, 5.12,19,26 in August, 2 and 9 September 2016 every 5th meeting Five) hours in building O 4th floor.

In general respondent felt satisfy with the clarity aspects of the instructional materials of the project base learning on commercial graphic design commercial course. The student considered that the project based instructional material were relevant to their learning need the students also considered that the materials were able to motivate them in learning activities.

The practice included in the program is also considered that the materials were able to motivate them in learning activities. The practice included in the program is also considered useful by the respondents. Revision was done to improve the quality of the program in delivering learning content.

5.2. Field Trial

This step was applied after the program was revised with the one-to-one try out results. This Field trial step involved 25 students who provided reactions to the project based learning approach. The result of this step can be shown in the following table: The result of observation from the class also shows the achievement of the indicator with the answer yes is, 100%, for opening activity, 98.33%, for the core activities and 86.67% for the closing activities.

Table 1. Result of the one-to-one try out

No	Physical aspect of the program	Average score
1	The colors guides of the instructional materials	Aspects of clarity of materials learning materials product, students assess manual of instruction Material on project-based Commercial Graphic Planning in accordance with the needs of students with an average score of 3.66. Aspects The student's design judges from the visual appearance and illustration of the Project-based Commercial Graphics Planning manual. Choice of color guides used with the average of 3.66.
2	Lay out and readability	
3	The clarity of information	
4	The quality of cover	
5	The physical appearance of the instructional material	
6	The clarity of visual and instruction	
7	The supporting aspects of the instruction materials	
8	The systematic structure of the instructional materials	

Table 2. Results of Class Observations on Field Trials

No	Indicator	P1		P2		P3		P4		P5		Information	Average (%)
		Y	T	Y	T	Y	T	Y	T	Y	T		
	OPENING ACTIVITIES												
1	Students carry out lecturers invitation to pray	Y		Y		Y		Y		Y		Students demonstrate good habits in prayer	100
2	The lecturer poses the theme of learning before the start of learning	Y		Y		Y		Y		Y		Not all students pay attention to the theme described by the lecturer	100
3	The lecturer asks the students to answer the students' interest in following the lessons related to the theme	Y		Y		Y		Y		Y		Not all students pay attention to lecturers' questions	100
4	Lecturers find theme and sub theme of learning	Y		Y		Y		Y		Y		There are students who ask for previous activities	100
5	The lecturers invite students to observe the drawing of design concepts or other fun activities so that students are interested to follow the learning process?	Y		Y		Y		Y		Y		All students pay attention but most observe	100
6	Students pay attention to the material described	Y		Y		Y		Y		Y		There are some students who do not pay attention to the explanation of lecturers	100
7	Students are actively inquiring with lecturers about the learning theme that day	Y		Y		Y		Y		Y		Not all students are actively questioning	100
8	Students perform activities to observe examples of previous semester tasks	Y		Y		Y		Y		Y		All students observed examples of previous semester assignments	100
	Total Yes(+)												800
	Average(+)												100
	CORE ACTIVITIES												
1	Lecturers convey the purpose of learning courses Commercial Graphic Planning	Y		T		T		Y		Y		Learning objectives are presented regarding commercial graphic plotting	60
2	Learning activities are carried out to achieve the Basic competencies of project-based indicators	Y		Y		Y		Y		Y		Any learning materials with a project-based approach	100
3	Project-based learning provides hands-on experience	Y		Y		Y		T		Y		Students are given the opportunity to try to practice and perform so as to gain direct experience eg with independent tasks or group presentations with the work of design assignments	80
4	Implement project-based learning	Y		Y		Y		Y		Y		Students are given the opportunity to try to practice and perform so as to gain direct experience eg with independent tasks or group presentations with the work of design assignments	100
5	Learning is centered on student	Y		Y		T		Y		Y		In each teaching materials lecturers only give examples, but there are students find it difficult in making the designs that are made	80
6	Learning is flexible where lecturers can relate basic competencies and relate to student life) contextual)	Y		Y		Y		Y		Y		Each learning activity is related to the competence	100
7	Learning provides opportunities for students to optimize the potential possessed according to the interests of the needs	Y		Y		Y		Y		Y		In reading activities, students are seen reading activities individually	100
8	Learning provides an opportunity for students to construct their own knowledge that is being learned based on existing knowledge. Lecturers act as facilitators (konstruktivisme)	Y		T		Y		T		Y		In the second material learning there should be concluding activities about the good attitude in the presentation. Similarly, in learning 4 students are asked to conclude the order in the learning process	60
9	Learning provides opportunities for students to learn to work together in groups (learning community	Y		Y		Y		Y		Y		Each learning has been using group activities	100
10	Project-based learning provides an opportunity for students to communicate the learning process and outcomes	Y		Y		Y		Y		Y		Activity to communicate has gone well	100
12	Project-based learning uses innovative creative learning principles so that students are highly interactive.	Y		Y		Y		Y		Y		Students can ask questions or discussions and try to do creativity activities so it is not boring	100
13	There is a reflection, which provides an	Y		Y		Y		Y		Y		Students can provide feedback	100

No	Indicator	P1		P2		P3		P4		P5		Information	Average (%)
		Y	T	Y	T	Y	T	Y	T	Y	T		
	opportunity for students to provide input / discussion related to the material being studied												
14	Learning contains an authentic assessment element by observing or using an assessment format	Y		Y		Y		Y		Y		Authentic assessment is performed in each appropriate activity. Assessment using rubric assessments that have been prepared when creating RPS	100
	Total Yes(+)												1180
	Average(+)												98,33%
	CLOSING ACTIVITIES												
1	There are activities that provide more relaxed atmosphere and opportunities to students with question and answer material given to students	T		T		Y		Y		Y		Relaxing activities done when time is sufficient.	60
2	The lecturer asks the answer to summarize the achievement of basic competence and indicators of Commercial Graphic Design courses	Y		Y		Y		Y		Y		Each end of the lesson contains questions that guide the lecturer to summarize the activities of the day	100
3	Students respond positively by taking down tasks to be done at home without complaining	Y		Y		Y		Y		Y		Assignment can be a work assignment at home	100
	Total Yes(+)												260
	Average(+)												86,67

6. Conclusion

Based on the result of the study it can be summarized that implementing the project based learning approach in commercial graphic course has improved student learning due to improvement in their post test on cognitive aspect.

There was significant difference between pre-test score ($X=64.4$) and pos-test score ($X=78.80$). T test score indicates that the difference between pre and post test significantly differ due to student improvement in doing their task and assignments.

The learning tasks and assignments that the student had to complete was authentic learning product that engage students in learning process. the observation score relating to students reaction to learning activities indicated that there was significant difference between pre and post observation. The result of observation from the class also shows the achievement of the indicator with the answer yes is, 100%, for opening activity, 98.33%, for the core activities and 86.67% for the closing activities.

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