Conference Paper

Curriculum Management and Graduate Outcomes in the Animation Game Study Program

Wida Rahayuningtyas, Andy Pramono, Sumarwahyudi, Robby Hidajat, and Mitra Istiar Wardhana

Art and Design Department, Universitas Negeri Malang, Malang, Indonesia

Abstract

The Animation Study Program is part of the Art and Design degree from the Faculty of Letters State University of Malan. It is designed to offer guidance to professional beginners in the animation world and applied media, allowing graduates to apply for roles such as a 2D/3D Animator,Character Designer, beginner Developer in Animation Industry, Game Designer/Multimedia, beginner Developer of Game Industry, Game Asset Designer. The graduates from Animation program study gain particular expertise in 3D animation games and using Indonesian local culture. The course also emphasizes education-based animation games in global context and insteal entrepreneurship for the graduates. The goal of this study is to analyze the curriculum and graduate achievement in the animation game study program. This research used a qualitative study case with a descriptive approach. Documentation and interviews were used to collect data. The analysis of data used a descriptive approach. Results of the study show that the curriculum used in Animation Game program is designed based on the graduates in diploma D1, D2, D3, and D4. They are in D1 (Asset Game Operator), D2 (Young Asset Game Designer), D3 (Young Game Designer), and D4 (Senior Game Designer). Meanwhile, the animation field is divided into D1 (Asset Animation Operator), D2 (2D/3D Young Animator), D3 (2D/3D Senior Animator), and D4 (2D/3D Lead Animator).

Keywords: Curriculum, Graduates Outcome, Animation Game

Corresponding Author:
Wida Rahayuningtyas
wida.rahayuningtyas.fs@um.ac.id

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1. Introduction

Trend in the teaching of computer programming toward the younger people has directed into the development of game-based teaching and approach. In this context, an educational game takes role as a promising learning platform. Unfortunately, research in the sector of game programming only focus on what has been thaught in these games. Only few discussions talk about how the game program able to allow learners to learn and play with design. Majority of game programs only offer the moderate compatibility with the ready teaching principals. Then, it was found that there was a

significant difference between their games' existence and atribute prevalance. The analysis produces a sistematic classification of the game programming based on the compatibility with the instructional principal and their position in the spectrum of playing versus programming. Based on the information of this double classification, we explore to knoww why certain game programming still can be conceptualized as a game, as the opposite of the learning environment or programming [1].

The game industry has advanced vigorously in todays world, including Indonesia. Unfortunately, Indonesia currently only takes role as the market of world game industry. Whereas, this industry has a promising prospect to develop nations' economy since it does not need a wide place but potentially produce a great benefit. The Game Program Study learns about how a game is created and consumed by people. The learning materials consist of developing game creation technology started from designing the story, the levelling system, the character models, creating the animation and storyboard, the user interface, doing programming tasks, the production process, and also the distribution.

Moreover, a study find that a game-based learning group is significantly more attractive, concentrated, and able to control their learning compared to the non-game group (p <0,05). A game-based learning has a foreign cognitive that significantly low (p<0,05) and Germany cognitive that is higher than the non game-based learning group (p<0,05) [2, 3]. Based on the result of the study, it shows that animation game Study Program is one of the educational program that is expected to have graduates outcome that able to apply their knowledge in their work field. It can be as a teacher or other work sectors. Thus, a good management is necessary to be build between the implementation of curriculum and the expected graduates outcome.

The curriculum of animation game study program is developed based on the standard of curriculum framework, vision and mission, and also the principals of State University of Malang. The arranged curriculum is expected to meet the expected graduates outcome. The Animation Study Program, Art and Design Department, Faculty of Letters State University of Malang is designed and projected to be a beginner professional in the animation world and applied media to compete in national or South East Asia such as 2D/3D animator, character designer, beginner developer of animation industry, game/multimedia designer, beginner developer of game industry, and game asset designer. Profile of graduates from Animation program study have speciality in 3D animation game using Indonesian local culture nuance and also emphasize more education based animation game in global context and insteal enterpreneurship for the graduates.

Curriculum is a system that related and supportive between one and other. Those curriculum components consist of goals, learning materials, methodology, and evaluation. In this system, curriculum will run as an educational goal supported by the cooperation of all components of the subsystems. When there is one variable in the curriculum that is not well functioned, the curriculum system will not able to run its function maximally. Thus, it is important to have a good organization in all of the curriculum components. The organization process is strongly related with the planning, organizing, implementing, and supervising. Management is a subject that has an influence in the implementation of those processes. Thus, in the implementation of curriculum, a staff of educational institution must master the management knowledge for solving the educational stuffs and also the curriculum. The curriculum management is a communal effort to achieve the learning goals and emphasize on the effort of improving the quality of learning interaction [4]. Curriculum management is a paradigm that is guided by necessities to make sure the rasionality and responsibility as part of the professionalization step in the didactic career. It involves the multilateral conceptual analysis, about: structural plan consists of ansambel principals, strategies, methodology and procedural system that are designed and coordinated to facilitate the process of achieving goals [5, 6].

Based on the above explanation, this study is aimed to investigate the characteristic development in the animation game study program's curriculum to enhance the quality of expected graduates outcome.

2. Research Methodology

This research used qualitative method with a case study approach. This qualitative method aims to dig deeper about an existing phenomena. Sources of data used in this study consisted of primary data and secondary data. The object of research is the 2018 curriculum and the standard of the graduates outcome in the Animation Game study program Department of Art and Design, State University of Malang. Data collection methods used in this study are observation, documentation and interviews. The data analysis used descriptive approach. Data collection techniques used is a triangulation technique which consists of several stages (1) planning stage, (2) data collection stage, (3) data separation stage, (4) Data that has been separated will be classified according to research objectives, and (5) completion stage can be done well. While the data analysis process uses Milles and Huberman which includes (1) data reduction, (2) data presentation, (3) verification, (4) drawing conclusions.

3. Results and Discussions

The Animation Game Study Program is one of the four study programs in the Department of Art and Design, Faculty of Letters, State University of Malang. Other study programs in the Art and Design Department include Fine Art Education (S1), Dance and Music Education (S1), Visual Communication Design (S1) and Animation Game (D3) study programs.

The implementation of the Animation Game study program based on the letter of the Directorate General of Higher Education number 0609 / D2.2 / 2008 dated March 28, 2008, with the academic year 2008/2009. The beginning of the implementation of the Animation Game program is Diploma 3, but in 2019 it has grown to D4. The D4 Game Animation Study Program vision is to be a superior tertiary education provider in the development of non-educational science in the field of gaming divided into D1 (Asset Game Operators), D2 (Young Asset Game Designers), D3 (Young Game Designers), and D4 (Senior Game Designers) while The field of animation is divided into D1 (Asset Animation Operator), D2 (2D / 3D Young Animator), D3 (2D / 3D Senior Animator) and D4 (2D / 3D Animator Lead) in 2024, especially superior in game visualization and 3D based animation local content as well as care for human values.

Missions of the D4 Animation Game Study Program are:

1. D4 Game Animation Study Program organizes higher education in order to improve distribution and expand access for the community in non-educational games and animation fields that have specificity in terms of game visualization and 3-dimensional animation based on local content.

2. D4 Game Animation Study Program improves the quality, relevance and competitiveness through education and learning, research and development of science, as well as community service in the non-educational science in the field of animation, multimedia and games which are directed at visualizing animated and 3D games based on local content.

3. D3 Animation Study Program builds a good organization in order to strengthen governance, accountability, and public imaging.

Goals of the D4 Animation Game Study Program are:

1. The implementation of the academic atmosphere of higher education in the D4 Game Animation Study Program so that there is an improvement of distribution and expansion of access for the community in the application of the games and animation field that has 3-dimensional visualization specificity based on local content.

2. Improving the quality, relevance and competitiveness through education and learning, research and development of science and community service in non-educational science in the field of games and animation directed at visualization of animation and 3D games based on local content.

3. The establishment of a harmonious and accountable governance system and further enhance public image.

The Animation Game Study Program Department of Art and Design, Faculty of Literature, State University of Malang is designed and directed to become a novice professional in the world of games and animation that can take part both nationally and southeast Asia to form an intermediate professional expert in the field of gaming, divided into D1 (Asset Game Operator), D2 (Young Asset Game Designer), D3 (Young Game Designer), and D4 (Senior Game Designer) while the animation field is divided into D1 (Asset Animation Operator), D2 (Young 2D / 3D Animator), D3 (2D / 3D Senior Animator) and D4 (2D / 3D Lead Animator), this is in accordance with the vision of the Animation Game Study Program. The graduate profile of the Animation study program has advantages in the field of 3-dimensional animation games that have a nuance of Indonesia's local culture and prioritizes animation game works that are loaded with education in a global context and foster a spirit of interpreneurship in the souls of each D4 Game Animation program graduate.

Achievement of graduates of the Animation Game study program, each year has competency achievements that are tailored to the courses taken in the curriculum. Curriculum implementation is the application or implementation of curriculum programs that have been developed in the previous stages, then tested with implementation and management, while always adjusting the field situation and the characteristics of students, both intellectual, emotional, and physical development. This implementation is also a field research for the validation of the curriculum system itself [7]. Curriculum evaluation also needs to be done examining the overall curriculum performance in terms of various criteria. The performance indicators evaluated are the effectiveness, efficiency, relevance, and feasibility of the program. In the context of curriculum implementation and development, evaluation is an inseparable part, because evaluations can determine the value and meaning of a curriculum, so that it can be taken into consideration whether a curriculum needs to be considered or not [8]. The following are the competency achievements in each diploma:

Subjects taken for achieving the D1 animation competencies include shape drawing, computer graphics, basic design, game and animation studies, sculpting, mathematical logic, drawing anatomy, computer graphic vector, typography, 2D Asset Creation:

Environment & Props Design, Algorithm & Programming. The courses taken to achieve D2 competencies include 2D Animation; Basic Principle, 3D Animation: Basic Movement, Copywriting, User Interface Design, Game Document Design, Basic Programming Games, Entrepreneurship, 2D Asset Creation: Character Design, 3D asset Creation;

TABLE 1: The Achievement of Competence in Animation Game

Diploma 1 Program	Diploma 2 Program
Field of Occupational Animation Asset Operator Animation 2D / 3D 1. Having basic knowledge of games and animation 2. Having basic skills in drawing shapes and human anatomy 3. Having knowledge of design principles and composition 4. Able to operate bitmap and vector graphics software 5. Able to create 2D and 3D game asset tools and environments 6. Having basic programming skills	**Field of Occupational Animation Young 2D / 3D Animator Designer** 1. Able to animate 2D / 3D 2. Able to create 2D and 3D Character game assets 3. Able to create animated documents based on the concepts given 4. Having basic skills in drawing gestures 5. Having a basic knowledge of static object composition 6. Able to create sounds for animation use 7. Having basic multimedia skills for animation 8. Having entrepreneurial knowledge 9. Having the ability to speak English
The field of occupational animation is an Asset Game Operator 1. Having basic knowledge of games and animation 2. Having basic skills in drawing shapes and human anatomy 3. Having knowledge of design principles and composition 4. Able to operate bitmap and vector graphics software 5. Able to create 2D and 3D game assets 6. Having basic programming skills	**Field of Occupational Animation for Young Asset Game Designers** 1. Able to create 2D and 3D Game Asset 2. Able to create game design based on given concept 3. Having the basic competency of drawing gesture 4. Having the basic knowledge of static and dynamic object compotition 5. Having the basic programing knowledge for game s 6. Having the entrepreneurship knowledge 7. Having the capability in speaking english
Diploma 3 Program	Diploma 4 Program
Field of Occupational Animation Senior 2D / 3D Animator Designer 1. Having 2D keyframe animation skills and 3D acting animation 2. Able to create animations with new techniques 3. Having a basic knowledge of film technique 4. Able to create 3D animation assets 5. Having basic skills 6. Having technology-based entrepreneurship knowledge	**Field of Occupational Animation 2D / 3D Animator Intermediate Design** 1. Able to design animation design in pre-production stage 2. Able to create animation designs at the production stage 3. Able to coordinate in the animation production process
Field of Occupational Animation for Young Game Designers 1. Able to design 2D / 3D game designs 2. Able to visualize 2D / 3D game designs 3. Able to create 2D / 3D game design prototypes 4. Able to make prototypes of mobile game designs 5. Having basic programming skills for the game 6. Having technology-based entrepreneurship knowledge	**Field of Occupational Animation for Senior Game Designers** 1. Able to design game designs at the pre-production stage 2. Able to make game designs at the production stage 3. Able to coordinate in the game production process

Character Design, Sound Design. The subjects taken to achieve D3 competencies include Presentation methods, Technology Based Business, Basic Cinematography, Digital Sculpting, 2D Animation: Keyframe, 3D Animation: Acting, Special Effects and Video Editing, 2D Game Design; Character & Sound, 3D Game Design; Character & Sound, Intelligence Intelligence. As for D4, all of them are taken and the Final Project is added.

4. Conclusions and Suggestions

The curriculum and achievements of graduates of the animation game study program are adjusted to the conditions of the rapidly developing gaming industry in the world. Each course compiled in each diploma is adjusted to the achievements of its graduates. The curriculum contained in the Animation Game program is designed according to graduates in the diploma program or intermediate experts namely D1, D2, D3 and D4. Each curriculum in the diploma program has graduate achievements, namely D1 (Asset Game Operator), D2 (Young Asset Game Designer), D3 (Young Game Designer), and D4 (Senior Game Designer) while the animation field is divided into D1 (Animation Operator Assets), D2 (2D / 3D Young Animator), D3 (2D / 3D Senior Animator) and D4 (2D / 3D Animator Lead).

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