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Original Research Article

Formative Assessment of Students' Learning Skills in 2D Animation Programme

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ABSTRACT

The skill development programme synthesizes school students to gain knowledge and skills acquire through innovative learning in 2D Animation Programme. The students handle various programmes of 2D animation, including: drawing, photoshop and flash. The programme is taught through participators method with more practical's work session and it is more challenges that the student should gradually resolve. Learners have grown up in a digital environment with computer. This research conducted among school students, who are attending 2D animation programme operated by Institute for Entrepreneurship and Career Development (IECD), Bharathidasan University, Tiruchirappalli. A total of 37 respondents who are studying 2D Animation, at their respective schools in Tamil Nadu, are the sample of the study. Survey method was used. Structured questionnaire are used to collect the primary data from the selected respondents. This research provides that the positive perceptions, among the respondents, who are attending the skill development programme on 2D Animation, in terms of, providing a better graphical knowledge for students in their schooling, knowledgeable faculties handling the graphical course, regular updating of syllabus and distribution of text books on time to the students and the overall observation of the study implies that, the 2D animation programme develop the student's graphical knowledge for their future career development.

Keywords: Formative Assessment, 2D Animation, Learning skills.

I. INTRODUCTION

The effectiveness of skill development programme towards students' learning is open to discussion since learning is closely related to the structural design of learning materials. It marks the importance for in structural designer to begin with well-structured learning materials developed by IECD, Bharathidasan University under its major scheme of SUITS. It's fulfilling the learning objectives and teaching strategy. This paper focuses on integrating project based learning into the design and development of software for learning 2D animation. Every programme that promotes learning in the modern world is highly valuable to the students. It supports self-supported learning where students could learn everyplace and at any time according to their own preference. Students in the programme, are vital to complete one subject that will be exposed them with skills and knowledge in developing 2D-animation and photoshop applications using Adobe Flash software. Alternatively, you are also aware that integrating project based learning means to offer authentic learning experience among students in which it propose students

to learn by taking part on every tasks or project provided. In addition, as nature of most authoring-based subject, it highly requires students to involve and participate in 'hands-on' activities as this subject require them to establish their technical skills rather than on theory basis.

Students seeking to learn more about 2D animation could enroll in certificate programme related to animation. While some programme specifically in 2D Animation do exist, classes can also be found in general animation, computer graphics, photoshop and art programme. 2D animation program often include both artistic and technical classes in topics such as: basic drawing, introduction to photoshop, advanced photoshop, introduction to flash and advanced flash. Animations are created by people for people in order to inform, educate or entertain. Determined for higher usability by applying knowledge on psychological and physiological human factors is the foundation of human–computer interaction, and one of the major points of our field. However, 2D animation is principally still an art and a craft. Just as good animations have always been created by artists with their capability and skills, following generation animation edges will still require talent and teaching on behalf of the user. But in contrast to current mainstream tools they can help to ease the effort in skill development training programme and allow animators to express their creativity more powerfully. While animation tools cannot enable totally uninitiated people to create spectacular motion designs without significantly pressuring creativity, they can do a lot more to make the learning curve less steep.

II. REVIEW OF LITERATURE

Hui Liang, Jason Sit, Jian Chang, Jian Jun Zhang., (2016), reported that, the computer 2D animation field takes a characteristic path which join creative art and design with computer science. Not only has 2D animation served the design of interact for childhoods, but more meaningfully and usefully, it has served other sectors such as manufacturing and design, education, health care and science. It has been a golden era in the past thirty years for the ever developing field of computer animation and numerous techniques have been developed. This research has taken the groundbreaking step to describe and summaries the evolution phases related to 2D animation and then planned several issues that are insightful for 2D animation practitioners and educational researchers.

Parthasarathy et.al., (2016), found that a significant relationship between the demographic variables and the perception of the skill development programme given by the trainees. Additionally, that is showed no association between trainees' gender and their perception. In a majority of private schools in a TamilNadu, female teaching staffs outnumber the males. Similarly there are more women staffs in the computer science programme. There is no gender influence in this study for the above said reasons. At the same time the trainee's age, qualification, monthly income shows an influence in the perception. Respondents are low paid in the primary stage of the employment. By advancing age they gain experience and so they get good pay. For these reasons, the study concludes that age, qualification, monthly income gain important in the feedback. This study also reviews that the above factors influence the training sessions and training logistics.

Parthasarathy et. al., (2016), evaluated the skill development training in the field of Information Technology to school teachers in Tamil Nadu, organized by the IECD, Bharathidasan University, India. This study concluded that, all the teachers have given a positive statement on the computer science programme. The feedback is clear from the study that interrelationship among the teachers on the skill development programme in the field of Information Technology is found significant. Similarly, the feedback of the teachers on the skill development

programme in the field of Information Technology has not in any way influenced by their gender, because most of the respondents consists of female.

Benjamin Walther-Franks and Rainer Malaka, (2014), reported that, design of computer animation interfaces rarely uses theories and methods of human computer interaction. Graphics design interfaces are based on original procedures for capturing; mapping motion and dated interaction paradigms, and processing are preoccupied with aspects of model and computation. So far research in human computer interaction has come far in understanding computer skills and human cognition and how to apply this understanding to interaction design. We propose a human computer interaction point of view on animation that relates the state-of-the-art in gesture design interfaces to the concept and terminology of this field. The main contribution is a design space of animation interfaces. This study concludes that the conceptual framework relating strengths and weaknesses of computer animation methods and techniques.

Chih-Fu Wu, Ming-Chin Chiang., (2013), found that, experiment results as an computer educational reference for instructors to help students find a healthier way to learn computer animation course. A visual experiment was held to explore the extensive differences between 2D animation object features; the goal was to reduce the possible misunderstanding factors in the learning process. It provides 120 Taiwanese respondents four types of visualization, which includes 2D animation, and 3D animations (3DT, 3DR). The answers to views ability test and interviews illustrated that applying 2D animation shows improved performance in understanding the appearances and features of material constructed by leaning and double-curved surfaces. The programme of 2D animations results also demonstrates a better visual knowledge for students, especially when objects are construct by the complicated features.

III. RESEARCH METHODOLOGY

This area focuses on which method used to collect and analyze data in this research. With a view of evaluating the perception of skill development training programme for school students via SUITS scheme operated by Bharathidasan university, Tiruchirappalli, Tamil Nadu. This research used a structured questionnaire. Primary data is collected from the 37 school students who are undergoing the 2D Animation Programme. Stratified sampling method has been used in this research. For analyzing the data SPSS 20.0 package was used. The respondents provided answers to the structured questionnaire in the form of agreement or disagreement to express their attitude towards the skill development training Programme. This study aimed at analyzing the perception of computer skill development programme for continuous quality improvement. The study used to examine and describe the skill development programme; it can be classified into descriptive research type. Questionnaires contained information on the purpose of the investigation and how to respond to the questions.

IV. GENERAL FINDINGS OF THE STUDY

Table 1: Showing the Frequency Distribution of the Student's Age

Variables		Frequency	Percent
Age	14 years	4	10.8
	15 years	21	56.8
	16 years	12	32.4
Total		37	100

The table 1 shows that, majority of the students (56.8 percent) of the present study are in the age group of 15 years, 32.4% of the students are in the age group of 16 years and only 10.8% of the students are in the age group of 14years and above

The table 2 shows that 100% of the respondents are saying 'YES' with regarding to the perception on "SUITS - Computer programme is a good foundation for future career".

Table 2: Distributions of the respondents according to their perception of career development

Statements	Total No. of Respondents		Percentage to Total	
	Yes	No	Yes	No
SUITS - Computer programme is a good foundation for future career	37	-	100%	-
Total	37		100%	

Table 3: Distributions of the respondents according to their perception of "SUITS book easy to read"

Statements	Total No. of Respondents		Percentage to Total	
	Yes	No	Yes	No
SUITS book easy to read	32	5	86.5%	13.5%
Total	37		100%	

The table 3 shows that 86.5% of the respondents are saying 'YES', 13.5% of the respondents are saying 'NO' with regarding to the perception on "SUITS book easy to read".

Table 4: Distributions of the respondents according to their perception of "like this computer programme"

Statements	Total No. of Respondents		Percentage to Total	
	Yes	No	Yes	No
Do you like this computer programme	36	1	97.3%	2.7%
Total	37		100%	

The table 4 shows that 97.3% of the respondents are saying 'YES', 2.7% of the respondents are saying 'NO' with regarding to the perception on "Like this computer programme".

Table 5: Distributions of the respondents according to their perception of "Computer teacher allows to work in computer during computer periods"

Statements	Total No. of Respondents		Percentage to Total	
	Yes	No	Yes	No
Computer teacher allows to work in computer during computer periods	35	2	94.6%	5.4 %
Total	37		100%	

The table 5 shows that 94.6% of the respondents are saying 'YES', 5.4% of the respondents are saying 'NO' with regarding to the perception on "Computer teacher allows to work in computer during computer periods".

Table 6: Distributions of the respondents according to their perception of "Received the SUITS book on time"

Statements	Total No. of Respondents		Percentage to Total	
	Yes	No	Yes	No
Received the SUITS book on time	37	-	100%	-
Total	37		100%	

The table 6 shows that 100% of the respondents are saying 'YES' with regarding to the perception on "Received the SUITS book on time".

Table 7: Distributions of the respondents according to their perception of "Teacher have clearly taught the computer science subject"

Statements	Total No. of Respondents		Percentage to Total	
	Yes	No	Yes	No
Teacher have clearly taught the computer science subject	37	-	100%	-
Total	37		100%	

The table 7 shows that 100% of the respondents are saying 'YES' with regarding to the perception on "Teacher has clearly taught the computer science subject".

Table 8: Distributions of the respondents according to their perception of "Teachers were interested in personal academic development"

Statements	Total No. of Respondents		Percentage to Total	
	Yes	No	Yes	No
Teachers were interested in personal academic development	36	1	97.3%	2.7%
Total	37		100%	

The table 8 shows that 97.3% of the respondents are saying 'YES', 2.7% of the respondents are saying 'NO' with regarding to the perception on "Teachers were interested in personal academic development".

Table 9: Distributions of the respondents according to their perception of "Resources for practicals and examinations are adequate"

Statements	Total No. of Respondents		Percentage to Total	
	Yes	No	Yes	No
Resources for practicals and examinations are adequate	31	6	83.8%	16.2%
Total	37		100%	

Table 10: Distributions of the respondents according to their perception of "SUITS programme are conducted by teachers regularly"

Statements	Total No. of Respondents		Percentage to Total	
	Yes	No	Yes	No
SUITS programme are conducted by teachers regularly	35	2	94.6%	5.4%
Total	37		100%	

The table 9 shows that 83.8% of the respondents are saying 'YES', 16.2% of the

respondents are saying 'NO' with regarding to the perception on "Resources for practicals and examinations are adequate".

The table 10 shows that 94.6% of the respondents are saying 'YES', 5.4% of the respondents are saying 'NO' with regarding to the perception on "SUITS programme are conducted by teachers regularly".

Table 11: Distributions of the respondents according to their perception of "Teachers using SUITS book while handling classes"

Statements	Total No. of Respondents		Percentage to Total	
	Yes	No	Yes	No
Teachers using SUITS book while handling classes	37	-	100%	-
Total	37		100%	

The table 11 shows that 100% of the respondents are saying 'YES' with regarding to the perception on "Teachers using SUITS book while handling classes".

Table 12: Distributions of the respondents according to their perception of "Syllabus easy to understand"

Statements	Total No. of Respondents		Percentage to Total	
	Yes	No	Yes	No
Syllabus easy to understand	31	6	83.8%	16.2%
Total	37		100%	

The table 12 shows that 83.8% of the respondents are saying 'YES', 16.2% of the respondents are saying 'NO' with regarding to the perception on "Syllabus easy to understand".

Table 13: Distributions of the respondents according to their perception of "Like the university computer examination through OMR sheet"

Statements	Total No. of Respondents		Percentage to Total	
	Yes	No	Yes	No
Like the university computer examination through OMR sheet	34	3	91.9%	8.1%
Total	37		100%	

The table 13 shows that 91.9% of the respondents are saying 'YES', 8.1% of the respondents are saying 'NO' with regarding to the perception on "Like the university computer examination through OMR sheet".

Table 14: Distributions of the respondents according to their perception of "Syllabus is quite heavy"

Statements	Total No. of Respondents		Percentage to Total	
	Yes	No	Yes	No
Syllabus is quite heavy	16	21	43.2%	56.8%
Total	37		100%	

The table 14 shows that 43.2% of the respondents are saying 'YES', 56.8% of the respondents are saying 'NO' with regarding to the perception on "Syllabus is quite heavy".

Table 15: Distributions of the respondents according to their perception of "School is provided adequate time for practical aspects"

Statements	Total No. of Respondents		Percentage to Total	
	Yes	No	Yes	No
School is provided adequate time for practical aspects	31	6	83.8%	16.2%
Total	37		100%	

The table 15 shows that 93% of the respondents are saying 'YES', 7% of the respondents are saying 'NO' with regarding to the perception on "School is provided adequate time for practical aspects".

Table 16: Distributions of the respondents according to their perception of "Computer programmes are for providing knowledge and skills for academic growth"

Statements	Total No. of Respondents		Percentage to Total	
	Yes	No	Yes	No
Computer programmes are for providing knowledge and skills for academic growth	37	-	100%	-
Total	37		100%	

The table 16 shows that 100% of the respondents are saying 'YES' with regarding to the perception on "Computer programmes are for providing knowledge and skills for academic growth".

V. Descriptive Analysis and Findings of the Study

The table 17 shows the Students perception on skill development programme in the field of computer science. Based on the individual statements mean value the 15 statements were ranked. The Rank 1 takes the highest mean value and Rank 15 takes the lowest Rank. The first rank is taken by five individual statements with mean value (2.00), the statements are SUITS – Computer programme is a good foundation for future career, received the SUITS book on time, Teacher have clearly taught the computer science subject, Teachers using SUITS book while handling classes, and Computer programmes are for providing knowledge and skills for academic growth.

Like this computer programme and Teachers were interested in personal academic development both holds the sixth rank with mean value (1.97). The 8th rank is taken by the two individual statement are Computer teacher allows to work in computer during computer periods and SUITS programme are conducted by teachers regularly with mean value (1.95). Like the university computer examination through OMR sheet mean value (1.92) taken 10th rank respectively. SUITS book easy to read takes the 11th rank with mean value (1.86). The 12th rank is taken by three individual statements are Resources for practical's and examinations are adequate, Syllabus easy to understand and School is provided adequate time for practical aspects with mean value (1.84). Finally, the statement is the Syllabus is quite heavy mean value (1.43) taken 15th rank respectively.

Table 17: Descriptive Statistics Showing the Highest Mean Score among the students perception of skill development

Descriptive Statistics					
S.No	Statements	N	Mean	Std. Deviation	Rank
1	SUITS – Computer programme is a good foundation for future career	37	2.00	.000	1
2	SUITS book easy to read	37	1.86	.347	11
3	Do you like this computer programme	37	1.97	.164	6
4	Computer teacher allows to work in computer during computer periods	37	1.95	.229	8
5	Received the SUITS book on time	37	2.00	.000	1
6	Teacher have clearly taught the computer science subject	37	2.00	.000	1
7	Teachers were interested in personal academic development	37	1.97	.164	6
8	Resources for practical's and examinations are adequate	37	1.84	.374	12
9	SUITS programme are conducted by teachers regularly	37	1.95	.229	8
10	Teachers using SUITS book while handling classes	37	2.00	.000	1
11	Syllabus easy to understand	37	1.84	.374	12
12	Like the university computer examination through OMR sheet	37	1.92	.277	10
13	Syllabus is quite heavy	37	1.43	.502	15
14	School is provided adequate time for practical aspects	37	1.84	.374	12
15	Computer programmes are for providing knowledge and skills for academic growth	37	2.00	.000	1

VI. DISCUSSION AND CONCLUSION

This research provides positive perception from the respondents who are attending the skill development programme especially 2D Animation. Based on the results obtained by the subjects in 2D animation, as well as the questionnaire results, there were clear improvements in both knowledge and improving skills, there by confirming the effectiveness of the animation work with help of SUITS materials. Moreover, the inter-relationship between the results obtained in various questions, as well as the variety of the improvements in knowledge and skills of the students. It is suggested that if students with knowledge of 2D animation are well-practiced in using these SUITS materials, then their knowledge and skills of camera work may be decidedly improved. Keeping findings of the study in mind; it is concluded that the skill development programme implementations and performance such as, material, syllabus, examinations were found more effective to the school students on computer science. This paper provides an inclusive overview of the design and development of learning 2D-Animation apps that is persuasively helps the respondents.

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