

A PRELIMINARY STUDY OF 21ST CENTURY CLASSROOM GUIDELINE IN MOBILE ERA: TOWARDS INTEGRATING DIGITAL SKILLS INTO THE CURRICULUM

M. Mohamad^{1,*} and S. Chan²

¹Centre for Instructional Technology and Multimedia, Universiti Sains Malaysia

²School of Educational Studies, Universiti Sains Malaysia

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ABSTRACT

This study establishes the guideline that will be aligned to the requirement of the 21st century classroom that complements existing policy by the Ministry of Education, Malaysia in deploying mobile technology to support 21st century learning. The research design of this study is qualitative. The guideline will be established through a rigorous research process using the modified Delphi technique. As the initial stage, a preliminary study was conducted to determine the significance of establishing the guideline. Opinions from 75 teachers from all over Malaysia were gathered. It can be concluded that from the survey, there is a need for a formal guideline towards the implementation of 21st century classroom which including mobile technology. As a preliminary study, it is hoped that the finding can be regarded as an initial effort towards the future of 21st century classroom in the mobile era.

Keywords: 21st century classroom; guideline; teaching and learning; Delphi technique; school teacher; Malaysia.

Author Correspondence, e-mail: mmohamad@usm.my

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1. INTRODUCTION

1.1. Twenty First Century Learning

The Ministry has launched numerous policies and programs that seek to address a broad spectrum of issues, ranging from teachers' remuneration to curriculum changes. The feedback has been that these policies have been well designed, but the Ministry does not always deliver the intended outcomes [1]. Most of the approaches are from the top to bottom. According to [2-3], the cascade model that is underpinned by top-down approach would result in the teachers being left out of the change process. Therefore, bottom-up approach which was advocated in Communities of Practice could be an alternative to bureaucratic control in the educational system. As stated by [4, 2], Communities of Practice allows the development of better idea or suggestion from the teachers who act as a key player.

In response to meet the demands of the twenty first century, the learners need to master more than the core curriculum to succeed in secondary and post-secondary institutions as well as in the workplace [5]. Technology can engage students in powerful learning and create collaborative learning environments where twenty first century skills ought to be used [6]. According to [7], there is a need to develop and prepare students with the new skills to handle future challenges in order to integrate the requirement of new jobs and technologies, including those job roles that do not yet exist.

In Malaysia, the Ministry has defined a set of skills and competencies that are aligned with the National Education Philosophy and will give Malaysian students an internationally competitive edge. These elements also highlight the focus on enabling all students to contribute meaningfully to their families, to society, and to the nation. Thus, these skills and competencies will be reflected in the KSSM and revised KSSR curricula that rolled out in 2017[1].

The schools with the help of teachers require incorporating the style of twenty first century learning into daily learning and teaching process in the classroom. However, current infrastructure present in the school might not be suitable [1] and ready for that requirement. Thus, a minimum requirement for infrastructures in each school as a standard guideline is required prior to effectively implement this aspiration of the 21st century learning.

After all, from the literature review, there are limited sources of proper guideline to transform

existing classroom to meet twenty first century needed in the context of education in Malaysia. The establishment of the guideline in this study will be focused and aligned to the requirements of the twenty first century classroom. With the regard to the objectives, the study is to identify and establishing a guideline for twenty first century classroom in Malaysian mainstream schooling. However, this paper concentrates on the preliminary study in exploring the Malaysian teachers' awareness regarding twenty first century classroom prior to developing the guideline. Therefore, the above mentioned research questions are not explored in this paper. The next section will discuss in details regarding the findings in the preliminary study.

2. METHODOLOGY

This study was initiated with a preliminary process covering literature review, an analysis of the 21st century classroom guidelines and documents from within Malaysia and abroad as well as the implementation of preliminary studies. This initial findings and process draft developed the base guideline for the 21st century classroom technology. A qualitative and quantitative research method is used to obtain the information needed as an important guide for teachers to carry out learning of the 21st century in the classroom. Data collection from existing records and documents helped the researcher to build ideas in outlining the drafts.

The first stage of the design begins with the preparation of an early draft of the 21st century classroom guide for teachers are based on the findings obtained through the initial process. The contents of the original draft of the guidebook and the designed items will be reviewed and validated through roundtable discussions comprising of education technology experts from Universiti Sains Malaysia. If there is a need for improvement, the second session will be held after taking into consideration the outcome of the first round table discussion. Guides obtained through roundtable discussions will be used to develop the 1st instrument of Delphi technique study. Study instrument is to be developed after round one, hereafter the foundation of the Delphi panel forces. The formation of the Delphi panel forces will involve the process of nominating, inviting, approving and appointing of qualified people who will be the backbone and driving force of the panel. The validation process of the study instrument development will involve a three-round modification under the Delphi technique review

procedures. However, the Delphi cycle will continue and stop once a reasonable consensus is reached and sufficient information has been obtained.

Based on the findings and analysis of statistical data on each round of Delphi techniques, a technology-based 21st century classroom guide will be developed. The guides developed will be reviewed and validated by educational specialists, educational technology specialists and teachers experts. The technology-based on the 21st century classroom guide developed in this study has the potential to be used by policymakers of the Ministry of Education as the guidelines for school teachers on the implementation of the 21st century classroom. In addition, the guides developed can also be used as references in providing the necessary facilities and as checklists for the schools in ensuring successful implementation of the 21st century learning-based technology.

Prior to developing the guideline, a preliminary study was conducted to gauge Malaysian teachers' awareness regarding 21st century classroom. An online survey was conducted with 75 respondents from teachers all over Malaysia. Overall, the findings revealed that although the teachers are familiar with 21st classroom, there is still a lack of guidance that is tailored specifically for the Malaysian mainstream schooling. The findings have the implication on suggesting the significance of developing 21st century classroom guideline as being explored in the study. The next section will discuss in details regarding the findings.

3. RESULTS AND DISCUSSION

The analysis summaries of a preliminary study conducted on 21st Century Classroom guideline mobile era in Malaysian mainstream schooling are as follow.

3.1. Demographic Information

Table 1.Gender

Gender	No. of Respondent	Percentage (%)
Male	57	24
Female	18	76

Table 2.Age

Age	No. of Respondent	Percentage (%)
20 – 29	17	22.7
30 – 39	30	40.0
40 – 49	23	30.7
50 – 59	5	6.7

Table 3.Race

Race	No. of Respondent	Percentage (%)
Malays	52	69.3
Chinese	16	21.3
Indians	6	8
Others	1	1

Table 4.Level of education

Level	No. of Respondent	Percentage (%)
Degree	47	62.7
Master	27	36
Doctoral	1	1.3

Table 5.Teaching experience

Teaching Experience	No. of Respondent	Percentage (%)
1 – 5	17	22.7
6 – 15	40	53.3
16 – 25	12	16
More than 25	6	8

Table 6.Level of school

School Level	No. of Respondent	Percentage (%)
Primary	19	74.7
Secondary	56	25.3

3.2. Teaching and Learning

Table 7. Teaching and learning

Teaching and Learning	No. of Respondent	Percentage (%)
Q7: Are the students encouraged to use mobile technology in the classroom?		
Yes	44	59.5
No	30	40.5
Q8: Are the students encouraged to use mobile technology outside the classroom?		
Yes	65	86.7
No	10	13.3
Q9: Is there a guideline to establish teaching materials?		
Yes	56	74.7
No	19	25.3
Q10: If yes, what is a source of reference?		
Internet	19	33.9
Training/Workshop	18	32.1
Others	5	8.9
Q11: Are group activities held during the teaching and learning process?		
Yes	69	92
No	6	8
Q12: As a teacher, do you encourage the student to assist their peers?		
Yes	74	98.7
No	1	1.3
Q13: How do you conduct the evaluation process on the students?		
Formative	46	61.3
Summative	29	38.7

3.3. 21st Century Learning

Table 8. 21st century learning

Teaching and Learning	No. of Respondent	Percentage (%)
Q14: Have you heard about 21 st Century Learning?		
Yes	75	100
No	0	0
Q15: Have you heard about 21 st Century Classroom?		
Yes	75	100
No	0	0
Q16: Have you practice 21 st Century Learning in the classroom?		
Yes	59	78.7
Not sure	11	14.7
No	5	6.6
Q17: Is there a proper guideline/reference to implement the 21 st Century Learning in the classroom?		
Yes	50	66.7
No	25	33.3
Q18: If yes, please state the source of guideline/reference to practice the 21 st Century Learning in the classroom?		
Internet	16	32.7
Training/Workshop	11	22.5
Book/Module	7	14.3
School/ District education office	6	12.2
Colleague	3	6.1
Lecturer	3	6.1
Telegram	3	6.1
Q19: Have you attended any talks/workshops/seminars relevant to 21 st Century Learning?		

Yes	50	66.7
No	25	33.3
Q20: If yes, please state the number of talks/workshops/seminars attended?		
1	13	26.5
2	16	32.7
3	13	26.5
4	3	6.1
5	2	4.1
More than 5	2	4.1
Q21: Do you use technology to implement the 21 st Century Learning?		
Yes	51	68
No	24	32
Q22: If yes, is there a proper guideline to practice mobile technology in implementing the 21 st Century Learning?		
Yes	30	47.6
No	33	52.4
Q23: If yes, please state the source of guideline to practice mobile technology in implementing the 21 st Century Learning?		
Internet	9	30
Training/Workshop	9	30
Educational institutions	8	26.7
Others	4	13.3
Q24: In your opinion, is the usage of technology important in implementing the 21 st Century Learning?		
Yes	65	86.7
No	10	13.3

For Research Question 25, Lastly, What is your hope for the 21st Century Learning?

Out of the 75 respondents, only 70 of them responded. The results showed that the respondents are hopeful that the 21st Century Learning will be successfully implemented. Furthermore, the respondents too expect the facilities and infrastructure are fully available to

support the new learning practice. On top of the above mentioned, the respondents also desired a guideline to usher the new practice in school to support this learning system.

A preliminary were conducted on 75 teachers comprising 76% of females and 24% of men. The respondents age range from 20 to 59 years old with teaching experience ranging from 1 to 5 years by 22.7%, 6-15 years by 53.3%, 16-25 years by 16% and more than 25 years of experience by 8%. All the respondents are teaching at the primary and secondary schools by 25.3% and 74.7% respectively. However, there are respondents who are still uncertain and do not implement 21st Century Learning method. The results showed that 78.7% implemented 21st Century Learning, 14.7% are still uncertain and the remainders of 6.6% do not implement 21st Century Learning. From there, 66.7% of teachers have resource accessibility guidance or references to implement 21st Century Learning. However, the guides in implementing are from diverse sources. Among the sources, the three main that topped the list are the internet by 32.7%, workshops and courses by 22.5%, references to books or modules by 14.3%, schools and district education offices 12.2% and the other resources i.e. reference amongst colleagues, lecturers, and the telegram by 6.1% respectively. Despite the availability of the various references, a fully reliable source of guidelines that have been tested and proven effective for the implementation towards the nature of education in Malaysia has yet to be identified.

Furthermore, the findings also showed that 68% of respondents applied the use of technology in the implementation of 21st Century Learning. Only 52.4% out of the 68% of respondents have guidance in implementing them. Despite the considerably high percentage of the respondents applied and practiced technology, however, the resources are still relatively restricted through courses and internet by 30% respectively, educational institutions by 26.7% and other resources by 13.3%. The findings reflected that the respondents are fairly receptive about the importance of using technology in the 21st century classroom.

4. CONCLUSION

In general, most respondents are aware of the existence of 21st century learning in Malaysia and have applied 21st century learning in today's classroom. However, respondents still do not have proper guidance from certified sources in accordance with Malaysia's curriculum

guidelines. Hence, further studies will be conducted to identify the features adaptable and relevant to integrate mobile technology in 21st century classroom. The findings of this study are to be used as a benchmark to develop guidelines towards the use of mobile technology in the 21st century classroom in order to produce students equipped with 21st century skills as proposed by the ministry[1], as well as to disseminate the 21st century classroom guidelines to policymakers.

5. REFERENCES

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