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CREINNOMIC MEDIA KITS: ALTERNATIVE MEDIA IN TEACHING POTTERY AND WEAVING FOR SECONDARY SCHOOL ART TEACHERS



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SAILAJA RAMACHANDRAN

SULTAN IDRIS EDUCATION UNIVERSITY

2024



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**CREINNOMIC MEDIA KITS: ALTERNATIVE MEDIA IN TEACHING POTTERY AND
WEAVING FOR SECONDARY SCHOOL ART TEACHERS**

SAILAJA RAMACHANDRAN

**THESIS SUBMITTED IN FULFILMENT OF THE REQUIREMENTS
FOR THE DEGREE OF DOCTOR OF PHILOSOPHY**

**FACULTY OF ARTS, SUSTAINABILITY AND CREATIVE INDUSTRY
SULTAN IDRIS EDUCATION UNIVERSITY**

2024



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ABSTRACT

Visual Art Education (VAE) teachers often face challenges in acquiring traditional materials for pottery and weaving, limiting instruction to theoretical aspects without practical application. This study aims to address the gap by exploring the use of alternative materials such as cement-based composites and recycled materials for teaching pottery and weaving at the secondary school level. Concurrently, the aim is to develop a comprehensive media kit to improve VAE teachers' pedagogical knowledge, teaching skills and foster creativity among students through practical experience in pottery and weaving. This research employs qualitative methods, involving 75 undergraduates and 33 secondary school VAE teachers. Data collection methods include interviews, questionnaires, workshops and field notes conducted at a local university and six secondary schools. The design and development of the proposed media kit follow the ADDIE Model, and incorporates Ausubel's Meaningful Learning Theory to facilitate new knowledge retention. Data analysis utilises thematic, document, and content analysis, with triangulation, ensuring the validity and reliability of data. The findings of the study show that cement-based composites can replace clay, produce strong end products without the need for firing and glazing and have characteristics comparable to clay pottery. Pottery-producing techniques such as moulding, pinching, and slab construction were successfully applied with these cement composites. Weaving with recycled materials showcased the creative abilities of participants, yielding utilitarian crafts featuring both traditional and modern designs. In conclusion, this study offers practical insights for VAE teachers to overcome material sourcing challenges in pottery and weaving instructions, presenting innovative approaches to enhance teaching effectiveness and stimulate creativity. The implications of this study pertain to the acquisition of new knowledge and experience for students in learning to use alternative materials for ceramics and weaving. Additionally, the use of alternative materials demonstrates the necessity for teachers to exhibit creativity in fostering an engaging learning environment.



KIT MEDIA *CREINNOMIC*: MEDIA ALTERNATIF PENGAJARAN TEMBIKAR DAN ANYAMAN BAGI GURU SENI VISUAL SEKOLAH MENENGAH

ABSTRAK

Guru Pendidikan Seni Visual (PSV) sering menghadapi cabaran dalam memperoleh bahan tradisional untuk pengajaran tembikar dan anyaman. Pengajaran hanya terbatas kepada aspek teori dan bukan aplikasi praktikal. Kajian ini bertujuan meneroka penggunaan bahan alternatif seperti komposit berasaskan simen dan bahan kitar semula untuk pengajaran tembikar dan anyaman di peringkat sekolah menengah. Pada masa yang sama, kajian ini bertujuan untuk membangunkan kit media yang komprehensif bagi meningkatkan pengetahuan kandungan pedagogi guru PSV, kemahiran mengajar dan memupuk kreativiti dalam kalangan pelajar melalui pengalaman praktikal dalam tembikar dan anyaman. Penyelidikan ini menggunakan kaedah kualitatif yang melibatkan 75 pelajar universiti dan 33 guru Pendidikan Seni Visual sekolah menengah. Kaedah pengumpulan data termasuk temu bual, soal selidik, bengkel, dan nota lapangan, yang dijalankan di kedua-dua universiti tempatan dan enam sekolah menengah. Reka bentuk dan pembangunan kit media yang dicadangkan mengikuti Model ADDIE, dan merangkumi Teori Pembelajaran Bermakna Ausubel untuk memudahkan pengekalan pengetahuan baru. Analisis data menggunakan analisis tematik, dokumen, dan kandungan, dengan triangulasi bagi memastikan kesahan dan kebolehpercayaan data dicapai. Dapatan kajian menunjukkan bahawa komposit berasaskan simen boleh menggantikan tanah liat, menghasilkan produk akhir yang kukuh tanpa keperluan untuk membakar dan menyepuh, dan setanding dengan tembikar tanah liat. Pelbagai teknik menghasilkan tembikar seperti acuan, membentuk, dan kepingan telah berjaya digunakan dengan komposit simen ini. Dapatan kajian menganyam dengan bahan-bahan yang dikitar semula, mencerminkan keupayaan kreatif peserta, menghasilkan pelbagai artifak utilitarian dengan kedua-dua reka bentuk tradisional dan moden. Kesimpulannya, kajian ini menerapkan pembelajaran secara praktikal bagi guru Pendidikan Seni Visual untuk mengatasi cabaran kekurangan bahan dalam pengajaran tembikar dan anyaman, mendedahkan pendekatan inovatif untuk meningkatkan kecekapan pengajaran dan pembelajaran yang dapat merangsang kreativiti pelajar. Implikasi kajian ini adalah dari segi perolehan pengetahuan dan pengalaman baharu kepada pelajar dalam mempelajari penggunaan bahan alternatif bagi seramik dan anyaman. Penggunaan bahan alternative juga menunjukkan bahawa seorang guru perlu kreatif dalam mewujudkan suasana pembelajaran yang menarik.



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LIST OF ABBREVIATION

ADDIE	Analyse, Design, Develop, Implementation and Evaluation
CMK	<i>CREINNOMIC</i> Media Kit
DDR	Design and Development Research
DSKP	Document Standard Kurikulum dan Pentaksiran
HOTS	Higher Order Thinking Skills
KRSV	Kerja Kursus Seni Visual
MEB	Malaysian Education Blueprint
MOE	Ministry of Education
PCK	Pedagogical Content Knowledge
PK	Pedagogical Knowledge
STEAM	Science, Technology, English, Art and Mathematics
TA	Thematic Analysis
VAE	Visual Arts Education



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CHAPTER 1

INTRODUCTION

1.1 Introduction

This section provides an overview about the research conducted through several sub-headings. It will discuss the background study, the problem statements, the scope, the objective of the study, the research questions, its significance, the conceptual framework and the limitations of the research. Chapter Two will discuss the theoretical and philosophical frameworks underlying this study and provide a literature review on current empirical studies in art education in relation to the issue of providing hands-on experiences in pottery and weaving in secondary schools in Malaysia. Chapter Three will discuss the methodology and provide a detailed description of research methods and process. Chapter Four will provide a detailed description on the steps involved in the development of the proposed media kit. Chapter Five will thematically and critically discuss the findings emerging from the data analysis that support the use of alternative materials and answer the research questions. Chapter Six will provide a discussion on issues pertaining to the findings in relation to pottery and weaving, along with



implications for art education practices and suggestions for future research. The scope of this research is to encourage the use of alternative materials in the teaching of crafts namely pottery and weaving at the lower secondary levels. Recent developments in the the field of eco-friendly and sustainable materials have led to a renewed interest in using these materials in visual arts education. This is in tandem with the aim of the Secondary School Visual Arts Curriculum (DSKP) which encourages Higher Order Thinking Skills (HOTS). The suggested activities in the Standard Curriculum and Assessment Document at lower secondary level also encourages HOTS. Therefore, the teachers of Visual Arts Education are allowed to make changes to the suggested activities in the DSKP when deemed necessary to encourage HOTS. These changes could include the use of alternative materials when the suggested ones are unavailable

The concept of hands on experiences and meaningful learning in Visual Arts education are central to this research. This research will enable trainee art teachers and visual arts teachers to use alternative materials in order to enhance creativity of pupils in pottery and weaving, enable them to be innovative and help them think out of the box. The proposed *CREINNOMIC* Media Kit (CMK) is designed as a cross-curricular resource, and the kit is concrete in nature. It emphasises critical thinking and creative practices that are major components in the Malaysian Education Blueprint (2013-2025). The proposed module and kit provide experiences which fall at the bottom most band of Edgar Dale Cone of Experience (1959) which is '*Direct Purposeful Experiences*' (Diagram 1). The further one goes from the bottom of the cone, the more abstract the experience becomes.



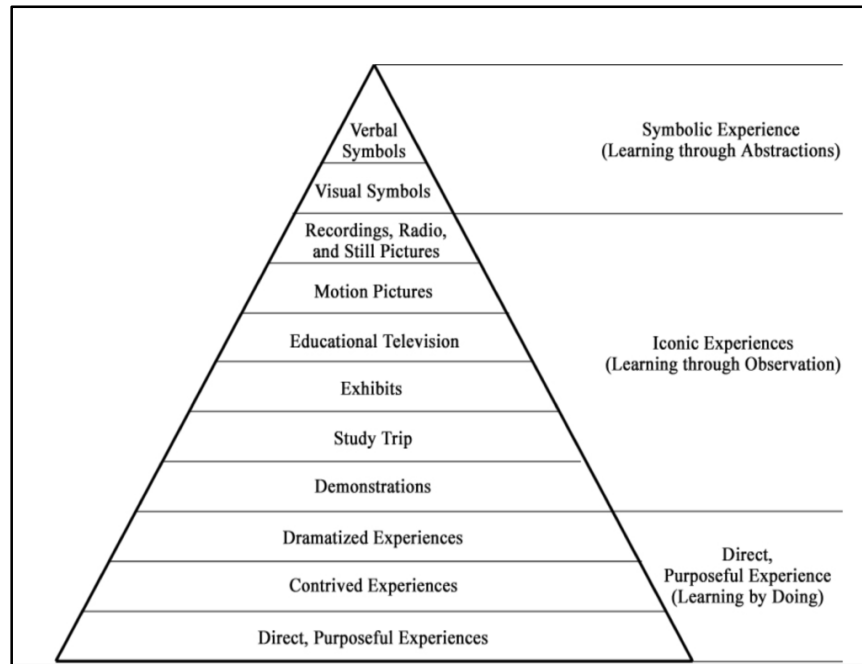


Figure 1.1. Edgar Dale and the Cone of Experience, Source: lifefoundations.pressbooks.com

The proposed *CREINNOMIC* Media Kit which will be designed as a teaching aid, will be a stepping stone for Visual Arts teachers, trainee teachers as well as pupils to produce useful projects. It encourages creativity and imagination in school and at home, given that the raw materials are easily and cheaply available. The background study explains the objective of the study which encompasses all direct and indirect aspects related to the carrying out of this study. The problem statement explains a series of phenomena related to the specific problems experienced by the student or teacher during the process of teaching and learning ceramics and weaving. This sub-heading also explains issues which lead to this research being carried out. In addition, the objective of the study will provide a framework for the research questions in this study. The significance of the study will discuss why the findings of this study could prove beneficial to both students and teachers and for further research in this area. The scope of this research is to encourage the use of alternative materials in the teaching crafts namely pottery and weaving at the lower secondary levels.

1.2 Background of Study

The Malaysian Education Blueprint (MEB) (2013-2025) emphasises a fundamental objective of any current education system. Its aim is to ensure that students are being equipped with the knowledge as well as skills required to cope with the requirements of the 21st Century and to succeed in life. In line with this, the Malaysian school curriculum is committed to developing the child holistically. Every student is required to acquire six key attributes with the National Education Philosophy namely knowledge, thinking skills, leadership skills, bilingual proficiency, ethics and spirituality as well as national identity. The Government has placed emphasis on the 21st Century skills as these skills help them to survive, adapt, and grow as an individual in education or in business and in society as a whole.

In addition to the above skills, there are also three skills which should dominate the process of teaching and learning of the 21st century, namely; learning and innovation skills, the information, media and technology skills, life and career skills. Besides these, the MEB also emphasises four elements which must be included in the teaching and learning process for students, namely communication, critical thinking, collaboration and creativity.

Much emphasis is placed on creativity and innovation in the Visual Arts Education classroom. The subject VAE is compulsory for students from Year 1 to Form 3. However, not all the packages offered to the upper secondary students include Visual Arts Education. Well-performing students are encouraged to enter the science stream, while the rest are placed in the arts and humanities stream, which requires them to take Visual Arts as one of their subjects. Research has shown (Ponijan et al., 2019) that a majority of these students show no real interest in the subject Visual Arts



Education. Ponijan et al., (2019) builds on this fact, and states that these students besides having no interest, also have poor drawing and painting skills. The examinations are also purely based on the theoretical aspects of the topics, drawing and painting skills, and these students often perform poorly.

The Ministry of Education believes that the creative aspect of all students should be nurtured and intends to provide this through STEAM education, as mentioned in the Malaysia Education Blueprint 2013-2025. STEAM is an educational approach to learning, that uses Science, Technology, Engineering, the Arts and Mathematics as access points for guiding student inquiry, dialogue, and critical thinking. Seetoo Kayshi & Siew Foen, N. (2022) assert that the end results of STEAM have a positive impact on students' achievement, cognitive development, creativity and ability in problem-solving. They posit, STEAM education is still new in Malaysia and if it were to be implemented in Malaysia, policymakers will need to develop a curriculum, professional development for teachers, and materials to ensure that it can be implemented successfully in Malaysia.

The two main contents of the Visual Art Education (VAE) curriculum for the secondary schools in Malaysia are; (i) visual art production and art history and (ii) visual art appreciation. Art production emphasises the importance of creative activities that involve tactile, sight and imagination to encourage the development of perception and intuitive ability. It also involves cognitive, affective and psychomotor domains that are inter related in the learning process. Art history and art appreciation on the other hand focus on art experiences (National Curriculum Development Centre, Ministry of Education, 2016).





The Centre for Curriculum Development (2019) emphasised that the aim of the secondary school Visual Arts was to shape the culture of a culturally literate Malaysian, with high aesthetic values, imagination, critical, creative, innovative and inventive values. This can only be achieved if there is a thorough exposure to knowledge of art in visual arts education, especially at the secondary school level. In order to realise this, the mastery of pedagogical content knowledge (PCK) among art teachers is extremely vital to the effectiveness of teaching (Mohd Khairizan Rahmat 2020). Together with student understanding, teachers will be able to determine the appropriate teaching and learning strategies (Norsalawati Wahid et al. 2017)).

First and foremost, arts education needs to be of interest to pupils (Siti Zuraida et al., 2024). To do so, the stereotypes and misconceptions that art will lead to nothing but a dead-end career, must come to an end for teachers, parents and students alike, in order to realize the enormous potential which lies within an arts education (Cheong, 2020). Furthermore, under achieving pupils who study art do not find the subject interesting as many do not possess the basics of drawing and painting skills. Their inability to cope with the theoretical aspects of topics and art appreciation, VAE teachers who lack competence, as well as untrained VAE teachers, result in students performing poorly in examinations. The subject is often deemed as boring by these pupils as there is a rush to complete theoretical aspects so necessary for examinations. Most of the time lessons are carried out through the conventional 'chalk and talk' method and with the use of visual aids, if available. It has been reported that, pupils are often denied hands on experiences especially in the area of traditional crafts. A study conducted by Noor Farhani et al., (2023) found that factors that affect students' commitment to Visual Art Education are caused by the lack of art materials and tools for Visual Art activities, perceive Visual Art Education as difficult and the lack of exposure to Visual Art





Education. The research also found students perceived Visual Art Education as an important part of their studies and can enhance their creativity.

Although research shows that focus is on art production rather than art history and art appreciation, other researches have highlighted that most often only the theoretical aspects of art production is taught. As a result, art production suffers. There are several reasons for this. The lack of allocation for purchase of art materials and its availability and the location of the schools, are the primary reasons hands-on experiences are denied to students. Furthermore, some of these materials are expensive. Topics like traditional craft, which include ceramics for example, require the purchase of clay, potter's wheel, tools, glaze as well as a kiln. Although it could be argued that there are other ways to fire a piece of pottery, in the absence of a kiln, it would require the resourcefulness and time of the VAE teacher. In addition, teachers who lack competence in certain topics of art production do not attempt the practical aspects of these topics and very often fall back on teaching only the theory. Furthermore, resources like teaching aids which include modules and kits, to facilitate art production are not easily available.

It is undeniable that competent teachers play an important role in the process of teaching, learning, student motivation and achievement (Sofea Azahar, 2023) and (Ekmekci, A. & Serrano, D. M. 2022). Trained teachers are an essential part in the education system. According to Sofea Azahar, (2023) there are limited opportunities for teachers to undergo professional development coupled with inadequate training. In addition, the study highlighted the absence of initiatives from department heads to organise in-house training and provide comprehensive teaching guidelines. The study also indicated that the teaching structure in Malaysia also tends to be teacher-centred and textbook-focused, with a strong emphasis on rote learning.





This points to a deficiency in prioritising high-order thinking skills and inquiry-based education, fostering an environment where pupils are passive recipients of knowledge, rather than engaging in critical thinking (Sofea Azahar, 2023). This aligns with Rao, (2011), when he states so perceptively, that trained teachers are seen as the nucleus of an education system owing to their competence to teach effectively, and in turn enhancing students' performance. Although there is truth in this, there are also many factors that contribute to the efficacy of this process in schools.

The findings of Rao, (2011) in his study 'Teacher Allocation and Equity in Malaysian Schools revealed the following: (i) the selection and training of teachers is entrusted to the Ministry of Education (MOE), (ii) many teachers in Malaysia would prefer to teach in urban schools, (iii) the increase in workload as a result of disparity in the availability of teachers has resulted in teachers leaving the profession, (iv) in Malaysia, ensuring the equality of teacher placement falls on the shoulder of the agency, i.e. MOE, (v) the equity availability of teachers based on the expertise of teachers, for lower secondary forms are within acceptable levels but this is not so at the upper secondary level, (iv) the level of inequity in terms of allocating teachers did not stray very far from the accepted standards. This is due to the efforts of MOE to upgrade non-graduate teachers into graduates through a programme called 'Pengsiswazahan'. This exercise began in 1995 and MOE also encouraged a part-time or distance learning mode.

Although Rao's (2011) research suggests that the inequity in placements of teachers did not stray far, there are still a relatively large number of teachers in rural schools who teach non-specialized subjects. This is often seen in subjects like Visual Arts Education, Physical Education and Civics. Research has shown that the school





administration is responsible for placing non-specialized teachers to teach the above subjects as they are deemed as not so important.

Nur Analisa Rahman & Ramlan Mustapha (2020) are of opinion traditional arts materials should be enhanced with up-to-date technology and software, which allow for greater exploration of art forms and providing support for career areas. In support of greater exploration of art forms, Noor Farhani et. al, (2023), state that teachers should be equipped with proper teaching aids in Art Education so that they can improve their creative ability and continuously involve students' creative expression. The same study also indicated that teachers used improper teaching aids. In tandem with encouraging creative expressions, learning modules supported by kits could be considered an alternative in the absence of teaching aids. It would help break the monotony if used alongside traditional approaches and methods.



Teaching and learning materials, broadly refers to a spectrum of educational materials that teachers use in the classroom to support specific learning objectives set out in lesson plans (Lewis, 2020). A learning module and kit is defined as a complete teaching material for learning topics and they consist of concrete materials (Dewan Bahasa & Pustaka 2007). Learning modules and kits should be used as a tool to help teachers meet the educational needs of students particularly in integrating inquiry skills and creativity. A learning kit is important in this process of teaching and learning (Muhammand Sufyan Harish et al., 2023, Abdul Samad et al., 2016, Nur Elyani Musa et al., 2014). It serves as a facilitator for teachers to improve the effectiveness of a student engaging and student-centred learning (Jasmi et al. 2011) and is in line with the 21st century learning activities. According to Che Ghani Che Kob et al. (2019), the approach of using the learning kit is a learning strategy that can be applied by teachers to improve students' understanding of subject matter and their performance. However,





Che Ghani Che Kob et al. (2019) cite Mohamad Jakie et al, (2016) when they state, the quality of student-centred learning depends largely on the effectiveness of how teachers use the appropriate learning kits

Cognitive theorists emphasise the importance of seeing in the learning process and when appropriate, having hands on experience with concepts and skills (Slavin 1994). Ting, Y.L & Tai, Y. (2020) also support this view and state hands-on learning has been advocated by many educators to promote students' motivation and provide concrete learning experience. The end-product of hands-on work is also treated as the main learning goal and adopted to gauge students' performance. In relation to this, Lewis, (2020) states that activity-based learning employs a variety of teaching-learning materials and focuses on student interaction to learn new concepts. She asserts context-specific learning materials enhance the process of teaching and learning. Here, context-specific materials would include modules and kits. She cited (Hiebert et al 1991; Mayer and Gallini, 1990) when she concluded, visual representations are maintained in long term memory far more readily than information that is only heard.

The use of teaching aids like learning kit can encourage creativity. A large number of studies advocate the importance encouraging creativity amongst students. A significant finding from the study conducted by Wan Juria Emeih Wahed et al., (2019), indicated that the assessments the VAE teachers used still did not emphasise students' creativity. She asserted, there seemed to be little progress in that direction. Creativity is certainly an important aspect of learning that needs to be focussed by our teachers (MEB). In 2011, Stephen Downing articulated (in Forbes Leadership) that an educated individual in the 21st century demonstrates the "ability to listen carefully, think critically, evaluate facts rigorously, to reason analytically, to imagine creatively, to articulate interesting questions, to explore alternative viewpoints, to maintain





intellectual curiosity and to speak and write". According to the MEB the whole education system has been revised so as to equip students to face these challenges.

A study conducted by Salyani Osman et al., (2012) mentions that the issue of preservation and development of traditional crafts has grown in the last two decades. The 'Convention for Safeguarding Intangible Cultural Heritage' by UNESCO in 2006 highlighted the preservation of traditional crafts among others. However, in Malaysia, the primary concern is the preservation of the production methods of traditional crafts. Salyani Osman et al., (2012), assert that by its very nature, traditional crafts reflect patterns of thought and culture and of local communities. It is of concern that the introduction of modern equipment, especially mechanical equipment in the production of handicraft craft, has led to neglect in the area of traditional teaching and learning. They also posit that the younger generations are no longer interested to learn this traditional heritage as they claimed that teaching and learning through the conventional method is unattractive and boring. They suggest a better approach is needed to replace the traditional method in the classroom, where the learning can take place at any desired pace and time through courseware and digital teaching.

In her study on sustaining local heritage through fibre art, Siti Zuraida Maaruf et al., (2020), suggests locally appropriate and culturally connected craft practices would strengthen the belief that local handicraft craft is valued in Malaysian society. She states, fiber art has expanded its utility to include crafts and wall hanging to name a few. She explains that the vital part of fiber art is its aesthetic value over utility and that traditional materials are often replaced with synthetic ones like yarn and plastic. They hope their research on the production of contemporary fiber art, will address the notion among the younger generation that 'Malaysian local craft is passé and unfashionable and was only relevant in past decades'. In relation to this, Ghouse





Nasuruddin, (2017) believes 'the onslaught of modern technological development has affected the behavioural expressions and lifestyles of individuals in the community'. It is hoped with the inception of Cultural Economy Development Agency (Cendana), traditional tangible heritage will flourish. The results of the research conducted by Fiona Wong, E. C. (2024) entitled Preserving Traditional Arts and Crafts, looks into adapting to the demands of the modern world. This includes embracing digital platforms and incorporating contemporary themes and styles to remain relevant and appealing to younger audiences and the wider public

1.3 Problem Statement

According to Zuraida Maaruf et al., (2024) there is a need to develop new learning materials emphasising the importance of Visual Arts education in order for students to prioritize learning Visual Arts thus, increasing the number of students with artistic skills. It is highlighted that in Malaysia that traditional classroom teaching methods still prevail in secondary schools, hindering the teaching and learning process and students' artistic abilities. Ahmad Suffian et al. (2019) support this view, stating that conventional teaching approaches can restrict students' creative potential and understanding of art. It has been found that learning modules supported with kits which could be used while teaching are not easily available for many topics in the syllabus (Mittler, 1980) cited by Norsalawati Wahid et al., (2017), Kozleski, (2000) cited by Siti Zuraida Maaruf and Ahmed Wahiyuddin Basri (2019), Siti Zuraida Maaruf e. al., (2018). The teaching and learning resources readily available are visual aids, and many of these are outdated. Much of the materials needed for art production are outsourced from suppliers. In smaller towns or in the outskirts, art teachers improvise to the best of their ability when materials are not available and at times practical aspect of the topic is not carried out.





Studies have shown that there is a lack of research in the area of learning modules with craft kits. This could be because, globally, the subject visual arts, does not enjoy the same status in schools as the science subjects (Luckman S, (2015), Ponijan et al 2019). Prominence is given to the sciences as it is believed this will help build the economic, medical and technology sector (Yang and Mohsin, 2018). The allocation of funds for the sciences far out- weigh what is provided for the arts. In addition, research on developing modules with kits related to science, technology and ICT are increasingly popular in Malaysia (Roslaili et al., 2018, Che Ghani Che Kob, 2019, Nurul Eza Martu et al., 2020, Cheong, 2020)). In the area of Visual Arts, research (Norsalawati Wahid et al., 2017) focuses on kits to enhance language used for Art Appreciation.

Most art teachers rely upon some kind of resources which they use during teaching (Siti Zuraida Maaruf et al., 2018). These comprise mainly of charts either bought or made by the teachers themselves. A lot of computer savvy teachers also rely heavily on materials found on the internet. These prove useful in the teaching of the theoretical aspects. However, when the practical aspect of a topic is not carried out, the effectiveness of these in the teaching and learning process is often questionable as the end products are not tangible. In addition, it does not help to create an interest in the subject.

Public schools depend on the government for funding. The VAE funding is related to the number of students taking art. (Rao & Jani, 2011). They clarified that smaller schools with fewer students receive lesser funds for VAE as compared to bigger schools. Hence, it could be concluded, that bigger schools with more funding are better equipped with art materials, teaching aids, infrastructure, suitable and conducive art classrooms to cater for VAE learning experiences.





Among the topics covered in craft in the Form 2 syllabus, ceramics materials cost the most. Many schools do not have kilns. The art teachers in big towns often enlist the help of private kiln operators, if any, to fire their students' products. This is one of the main reasons as to why students are not encouraged to select the question on ceramics for Paper 3 KRSV Pendidikan Seni Visual during the Form 5 Sijil Pelajaran Malaysia examination. As mentioned, elsewhere in this study, most often, only theoretical aspects of ceramic making are taught in the classroom because of the above influences.

The above discussed will result in a lack of interest and creativity among students who study Visual Arts. As many of those studying the subject are under achievers, it is up to the teachers to make the learning process as interesting as possible (Salyani Osman et al., 2006). Besides, some of the topics are very factual. The lack of learning modules, kits and teaching aids will make this task an uphill climb for art teachers. In addition to this, the need to complete the syllabus within the stipulated time frame, results in teachers rushing through the topics and covering only the theoretical aspects. Very often practical aspects are omitted. In these circumstances, students are not provided with a platform to express their creativity. (Siti Zuraida Maaruf, 2018).

It is hoped with the development of teaching aids like the *CREINNOMIC* Media Kits, creativity can be cultivated and nurtured in school during art lessons. Pupils must be exposed to the endless possibilities of incorporating the basic skills learnt alongside new techniques to create new pieces of art. The use of craft kits should be incorporated in the teaching and learning of art especially in the areas of traditional craft in the classroom (Siti Zuraida Maaruf, 2018). It is also hoped that these craft kits will make the learning of traditional crafts more meaningful and make pupils realize





that art is not all about drawing and painting. It is to further emphasize that pupils need not be able to produce good drawings, paintings and sculptures, in order to create simple, beautiful yet functional pieces of artwork. It is intended that pupils should be able to showcase their talent and creative traits should they be taught to think out of the box. In addition, this media kit can be used with recyclable materials like foam packaging material, broken glass, wood chips and plastic pellets to name a few. The possibilities here are endless.

1.4 Purpose of Study

The purpose of this study is to develop two modules together with two designomic craft kits to provide meaningful learning experiences in pottery and weaving. The proposed media kits are designed for the use of visual arts trainee teachers and Visual Arts teachers in for the teaching of traditional crafts such as pottery and weaving (Anyaman) and to provide the much-needed hands on experiences for students as well as VAE teachers. The proposed modules and designomic kits are developed based on learning strategies, guided with creative thinking strategies and through the use of alternative materials, to achieve meaningful learning.

1.5 Research Objective

The main objective of this research is to develop a valid and reliable module and designomic craft kits to help Visual Arts teachers enhance their teaching skills as well as help tap and develop students' creativity through hands-on activities. This is mainly





because of the difficulty in obtaining specific materials for the teaching of traditional crafts like ceramics and weaving which use clay and 'mengkuang' respectively.

Specifically, the objectives of this study are:

- i. to identify and evaluate alternative materials that can substitute traditional resources in pottery and weaving,
- ii. to design instructional modules that incorporate alternative materials, in order to enhance the feasibility and practicality of teaching pottery and weaving in classrooms,
- iii. to increase creativity among art teachers and students by using teaching aids namely *CREINNOMIC* Media Kits.
- iv. to assess the effectiveness of the *CREINNOMIC* Media Kit as a supportive tool to achieve meaningful learning for VAE teachers.



1.6 Research Questions

The research questions of this study are:

- i. What methods can be used to identify and evaluate alternative materials that can substitute traditional resources in pottery and weaving?
- ii. What strategies can be employed to design instructional modules that incorporate alternative materials, in order to enhance the feasibility and practicality of teaching pottery and weaving in classrooms?
- iii. In what ways can the use of teaching aids, specifically the *CREINNOMIC* Media Kit, increase creativity among art teachers and students?





- iv. How can the effectiveness of the *CREINNOMIC* Media Kit be assessed as a supportive tool for achieving meaningful learning for VAE teachers?

1.7 Scope of Study

The scope of this research is to encourage the use of alternative materials in the teaching of traditional crafts namely ceramics and weaving at the lower secondary levels. This is in tandem with the aim of the Secondary School Visual Arts Curriculum which encourages Higher Order Thinking Skills (HOTS). The suggested activities in the Standard Curriculum and Assessment Document at lower secondary level also encourage HOTS. In addition, the teachers of Visual Arts are allowed to make changes to these activities when deemed necessary to encourage HOTS. These changes could include the use of alternative materials when the suggested ones are unavailable.

1.8 Conceptual Framework

The research is aimed at developing a module supported by two craft kits for the teaching of pottery and weaving for secondary levels. The content of the learning standards of VAE comprises of four components:

- i. History and Appreciation of Visual Arts,
- ii. Fine Arts, Design,
- iii. Craft production and Visual Communication.



This research will focus on the third component, craft production and visual communication. The conceptual framework of this study is illustrated in Figure 1.2 Government's GOAL: 21st Century Skills.

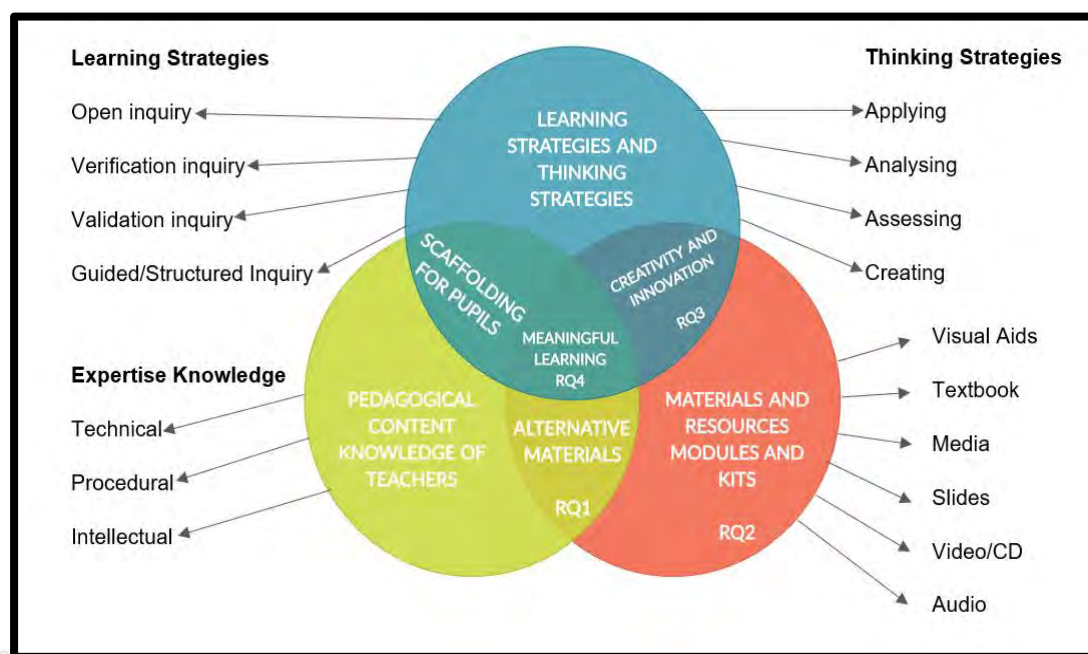


Figure 1.2. The conceptual framework of study.

The Malaysian Education Blueprint (2013-2023) focuses on the importance of equipping students with the 21st century skills. Emphasis is placed on learning and thinking strategies. It is required that teachers comply with the requirements of the Standard Document of Curriculum and Assessment (DSKP). It states explicitly that the teaching and learning in the classroom should include Inquiry Learning Strategies and the Higher Order Thinking Skills (HOTS). Inquiry learning strategies emphasize student orientated activities. Teachers act as mentors or facilitators and project-based activities should be more dominant. The four inquiry strategies contained in the DSKP are: (i) Open Inquiry, (ii) Verification Inquiry, (iii) Validation Inquiry and (iv) Guided/Structured Inquiry.



With the guidance of the teacher in a structured manner, the exploration and experimentation processes using these inquiries are translated through creative and innovative activities. Guided or structured inquiry requires students to develop the potential of all three inquiries through experimentation of various media and domains namely: (i) cognitive, (ii) affective and (iii) psychomotor. The Higher Order Thinking Skills (HOTS) which are required to be developed are: (i) applying, (ii) analysing, (iii) assessing and (iv) creating.

Another focus of The Malaysian Education Blueprint (2013-2023) is the introduction of professional development programmes for in-service teachers and school leaders. These programmes will help upgrade the pedagogical content knowledge and soft skills of teachers, so necessary to realise the government's goal. The pedagogical content knowledge (PCK) of teachers is their expertise knowledge. They include technical, procedural as well as intellectual knowledge.

The PCK of some art teachers on the practical aspects of some topics may be lacking as placements of teachers in some schools are not according to the subject specialization required (Ponijan, et al. 2019). As a result, in several schools, VAE is taught by non-optional Visual Arts Education teachers. They cope with the theoretical area by reading from the textbook and explaining the contents during the teaching and learning process with the use of visual aids like charts and realia. When teachers are equipped with good PCK, they would be able to provide a scaffolding for their pupils. Teachers would be able to meet the needs of the pupils which will in turn facilitate the teaching and learning process.

An important aspect in the process of teaching and learning are materials and resources. These include visual aids, textbooks, media, slides, videos/compact discs,





recordings, modules and kits. In addition to enhancing the quality of teaching, materials and resources aid in better understand what is being taught. Azman & Mustapha (2014), is of opinion, compared to just verbal explanation or description, the implementation of supporting materials in learning activities can assist teachers to clarify concepts; thus, enabling the students to understand the learning content better. They asserted that it will ensure that the teacher can accomplish the teaching objectives stipulated in the syllabus. Siti Zuraida Maaruf, (2021), too is of similar opinion when she agrees with Kesici and Cavus (2019) that 'teachers would need to apply teaching techniques that enhance students' involvement while keeping their efforts focussed on attaining the learning objectives'.

The issue of obtaining a specific teaching material or resource is often challenging of teachers. When this is the case, most often the activity is not carried out. Teachers with good PCK will often resort to suitable alternative materials so as to not deny pupils of that specific learning experience. Hand-on experiences lead to creativity and innovation. These can be encouraged and developed through the use of content related modules and kits.

The creative thinking skill is the ability to produce or create something new and valuable by using the imagination and thinking out of the ordinary (DSKP, 2016). The use of modules and kits will aid the process of teaching and learning towards achieving these goals. However, the quality of student-centred learning depends largely on the effectiveness of how teachers choose and use appropriate learning kits (Mohamad Jakie et al., 2016). As mentioned previously it should be content related to the topic. It is also the responsibility of the teacher to develop the creative potential in students through teaching and learning in the classroom (Tamaki et al., 2014). The proposed



Media Kits will focus on developing structured/guided inquiry skills among students and will serve two functions;

- i. to introduce the use of alternative materials to produce pottery and weaving when clay and traditional weaving materials are unavailable,
- ii. to be used after the topic is taught, as an enrichment activity which allows them to produce a pot (as suggested in the syllabus) by expressing ideas creatively and innovatively as a result of experimentation and exploration.

It is hoped that the final outcome of what is taught and what is learnt is achieved through meaningful learning.

A research plan was drawn up to enable the researcher to conduct the research systematically and efficiently which will lead to the targeted outcome. Figure 1.4 outlines the framework of the research process in identification of alternative materials

for the teaching pottery and weaving

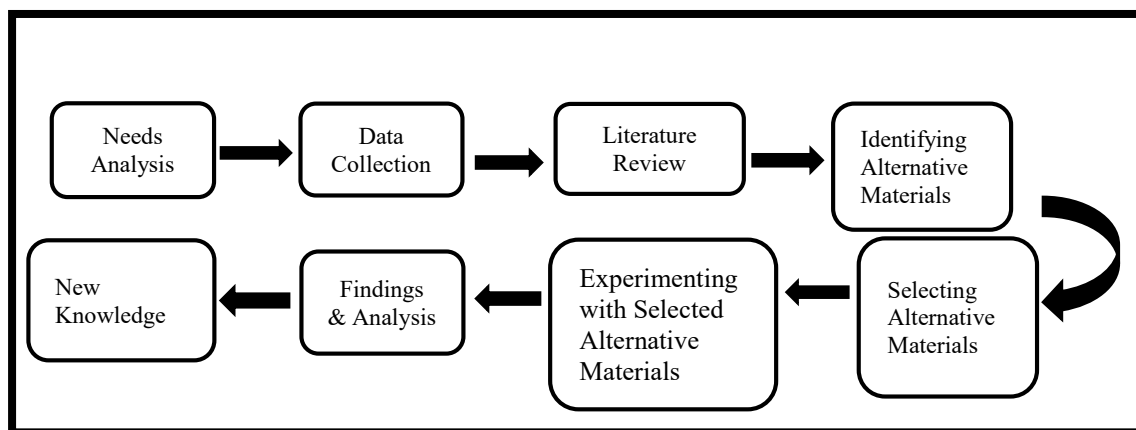


Figure 1.3. Research Process



1.9 Limitations of Study

This qualitative study aims to develop two learning modules, supported by two Designomic craft kits, to enhance the teaching skills of Visual Arts teachers and foster students' creative abilities in traditional crafts, specifically pottery and weaving. The study is confined to a focus group comprising 75 undergraduate Visual Arts Education students in their sixth semester at Sultan Idris Education University and 18 Visual Arts teachers from Malaysian secondary schools within the Petaling Utama District, Petaling Jaya, Selangor.

The selected undergraduate group is enrolled in the MSP 3093 course, *Creativity and Innovation in Teaching Visual Arts* (Kreatif dan Inovatif dalam Pengajaran Seni Visual), offered in the sixth semester at Universiti Pendidikan Sultan Idris Shah, Tanjung Malim, Perak. This course is a crucial part of their curriculum, preparing them for their practicum in the seventh semester, where they will be equipped to apply newly acquired knowledge in classroom settings. These trainees will participate in a workshop focusing on the various stages of producing cement-based composite pots or planters.

The workshop will include a slide presentation and a live demonstration conducted by the researcher to clearly illustrate the process. Each respondent will individually complete the process to ensure practical engagement with the material. Due to geographical, time, and cost constraints, the study is limited to Visual Arts trainee teachers in Peninsular Malaysia. These constraints also define the research's scope, including the area of study, location, type of analysis employed, and the time available for the research.



1.10 Research Significance

This research will provide new perspectives in the teaching of traditional crafts through the use of alternative materials. In this regard, this study will provide awareness to VAE teachers on the use of alternative materials in the teaching of pottery and weaving when traditionally used materials are unavailable. Besides, this research may serve as a tool for further studies to innovate the current strategies being employed by VAE teachers in this area. Furthermore, students who have the potential, will be able to develop entrepreneurial skills, which in turn, will help them to be financially independent. This study also looks into sustainability, the relevance and awareness recycling materials and using them to produce teaching resources.

1.11 Operational Definition

Operational definitions can be defined as the variables/terms we are using in our research document. It gives an obvious, precise and communicable meaning to a concept/term used. It gives a comprehensive knowledge of the idea by specifying how the idea is measured and applied in a particular set of circumstances.

1.11.1 Creativity

Schubert, (2021) states that creativity is commonly defined as a process that leads to a novel and useful outcome (an idea, product or expression). Nainam, (2014) defines creativity as “the act of turning new and imaginative ideas into reality. Creativity involves two processes: thinking, then producing”. In line with the above definition, Walia (2019)

states creativity can be broadly conceptualized as consisting of four components: (1) ability (to create), (2) intentionality (to create), (3) a context in which the creativity occurs, and (4) a product is generated that is novel and useful.

In this research, creativity would refer to the ingenuity of the VAE teacher to use alternative materials to teach traditional crafts namely pottery and weaving. Creativity here would also include the ability to produce contemporary artefacts while still using traditional techniques. The products could be either utilitarian or aesthetic in nature. As mentioned elsewhere in this research, students should not be deprived of the learning experience just because the 'environment' and 'circumstances' make certain materials unavailable.

1.11.2 Teaching Aids

Scholars and educational technologists have defined teaching aids in terms of their nature and uses; traditional teaching aids (blackboard, textbook), visual teaching aids (charts, maps), audio teaching aids (radio, tape-recorder), audio visual teaching aids (computers, television) and other teacher teaching aids (Prasad, 2021). An account of them will be discussed in Chapter Two. In this research, teaching aids would refer to a module and a kit, which if used together would enable a VAE teacher to teach pottery in the absence of clay and weaving in the absence of traditionally used materials.

1.11.3 Educational Kits

Learning Kit is defined as a complete teaching material for learning topics and materials are concrete material (Dewan Bahasa & Pustaka 2007) cited by Che Ghani Che Kob et al., (2019). A kit is a packed collection of related materials designed to teach the user a predetermined content specific to the arts in conceptual, historical, critical or aesthetic dimensions. A learning kit is a tool developed by educators to enhance creativity in students (Damanik, 2023). Kits are assembled and created from related but diverse packaged materials. Art kits are designed for use in the art classrooms as motivational, enrichment and independent inquiry materials. They are to be used to expand and strengthen the teacher's art programme offered by school.

1.11.4 Educational Module

In education, the term 'module' refers to an instructional unit that focuses on a particular topic. The details and activities vary according to specific context, such as course and student level. Most educational modules include information about the topic, focus on student centered learning activities and culminate in a project for students to demonstrate understanding (Sweet, 2017). Modules are designed to help students accomplish certain well-defined objectives.

1.11.5 Alternative Materials

In this research, alternative materials would mean materials which could be used as a substitute to traditional materials in the production of pottery and weaving.

1.11.6 Meaningful Learning

“Meaningful learning refers to a process in which students link new information to relevant concepts that they already possess. To learn meaningfully, individuals must consciously choose to relate new information to knowledge that they already know, rather than simply memorizing isolated facts or concept definitions.” (Champe, Harvey & Ferrier, 2005). In tandem with this definition, Ausubel, (2012) asserts meaningful learning as a process presupposes, in turn, both that learners employ a meaningful learning set and that the material they learn is potentially meaningful to them, that is, relatable to relevant anchoring ideas in their cognitive structures.

1.11.7 *CREINNOMIC* Media Kit

The term ‘*Creinnomic*’ is coined by the researcher from the words **creative**, **innovative** and **designomic**. It is thought as a suitable name for the proposed media kit as the kit is aimed at encouraging and developing creative as well as innovative skills. The end products of the said cement pottery are intended to be designomic to keep in line with current trends.

1.12 Conclusion

The researcher has presented an overview about the *CREINNOMIC* Media Kits. In addition, important components in this research have been discussed namely introduction to the research, its background study, objectives, research questions, conceptual framework, its scope and the importance of this research. This chapter also

focusses on several issues pertaining to the teaching and learning of VAE in secondary schools. It also describes the teaching and learning strategies which are to be used in the classrooms as stated in the Malaysia Education Blueprint. Furthermore, the conceptual framework gives an insight as to how the kit will be able to facilitate in the acquiring of 21st century skills so necessary for students to cope with the challenges in this world.