

The Development of Mixed-Media Art Creation Process from Waste Materials to Improve Communication Efficiency

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Abstract

Purpose: The present economic and technological growth has increased goods manufacturing rapidly and led to the problem of waste material management. This research aims to study the cause of the problem, its impact, and solutions to reduce the pollution resulting from the increasing amount of waste. It explores various forms of art and concepts from Dadaism till the present, which used waste materials in artistic expression, developing the concept of mixed-media art from waste materials to create perception and feedback from the audience in the most effective way both aesthetically and in making the awareness among the public about the utilization and management of the waste materials that are creating problems to our lives and environment. Method: This is a research and development study. Using Roland Barthes' semiology theory, the research experiments and explores the art creation process using waste materials to create mixed-media art within the frameworks of two-way or feedback methods. Develop ways of communication and experiment with waste materials to make the artworks that can communicate and invite feedback from the audience, display the artworks in public space, and document the interactions from the audience for further improvement of the artworks. Result: This research's evaluation results have a very good total average ($\bar{x} = 4.60$, S.D. = 0.56) for form achievement and an excellent total average ($\bar{x} = 4.52$, S.D. = 0.57) for conceptualization achievement of creative development from waste materials. Conclusion: Using waste materials as a means of artistic expression is also a good way to give new values to the so-called 'waste' and open up possibilities and meanings from the audience's point of view. In turn, this may help reduce the accumulation of waste, a challenge our society is confronting.

Keywords: *Development, Mixed-media art creation process, Waste materials, Communication efficiency.*

Introduction

Technological advancements and materialistic values have an immense impact on our society. Objects thus play an essential role in people's lives, resulting in an increasing amount of garbage that is difficult to dispose of in the long term. That, in turn, has created an ill impact on humans physically and psychologically.

Latour (1992, 1999) proposed the idea of the relationship between humans and non-humans, in other words, the interdependence of society and technology. This idea argued that human life is the combination of actions upon objects and the dependence on technology. Society and culture are relentlessly changing, and humans cannot separate themselves from technology. Duangphiset, Narupon (2021)

Therefore, this research has emphasized the art creation from waste materials in the following topics: the pollution from waste materials in present-day Thailand, the history and significance of sculptures created from waste materials, including their roles in terms of aesthetics, society, and environments, the efficiency of communication in the sculptures from waste materials and the communication process through mixed-media sculptures by implementing anthropological and art theories, such as Roland Barthes' semiology theory, to interpret and create new meanings and forms from waste materials. This will be achieved by conveying the meanings through two-way or feedback communication to enable the most effective communication.

This research is a crucial attempt since it helps to create artworks that not only embody aesthetics but also raise public awareness of the need to collectively take responsibility for our society and environment. We realize that many problems we face in this world are the direct impacts of the ill materialistic values resulting from economic growth and technological advancement.

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Objectives

1. To study the situation, problems and impact of the pollution from waste materials and its solution-finding processes
2. To explore and compile the theory, concepts and objectives of the mixed-media art using waste materials from Dadaism till the present days
3. To develop the forms and mixed-media art creation process to enhance communication efficiency

Methods

The researcher intends to actively address environmental issues through his artistic expertise, creating artwork capable of communicating and creating innovative values. This endeavor aims to utilize my knowledge and specialization to develop and represent mixed-media art from waste materials, making their new value through communication and filling in certain elements previously lacking in the art.

In the past, artists, such as the Dadaists, tended to use readymade materials to create their artworks using a one-way communication approach; artists conceptualized the content and meaning of their arts without considering two-way communication or being open to comments or interactions from viewers.

In this research, the researcher commits to creating a new two-way or feedback communication approach by using waste materials in his creation not only to convey his ideas but also to let the audience participate in the interpretation and interaction with the artworks. This communication approach will give the artworks diverse meanings and create a more dynamic relationship between artists and viewers. This research expects to create artworks that are not only creative and beautiful but also have the potential to be powerful communication tools that invite the audience to participate in interpreting waste materials in new forms of language.

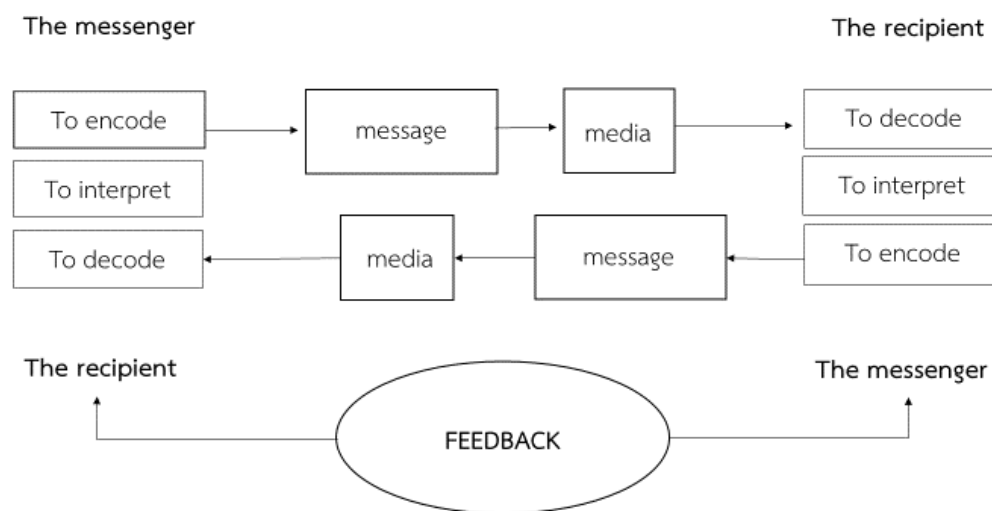


Figure 1: Example of the two-way (feedback) communication process model chart

Source: Sakond Phungamdee (2002, p.166-167)

From this concept, the researcher has applied the concept of two-way or feedback communication in his art creation process, beginning with developing the form of language group, which is the transfiguration of language and meanings, in order to communicate effectively and invite the audience to perceive and give feedback.

This process starts by exploring and creating a language group suitable for the artwork's content. The language is then transfigured in accordance with two-way communication by considering the ways the audience can interact with the artwork and send back the information received from viewing that artwork.

The form of language group thus is implemented in the design and creation process of the artwork in such a way that it can communicate and invite the audience to participate in the interpretation and interaction never seen in the conventional artwork. As in the chart below:

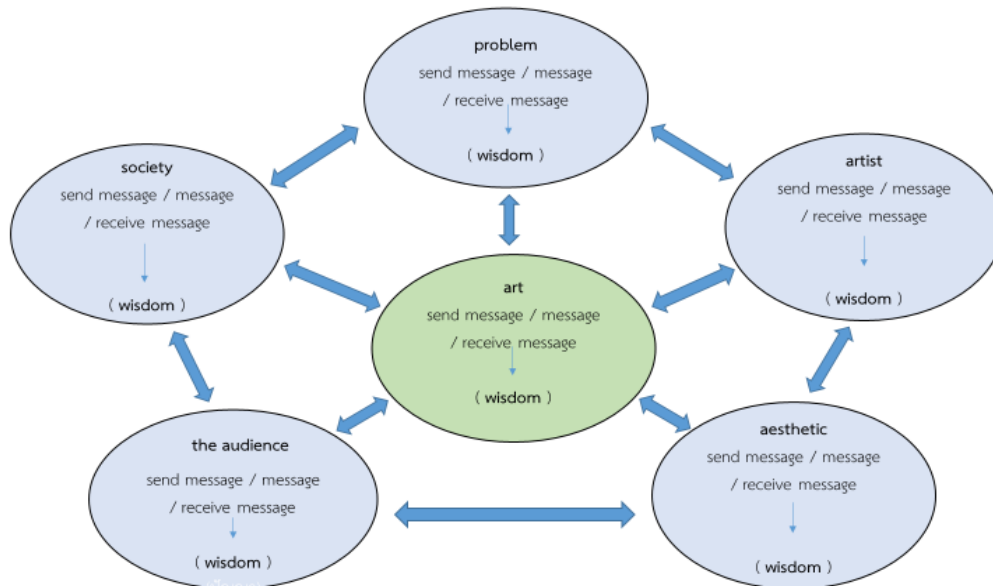


Figure 2: The flow chart of the value transfiguration and communicative linguistic meaning giving

Source: Arkom Thongprong

This chart is designed to accompany the interpretation and determination of the meanings through the researcher's artworks, which aim emphatically to achieve two-way or feedback communication by inviting the audience to participate in the interpretation and interaction with the artwork meaningfully from his/her own previous direct experiences. The value transfiguration and linguistic meaning giving may include: (1) The use of symbols and imagery: using symbols which the audience can interpret varyingly according to personal experiences and cultural context. (2) The use of text or wording: display of text or wording that invokes the thinking process and promotes interactions (3) The use of mixed-media: using various kinds of materials and media to stimulate different perceptions and interpretation (4) Open space for the audience: give opportunities to audience to give meanings to the artworks along with the artist by participating in the interpretation process. These approaches will enable the audience to interact and communicate with the works in the more profound and various ways, resulting in the more effective and meaningful communication through the artworks in the contemporary creative context.

The research is divided into three phases. The first phase is collecting written materials. During this phase, basic information, such as books, research papers, and academic papers related to this research and the artwork creation, was collected and compiled. Second phase: Materials and devices collecting, this phase emphasizes on collecting and preparing the materials, devices and tools essential to the sculptural creation process, especially the waste or recycled materials to be used. Third phase: Explore the evaluation criteria and outcomes of the mixed-media sculpture. This phase explores the evaluation criteria for the mixed-media sculpture and presents the outcomes to the five renowned experts for review. The experts will apply their comments and evaluations to further improve the works.

A conceptual framework for the experimental creation of the work has been outlined as shown in the figure below.

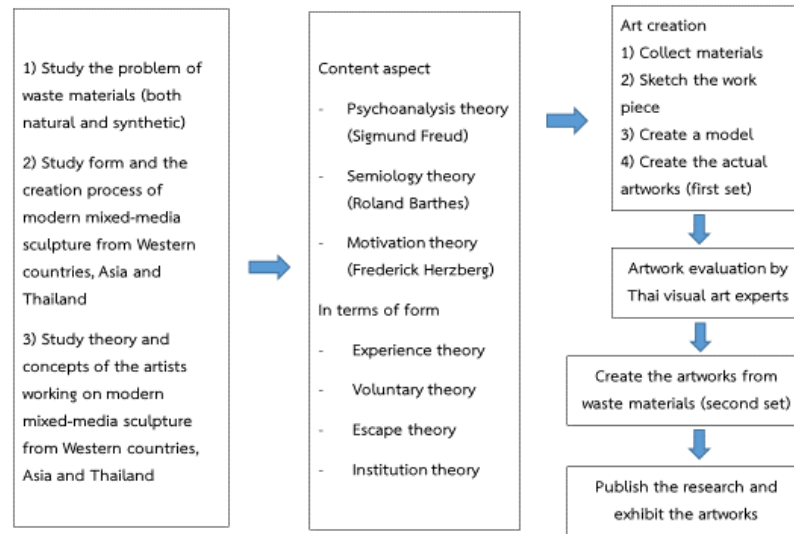


Figure 3: The conceptual framework of the creation process

Source: Arkom Thongprong

This research starts by studying artworks of artists who used the readymade as a medium of expression from the Dadaist to the present day, particularly the attribution of new meanings to ordinary objects often being overlooked. Artists used these ordinary objects to create beauty and left them open for the audience's interpretations, which is a significant "Sub concept" as Piroj Chamuni (2016, p.62) cited from "Is art an open concept?" by Frank Sibley and suggested that "art is an open concept and unsolved problem". In addition, the researcher also has been inspired by several remarks of artists as well as public figures both in Thailand and abroad such as Marcel Duchamp, Kurt Schwitters, and Venerable Sansanee Sthirasuta, on the unconscious mind, the combination between art and non-art and the true meaning of life.

1. Marcel Duchamp: "...liberate the unconscious mind to behave freely."
2. Kurt Schwitters: "...incorporating non-art into art." Kamjorn Sunpongsri (2012, p. 335)
3. Law Allerway: "We discover things embodied in the dominant folk culture."
4. Paul Cézanne: "I love things present here, not in paintings."
5. Kamjorn Soonpongsri: "Motivation is the drive which led human to plan in order to achieve his goal." Sew Sales, Panasonic (Thailand) Co.,Ltd (2015, p.73)
6. Somsak Chowtadapong: "Artist creates illusion to invoke the audience's thoughts and imagination." Sew Sales, Panasonic (Thailand) Co.,Ltd (2015, p.78)
7. Venerable Sansanee Sthirasuta: "Money is not all that life is. Happiness is within the mind."
8. Dr. Somthai Wongcharoen: "Garbage is gold." Somthai Wongcharoen (2008, p.3)

The researcher has analyzed and decoded the ideas of these artists and public figures to develop creative research about creating art from waste materials, as follows.

Table 1: The outcomes of idea analysis from the remarks related to the value of waste materials.

Idea/Remark	Artist/ Public Figure	Interpretation /Meaning	Application in this research	Theory related	Artwork related
The unconscious mind liberation	Marcel Duchamp	Liberating the expression of the subconscious	The use of waste materials as medium for free expression not being confined to the conventional forms	Freud's Psychoanalysis theory	Duchamp's <i>Fountain</i> , used readymade in the art creation process
incorporating non-art into art	Kurt Schwitters	Combining the valuable and things with no value in common perspective	Transformation of garbages into art with new meanings	Marshall McLuhan's Medium theory	Schwitters' <i>Merzbau</i> , created from waste
We have discovered something in our folk culture.	Law Allery	Discovery of the hidden values in folk culture	The use of folk materials or local garbages in art	Cultural studies theory	The art creation from folk materials in local cultures
I love things present here, not in paintings.	Cézanne	The acceptance of the beauty and reality present around us.	The use of waste materials presented in reality and let them express their values.	Phenomenological theory	Artworks using the materials in their real and unaltered states
Motive and stimuli	Kamjorn Soonpongsri	Important motivation leads to plan and action.	Art creation which has clear concept and in accordant with artist's motivation	Maslow's motivation theory	Art reflecting human psychological motivation
Artist deliberately creates illusion.	Somsak Chowtadapong	Illusion creation to invoke thoughts and imagination	The use of illusory image to reflect ideas or social issues in art.	Roland Barthes' semiology theory	Art which creates illusion or symbolic meanings

Idea/Remark	Artist/ Public Figure	Interpretation /Meaning	Application in this research	Theory related	Artwork related
Money is the convenience. But happiness should come from our heart rather than money.	Venerable Sansanee Sthirasuta	A reminder that true value in life is not the money.	Art creation which reflects the psychological value and profound meaning	Psychological value theory	Art emphasizes on mental value over materialistic value
Garbage is gold.	Dr. Somthani Wongcharoen	Seeing the value of discarded objects	Using garbages to create new values artistically and economically	Economic theory of art	Art from garbage that has artistic and economic value

Source: Arkom Thongprong

From the remarks above, the researcher has explored further the significant factors in the contemporary art development in Thailand, which was influenced by various persons, as in the table below, and led to mixed-media art.

Table 2: The analysis of the significant factors in contemporary art development in Thailand that led to the creation of mixed-media art.

Quoted from point	Mr. Apinan Poshayanon (Thai)	Mr. Paritat Hatangkul (Thai)	Mr. Kamjorn Soonpongso (Th...)	Mr. Silpa Bhirasri (Ita)	Mr. Tobay (usa)	Mr. Tas Kupta (India)	Mr. Iadara (-)	Mr. Lien Felner (Aus)	Mr. Huykur (France)	Total
Art competition organized and funded by capitalists	/	/								2
Artistic concept from the west	/	/	/	/			/	/	/	7
Artists are looking for new things to create work	/	/	/	/	/	/	/	/	/	9

Influence of artistic expression exchanges	/	/	/	/	/	/	/	/	/	8
Industrialism infiltrates into people's lives	/	/	/	/	/	/	/	/	/	8
An elemental object is a medium of expression for artists just like a language	/	/	/	/	/	/	/	/	/	9
The identity of the artist			/		/	/	/	/	/	6

Source: Arkom Thongprong

The analysis of the significant factors to the development of contemporary art in Thailand from nine influential persons found that:

1. The exploration of new approach and materials as the artistic language (9 marks)
2. The interexchange influence of art and industrialism (8 marks)
3. Western art concepts (7 marks)
4. The identity of the artist (6 marks)
5. The art contests supported by capitalists (2 marks)

The creative experiment with waste materials therefore will employ these factors in the art creation process in order to achieve the universal standard criteria.

The researcher also studies the key ideas reflected in the remarks of a group of committees who are the Thai prominent artists and analyses them into the artistic evaluation criteria. The criteria will emphasis on the standardized concept capable of exemplify the creation process constituted of new techniques, content and ideas, and can be further applied in order to improve this creative research in accord with the research objectives to create the artworks that have standardized value and well accepted in the Thai contemporary art scene. Details of the analysis is as the following table:

Table 3: The analysis of artistic evaluation criteria

Quoted from	Mr. Kamjorn	Miss. Kanya	Mr. Preecha	Mr. Vichoke	Mr. Kiettisak	Mr. Pichai Nirand	Mr. Prasit Vichaya	Mr. Sakarin Krue-	Mr. Pongdej	Mr. Wutigom Kong	Total
Topics											

Have psychological impact and convey emotion and feelings	/	/			/	/	/	/	/	/	8
Embodied art aesthetics	/	/					/	/	/	/	6
Express creativity and imagination		/	/	/	/	/	/	/	/	/	9
Coherence (unity) of form, content, techniques and concept		/	/	/	/	/	/	/	/	/	9
Using the experts' consensus			/	/	/	/					4
Original work, express artist's uniqueness	/	/			/	/	/	/	/	/	8
Story and content convey meanings	/	/		/	/		/	/	/	/	8
Complete and quality work		/	/	/	/	/	/	/	/	/	9

Source: Arkom Thongprong

From the table above, we found that the factors used the most as evaluation criteria by the ten committees are as following respectively: 1. Expression of creativity and imagination; unity; completion of work = 9 marks 2. Convey emotion and feelings; originality; content conveys meanings and the artist's uniqueness = 8 marks 3. Aesthetic values = 6 marks 4. The experts' consensus = 4 marks

From the analysis above the researcher develops a set of questionnaires for evaluating the achievement of his creative works and have them reviewed by three experts before implementing it in the first round of evaluation. The creative works in this research have been developed in accordant with the research methodological standards, by using waste materials to create the artworks from new perspective through content and representational form analysis process, emphasizing that the waste materials should be able to initiate effectively the two-way or feedback communication as see in the research examples below:

The research artwork series 1 titled "Save Me from What I Want"



(4)



(5)



(6)

Figure 4,5,6 The advent of digital wallet transaction which is replacing the conventional use of fiat money and waste of ATM receipts from people's daily transaction



Figure 7 Old discard briefcase



Figure 8



Figure 9

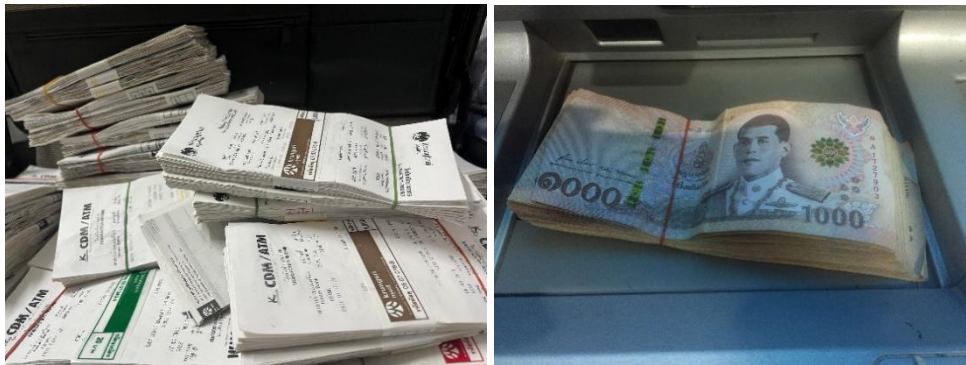


Figure 10,11 Details of the research artworks which recreate the transaction receipts from ATM kiosk by the size of the one thousand baht note, hundred notes per bundle.

Source: Arkom Thongprong

The research artwork series 2

Title: “sweet is snack, bitter is medicine #patientnumber H.N.54-013527”



Figure 12,13,14 sweeten deep-fried snacks found in market

Source: Arkom Thongprong



Figure 15,16,17,18 medicines for related illness and doctor appointment slip



Figure 19,20,21 Details of the artworks imitating the sweeten deep-fried snack packages using the packaging waste and empty strips of cholesterol-controlling drug after consumption which had been injected with left-over plant and animal based fat from food deep-frying.



Figure 22 Packaging label imitation using hospital food tray aluminium punched with the researcher's patient number registered by Naresuan University Hospital



Figure 23 The artworks contain the waste of the cholesterol controlling medicine strips. Each strip contains left-over vegetable and animal fat from cooking in the place of medicine tablets prescribed by the researcher's doctor.



Figure 24 “Outpatient Building #patientnumber H.N.54-013527”

Height 40 cm.

Source: Arkom Thongprong

The artwork series 1 titled “Save Me from What I Want” is the result of the research conducted by observing the behavior of people using the ATM kiosk and collecting the ATM receipts disposed. The researcher found that most people are interest only to know the remaining balance after the withdrawal and dispose the receipts carelessly. The researcher has a counter point of view that the receipt was a genuine token of certain amount of money at the time before the withdrawal and acknowledge the amount withdrew and the balance remains. The receipt itself is the evident and sign of people’s spending. Therefore, the researcher uses them to create the artwork to communicate the value inherently in these small pieces of paper.

The creative research series 2 are titled "Sweet is snack, bitter is medicine #patientnumber H.N.54-013527" and "Outpatient Building #patientnumber H.N.54-013527". Since the researcher is a patient himself whose ailment, the high level of cholesterol plagues in blood vessels, results from unhealthy food consumption. He thus reflects the consequences of treatment and long term dependence on medication through his research artworks from waste materials. These artworks have been created based on the analysis and creative process in order to achieve new perception and to examine the audience’s feedbacks to find out how waste materials can communicate. The researcher has sent his artworks to be evaluated by Thai visual art experts by developing the achievement evaluation questionnaires reviewed and approved by three external juries that they will indicate the quality of the artworks in accordant with the research objectives. Details are as following:

Table 4: The form achievement evaluation of the creative development from waste materials by five Thai visual art experts.

No.	Personality in design Creative development model from waste materials.	The level of opinion.	
		\bar{x}	S.D.
1	Content format and thinking are consistent (unity)	4.80	0.44
2	Forms and techniques are coherent (unity)	4.60	0.54

3	The content is suitable for using the material to convey the meaning.	4.60	0.54
4	Express creativity and imagination	4.60	0.54
5	It has aesthetic value in art.	4.60	0.54
6	Quality in the workpiece.	4.20	0.83
7	Being an original work and embodied with artist's identity	4.80	0.44
Total		4.60	0.56

Source: Arkom Thongprong

From the table above, the form achievement evaluation results collected from the five experts through questionnaires and analyses using the mean and standard deviator finds that:

1. Question 1 and 7: The content format and thinking are consistent and the embodiment of artist's identity achieves the first rank score with very good total average ($\bar{x} = 4.80$, S.D. = 0.44).
2. Question 2, 3, 4 and 5: The unity of forms and techniques, content is suitable for using the material to convey the meaning, creativity and aesthetic value achieves the second rank score with very good total average ($\bar{x} = 4.60$, S.D. = 0.54).
3. Question 6: Quality in the artwork achieve the third rank score with good total average ($\bar{x} = 4.20$, S.D. = 0.83).

Table 5: The conceptualization achievement evaluation of the creative development from waste materials by five Thai visual art experts.

No.	Conceptualization in communicating meaning and value of waste materials	The level of opinion.	
		\bar{x}	S.D.
1	In terms of meaning perception through the design of the work (shape)	4.20	0.83
2	In terms of story and content communication	4.40	0.54

3	Is the use of materials appropriate with the meanings conveyed? (method and technique)	4.40	0.54
4	Result of the meaning perception through the use of material as a communicator	4.80	0.44
5	Capability to reflect society	4.80	0.44
6	Help to promote social awareness	4.80	0.44
7	Help to promote the use of renewable resources (from the waste material)	4.40	0.54
8	Satisfaction in the result of communication using two-way or feedback model	4.60	0.54
9	The artwork conveys the artist's identity (originality)	4.40	0.89
10	Success of the artwork	4.60	0.54
11	Beauty and aesthetic value	4.40	0.54
Total		4.52	0.57

Source: Arkom Thongprong

From the table above, the evaluation results of conceptualization in conveying meanings and value from the use of waste materials collected from the five experts through questionnaires and analyses using the mean and standard deviator finds that:

1. Question 4, 5 and 6: If the artwork can convey the meaning via the materials used, reflect the society and help to promote social awareness achieve the first rank score with very good total average ($\bar{x} = 4.80$, S.D. = 0.44).
2. Question 8 and 10: Satisfaction in the implementation of feedback communication and success of the artwork achieve the second rank score with very good total average ($\bar{x} = 4.60$, S.D. = 0.54).
3. Question 2, 3, 7, 9 and 11: Content communication, method of material usage, help to promote the use of renewable resources, originality and aesthetic value achieve the third rank score with good total average ($\bar{x} = 4.40$, S.D. = 0.54).
4. Question 1: Shape achieves the fourth rank score with good total average ($\bar{x} = 4.20$, S.D. = 0.83).

Conclusions

The three objectives - to study the situation, problem, impact and solution to the waste material pollution; to explore and compile the theories, concepts as well as objectives of the mixed-media art created by artists from Dadaism till the present days; and to develop the art form and creation process from waste materials which will increase the communication efficiency - the researcher has carried out his study and creation which led to the evaluation by five Thai visual art expert as seen in table 4 and 5. The researcher can conclude that using waste materials in the art creation through a two-way or feedback thinking process is evidently an effective way to communicate the implied meanings to the audience. This can be carried out as waste material mixed-media art, whose potential to relate and invoke the audience to respond to the content and meanings conveyed can elevate the thinking interaction between the message sender and receiver effectively. By altering the meaning of material from its original utility to the new implication in art expression, whereas most of their cultural characteristics reflecting the hidden commercial and consumeristic designs are retained, can raise awareness about the value of waste materials especially in the context of environmental consciousness and its impact to the society. The use of waste materials as the means of artistic expression is also a good way to create new values to the so-called 'waste' and open up possibilities and meanings in the audience's point of view. In turn, this may help to reduce the accumulation of waste which is a challenge our society is confronting with.

Therefore, this research suggests that the creation process through two-way or feedback communication cannot only result in remarkable pieces of art but can be an effective tool to deal with certain social problem especially the waste material usage issue. This creation process is significantly different from the art creation process in the past which tends to use materials solely to serve the creator's ideas. This research can be the significant starting point, and benefit the society in specific ways, in applying the art creation process as a tool to relate and raise people's awareness to the pollution which has a looming impact to our lives, society and environment.

Research Implications

This research aims to create a new value from waste materials by transforming the discard waste to be a two-way or feedback communication tool that interacts with the message receivers' perception and subconscious mind. The waste materials when presented in the new aspect can invoke the audience to realize the implicit sign and cultural meaning in their uselessness we generally see. This creation process significantly differs from the use of waste materials in art in the past, which seldom explored the new implications of the materials in their own light, and also shows the importance of the positive awareness stimulation in art. The result of the study and experimentation in this research may pave way to the effective way of art creation that not only enable the aesthetically valuable piece of art but also contribute to the society in raising awareness that we are a part of society and has our due responsibility and the result of this research has met its objective excellently.

The optimal utilization of the artwork and value of the innovation

The result of this research contributes to the understanding of the thinking process about the renewable or reuse of the waste materials, that the waste itself can be used as communicative tool about the impact of social issues through the mixed-media art form or the sculpture from waste materials. The artworks created in this research can raise the awareness and realization among the audience about the results of the given unhealthy and wrong value in our lifestyle, in Thai society and globally. It also is a mean to encourage people to be an active agent in solving our social issues resulted from our own behaviors.

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