

Comparison of Buddhist Principles with Archaeological Execution

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ABSTRACT

Buddhism has been widely studied in many fields, including history, temporary development, source, textual study, oral communications and practices. Archaeology is one of the most significant sciences employed in Buddhist Studies. Even if archaeology and Buddhism come from different origins, archaeology plays a significant role as a tool used in exploring historic facts of Buddhism. A number of archaeologists have explored philosophy to support their study; however, it is obvious that Buddhist philosophy has never used in archaeological investigation or execution. Merely, Buddhist philosophies or principles are utilized to explain stories, doctrines or even Buddhist philosophies possibly recorded on artefacts. Based on the documentary research and the involved scholar group discussion, this paper discusses the possibility to apply Buddhist principles into the science of archaeology. In other words, it compares Theravada Buddhist principles with the archaeological process. The research methodology began with an intensive study of the archaeological texts in order to obtain proper comprehension of its nature. Thenceforth, the Buddhist texts were analyzed to determine the most suitable principles applied in the archaeological processes. The studied results indicates that an archaeology incorporates three important key terms: 1) 'subject matter' (a study of the past), 2) 'techniques' (the means of describing and explaining the past to discover, recover, preserve, describe and analyze the remains of the past) and 3) 'theories' (theories used to assess meanings of evidence), Buddhist principles alternatively applied as theories to study the 'subject matter' of the past as found in the archaeological process of the Mississippi Valley Archaeology Centre (MVAC) at the University of Wisconsin-La Crosse.

Keywords

Buddhist principles, archaeology, Buddhism

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Introduction

Historically, Buddhism began in the 6th or 5th century BCE in India with the enlightenment of Gotama, who became thereby *Tathāgata* or *Bhagavā* (Pāli), the blessed one [1]. Buddhism is a western term and is best referred as *Buddhasāsana* which is its name in Southeast Asia [2]. After passing away of the Buddha, his religion has spread abroad in many parts of the world. In the beginning, it extended to Central Asia, South Asia, and then Southeast Asia. It now has reached western countries in Europe and the USA. Buddhism has been widely studied in many fields, including history, temporary development, origin, textual study, languages and practices. Archaeology is one of the most significant sciences employed in Buddhist Studies. Even if archaeology and Buddhism come from different origins, archaeology plays an important role as a tool used in exploring historic facts of Buddhism. The term 'archaeology in Buddhism' somehow is primarily defined as using science of archaeology as a tool employed to comprehend Buddhism. With the aim of archaeology as to study the past through artefacts of the past [3], it leads to a view of Buddhist archaeology as a study of the past of Buddhism through its artefacts.

Based on world educational development and complexity of artefacts or remains, various sciences such as anthropology, geography, history, biology, astronomy, physics, geology and computer technology have been used to support the study of the past [4]. Also, over decades, a number of archaeologists have explored philosophy to support their study [5] and their debates regarding issues such as the

theory-laden nature of facts, objectivity in science, nature of explanation, ways of evaluating support for inferences, and appropriate and inappropriate forms of reasoning. It is not obvious that Buddhist philosophy is actually used in archaeological investigation or execution. Most likely, Buddhist philosophies or principles are used to explain stories, doctrines or even Buddhist philosophies possibly recorded on artefacts. Due to this, this paper aims to fill a gap left in scholarly studies by presenting a new idea in applying Buddhist principles into the science of archaeology. In other words, it will employ Theravada Buddhist principles; namely, *sikkhā*, *ariyasacca*, *sappāya*, *sappurisadhamma*, *yathābhūtañānadassana* and *agatī* in the archaeological process. In so doing, there will be a discussion of general archaeology background to provide proper comprehension of archaeological methods. Afterwards, discussion of Buddhist principal application in the science of archaeology will be provided.

General Background

As it enables the appreciation and preservation of our common human heritage by informing the past, the orientation of archaeology has evolved over the years. Archeologists now study everything from ancient pots to DNA to theories of cognitive processes. The expansion of the archaeological scope required the formation of numerous new interpretations, approaches and recovery techniques. The main tool of archaeology continuously is the trowel. However, the satellite imagery, computers and robotics are added to the archaeologist's arsenal. Dozens of experts from

various disciplines, including ceramics, osteology, geology and botany, as well as highly skilled research technicians, often take part in the excavations [6]. Unlikely, the definition of archaeology reaches exact agreement among archaeologists [7]. Some say archaeology is cultural anthropology (a part of history) and employs practices of science.

Renfrew and Bahn explain that archaeology is the past tense of cultural or social anthropology, a study of humans in relation to their culture and society. Archaeologists study cultures and societies of humans in the past through the artefacts such as the buildings and tools. It does not involve contemporary communities as studied in general cultural or social anthropology. They therefore differentiate cultural or social anthropology from biological or physical anthropology by pointing out the latter is analysis of biological characteristics and how they have evolved [8]. Ashmore & Sharer suggest that archaeology emphasizing on the anthropological study is recognized as American archaeology, while European archaeology more closely emphasizes a historical study. They argue that the archaeological study differs from historical study in the sources of its information [4]. This leads to differences in methodology, that is, in techniques to study the past. History focuses on textual sources such as written accounts of the past, while archeology deals with the physical remains of the past. However, it is a study of the human past, it is a part of historical study.

Renfrew and Bahn point out that although archaeology is a part of the anthropological and historical studies, practices of archaeology are rather like a scientific study [8]. The archaeologists work like the scientists when they are collecting data (evidence), conducting experiments, formulating a hypothesis (a proposition that accounts for the data), testing the hypothesis against more data, and concluding by devising a model (observed in the data).

In the periods when there are written sources such as Ancient Greece or medieval Europe, the religious texts have been used as the means to interpret and understand past belief systems. For the cultures without written sources available, uncovering the nature of past religious belief from the material remains is beyond archaeologists' ability. In religious studies, archaeology is recognized as cognitive archaeology and a symbolic study. Cognitive archaeology is 'a study of past ways of thought about material remains concerning the study of sources of cognitive information such as ancient art and texts. It is suggested that, the material archaeologists find does not tell us directly what to think; while, cognitive information about history and art therefore strongly supports statements, opinions and judgements related to understanding the remains.

Archaeology becomes a symbolic study being involved in a study of human cultures in the past including beliefs and practices symbolically presented on the remains. There is a general agreement today that what distinguishes human species from other life-forms is our ability to use symbols. The ascribed symbol meaning is specific to a particular cultural tradition. However, people speaking different languages may use different words to describe the same thing. Similarly, one object or idea may be expressed symbolically in many different ways. Regarding to complexity of symbolism which come from different

expressions of human beliefs found in different parts of the world, cognitive archaeology has therefore to be very careful about contexts of discovery: it is the assemblage, the ensemble, that matters, not the individual object in isolation. Even though different groups of archaeologists may explain a process of archaeology differently in accordance with their experiences, the process is slightly different and leads to the same goal. Renfrew and Bahn [8] say collecting data (evidence), conducting experiments, formulating a hypothesis, testing the hypothesis against more data, and then, in conclusion, devising a model (observed in the data) are involved in an archaeological process. Sharer and Ashmore [4] briefly introduce an idea of archaeological processes that archaeologists first recover evidence about the past, develop methodology and theory to understand evidence possibly assisted by other sciences such as history, geography and biology and finally they provide interpretation of such evidence. According to Archaeological Institute of America [6], the archaeological processes employed scientific principles to guide its practices in 6 steps: hypothesis creation, survey and site location, data collection and recording, laboratory and conservation, interpretation and publication. A group of archaeologists of the Mississippi Valley Archaeology Centre (MVAC) at the University of Wisconsin-La Crosse presents an archaeology process by simply dividing it into five steps: pre-investigation, fieldwork, lab analysis, interpretation and synthesis.

The first step is 'Pre-investigation', which archaeologists first consider a specific research question they want to explore. They subsequently find specific information to address their question and to create a primary hypothesis. Afterwards, they develop a research design to conduct excavation at chosen sites by identifying sites, examining materials previously recovered from the sites, or considering other ways to answer their questions.

In the second step 'Fieldwork', archaeologists study the sites and recover information through fieldwork such as survey and excavation. In fact, excavation is destruction. While archaeologists are digging, they must record as much information as possible. This supports picture reconstruction of the site in the laboratory. The information records the contexts of materials recovered such as item location in relation to other materials, and types of situations represented such as a storage pit, a fireplace, or a house floor etc. Such information will include many of maps, descriptions of each feature and unit, soil colors and textures, photographs, and forms which systematically document the excavation process. In fact, fieldwork including site excavation is just a step in recovering the past information. After finishing fieldwork, the laboratory work, analysis and interpretation are undertaken to study the materials recovered during excavation. This process will help to answer the questions identified during the first phase of the project.

In the third step 'Laboratory analysis', after the artefacts and other materials are brought from the field, they are cleaned, stabilized and analyzed. Archaeologists prepare a final report and documentation. Paperwork must be stored properly. This includes information on every hour spent on excavating in the field and work in the laboratory. Analysis involves examining types of artefacts to learn the past as

much as possible. The specialists in fields of ceramics, lithics (stone tools and flakes), fauna (animal remains), flora (plant remains) and many more specialized topics are very important in this process.

The fourth step involves 'Interpretation' which archaeologists have to answer a number of questions they have asked about the past. Examples are; how did people live in the past? what did they eat? where did they live? did they travel or trade? and so forth. The information on excavation, a lab analysis process and other evidence, including both artefacts and eco-facts (plant and animal remains) found at a site, contexts of the remains, all contribute to answering questions. Archaeologists study artefacts from the past and evaluate the contexts of artefacts to understand how they may answer questions. In some cases, the same type of artefacts obtained from different contexts may provide very different information. Archaeologists have to learn different aspects of the past, including subsistence activities, trade, settlement, seasonal movement, working wood and hide, art objects and ornaments, and recreation activities.

In the final step 'Synthesis', archaeologists use all the information gathered in the archaeological process to create a picture of the past.

Buddhist Principles And Archaeology

The only aim of this paper as mentioned is to introduce Buddhist principles into the science of archaeology. In this section, a discussion of Buddhist principles application into archaeology therefore will be presented. According to Sharer and Ashmore, archaeology incorporates three important key terms: 1) 'subject matter' (a study of the past), 2) 'techniques' (the means of describing and explaining the past to discover, recover, preserve, describe and analyze the remains of the past) and 3) 'theories' (theories used to assess meanings of evidence) [4]. Buddhist principles alternatively applied as theories to study the subject matter of the past are as follows:

Buddhist educational system (*sikkhā*, BES)

Four noble truths (*ariyasacca*, FNT)

Seven aspects of suitability (*sappāya*, SAS)

Seven characteristics of the great man (*sappurisaḍḍhamma*, SCGM)

Four prejudice theory (*agati*, FPT)

'As it actually is' Theory (*yathābhūtañānadassana*, AAT)

[9]

In so doing, BES is applied as a tool to organize archaeological processes into 3 steps: theoretical study (*pariyatti*), practice (*paṭipatti*) and usage (*paṭivedha*). Within the theoretical study step, FNT is applied as a pre-investigation theory. SAS and SCGM are applied into the practice step as the theory of operation and analysis. In the usage step, FPT and AAT are applied as the theory of academic usage.

BES is applied into the science of archaeology as a general Buddhist archaeological system. In order to understand how this system can be applied, it is important to understand its concepts. BES is literally also known as learning of doctrine, wording of doctrine and as a process of the disciples. It is divided into three steps. The first step is called 'theoretical study'. The second step is 'practice' (a

step where Buddhists practice according to what have learned from the first step), separated into three actions: 1) bodily or physical action (*kāyakamma*) (such as five precepts and generosity), 2) verbal action (*vacīkamma*) (the practice of correct speech such as avoiding telling lies, gossiping, slander and swearing), and 3) mental actions (*manokamma*) (such as mental action, loving kindness, stopping revenge and positive thinking). The third step of BES is 'realization of theory and practice' (*paṭivedha*) [10]. In this step, Buddhists use results of their studies in both former steps to further develop themselves.

This principle 'BES' is possibly applied into the archaeological science of the MVAC archaeological method as 'a Buddhist archaeological educational system'. The first step 'theoretical study' is applied as a step where archaeologists study theoretical and methodological concepts of what they want to explore. This application may involve conducting a literature review or raising questions related to a particular Buddhist site. Based on MVAC archaeological process, this step is 'pre-investigation' which the archaeologists have to find out all necessary information before working in the field.

The second step 'practice' is the step in which archaeologists work physically, mentally and verbally. 1) Physical work relates to survey and excavation. 2) Mental work involves archaeological lab-analysis of MVAC. This may involve a process through which archaeologists study the remains. Although it might also relate to the theoretical step, their purposes are different. That is, while theoretical study is a part of the pre-investigation process, it is preparation; the mental work is used to actually study and analyze after obtaining the remains from the field. 3) Verbal work relates to interpretation, making a report based on their study and analysis of the remains. The third step 'usage' is the step in which the archaeologists synthesize all information obtained from all above steps and use it in further beneficial purposes. For instance, the information or data they have gained may support the further development of future archaeological studies. As previously mentioned, BES consists of three steps: theoretical study, practice and usage. This system from now on is applied as a main system of Buddhist archaeology. Also, different Buddhist principles according to their purposes are applied in each step.

Theoretical Study

In the theoretical study or pre-investigation process, the principles of FNT are applied as the principle of pre-investigation. The doctrine of FNT is one of the most fundamental Buddhist teachings related to 1) suffering (*dukkha*), 2) its origin (*samudaya*), 3) its cessation (*nirodha*) and 4) the path leading to its cessation (*maggā*). They are among the truths Gautama Buddha realized during his experience of enlightenment. The doctrine of FNT appears many times throughout the most ancient Buddhist texts or the Pāli Canon. The FNT begins with the Buddha directing humans to recognize a universal problem of their lives, suffering such as birth, aging, illness, sorrow and desire. He then points out the origin or cause of suffering. He afterwards mentions the goal of life or status which does not contain any kind of suffering. This is called 'nirvana (*nibbāna*)' or the cessation of suffering. Finally, he explains

the methods for achieving the goal known as the path or way leading to the cessation of suffering.

The FNT is alternatively applied to the science of archaeology as a principle of pre-investigation. The process of this principle consists of the four steps as follows:

a) Find the question: Before beginning the whole process of archaeology, archaeologists have to find right questions or problems on which to base their research. This is similar to when the Buddha asks humans to find the basic problem of their lives. The question may come from a literature review and also a study of other sources.

b) Generate a hypothesis: after questions are identified, the archaeologists may have to generate a primary hypothesis in order to answer such questions. This refers to finding the cause or origin of the problems in FNT.

c) Determine the goal of study: after two stages above, the archaeologists might determine the goal of their study. This might include the scope of their study. For instance, when their work would be completed or how much they want to know about the past. This refers to the goal of life in FNT.

d) Design the archaeological methodology: the archaeologists must design the appropriate methodology to achieve their goal determined. This may include timing, survey, execution, lab analysis as well as publication of their research outcome.

Practice

'Practice' as mentioned above is the step in which the archaeologists work physically, mentally and verbally. Physical work relates to their survey and excavation. Mental work involves their study and lab-analysis of the remains. Verbal work relates to interpretation, making a report or other forms of speech based on the archaeological study and analysis of the remains. The application of Buddhist principles to each work will be described hereafter.

Physical Work & SAS

In bodily action, SAS is applied as a theory of archaeological operation in particular regard to processes of survey and excavation. SAS in Buddhism is known as the advantageous or beneficial conditions, suitable or agreeable things; things favorable to mental development. This principle appears in the *Vinaya Aṭṭhakathā* (Commentary of Disciplines, Vin.A. II.429) and *Majjhimanikāya Aṭṭhakathā* (Commentary of the Middle Length Teaching, MA. II. 911). The principle related to selection of the most suitable location of residence to support the mental practice consists of seven elements. 1) The suitable abode (*āvāsa-sappāya*) refers to propriety of residential locations which should not be located in difficult areas. For example, the geography of the area should not be too low or too high and should not be located in an area where natural disasters such as floods often occur. 2) Suitable resort (*gocara*) refers to the path to the residential location. The distance of the path should not be too far or too close to the village. 3) Suitable language (*bhassa*) refers to suitability of local languages. This benefits propagation of Buddhist teachings. 4) Suitable person (*puggala*) in the Buddhist texts refers to availability of teachers and wise-men or pundits. 5) Suitable food (*bhojana*) refers to suitability of food in the area. 6) Suitable

climate (*utu*) refers to propriety of weather. The weather in the area should be not too hot or too cold. 7) Suitable expression (*iriyāpatha*) refers to cultures and activities of people [10].

This principle is applied as a theory of two archaeological executions: survey and excavation. First, in regard to the suitable abode, when the archaeologists visit the sites to survey, there are a number of questions they might have to think of; such as, where is the place they would like to explore? which is the most suitable place? what is left in that place? what is chronology of the site? In the excavation process, the archaeologists might have to prioritize locations they would like to dig first. The suitable location also refers to their residential places and the storage of artefacts as it involves security of both archaeologists and artefacts.

Second, in regard to suitable transportation, as the artefacts are very valuable in survey, when the archaeologist have found them, they need to be transported to a safe place of storage. The archaeologists therefore need to consider the path and types of vehicles used to access the field. Also, in an excavation process, the archaeologists might collect data such as their trade and exchange by contacting people residing at the site. This will benefit analysis and interpretation processes.

Third, in respect of the language; in survey, the archaeologists must collect as much data and information as possible. This includes languages used in the area, which may appear on inscriptions and in literature. The local stories told and history of the place may provide essential information on the sites. This affects a decision to choose the site. They also may have to consider appropriate languages used to obtain convenience of working such as local languages they might have to use in the case of working abroad. In an excavation process, to understand what people thought in the past, the languages used in the area are very important. In other words, to study the language that is used at the site is very important in archaeology.

Fourth, in respect of the suitable person; in the survey process, they may have to raise questions about people involving the site. For example, with whom do they have to contact in order to get permission for excavation? Who lives or lived in this area? What were they like? In excavation, assistant staffs are also very important. The archaeologists have to put the right man in the right job. To prevent damage on the site or artefacts, the staffs need to be trained. Moreover, the archaeologists might need supports of various persons such as technical specialists, advisors, interpreters as well as laborers.

Fifth, in regards to food; the surveyors may ask what people eat in such area and also what people ate in the past. The archaeologists definitely have to consider the cost of living. In other words, the issue of financial support needs to be considered. During excavation, food of the staffs is also one of the factors that cannot be neglected.

Sixth, in regard to the climate; the surveyors have to know types of climate expected as that may create positive or negative influences during their operation. For instance, working in the rainy season may cause damage to the sites or artefacts. On the other hand, good weather supports the success of excavation. In excavation, environmental elements, such as climate, are also important aspects the

archaeologists cannot neglect in data analysis because they influence the life of humans, animals and plants as well as landscape of the site.

Finally, in regards to expression; in survey, cultural expression of the locals is an unavoidable fact. Sometimes, the excavation sites involve belief and culture of the locals. For instance, in some countries, the cemetery involves the ancestors of the locals, and excavation means destruction of the sites, so the locals may not allow digging. Comprehension and agreement between the archaeologists and the locals must be clear; otherwise, excavation is impossible. In excavation, they have to consider what people thoughts in the site were. This includes their belief, religion and art.

Mental Work & SAS and SCGM

‘Mental action’ refers to processes of analysis of the remains. Again, SAS can be applied as the theory of analysis. For example, after obtaining the artefacts from the field, the archaeologists first have to learn the location of the artefacts in the field from the questions raised: where do the artefacts probably come from? where and when were they produced? where were they used? or where were they found? They have to consider transportation of the artefacts. If the artefacts are probably not local products, how were they transported? A language is one of the most important factors in analyzing the artefacts. What language appears on the artefacts? The archaeologists might consider their processors, producers and transporters. In other words, the persons involved in production of the artefacts or the sites are needed to be analyzed; for example, whether they were kings, traders or priests and so on. In the case of social study, the purposes of artefacts’ usage should also be recognized. Some might be produced for purposes of daily activities such as eating, worship or even decoration. The climate can influence the artefacts’ styles. That is, the products coming from different climate areas may be produced in different styles. Cultural expression also influences artefacts’ production. In fact, Buddhist artefacts are influenced by different arts, cultures and even time periods. It should be noted that in this process, to obtain an accurate analysis, the archaeologists may need support from other sciences and techniques.

SCGM is possibly applied as the theory of analysis. In Buddhism, this theory is recognized as the way to recognize qualifications of the good man. This principle consists of seven elements. For example, the good man has to know the causes and results of any incident; he has to be wise in knowing meanings or reasons of an incident or what he has learned; in this sense, he has to moderate how many of things he should do; the good man has to know proper time; he has to understand the ways practiced in each society such as its culture and belief; and he has to know different kinds of person in each class of society such as King, priest, trader and officers. This principle can be applied to the science of archaeology as the principle to analyze the remains to understand the past.

First, when the archaeologists obtain the artefacts or remains, they may try to analyze the reasons (*dhammaññutā*) why people in the past produced the artefacts. What caused them to do this? What are relations to

their beliefs, culture or practices? Second, the archaeologists have to analyze meanings (*atthaññutā*) indicated in the artefacts. Buddhist artefacts may be created differently according to beliefs, cultures and art. Third, sometimes the artefacts raise questions beyond the abilities of the archaeologists to understand them. They may ask for support from specialists or technicians to analyze the artefacts or to answer their questions. This is called knowing oneself (*attaññuta*). Fourth, with various sources of study in the field, or because of limited time, the archaeologists have to estimate (*mattaññutā*) how thoroughly they can study the artefacts or the sites. In other words, they have to specify limitations on their study. Fifth, dating (*kālaññutā*) of the artefacts is very important in archaeology. They have to be able to date the artefacts or the site with various techniques. Sixth, the archaeologists have to be able to analyze the styles of the artefacts in different cultures or societies (*parisaññutā*). In order to do so, they might analyze differences or similarities of the arts presented in different cultures or periods. Finally, they have to analyze the persons (*puggalaññutā*) who might have been involved with the artefacts or the sites such as donors, priests, kings or traders.

Verbal Work & SAS and SCGM

‘Verbal action’ refers to the process of interpretation. In this process, the archaeologists present processes of their study in accordance with the Buddhist archaeological educational system. First, they may present the processes of pre-investigation by mentioning their questions, hypotheses, goals and methods according to FNT principles. Second, they may present their operations, including their survey, excavation and also their analysis based on the principles of SAS and SCGM (See Table 03 below).

Usage

In a usage process, there are two Buddhist principles possibly applied into the science of archaeology: AAT and FPT. First, ‘*yathābhūtaññadassa*’ literally means ‘to see as it actually is’. It is a method of viewing things in accordance with their nature without fabrication. Second, the four-prejudice theory is a principle given by the Buddha to recognize the causes of biases. The theory refers to four kinds of prejudices: 1) prejudice caused by desire, 2) prejudice caused by hatred or enmity, 3) prejudice caused by delusion or stupidity and 4) prejudice caused by fear. These principles can significantly be applied to the science of archaeology. That is, in the process of information usage; AAT academically refers to the concept of objectivity. In reality, it can be used as a primary principle in all processes of the science of archaeology. The archaeologists must be objective in their study. Moreover, this principle may be used simultaneously with concepts of FPT. The archaeologists must objectively present the results of their study without any kind of prejudices mentioned. This will guarantee that their study is reliable.

Conclusion

Archaeology is partly cultural anthropology, a historical study and a scientific study. When it is used as a tool to study religion, it is a cognitive archaeology related to the past beliefs and practices of the people symbolically represented by the remains. In order to understand the meanings of the symbols on the remains, the archaeologists need supports of various sciences. Over the decades, a number of archaeologists have explored the philosophy of science to support their study. Although philosophy is archaeologically used, Buddhist philosophy has been never used in archaeological processes and even in Buddhist archaeology. In fact, Buddhist study has employed archaeology since Buddhist archaeology started in the 19th century, but archaeology does not employ any Buddhist philosophy in its execution. In this paper, six Buddhist principles are alternatively compared with the science of archaeology. As the result of this application, it divides the process of archaeology into the three steps of BES. In the first step 'theoretical study', FNT's principles are adapted to constitute a pre-investigation process where the archaeologists determine the question, hypothesis, goal and methodology of their study. The second step 'practice' is a practical process consisting of three kinds of operations. Within the first work 'physical work', there is an application of SAS into survey and excavation processes. It is also applied in the second work 'mental work'. It presents seven factors the archaeologists need to consider in the analysis process and SCGM is used for the same purpose. The 'verbal work' relates to interpretation, writing a report or speech based on the archaeological study and analysis of the remains. Within this working process, the archaeologists have to interpret their work in accordance with the concepts of SAS and SCGM. In the final step 'usage', the principle of AAT theory refers to a concept of objectivity in academic study. In order to present the work without any kinds of bias, FPT is adapted.

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