Optimization Theory of Connectivism in the Process of Ornaments Working of UNESA Visual Arts Students

Fera Ratyaningrum[1][*], Indah C. Angge[1]

[1] Universitas Negeri Surabaya, Surabaya, Indonesia

[*] Corresponding author: feraratyaningrum@unesa.ac.id

Abstract. The Ornaments' Pictures are a subject that must be taken and must be passed. This course is important to equip students with knowledge, skills, and develop abilities in designing the Ornaments to be applied to a product. The various decorations that are scattered throughout the archipelago have different characteristics, so that to work and explore material, connectivity from various media and learning resources is necessary. The aim of the research is to describe the optimization theory of connectivism in the process of ornaments working of Visual Arts Students, Faculty of Languages and Arts, Universitas Negeri Surabaya. This study uses qualitative methods and describes them descriptively. Data collection through observation and observation of the work process, interviews, and documentation of the works produced. Data analysis uses a connectivism theory approach. In the context of exploring ornament drawing, the application of the principle of connectivism through the exploration of digital learning resources, for example from the regional web, as well as the use of social media. Both can help increase understanding and creativity in developing richer and more ornament decorative styles. Based on the works produced by students, the technique of creating ornament motifs is generally used through stylization because it is easier to maintain characteristics. Optimization in creating ornament arts is by connecting learning resources, collaborating visual experiences with new innovations, utilizing information technology, studying meaning and philosophy, and documenting works that have been made as material for everyone's reflection.

Keywords: connectivism, ornament, visual arts students.

1 Introduction

Indonesia is an archipelagic country that has a very wide area stretching from Sabang to Merauke. Indonesia is known for its rich culture, both in the form of customs, arts, and artistic objects that show proficiency in designing and manufacturing techniques. According to Sunaryo [1], Indonesia, with its various ethnic groups, has a rich variety of ornaments found on various products, such as weaving, batik, embroidery, woven, carving, painting, architecture, and so on.

Each region in Indonesia has its own distinctive ornament and develops decoration in accordance with its socio-cultural background. This is sometimes inseparable from the beliefs that are believed. As is the case in Solo and Yogyakarta which is called the Mataraman area. The various of ornaments applied to his batik, especially traditional motifs, are rich in meaningful symbols originating from their beliefs and traditions. These distinctive symbols include the ornamental of the tree of life, *gurda*, stern, flames, butterflies, *meru*, and birds, which are mainly found in the batik with the distinctive colors of white, brown, blue, and black which are produced from a mixture of blue and the chocolate.

The Materials about learning Ornaments always appear in the subject of Cultural Arts in both junior and senior high schools. In tertiary institutions, especially in the Fine Arts study program and Visual Arts Education study program at Universitas Negeri Surabaya, The Ornaments Design is a compulsory subject and must be passed. This course is considered important to equip students with the knowledge and skills to make the Ornaments Design with sources of ideas from these ornamental and other archipelago assets, which can later be applied to the products they make. This is in accordance with the function of an Ornaments, that is to decorate an object or product it occupies.

1.1 Knowing the Types, Functions, and Techniques of the Ornaments

The Ornaments is defined as a variety of decorations or decorations made with the aim of beautifying an object or work of art. Ornaments are also called *ornaments* in English and in Greek, they are called *ornare* which means decoration or jewelry. In Kamus Besar Bahasa Indonesia (KBBI) (Indonesian dictionary), decoration/ornament has the meaning of (1) architectural decoration, handicrafts, and (2) decorations made (drawn or carved) on temples.

Ornaments are components of art products that are added or deliberately made for the purpose of decoration. So, ornament is the application of decoration (decoration) to a product. The main function of the decorative forms that become ornaments is to beautify the product or item being decorated [2].

Ornament's Function. Ornaments have the following functions [3].

a.   Aesthetic

The aesthetic function is the main function of ornaments, which is to increase the appearance of the decorated product that becomes an artwork. Artistic works are handicrafts such as weaving, ceramics, weaving, batik, jewellery, furniture, and others.

b.   Symbolic

Another function of the ornament is as a symbol. A symbol is something that represents something bigger or contains a meaning related to the beliefs of the local community. Examples are found in batik motifs, woven motifs, and decorations on worship devices.

Constructive Technic. Ornaments are sometimes made and functioned to support, prop up, connect, and strengthen a building, such as pillars or pegs, fences, etc.

a.   Geometric Ornament's Grouping

Geometric ornaments are decorations made based on the rules of geometry. It is generally made repeatedly with the same rhythm, in terms of shape, size, and distance. Various geometric ornaments such as *Meander, Pilin, Parang Slopes, Banji, Kawung, Jlamprang,* Shoots of *Rebung* [4].

b.   Non-Geometric Ornaments

1)   Variety of vegetal/flora Ornaments, namely decoration that describes the form of plants in the form of leaves, flowers, and stems. This Ornaments variety is often found in batik and carvings.

2)   Animals/fauna, which is an ornament depicting animal shapes such as birds, butterflies, and four-legged animals such as horses, deer, buffaloes, and others. Usually, these ornaments motifs are found in batik, weaving, and wood carvings.

3)   Figural, the ornaments depicting the forms of human figures, but usually depicted in a simple, unrealistic manner. This ornament can be found in woven fabrics from the Sumba region, *totem* statues from Kalimantan and Irian Jaya, and can be found in Betawi batik.

4)   Natural objects/scenery, ornaments that describe forms that exist in nature and outside of vegetal, animal, and figural forms for example is *Mega Mendung* decoration.

5)   Abstract is the form of contemporary ornaments. It cannot be identified specifically in the shape that is depicted, is very free, and does not have a certain grip.

The Technique of Ornament's Forming. In general, there are three techniques for forming Ornament, such as [5]:

a.   Stylization

Stylization is a technique of changing the original shape of a source by looking at objects from different directions. Usually done with enrichment and can be made into a variety of new shapes that are decorative. This stylization can also be done for geometric shapes and naturalist shapes, such as stylized triangle shapes, rectangular shapes, and circular shapes. In addition, stylization can be done in a variety of other ornaments, such as naturalist, geometric, or decorative.

b.   Deformation

Deformation is a drawing technique by changing the original shape of the source and viewing objects from various directions. This is done by simplifying the structure and proportions of the original form into something new. Thus, the work will appear simpler and have different proportions from the original object.

c.   Distortion

Distortion is a drawing technique by changing the original shape of the source or by looking at objects from various directions by exaggerating the structure and changing the shape that is drawn so that significant changes occur with the original object.

1.2 Connectivity in Creating Ornaments

The various ornaments that are scattered throughout the archipelago have different characteristics, so to work and explore material that cannot be reached either by distance or by time, there needs to be connectivity from various learning sources [6]. Connectivism is the integration of principles explored through chaos theory, network theory, complexity theory, and self-organization. Learning is a process of reconstructing knowledge that is controlled by the individual. Learning (defined as actionable knowledge) can be located outside of us (in an organization or a database), focused on the relationships of specific sets of information, and those relationships allow us to learn much more and more important than we currently know [7].

The main problem that is the focus of the problem is how students can explore cultural diversity to create ornaments designs in a review of connectivity theory. Students cannot directly explore this diversity because this diversity is spread throughout the archipelago. The learning strategy used is portfolio-based multiple intelligences [8].

Siemens states trends in learning in the 4.0 era [9], 1) Many students study different things, which may even be completely unrelated fields. 2) Learning now occurs in various ways, through community practice, personal networks, and the completion of work in relation to assignments. 3) Learning is a lifelong process. Study and work are no longer separate. The technology and tools used have changed and formed a new way of thinking. Both organizations and individuals are learning about organisms.

Connectivism learning theory, first introduced by George Siemens, that this theory integrates the principles explored through chaos theory, networking, complexity, and self-organizing. According to connectivism learning theory, learning activities begin with knowing activities with the activity of creating knowledge that can be done (actionable knowledge). Decision-making in the digital era will be based on bases that change rapidly because new information will be obtained continuously and continuously so the ability to be able to distinguish between important and unimportant information is needed [6].

The main principles in connectivism learning theory include learning is a process of connecting several sources of information, encouraging and maintaining relationships to facilitate continuous learning, up-to-date and accurate knowledge is the goal of learning activities, can sort, select, and manage information for the determination of deciding [9]. The purpose of this research is to describe the optimization of the theory of connectivism in Ornaments works by students of Visual Arts, Faculty of Languages and Arts, Universitas Negeri Surabaya.

2 Method

This study uses qualitative methods and is described descriptively. According to Creswell, J.W., qualitative methods are methods used to research human and social problems. The researcher reports the results of the research based on eye view reports and analysis of data obtained in the field, then describes them in a detailed research report. The characteristics of qualitative research include the existence of hypotheses, research objects, and research instruments [10].

The research objects were students of the Visual Arts Education Study Program and Fine Arts Study Program, Faculty of Languages and Arts, Universitas Negeri Surabaya. Data collection through observation and observation of the work process, interviews, and documentation of the works produced. Data analysis uses a theoretical approach to connectivism in learning through the stages of data reduction, data presentation, and drawing conclusions from the results of observations and documentation of Ornaments Design lecture activities. The validity of the data using triangulation techniques.

3 Results and Discussion

3.1 The Ornaments Learning in Connectivism Theory

The Ornaments Design activities are carried out through the stage of conveying the theory of decoration and the exploration of sources of ideas for making decoration. The material is conveyed directly with the presentation of the material followed by a discussion of ornaments by connecting decorative sources from the web and other internet sources.

The results of the discussion are presented for the equalization of perceptions of ornaments motives, techniques, and patterns of development. To further refine the concept of creating decorative ornaments, students are encouraged to carry out digital literacy either by observing ornaments through social media or other art platform sources. Where the next stage is to create ornaments designs by exploring predetermined materials, namely flora, fauna, geometric, figurative, and the development of regional motifs.

In the learning activities of the Ornaments Design course, the exploration in question is practicing "processing" an object that is used as a source of ornaments ideas into several forms, without losing its distinctive characteristics. Students are given the opportunity to see an object, observe, and find the unique characteristics of that object, then make several ornaments pictures whose ideas come from that object. Exploring activities are inseparable from connections with technological sources that have been utilized.

One example of learning is in the first exploratory material, students are assigned to bring a type of leaf which is then explored to become ornaments. The selected leaf must have a distinctive character so that it can be easily developed and differentiated from other leaves. Each student must bring a different type of leaf. After preparing the material students are expected to have visual experience in distilling, deforming, or distorting images so that the assignment process will be easier. Before drawing, the drawing area is divided into 12 fields first. Then students duplicate the shape of the leaf they brought and draw it on the plane in the upper-left corner. This image is a real image, meaning that the leaf shape is drawn according to the original. Then in the following columns are areas of work to explore.

3.2   **The Analysis of Student's Work**

Student assignments consist of exploring flora, fauna, geometric, figurative, and developing regional motifs. However, this study focused on the analysis of flora, fauna, and geometric work from the best and less good value samples.

Exploration of Flora's Ornaments. The following is an example of the results of the exploration of leaf shape flora from good criteria.
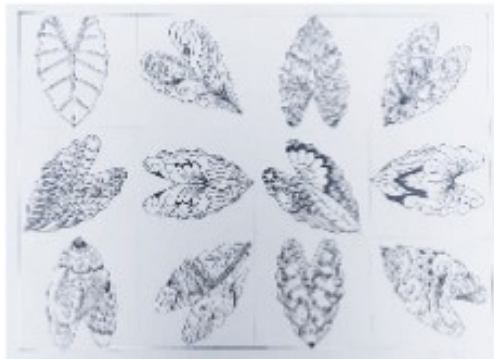

Fig. 1. An example of the results of the exploration of neon taro leaves.

Neon taro is one of the ornamental plants that is quite booming in 2022. Having distinctive leaf veins with bright colors, neon taro leaves have been successfully explored to become a beautiful decoration in several views, although none have been depicted in other positions.

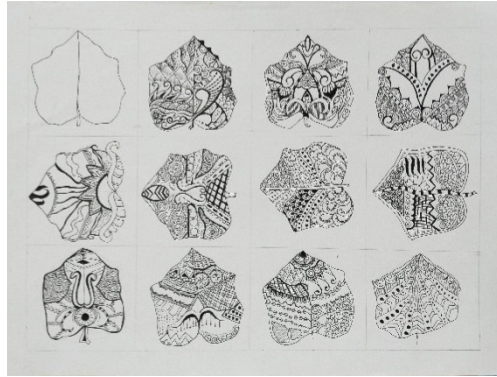The following is an example of the results of leaf shape flora exploration from unfavorable criteria.

Fig. 2. An example of the results of the exploration of fig leaves.

The division of the leaf veins is not well explored, the variations depicted in the stylization are not neat. The following is an example of the results of an exploration of flower form flora from good criteria.
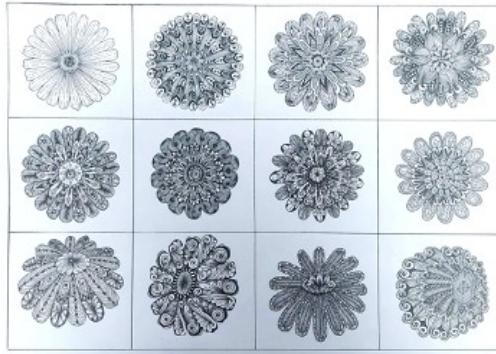

Fig 3. Example of the paper flower exploration results

Paper flowers are shown with stylization techniques with full *isen*, flower shapes are also conveyed from above and from the sides. Below is an example of the results of the exploration of flower form flora from unfavorable criteria.
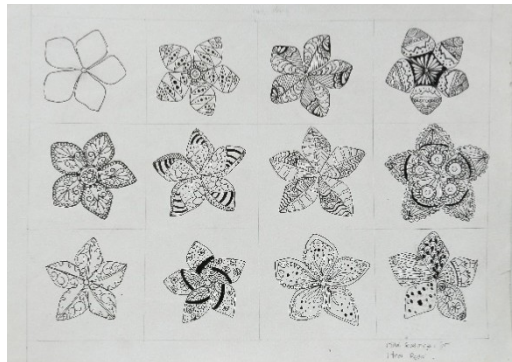
Fig. 4. An example of the results of the exploration of the periwinkle flower.

The selected ornament lacks diversity and still looks empty, so it needs additional *isen-isen*.

Exploration of Fauna's Ornament. Indonesia is known to have many species of reptiles, but not many have appeared in traditional ornaments. Therefore, students also need to explore the form of reptiles to train their sensitivity and ability to process objects around them.

Fig. 5. Example of snake reptile exploration results
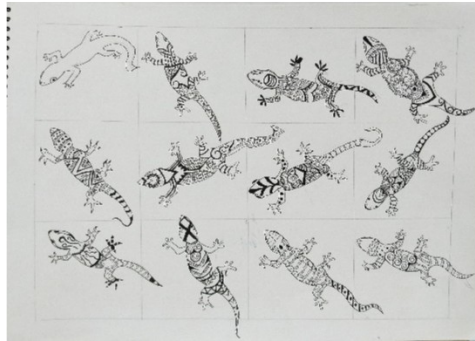
Fig. 6. Example of lizard reptile exploration results

The stylized results shown seem untidy and empty, so it needs additional ornaments.
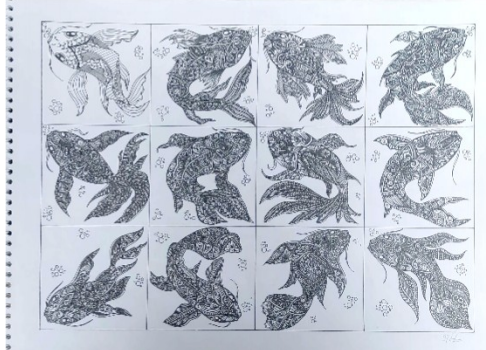
Fig. 7. Example of fish exploration results

As an archipelagic country, thousands of fish species can be found in Indonesian waters, both in sea water and fresh water. Several forms of fish appear as decorations in various ornament products, especially in coastal areas. In the picture above, the exploration carried out on the mustachioed fish shows that they are starting to have the courage to explore fish shapes and from a more diverse perspective.
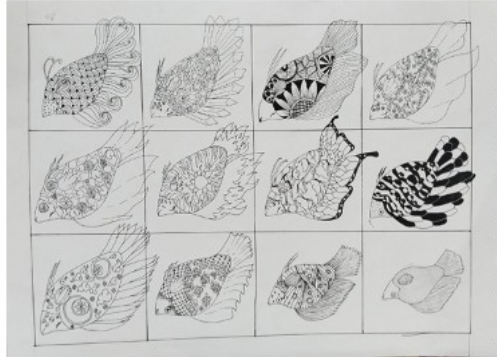

Fig. 8. An example of the results of betta fish exploration.

The stylization that is displayed is less attractive, it should be explored more for styles and *isen-isen*.

Exploration of Geometric's Ornament. The geometric shape of the ornaments is fully visible, the selection of *isen's* motifs can give the impression of black and white and the right composition.
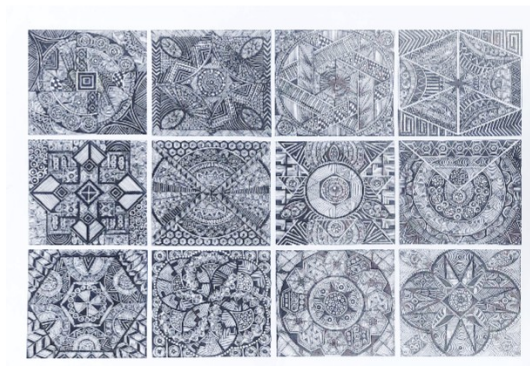

Fig. 9. An example of the results of geometric shape exploration.

As with the previous ornaments, the geometric forming motifs are fully visible, the selection of isen motifs can reveal a black and white impression and composition that is also appropriate.
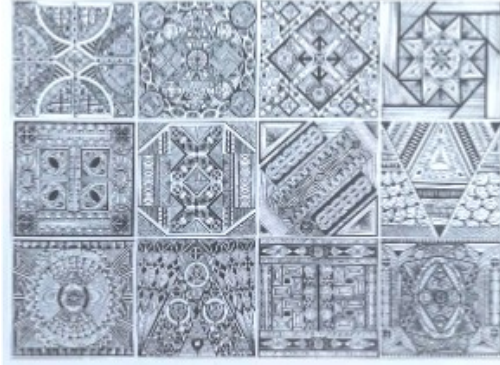
Fig. 10. An example of the results of geometric shape exploration.

The geometric motifs that appear still have an empty composition so that the impression of black and white is still not proportional.
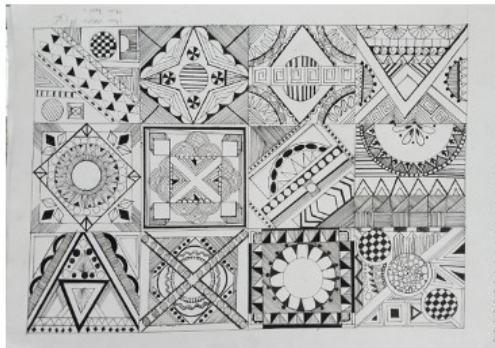

Fig. 11. An example of the results of geometric shape exploration.

It's the same with pictures. The 11 geometric motifs that appear still have empty compositions so that the impression of black and white is still not proportional.

Fig. 12. An example of the results of geometric shape exploration.

Geometric ornaments is one of the oldest ornaments found in artifacts, especially those made of clay, wood, stone and metal. In the exploration of geometric shapes above, the geometric shapes are composed in such a way in a symmetrical pattern to present a decoration that looks complicated but beautiful. One cannot escape the impression that these decorations were made with great patience, thoroughness, diligence, and calm 12. An example of the results of geometric shape exploration.

From the twelve samples of student work, it can be concluded that the results of the deformation tend to be realist and decorative, besides that the technique used is stylization techniques. For deformation and distortion, it has not been used optimally by students.

3.3   Theory of Connectivity in Ornamental Works

Media connectivity and learning resources are very important in the process of creating ornament arts. Through combining various media and utilizing learning resources, students can develop works that are more creative, diverse, and meaningful. Overall, the connectivity of media and learning resources in creating art opens up opportunities to combine different elements and create works that are richer, innovative, and meaningful. It also allows students to experiment, learn, and develop in the process of working with different techniques.

Creating Ornament designs and developing them requires connecting with resources. This is done by identifying various relevant resources, such as books, articles, pictures, and videos related to ornament. Connecting information from these sources provides a broader insight into the various styles and design elements that can be applied in ornament.

Collaborating visual experiences can be generated by being involved in a community of artists, art enthusiasts, or online discussion groups that discuss an ornament. Discuss ideas, share experiences, and obtain feedback from individuals with different backgrounds and perspectives. This can stimulate creativity and provide new insights. This visual experience can be observed, imitated, and modified to produce innovative ornaments works.

Utilization of digital technology to explore ornaments from different cultures or different time periods. Students can perform visual searches or use image-based applications to identify interesting motifs and ornament elements. In addition, it needs to be supported by digital literacy by studying the history and cultural background where these ornaments appear. Understanding the context can help students appreciate the meaning behind each motif and element, and better integrate them into ornament creations.

Students capture their work as a form of documentation. They can share their works through online platforms such as social media, websites, or blogs. Digital trail can be used as a medium to reflect on work processes, broadening reach, and helping to build connections with fellow artists and art connoisseurs. Optimizing the principles of connectivism in exploring ornamental drawing can develop a deeper understanding, produce more creative artworks, and stimulate the growth of student's artistic abilities.

4   Conclusion

Connectivism is a learning theory that emphasizes the importance of connections between various information, media, and resources. The exploration of drawing ornaments, applying the principles of connectivism by using digital literacy exploration as a learning resource from the regional web and the use of social media can help improve understanding and creativity in developing richer and more diverse ornament styles.

Based on the artworks produced by students, the technique of creating ornament styles is generally used through stylization because it is felt to be easier to maintain characteristics but can be displayed in beautiful forms. So, this method can be continued in its application and developed so students are able to explore the ornaments with deformation techniques and distortion techniques.

Optimizing the learning theory of connectivity in creating ornaments by connecting various learning sources as a basis for work, collaborating between visual experiences with new ornament innovations, utilizing technology to add visual experience, studying meaning and philosophy to optimize the concept of work, and documenting the work that has been made as material for self-reflection.

Authors' Contributions

Fera Ratyaningrum and Indah Chrysanti Angge are the tutors for the Ornaments Design course in the Visual Arts Education study program and the Fine Arts study program, at the Faculty of Languages and Arts, Universitas Negeri Surabaya. The author tries to develop learning strategies in order to optimize the student's work process so that it always develops.

Acknowledgments

References

1.   A. Sunaryo: Ornamen Nusantara: Kajian Khusus tentang Ornamen Indonesia. Semarang: Dahara Prize (2011).

2.   S.P. Gustami: Nukilan Seni Ornamen Indonesia. Yogyakarta: Jur. Kriya FSR ISI Yogyakarta (2008)

3.   F. T. Nugroho: Pengertian Ragam Hias, Motif, Pola, Alat, Teknik, dan Proses Pembuatannya (2021). [Online], Available: https://www.bola.com/ragam/read/4730356/pengertian-ragam-hias-motif-pola-alat-teknik-dan-proses-pembuatannya

4.   A. N. J. Th. a Th. Van Der Hoop: Indonesische Siermotieven: Ragam - Ragam Perhiasan Indonesia. Koninklijk Bataviaasch Genootschap van Kunsten en Wetenschappen, Jakarta (1949).

5.   P. V. Roojen: Indonesia Ornamental Design. The Pepin Press, Singapore (1998).

6.   A. Arivanto & E. Fauziati: Pembelajaran Daring di Sekolah Dasar dalam Perspektif Teori Belajar Konektivisme George Siemens. Jurnal Mitra Swara Ganesha 9(2), 144-153 (2022). [Online], Available: http://ejournal.utp.ac.id/index.php/JMSG/article/view/2160

7.   Y. Budyastuti & E. Fauziati: Penerapan Teori Konstruktivisme pada Pembelajaran Daring Interaktif. Jurnal Papeda: Jurnal Publikasi Pendidikan Dasar 3(2), 112-119 (2021), doi:10.36232/jurnalpendidikandasar.v3i2.1126

8.   I. W. E. Santika: Pendidikan Karakter pada Pembelajaran Daring. Indonesian Values and Character Education Journal 3(1), 8-19 (2020), doi: https://doi.org/10.23887/ivcej.v3i1.27830

9.   G. Siemens: Connectivism: A Learning Theory for the Digital Age. International Journal of Instructional Technology and Distance Learning (2005). [Online], Available: https://www.itdl.org/Journal/Jan_05/article01.htm

10.   Salmaa: Metode Penelitian Kualitatif: Definisi, Jenis, Karakteristiknya (2023). [Online], Available: https://penerbitdeepublish.com/metode-penelitian-kualitatif/