



Evaluating Creative Works of Adinkra Symbol in Relation to Maslow's Theory

¹Osei Joseph, ²Asiedu Richard, ³Sarpong Samuel Osei

^{1, 2 & 3}*Fashion Design and Textiles Department, Koforidua Technical University, Ghana*

^{1*}*Corresponding Email: joseph.osei@ktu.edu.gh*

Abstract

This study employed quantitative method to assess various creative works that utilize Adinkra symbols and find out if the usage of the symbol is in agreement with Hierarchy of Needs Theory. The objectives of the study are to explore the symbolism of Adinkra symbols through literature review and to analyse the relationship between the actual philosophical meanings of Adinkra symbols and the artist's philosophy behind the use of these symbols. The sampling method used was Stratified sampling and Random sampling. Sixty (60) creative works were stratified into these strata: Sculpture, Graphic design, Jewelry and Textile works. Random sampling was also used to sample 15 creative works from the total number of creative works in each stratum. The data was collected through "Pinterest" (online visual discovery tool). The study found 53% of Adinkra symbols properly used in relation to the functions of the product. However, 47% of the Adinkra symbols were not in agreement with the Maslow's needs. In addition, most of the adinkra symbols used in textiles and jewelry works are basically for aesthetic purposes irrespective of the meaning of the symbol. The textile products accounted for the highest percentage (55%) of adinkra symbols that do not conform to Maslow's Needs.

Keywords: Symbol; Creative works; Aesthetic; Jewelry; Philosophy

1.1 Introduction

This paper expands the knowledge of Aboagyewaa-Ntiri et al (2018) research which was based on compilation of Adinkra symbols by aligning them to the "Maslow's hierarchy of needs theory". However, this study focuses on artefacts or creative works that incorporate adinkra symbols and the artist's philosophy of using the symbols instead of a mere compilation or arrangement of the symbol. Does the artist's philosophical meaning of Adinkra symbols always relate with the creative ideas that are produced?

Artworks or creative ideas that utilise adinkra symbols were evaluated to find out whether they conform to “Maslow’s Hierarchy of Needs” theory. The intention for this assessment is to help create more awareness on the correct usage of Adinkra Symbols in order to promote the significance of the Symbol and the heritage of Ghanaian symbolism at large.

The use of Adinkra Symbols in Ghana and even beyond has increased over the years. The Adinkra symbols have even been spotted in Hollywood movies such as Black Panther, Avengers: Age of Ultron and the Sorcerer’s Apprentice. The screen short of the symbols displayed in the Hollywood movies is displayed in **figure 1**.



Figure 1 – Hollywood movies that showcase Adinkra symbols

Source: www.adinkra.brand.com/blog/african-adinkra-symbols-and-meanings/

The respective symbols are Wawa Aba which literally means “Seed of the Wawa tree” and figuratively, means Hardness, Toughness and Perseverance. The other symbol is called Tamfo Bebre which literally means “The Enemy will suffer” and metaphorically means Jealousy and Envy. The last symbol, Nkyinkyim which means “Twisting” symbolizes Initiative, Dynamism and Versatility.

Glover (1971) documented the Adinkra symbols and meanings that seemed to be in random order. Quarcoo (1972) on the other hand, suggested a classification of the Adinkra symbols based on religion. Quarcoo (1972) documented 60 symbols by using religion to file the first eight and randomly arranged and discussed the meanings of the other symbols. Even though works of Glover and Quarcoo were novel, it was based only on the arrangement and compilation of the symbols. Adinkra symbols are popular Ghanaian symbols that represent concepts or proverbs. Again, the Akans of Ghana and La Cote d’Ivoire integrated Adinkra symbols in their artworks such as textiles, metal casting, woodcarving and architecture (Arthur, 2001).

Adinkra fabrics were conventionally worn by only royals and traditional leaders during funerals and other special occasions. History, philosophy and various religious beliefs were the core factors in the development of these symbols. Their roots stand

strong to this day, with many modern-day individuals utilizing them to provide a range of products with definitive meanings. Such industries include Jewelry, Arts, Fashion, and even the world of architecture. Even though Adinkra symbols have an aesthetic function, it basically represents objects that capture suggestive messages which express traditional wisdom and aspects of life.

The symbols are also used on traditional stools for ritual and domestic purpose. The Adinkra symbols have also been designed with the aim of showing different teachings and themes that have been passed down throughout history. The traditional Asante culture was full of proverbial teachings which were used to instill wisdom in the people. The symbols are also used in the designing of sculptures. The images have been turned to sculptures which are sold for a profit to people who value the symbols. The symbols are so revered in Ghana that some corporations use the symbols as their official logos. Usage of Adinkra symbol is the way to promote it, hence it is important to sensitize users on the need to factor the meaning of the symbol and use it appropriately.

2.1 Theoretical Background

Maslow's hierarchy of needs is a motivational theory in psychology propounded by Abraham Maslow in 1943. The theory was originally made up of a five-stage model namely:

- Physiological or biological needs
- Safety needs
- Love and belongingness needs
- Esteem needs
- Self-actualization needs.

Cognitive and Aesthetic needs were later added to the five-stage model (Maslow, 1970) and subsequently included Transcendence needs (Maslow, 1970). The current 8-stages of Maslow's Model are shown in **figure 2**.

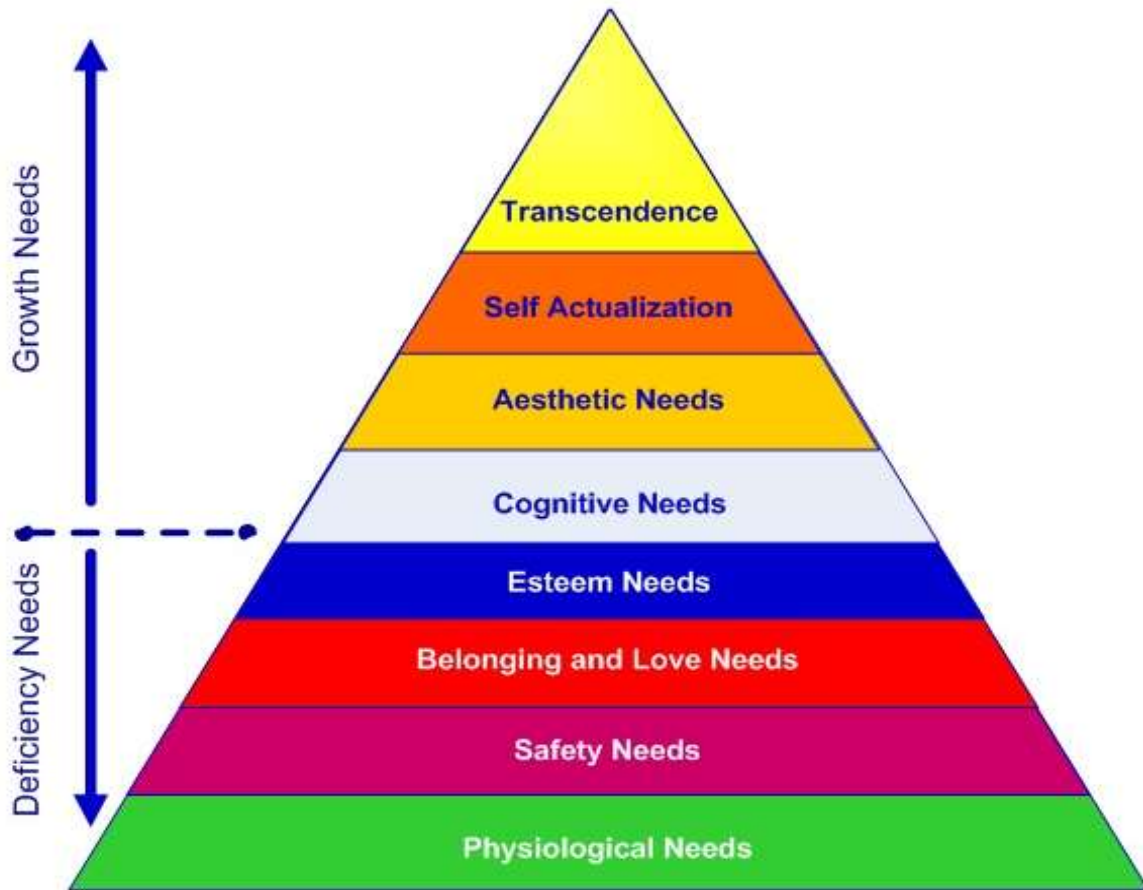


Figure 2- The 8-Stages of Maslow’s Hierarchy of Needs” Model
 Source: <https://www.simplypsychology.org/maslow.html>

Maslow referred to the first four levels as “Deficiency Needs” while the top level was recognised as “Growth Needs”.

- i. Physiological needs: These are biological requirements for Human survival, such as air, food, clothing, shelter and sex.
- ii. Safety needs: This includes individual security and safety measures to protect oneself.
- iii. Love and belongingness needs: They are the need for affection and interactions from friends, family and work mates.
- iv. Esteem needs: This need is categorized into Self Esteem needs such as achievement, independence and dignity. And Reputational needs such as social prestige and respect from others.
- v. Cognitive needs: This involves being curious to learn and have thoughtful mind and knowledge. It includes ability to predict and explore to find meanings.
- vi. Aesthetic needs: This is the desire to look good and pleasing physically and in material needs such as good clothes and fashionable. The need to be appreciated and quest for beauty.
- vii. Self-actualization needs: This involves self-satisfaction and fulfillment. The need to seek for personal

development to realise potentials and achieve the peak.

- viii. Transcendence needs: The need to experience certain values beyond physical and personal needs. It includes the quest for spiritual upliftment, mystical experiences, science and religious faith.

Maslow (1943) indicates that the hierarchy follows in order of necessity beginning from the foot to the top level. However, Maslow (1987) suggested that the sequence in the hierarchy is not as inflexible as he might have inferred in his previous explanation. Maslow stated that the order of necessities could be amenable depending on external situations and individual differences. For instance, some individuals may set their priorities for esteem and even aesthetics needs. To such people, they achieve their personal fulfillments in these needs than the most fundamental need such as safety needs. In this regard, the Esteem and Aesthetic needs may fall under the bottom of the hierarchy.

Aboagyewaa-Ntiri et al, (2018) focused on compilation of Adinkra symbols just like that of Glover (1971) and Quarcoo (1972). However, Aboagyewaa-Ntiri et al, (2018) attempt was an improvement because they tried to align the usage of Adinkra symbols with the theory of Hierarchy of needs by Maslow. The question is, ‘Are the users of Adinkra symbols really relating them with the needs or uses of the products as indicated by Aboagyewaa-Ntiri et al, (2018)?’. This study explores the symbolism of Adinkra symbols through literature review and analyses the relationship between the actual philosophical meanings of Adinkra symbols and the artist’s philosophy behind the use of these symbols.

3.1 Methodology

Document review was used alongside Random sampling and Stratified sampling for the data collection. Stratified sampling was used to stratify the Adinkra creative works into the following strata: Sculpture, Graphic design, Jewelry and Textiles works. Random sampling was also used to sample the total number of creative works in each stratum. **Table 1** indicates the number of samples in each stratum.

Table 1 – Stratification of Adinkra creative works

Stratum	Number of Samples Randomly Selected
Graphic Design	15
Sculpture	15
Jewelry	15
Textiles	15
Total Samples	60

Data was collected using Silbermann (2013) "visual discovery tool" (Pinterest). It features all kinds of artworks and other products for advertising purposes and allows users to share information and find new interests by displaying images or videos to their 'boards' or others. (Andy, 2019). Hundred and ten (110) Adinkra creative works were searched through Pinterest.

3.1.1 Data Analysis

The data was analysed by comparing the original uses of the sampled creative works with "Maslow's Hierarchy of Needs" in respect of Aboagyewaa et al (2018) compilation of Adinkra symbols. The analyses of the individual stratum are stipulated in **tables 2 to 5** with the following Key.

KEY	
Agreement with Maslow's Hierarchy of Needs	✓
Not in Agreement with Maslow's Hierarchy of Needs	✗

The marks '✓', and '✗', were used to indicate whether the philosophical meanings of the symbols on the artworks are in agreement with Maslow's Hierarchy of Needs or not. For instance, the sample in figure 3 contains adinkra symbols " Dwennimmen" and "Gye Nyame". According to Aboagyewaa et al (2018) compilations, these symbols fall under **Physiological Needs** and **Esteem Needs** respectively. Now it is obvious that the Original Need or uses of the sample in figure 3 is for economic or monetary use. Are the symbols on them relate to their functions?

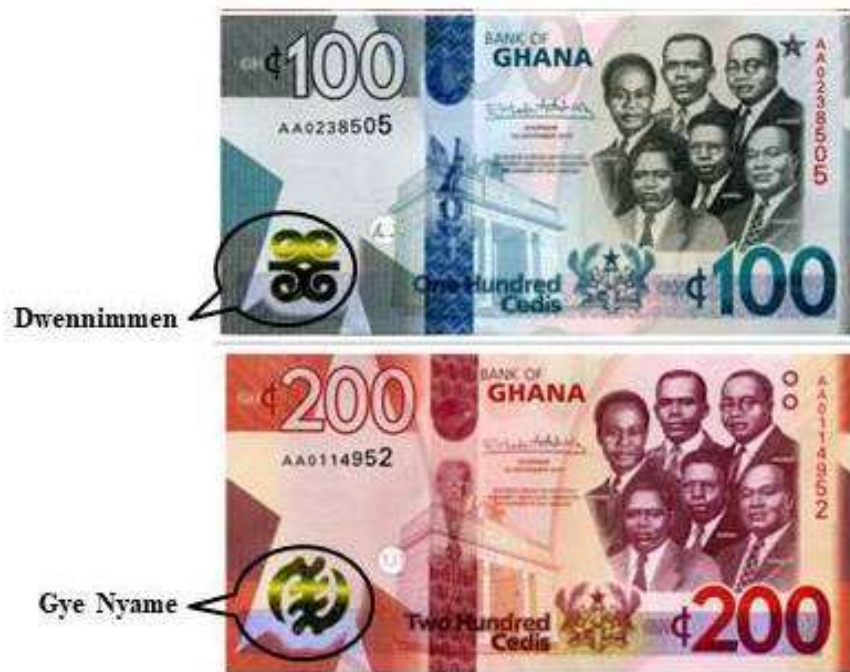


Figure 3 – A sampled creative work under Graphic Design
 Source: <https://banknotenews.com/?p=314>

Dwennimmen - Physiological Needs

Physiological needs according to Maslow (1970) are requirements for Human survival, such as food, air, clothing, shelter and sex. This symbol is perfectly related to the function of the sample in figure 3 since money is an ‘object’ for human survival (economic or monetary use). This means the sample is in agreement with Maslow’s need, thus (✓).

Gye Nyame – Esteem Needs

Moreover, Esteem needs are honour for oneself such as dignity, achievement, mastery, independence (Maslow, 1970). This symbol is also in agreement with the function of the sample because the designer might have thought of achievement and independence of the state (Ghana) which is Esteem to the country. Therefore, that sample was also checked ‘✓’. On the other hand, in **figure 4** the symbol “Epa” (Handcuff) was used to create earring for decoration and beautification but this symbol falls under Safety Needs (Aboagyewaa, 2018).

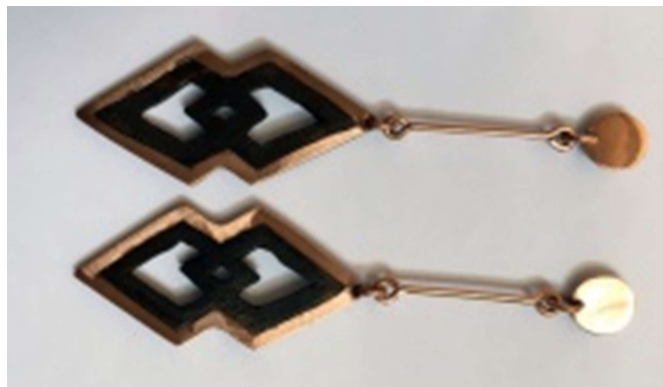


Figure 4– A creative work under textiles
Source: www.pinterest.com

Safety Needs includes individual security, law, freedom from fear and safety measures to protect oneself (Maslow, 1970). The philosophical meaning of the sample in figure 4 is for decoration or beautification (Aesthetic Needs according to Maslow, 1970). Therefore, the sample in figure 4 is not in agreement with the Maslow Needs. The sample was therefore checked ‘X’.

3.2 Analysis on the Creative Works

The samples of Adinkra symbols on the various creative works in comparison with Maslow’s Hierarchy of Needs – Aboagyewaa-Ntiri, (2018) are indicated in **Tables 2, 3, 4, and 5**.

Table 2 – Analysis of Adinkra symbols for Graphic Design works with Maslow’s Needs

Artworks	Original Need or function of the works	Symbols on the work	Significance	Maslow’s Needs	Comparing Maslow’s Needs with original Need	
	A logo for football club		Hye wonnyeh (That which cannot be burnt)	Imperishable and endless	Self-Actualisation needs	✗
	Gift card for interior decoration		Odenkyem (Crocodile) Duafe (Wooden comb)	Prudence and adaptability Beauty, cleanliness and feminine qualities	Self-Actualisation needs Aesthetic needs	✗ ✓
	A gift card		Aya (Fern)	Endurance & resourcefulness	Self-Actualisation needs	✗
	For Monetary or economic use		“Gye Nyame” (Only God) “Dwennimmen” (Ram’s horn)	Omnipotence & immortality of God Concealment, humbleness and strength	Physiological needs Esteem needs	✓ ✓
	A university Logo (Education)		Meware wo (I shall marry you)	Commitment	Love and belongingness needs	✓
	A university Logo (Education)		“Dwennimmen” (Ram’s horn)	Concealment, humbleness and strength	Esteem needs	✓
	Logo for quality assurance		Hwe mu dua (Measuring stick)	Quality control and excellence	Cognitive needs	✓
	Greetings card for encouragement		Gye Nyame (Only God)	Omnipotence and immortality of God	Physiological needs	✓
	Greetings card for encouragement		“Dwennimmen” (Ram’s horn)	Concealment, humbleness and strength	Esteem needs	✗
	Logo for a safety company		Eban (Fence)	Protection, security and safety	Safety needs	✓













































	A concept for interior decoration		Aya (Fern)	Endurance & resourcefulness	Self-Actualisation needs	X
	NGO for community development		Aya (Fern)	Endurance & resourcefulness	Self-Actualisation needs	✓
	A concept for interior decoration		“Gye Nyame” (Only God)	Omnipotence and immortality of God	Physiological needs	✓
	A gold mining logo in Australia		“Boa me na me mmoa wo” (Helping each other)	Cooperation and interdependence	Love and belongingness needs	X
	An international NGO for facilitation of technology		“Boa me na me mmoa wo” (Helping each other)	Cooperation and interdependence	Love and belongingness needs	✓

Table 3 – Analysis of Adinkra symbols for Sculpture works with Maslow’s Needs

Artworks	Original Need or function of the works	Symbols on the works	Significance	Maslow’s Needs	Comparing Maslow’s Needs with original Need	
	For spiritual function	 	Funtunfunefu-Denkyemfunefu (Siamese crocodiles)	A symbol for democracy and unity	Safety needs	✓
			“Sesa wo Suban” (Correct or amend your character)	A symbol for transformation of life	Self-Actualisation needs	✓
	Funeral drum for royalty		Gye Nyame (Only God)	Omnipotence and immortality of God	Physiological needs	X
	Royal drum for special occasion		Akofena (Sword of war)	Symbol of courage, valor, and heroism	Safety needs	✓
	Mask for Souvenir or interior decoration		Gye Nyame (Only God)	Omnipotence and immortality of God	Physiological needs	X

	Souvenir for office decoration		“Dwennimmen” (Ram’s horn)	Concealment, humbleness and strength	Esteem needs	✓
	Souvenir for interior decoration		“Sankofa” (Return to take it)	Acquire knowledge and wisdom from the past	Cognitive needs	✗
	Carving for exterior decorative		Agyin dawuru (Agyin’s gongon)	A symbol of loyalty	Cognitive needs	✗
	Souvenir for interior decoration		“Sankofa” (Return to take it)	Acquire knowledge and wisdom from the past	Cognitive needs	✗
	Stool for royals		Adinkrahene (Chief of Adinkra)	Greatness and royalty	Esteem needs	✓
	Stool for royals		“Gye Nyame” (Only God)	Omnipotence & immortality of God	Physiological needs	✓
	External decorative piece for Learning institution		Nkyinkyim “Twisting”	Initiative, Dynamism and Versatility	Self-Actualisation needs	✗
	External decorative piece for State institution		Biribi wo soro (There is something in heaven)	Hope and reliance on God	Physiological needs	✗
	External decorative piece for a palace museum		Pempansie (Readiness)	Readiness and Preparedness	Safety needs	✓
	Palace chair for royals		“Nyame dua” (God’s Tree)	Presence God and protection	Safety needs	✓
	Wall hanging for interior decoration		“Sankofa” (Return to take it)	Acquire knowledge and wisdom from the past	Cognitive needs	✗

Table 4 – Analysis of Adinkra symbols for Jewelry works with Maslow’s Needs

Artworks	Original Need or function of the works	Symbols on the works	Significance	Maslow’s Needs	Comparing Maslow’s Needs with original Need	
	A fashion earring for beautification		Gye Nyame (Only God)	Omnipotence & immortality of God	Physiological needs	✗
	A wedding ring		Akoma ntoaso (Extension of heart)	Patience and endurance	Love and belongingness needs	✓
	Necklace for body decoration (for aesthetic purpose)		Epa (Handcuff)	Slavery, captivity, law and justice	Safety needs	✗
	For decoration and also showing off affluence life	  	“Sankofa” (Return to take it) Duafa (Wooden comb) Nyame dua (Tree of God)	Acquire wisdom and knowledge from the past. Beauty, cleanliness and feminine God’s presence and protection	Cognitive needs Aesthetic needs Safety needs	✗ ✓ ✗
	Necklace for special occasion and for beautification		Akoma (the heart)	symbol of patience and tolerance	Love and belongingness needs	✓
	Fashion bracelet for beautification		Odo Nnyra Fie Kwan (love never loses home)	Power of Love	Love and belongingness needs	✓
	For fashion purpose (for aesthetic purpose)		Akoben (War horn)	Readiness and preparedness	Safety needs	✗
	A fashion earring for beautification		Aya (Fern)	Endurance & resourcefulness	Self-Actualisation needs	✓
	A bracelet for fashion (for aesthetic purpose)		Funtunfunefu-Denkyemfunefu (Siamese crocodiles)	symbol of democracy and unity	Safety needs	✗
	Special wedding ring		Akoma ntoaso (Extension of heart)	Patience and endurance	Love and belongingness needs	✓
	Wedding ring	 	Akoma ntoaso (Extension of heart) Odo Nnyra Fie Kwan (love never loses home)	Patience and endurance Power of Love	Love and belongingness needs.	✓ ✓














































	For beautification and fashion (for aesthetic purpose)		Dwennimmen (Ram's horn)	Concealment, humility and strength	Esteem needs	✓
	For decoration and fashion (for aesthetic purpose)		Hye Wonnhye (That which cannot be burnt)	Imperishability and endlessness	Self-Actualisation needs	✓
	A necklace design for a herbalist		Nyansa po (Wisdom knot)	Ingenuity, patience and wisdom	Cognitive needs	✗
	A fashionable necklace (for aesthetic purpose)		"Sankofa" (Return to take it)	Acquire knowledge and wisdom from the past	Cognitive needs	✗

Table 5 – Analysis of Adinkra symbols for Textiles works with Maslow's Needs

Artworks	Original Need or function of the works	Symbols on the work	Significance	Maslow's Needs	Comparing Maslow's Needs with original Need	
	A casual wear (for aesthetic purpose)		Bese saka (cola nut sack)	Abundance, affluence, power and unity	Love and belongingness needs	✗
	A fabric for casual dress or table cover (for aesthetic purpose)		Adinkrahene (Chief of Adinkra)	Greatness and royalty	Esteem needs	✗
	A general-purpose royal fabric		Biribi wo soro (There is something in heaven)	Hope and reliance on God	Physiological needs	✗
			Adinkrahene (Chief of Adinkra)	Greatness and royalty	Esteem needs	✓
	A funeral fabric		"Nyame nnuwu na mawu" (God never dies, so I cannot die)	Omnipresence God and the eternal life of man's spirit	Physiological needs	✗
	Special occasion fabric. Especially for royals		"Gye Nyame" (Only God)	Omnipotence and immortality of God	Physiological needs (Social need)	✓
			Akofena (Sword of war)	Valor, courage & heroism	Safety needs	✓
	Casual wear fabric		"Nyame nnuwu na mawu" (God never dies, so I cannot die)	Omnipresence God and the eternal life of man's spirit	Physiological needs	✓
			Hye wonnhye (That which cannot be burnt)	Imperishability and endlessness	Self-Actualisation needs	✗

	A wall hanging for interior decoration		Aya (Fern)	Endurance & resourcefulness	Self-Actualisation needs	X
	Special occasion fabric for chief		“Bi nka bi” (No one should bite the other)	symbol of harmony and peace	Love and belongingness needs	✓
	Fashion wear for the youth (for aesthetic purpose)		“Nea onnim no sua a, ohu” (He who knows not can know)	Continued quest for knowledge and education	Cognitive needs	X
	Fashion wear for the youth (for aesthetic purpose)		Duafe (Wooden comb)	Beauty, cleanliness & feminine	Aesthetic needs	✓
	Fabric for funeral		Fof (Yellow flowered plant)	Jealousy and envy	Esteem needs	✓
			Asewa (Sweet Berry)	Tenderness and sweetness	Love and belongingness needs	✓
	Fabric for fashion and entertainment (for aesthetic purpose)		“Dwennimmen” (Ram’s horn)	Concealment, humbleness and strength	Esteem needs	X
	Fabric for funeral		Boafo ye na (Willing Helper)	A symbol of support, help	Love and belongingness needs	✓
			Mmusuyidee (That which remove ill-luck or evil)	Good fortune, spiritual and sanctity	Self-Actualisation needs	X
			Kwatakye Atiko (Hairstyle of Asante war captain “Kwatakye”)	Symbol of Bravery, valor & determination	Safety needs	X
	Fabric for special occasion.		“Dwennimmen” (Ram’s horn)	Concealment, humbleness and strength	Esteem needs	✓
	Fabric for special occasion.		“Kramo bone” (Bad Mohammedan)	Warning against deception and Hypocrisy	Safety Needs	X
			“Fihankra” (house /compound)	Safety and security	Safety Needs	X

4.1 Results and Discussion

The total number of Adinkra symbols found in the 60 samples (creative works) was 73. Out of this, 39 Adinkra symbols which constitute 53% were properly in agreement with the Maslow’s Hierarchy of Needs (Aboagyewaa, 2018). However, 34 of them which constitute 47% were not in agreement with the Maslow’s needs. The finding implies that quite a considerable number of people use Adinkra symbols by taking into cognisance the meaning of the symbol (53%). Prior to this study, the researchers hypothesised that, more than 50% of Adinkra symbols’ creative works never conform to the meaning that the symbol portrays. In other words, most users of Adinkra symbols do not relate the meaning of the symbol very well with the actual purpose of the creative work. However, findings indicate contradictory outcome of 47%. Even though this percentage is quite on the lower side of the hypothesis, it is substantial enough to be concerned with. The Textiles products totally agree with the researcher’s predictions with the highest percentage (55%) of adinkra symbols that do not conform to Maslow’s Needs, while Graphic Design products disagree with the researcher’s assumptions with 35% not conforming with Maslow’s Needs. This is a clear indication that most people, especially the youth in this 21st century basically use fabric for their own purposes other than the actual meaning of the symbols in the fabric or the fabric colour. In most cases, they use it for aesthetic purposes or just for fashion. Kissi et al (2019) indicate that, the Adinkra clothes are worn by non-royals and different tribes for any purpose they deem it fit in recent times.

The total number of Adinkra symbols found on 15 samples of creative works apportion to each of the disciplines (Graphic Design, Sculpture, Jewelry and Textiles) were 17, 16, 18 and 22 respectively. Textile works contain higher number of Adinkra symbol (22) and Sculptural works are found to contain the least number of Adinkra symbol (16). The results of the individual stratum are detailed in the **table 6**.

Table 6 – Findings of the individual stratum (Graphics, Sculpture, Textiles and Jewelry)

Stratum	Number of Adinkra Symbols that relate with Maslow’s Needs (✓)	% of ‘✓’	Number of Adinkra Symbols that does not relate with Maslow’s Needs (✗)	% of ‘✗’	Total Number of Adinkra symbols on the samples
Graphic Design	11	65%	6	35%	17
Sculpture	8	50%	8	50%	16

Jewelry	10	56%	8	44%	18
Textiles	10	45%	12	55%	22
Total	39	53%	34	47%	73

Most creative works are found to contain two or more symbols on one art. Textile fabrics may contain even more than three adinkra symbols to symbolize different meanings or just for aesthetic purposes. In fact, most people only use the Adinkra symbol based on its beauty, uniqueness and the love of the Adinkra Symbols. Even though some of the Adinkra symbols on the creative works were not in line with Maslow’s Hierarchy of Needs, they still look good on the product. This means that aesthetically any Adinkra symbol can be used in any creative work irrespective of their function. However, the researchers will urge creative designers to link the significance of the Adinkra symbols with the usage of the products. Kuwormu-Adjaotor et al. (2016) also made similar assertion that, contemporary artists, designers, craftsmen, teachers and all who appreciate the traditional symbols must be encouraged to use the adinkra symbols in a more meaningful way. The correct usage of the adinkra symbol will promote its significance and consequently promote the rich cultural heritage of mother Ghana.

5.1 Conclusions and Recommendations

Most users of Adinkra symbols relate the meaning of the symbol very well with the actual purpose of the creative work. A lot of Graphic Design works with adinkra symbols were linked with its philosophical meanings. A higher percentage of textile products designed with Adinkra symbols do not conform with the philosophical meaning of the symbols.

In order to promote adinkra symbols, textile designers should link the philosophical meanings of the symbol to the purpose of the work. Creative artist should be encouraged to bear in mind the philosophical meanings of the Adinkra symbols and incorporate them in their works. For creativity and originality of art works, artists could apply his own philosophy and the philosophical meanings of the adinkra symbols.

References

- Aboagyewaa-Ntiri J., Charles B. Campion and Kemevor A. (2018). Extension of Knowledge on Ghanaian Adinkra Symbols in relation to Maslow's Theory. *International Journal of African Society Culture and Tradition* Vol.6, No.2, pp.25-38
- Andy M. (2019). What is Pinterest, and How Does it Work? <https://www.infront.com/blog/what-is-pinterest-and-how-does-it-work/>
- Aruma E. O. and Melvins E. H. (2017). Abraham Maslow's Hierarchy of Needs and Assessment of Needs in Community Development. *International Journal of Development and Economic Sustainability* Vol.5, No.7, pp.15-27, Published by European Centre for Research Training and Development UK (www.eajournals.org).
- Arthur, Kojo G. F. (2001). Cloth as metaphor (re)reading the Adinkra cloth symbols of the Akan of Ghana. Accra: Cefiks.
- Creswell, J. (2002). Educational research: Planning, conducting, and evaluating Quantitative and Qualitative research. Upper Saddle River, NJ: Merrill Prentice Hall.
- Glover, E. A. (1971). Adinkra symbolism. Labadi-Accra, Ghana. Liberty Press.
- Kissi, S.B., Fening, P.A., and Asante, E.A. (2019). The philosophies of Adinkra symbols in Asante textiles, jewellery and other art forms - *Journal of Asian Scientific Research*.
- Kuwornu-Adjaottor, J. E. T., Appiah, G. and Nartey, M. (2016). The philosophy behind some Adinkra symbols and their communicative values in Akan. *Academic journal*. Vol. 7(3), pp. 22-33, April, 2016 DOI:10.5897/PPR2015.0117
- Maslow, A. H. (1943). A theory of human motivation. *Psychological Review*, 50(4), 370-96.
- Maslow, A. H. (1970). *Motivation and Personality* (2nd ed.). New York: Harper & Row.
- Mato, Daniel (1987) *Clothed in Symbol: The Art of Adinkra Among the Akan of Ghana*. Mich.: UMI Dissertation Services.
- McLeod, S.A (2020). Maslow's hierarchy of needs. Simply psychology. <https://www.simplypsychology.org/maslow.html>
- Pamela, C. (n.d). Adinkra Symbol Art. Retrieve from <https://www.pinterest.com/uccwomanist/adinkra-symbol-art/>. November, 2021
- Quarcoo, A. K. (1972). *The language of the adinkra patterns*. Legon: Institute of African Studies.
- Rattray and Robert S. (1927). *Religion and Art in Ashanti*. Oxford: Clarendon Press.
- Silbermann, B. (2013). "visual discovery tool" (Pinterest), Wikipedia.