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Research Article

Beyond Touch: An Exploratory Survey of Non-visual Cues and Colour Accessibility in Clothing Retail Among Ten Visually Impaired Students in Kumasi, Ghana

Kenneth Osei Yeboah[1, *], **Atta Kusi Ankrah**[1], **Andrews Delali Ahun**[2]

[1]Department of Graphic and Communication Design Technology, Kumasi Technical University, Kumasi, Ghana
[2]Department of Vocational and Creative Arts, Jasikan College of Education, Jasikan, Ghana

Abstract

Inclusive fashion writing often proposes touch as a route to colour for blind and partially sighted people. This exploratory survey asks which non-visual cues ten visually impaired students at Wesley College of Education, Kumasi, Ghana, use when choosing clothes, and which colour-accessibility provisions they say they would value. Participants completed an accessible questionnaire with Likert and open-ended items; results are reported as counts and describe this group only. Asked how they usually choose clothes (more than one answer allowed), five named help from another person, three touch and three verbal description. Participants were split evenly on whether fabric texture informs their sense of colour (four agreed, four disagreed, two neutral). Six judged that fashion brands do not provide adequate accessibility features. All ten agreed that retail staff trained to describe colour would improve their shopping, and all ten said they would be more loyal to brands offering colour accessibility, an intention not tested against purchasing. Open-ended answers named missing, wrong and vague descriptions, shades that cannot be told apart and mismatched outfits. Read through the social model of disability, these are problems in how garments and shops carry colour information. On textile grounds, touch can convey colour only where a code has been added. We offer a layered approach, matching provisions to moments of need, as a proposal for design research and not as a finding; the survey did not ask about online shopping or QR-linked labels, and rated Braille and audio provisions together in a single item.

Keywords

Inclusive Design, Visual Impairment, Tactile Labelling, Colour Accessibility, Fashion Retail, Social Model of Disability

1. Introduction

A blind woman in Kumasi preparing for a relative's funeral needs a cloth that is red or black. She can feel whether it is heavy cotton or light polyester, whether it has a raised pattern, whether the hem is finished. She cannot feel whether it is red. Unless someone tells her, or unless the colour has been written onto the garment in a form she can read, she does not know.

This everyday problem sits at the centre of a gap in inclusive fashion design. Designers and researchers have proposed many ways to make colour accessible without sight: Braille tags, embossed symbols, audio labels, colour-identifying devices and better-trained shop staff. Some proposals rest on an intuition that touch can stand in for vision, so that texture

*Correspondence: Kenneth Osei Yeboah (kenneth.oyeboah@kstu.edu.gh)

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might somehow convey colour. Few studies have asked visually impaired consumers which cues they actually use, which provisions they would value, and whether the touch intuition holds.

The first two papers in this series found that participants know colour mainly through others' descriptions (Knowing colour without sight: how blind and partially sighted young adults in Kumasi, Ghana, understand colour in clothing) and that missing or doubtful descriptions discourage them from buying (Wanting what you cannot check: colour information and purchase intention among visually impaired clothing consumers in Kumasi, Ghana). This paper addresses the third objective of the study: to assess the alternative sensory cues that influence fashion choices among visually impaired individuals, together with the retail provisions that could support those cues. Its research question is: what sensory factors other than colour play a role in the fashion choices of visually impaired individuals, and what provisions would make colour accessible to them?

In brief, these ten participants relied on other people more than on touch, split evenly on whether texture tells them anything about colour, and were unanimous in wanting retail staff trained to describe colour. The article argues, on textile grounds, that touch carries colour only where it has been deliberately encoded, and it proposes a layered approach, to be tested, that matches colour provisions to the moments when colour is needed.

2. Literature Review

2.1. Where the Barrier Sits

The social model of disability locates disability in the barriers society builds rather than in an individual's impairment [1, 2]. Applied to clothing, the model shifts attention from the shopper's eyes to the garment and the shop. A hangtag that names colour only in print, a product photo with no caption and a salesperson who says 'it's blue' are design decisions. Each could have been made differently.

Inclusive design takes that shift as its working method. Clarkson and Coleman [3] describe inclusive design as designing mainstream products so that they serve as wide a range of users as possible, rather than producing separate special products. In fashion, this means colour information built into ordinary garments and ordinary shops.

2.2. Function, Expression and Aesthetics

Lamb and Kallal's [4] FEA model holds that clothing must meet functional, expressive and aesthetic needs. For a visually impaired wearer, colour information is a functional need that serves expressive and aesthetic ends. Without it, the wearer cannot use colour to express identity or to meet social expectations. Akter and Goncu-Berk [5] applied the FEA model to tactile perception of clothing, though with sighted participants whose vision was temporarily blocked, which leaves open how people with long-term visual impairment respond.

2.3. Touch and Its Limits

Touch matters in clothing purchases for everyone. Peck and Childers [6] showed that consumers differ in their need for touch, and that touch shapes confidence in product judgements. For a visually impaired shopper, touch reports fibre, weight, weave, stretch, pattern relief and construction. It does not report colour. Colour comes from dye, whereas the feel of a fabric is set mainly by fibre, yarn, structure and finishing [7]. Dyeing and finishing treatments can shift hand slightly, but they leave no reliable cue that names a colour by touch. A tactile route to colour therefore requires an added code: Braille, embossed shapes or a textured tag whose meaning has been agreed.

2.4. Existing Provisions

Yu et al. [8] found that shoppers with visual impairment valued being able to act independently of family and staff, and that retail design and service both shaped this. Burton [9] reported that blind participants wanted dependable information about their clothing. Burton et al. [10] showed that blind people would send photographs of outfits to remote sighted helpers for fashion advice, which reveals both the demand for colour judgement and the effort it takes to obtain. In Ghana, the Persons with Disability Act, 2006 (Act 715) [11] commits the state to accessibility, but its provisions focus mainly on physical access to public places and services. To our knowledge, product information has received little attention in Ghanaian policy or research.

Recent work has moved online and towards design proposals. Alluqmani et al. [12] combined observation and interviews and found that clothing websites carry inaccurate, misleading and contradictory descriptions. Cohen et al. [13] examined how inaccessible retail websites shape the perceptions and responses of blind and low vision consumers. In India, Thadikaran and Singh [14] interviewed 15 consumers with visual impairment and reported that missing image and product descriptions discouraged online buying. For tactile colour coding, Karim [15] describes a Braille-based colour code designed to be placed on garments. We know of no comparable study from Ghana.

3. Materials and Methods

3.1. Design and Participants

The study used an exploratory survey design with ten purposively selected students with visual impairment at Wesley College of Education, Kumasi. Five were aged 18-25 and five 26-35; six were men and four women; six were totally blind and four partially sighted. All took part in choosing their own

clothes. The target was 10 to 20 students, stratified by degree of impairment, age group and sex. Selection within strata was random where access allowed and purposive otherwise, and ten students took part. Permission for recruitment was sought from the college before fieldwork. Fifteen students were approached and ten accepted. Data were collected between February and March 2025.

The study was one part of a questionnaire survey on colour and fashion among visually impaired consumers, which also produced Papers 1 and 2, both currently under review. Those papers report other sections of the questionnaire, and no item or count reported here appears in either.

3.2. Instrument and Administration

This paper draws on three parts of a longer questionnaire. The first is a background question on how participants usually choose clothes, which allowed more than one answer. The second is the texture item from the colour perception section, together with eight five-point Likert items on accessibility and brand perception. Responses were recorded on a five-point scale: strongly disagree, disagree, neutral, agree and strongly agree. The third is two open-ended questions: what challenges participants had faced regarding colour accessibility, and what improvements they would like to see.

The wording of every item used here is given in Appendix A; Table 1 shortens some of it. The items were developed from the study objectives through a systematic process of conceptualisation, design, testing and refinement. Five participants piloted the instruments before fieldwork, and their responses were later added to the dataset. Item wording and content were reviewed by a design colleague before fieldwork. Test-retest reliability was assessed by administering the questionnaire twice to all ten participants, one week apart. Pearson's correlation between each participant's two sets of answers ranged from 0.91 to 0.97, and participants gave the same response on 73 of 80 answers to the eight Likert items in Table 1 (91%). The counts reported in this paper are from the first administration. With ten participants, this estimate is indicative only. Participants who chose the read-aloud format had the items read to them by a teacher at the college who agreed to help. Most Likert items are positively worded statements about what brands or retailers should do, which can invite agreement, and unanimous agreement on three items should be read with that in mind.

The questionnaire was offered in Braille, large print or read aloud, according to each participant's preference. Participants gave written or recorded verbal consent, could skip items, and were identified only by code. Ethical approval for the study was granted by the Head of the Department of Fashion Design and Textiles Studies, Kumasi Technical University (KsTU), where the study was carried out as an experimental project.

3.3. Data Analysis

Likert results are reported as counts out of ten, with 'agree' and 'strongly agree' combined as agreement. With ten participants, percentages would overstate precision and inferential tests would have almost no power, so no statistical tests were applied. Open-ended answers were coded inductively into themes [16]. Because the answers were short, coding mostly involved grouping similar statements, and the resulting themes are descriptive rather than interpretive.

4. Results

4.1. Cues in Use

Asked how they usually choose clothes, five participants named help from another person, three named touch and texture, and three named verbal description. The question allowed more than one answer, which is why the counts add to 11 for ten participants. On whether fabric texture influences how they perceive colour, four agreed (three strongly), four disagreed and two were neutral. Touch was a usual way of choosing clothes for a minority, and the group was evenly divided on whether texture informs colour. These counts neither show that touch works as a route to colour nor that it fails. The case that it cannot carry colour unaided rests on textile reasoning (Section 5.1).

4.2. Provisions Wanted

Table 1 reports the accessibility and brand perception items.

Table 1. *Responses to accessibility and brand perception items (n = 10). Items are ordered by number agreeing. The question on how participants choose clothes (Section 4.1) allowed more than one answer and is not shown here.*

Item	SD	D	N	A	SA	Agree
Training retail staff to give colour descriptions would improve my shopping experience	0	0	0	5	5	10
Fashion brands should do more to cater to visually impaired consumers	0	0	0	7	3	10

Item	SD	D	N	A	SA	Agree
I would be more loyal to brands that provide colour accessibility features	0	0	0	9	1	10
Fashion brands should invest more in accessible colour options	0	1	1	4	4	8
Colour accessibility features would make me more confident in my purchases	0	2	0	5	3	8
There is a lack of colour accessibility in fashion retail stores	1	3	0	3	3	6
Braille labels or audio descriptions would improve my shopping experience	2	0	2	3	3	6
Fashion brands provide adequate accessibility features for visually impaired consumers	4	2	2	2	0	2

SD: strongly disagree; D: disagree; N: neutral; A: agree; SA: strongly agree.

Three items drew agreement from all ten participants: staff training, a call for brands to do more, and greater loyalty to brands offering colour accessibility. Staff training was the only item with half the sample in strong agreement. Six participants said current brands do not provide adequate accessibility features; only two said they do. Six agreed that Braille labels or audio descriptions would improve their shopping (three strongly), two strongly disagreed and two were neutral. The item names two provisions at once, so the answers cannot separate a wish for Braille from a wish for audio.

One result needs care. Six agreed that retail stores lack colour accessibility, while four disagreed. The survey does not show why.

4.3. Problems Reported

Table 2 groups the open-ended answers into themes.

Table 2. Themes in open-ended responses.

Theme	Challenges named	Improvements suggested
Information missing	Absence of colour information; lack of assistance	Assistance with colour information
Information wrong or thin	Inaccurate, wrong and limited colour descriptions	Better colour descriptions; better labelling and clothing tags
Shades hard to separate	Unable to tell certain colours apart	Texture differences between garments
Visible mistakes	Mismatched outfits ('wardrobe malfunction')	Staff trained to assist visually impaired customers
Colour of the garment itself	None stated	Better colour quality of clothes

Themes group participants' own wording; no counts are given because answers were brief and overlapping.

The challenges cluster around information: whether it exists, whether it is right, and whether it is detailed enough to separate similar shades. The improvements mirror these, with an emphasis on people (assistance, trained staff) and on labels and tags.

5. Discussion

5.1. Touch Conveys Cloth, Not Colour

The survey data on touch are mixed: three of ten named it as a usual way of choosing clothes, and opinion on whether texture informs colour split four to four, with two neutral. These counts do not show that touch fails as a route to colour. That claim rests on textile reasoning, offered here as an argument and not as a result: touch is a strong channel for fabric

and a weak one for colour. This is not a failing of the participants' senses. It follows from how textiles are made. Fibre, yarn and weave set the hand of a fabric [7]; dye sets its colour. Two shirts cut from the same cotton in navy and in yellow feel alike to the fingers, apart from any small effect of the dyeing process. Touch can carry colour only if a designer puts a code there. The four participants who agreed that texture informs colour may be using a code of this kind in their own wardrobes, but the survey did not ask.

This matters for design practice because the intuition that texture might 'substitute' for colour is easy to accept, but on textile grounds it fails unless a code has been added. Participants' suggestion of texture differences between garments (Table 2) should be read in this light. Texture differences can help a wearer tell items apart in a wardrobe. They help with colour only once someone has agreed which texture means which colour.

5.2. People Are the Preferred Provision

All ten participants wanted staff trained to describe colour. Five named help from another person as their usual way of choosing clothes. Under the social model [2], this preference is not a sign of dependence to be designed away. It reflects the fact that a well-informed person can do several things at once: name the hue, judge whether two shades go together, and say whether a cloth suits a funeral or a wedding. A short tag is unlikely to do all of that.

The weakness of human provision is reliability, as Papers 1 and 2 showed. Participants named wrong and vague descriptions as their main problem. Training therefore has to cover how to describe colour, not only how to be helpful: the hue, how light or dark, how strong or muted, the colours in a pattern, and how the colour is read locally.

5.3. Colour Information Must Outlast the Shop

The theme of mismatched outfits points to a gap that store-based provisions miss. Mismatches can arise at home, when a wearer combines items bought on different days. A sales assistant's description ends at the counter. The garment needs to carry its colour with it. This is where a durable tactile code earns its place: a Braille or embossed colour tag sewn into a seam survives washing and can be read in the wardrobe months later.

Participants also asked for 'better colour quality of clothes'. The answers were too brief to show what they meant. If the concern is fading, it matters for a further reason: a colour label is only as accurate as the garment's colour is stable, which is what colourfastness tests such as ISO 105-C06 (laundering) [17] and ISO 105-B02 (light) [18] measure.

5.4. A Layered Approach to Colour Access

No single provision covers every moment when colour is needed. Table 3 sets out a layered approach, offered as a proposal. It combines provisions participants asked for (trained staff, better labels and tags) with two the survey did not examine (written descriptions online, and QR-linked audio labels), and matches each to a moment of use.

Table 3. *Matching colour provisions to moments of use.*

Moment of need	Provision	Strength	Limit
Choosing in a shop	Staff trained in a standard colour description	Names hue, depth, pattern and local meaning; advises on matching	Depends on staff accuracy; ends at checkout
Choosing online	Written colour description beside every product image, readable by screen readers	Available at any time without a helper	Only as good as the person who writes it
Matching at home	Durable Braille or embossed colour tag sewn into the garment	Travels with the garment; survives washing	Gives the colour name only, not advice on combinations
Checking a label against the cloth	Audio label or QR code linking to a spoken description	Adds detail beyond a short tag	Needs a phone and data; codes can wear off

QR: Quick Response. Note. Participants were not asked about online shopping or QR codes, and Braille and audio provisions were rated together in one Table 1 item. The online and QR-audio rows are therefore proposals from the literature and the authors' reasoning, not findings.

In our judgement the first two layers are cheap; the last two cost more. A retailer in Kumasi can adopt staff training and better written descriptions with no new technology, while manufacturers and tailors are best placed to add sewn-in tags at the point of production. The layered view is also consistent with the argument for building accessibility into mainstream

products [3]: a precise colour description and a durable label help sighted shoppers too.

5.5. A Possible Commercial Signal

All ten participants said they would be more loyal to brands with colour accessibility features, and only two judged current provision adequate. Stated loyalty from ten students is a hypothesis about purchasing, not evidence of it, and the survey did not test it. If it held in a larger and more varied sample, it would give retailers a commercial reason as well as an ethical one to begin with the low-cost layers.

5.6. Limitations and Further Research

The sample was small, drawn from one college and made up of students, so the findings describe this group only. The provisions were rated in principle; no participant tested a Braille tag, audio label or trained-staff encounter during the study. Braille and audio provisions were rated in a single combined item, so the survey cannot say which of the two participants wanted. The open-ended answers were brief and did not allow deeper interpretation. Most Likert items were positively worded statements about what brands should do, which can invite agreement. Ten cases are too few for comparison between subgroups, and no inferential statistics were used. Design research could now build and test the layered approach with visually impaired users in Kumasi, starting with a standard colour description for staff and a sewn-in tactile colour tag, and measure whether mismatched outfits and abandoned purchases fall.

6. Conclusions

In this group of ten students, help from other people was the most common way of choosing clothes, touch was named by three, and opinion was split on whether texture informs colour. The textile argument is that the feel of a fabric does not identify its dye, so touch can carry colour only where a code has been added. Participants wanted staff trained to describe colour, and six of ten judged current brand provision inadequate. Their reported problems were problems of information, and their mismatched outfits suggest that colour information has to stay with the garment after it leaves the shop. Across the three papers in this series, the answers from these ten students point the same way: colour reaches them in words, and the quality of those words appears to shape whether they can buy and dress with confidence. These are findings from a small exploratory survey, and the layered approach proposed here still needs testing. We suggest that inclusive fashion design treat colour information as part of the garment.

Abbreviations

FEA	Functional, Expressive and Aesthetic
ISO	International Organization for Standardization
QR	Quick Response
SD	Strongly Disagree
D	Disagree
N	Neutral
A	Agree
SA	Strongly Agree

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Author Contributions

Kenneth Osei Yeboah: Conceptualization, Formal Analysis, Methodology, Visualization, Writing – original draft, Writing – review & editing

Atta Kusi Ankrah: Supervision, Validation, Writing – review & editing

Andrews Delali Ahun: Visualization, Writing – review & editing

Data Availability Statement

The data is available from the corresponding author upon reasonable request.

Conflicts of Interest

The authors declare no conflicts of interest.

Appendix: Questionnaire Items Used in This Paper

The table lists the items used in this paper, in the wording of the questionnaire. Likert items used five points, from strongly disagree to strongly agree. The questionnaire also held items on colour perception and purchase intentions that are not used here.

Table 4. Appendix: Questionnaire Items Used in This Paper

No.	Item	Format	Reported in
1	How do you usually choose your clothes? Options: touch or texture; verbal description; help from another person.	Tick all that apply	Section 4.1
2	The texture of fabric influences my perception of colour in fashion.	Five-point Likert	Section 4.1
3	Training retail staff to assist visually impaired consumers with colour descriptions would improve my shopping experience.	Five-point Likert	Table 1
4	Fashion brands should do more to cater to visually impaired consumers.	Five-point Likert	Table 1
5	I would be more loyal to brands that provide accessibility features related to colour.	Five-point Likert	Table 1
6	Fashion brands should invest more in accessible colour options for visually impaired consumers.	Five-point Likert	Table 1
7	Accessibility features for colour would make me mo re confident in my purchases.	Five-point Likert	Table 1
8	There is a lack of colour accessibility in fashion retail stores.	Five-point Likert	Table 1
9	Braille labels or audio descriptions would improve my shopping experience.	Five-point Likert	Table 1
10	Fashion brands provide adequate accessibility features for visually impaired consumers.	Five-point Likert	Table 1
11	What challenges have you faced regarding colour accessibility?	Open-ended	Table 2
12	What improvements would you like to see in fashion for visually impaired consumers?	Open-ended	Table 2

References

[1] Oliver, M. The Politics of Disablement. Basingstoke: Macmillan; 1990.

[2] Oliver, M. The Social Model of Disability: Thirty Years On. *Disability & Society*. 2013, 28(7), 1024-1026. https://doi.org/10.1080/09687599.2013.818773

[3] Clarkson, P. J., Coleman, R. History of Inclusive Design in the UK. *Applied Ergonomics*. 2015, 46(Part B), 235-247. https://doi.org/10.1016/j.apergo.2013.03.002

[4] Lamb, J. M., Kallal, M. J. A Conceptual Framework for Apparel Design. *Clothing and Textiles Research Journal*. 1992, 10(2), 42-47. https://doi.org/10.1177/0887302X9201000207

[5] Akter, H., Goncu-Berk, G. Vision Inclusive Clothing Design: A Study on Perception of Clothing by Visually Impaired People. *International Textile and Apparel Association Annual Conference Proceedings*. 2022, 79(1). https://doi.org/10.31274/itaa.16023

[6] Peck, J., Childers, T. L. Individual Differences in Haptic Information Processing: The 'Need for Touch' Scale. *Journal of Consumer Research*. 2003, 30(3), 430-442. https://doi.org/10.1086/378619

[7] Behery, H. M., Ed. Effect of Mechanical and Physical Properties on Fabric Hand. Cambridge: Woodhead Publishing; 2005.

[8] Yu, H., Tullio-Pow, S., Akhtar, A. Retail Design and the Visually Impaired: A Needs Assessment. *Journal of Retailing and Consumer Services*. 2015, 24, 121-129. https://doi.org/10.1016/j.jretconser.2015.03.001

[9] Burton, M. A. Fashion for the Blind: A Study of Perspectives. In Proceedings of the 13th International ACM SIGACCESS Conference on Computers and Accessibility, Dundee, United Kingdom, 2011; pp. 315-316. https://doi.org/10.1145/2049536.2049625

[10] Burton, M. A., Brady, E., Brewer, R., Neylan, C., Bigham, J. P., Hurst, A. Crowdsourcing Subjective Fashion Advice Using VizWiz: Challenges and Opportunities. In Proceedings of the 14th International ACM SIGACCESS Conference on Computers and Accessibility, Boulder, USA, 2012; pp. 135-142. https://doi.org/10.1145/2384916.2384941

[11] Government of Ghana. Persons with Disability Act, 2006 (Act 715). Accra: Parliament of the Republic of Ghana; 2006. https://ir.parliament.gh/handle/123456789/1910

[12] Alluqmani, A., Harvey, M., Zhang, Z. The Barriers to Online Clothing Websites for Visually Impaired People: An Interview and Observation Approach to Understanding Needs. In Proceedings of the 2023 ACM Designing Interactive Systems Conference (DIS '23), 2023; pp. 753-764. https://doi.org/10.1145/3563657.3595978

[13] Cohen, A. H., Fresneda, J. E., Anderson, R. E. How Inaccessible Retail Websites Affect Blind and Low Vision Consumers: Their Perceptions and Responses. *Journal of Service Theory and Practice*. 2023, 33(3), 329-351. https://doi.org/10.1108/JSTP-08-2021-0167

[14] Thadikaran, G. B., Singh, S. K. Fostering Inclusion in Digital Marketplace: Vistas into the Online Shopping Experiences of Consumers with Visual Impairment in India. *Organizations and Markets in Emerging Economies*. 2024, 15(1), 90-108. https://doi.org/10.15388/omee.2024.15.5

[15] Karim, K. A. A. Designing an Assistive Color Code for the Visually Impaired with Braille Touch. *Kupas Seni*. 2022, 10(2), 30-38. https://doi.org/10.37134/kupasseni.vol10.2.4.2022

[16] Braun, V., Clarke, V. Using Thematic Analysis in Psychology. *Qualitative Research in Psychology*. 2006, 3(2), 77-101. https://doi.org/10.1191/1478088706qp063oa

[17] International Organization for Standardization. Textiles: Tests for Colour Fastness. Part C06: Colour Fastness to Domestic and Commercial Laundering (ISO 105-C06: 2010). Geneva: ISO; 2010.

[18] International Organization for Standardization. Textiles: Tests for Colour Fastness. Part B02: Colour Fastness to Artificial Light: Xenon Arc Fading Lamp Test (ISO 105-B02: 2014). Geneva: ISO; 2014.

Biography



Kenneth Osei Yeboah is a Lecturer in the Department of Graphic and Communication Design Technology, Kumasi Technical University, Ghana, where he has taught for about six years. He holds a Bachelor of Arts and a Master of Philosophy in Communication Design from the Kwame Nkrumah University of Science and Technology (KNUST), Kumasi, where he is currently a PhD candidate in Visual Communication Design. His teaching covers colour psychology, typography, signage, animation, photography and rendering techniques. His research interests include visual communication and design thinking, sustainable and packaging design, interaction design, educational technology, the cultural history of design, and animation as a tool for conservation communication, which is the focus of his doctoral research.



Atta Kusi Ankrah is an academic and researcher from Sunyani Odumasi, born in Asawasi, Kumasi, in the Ashanti Region of Ghana. He lectures in the Department of Graphic and Communication Design Technology, Kumasi Technical University, Ghana. He holds a Master's degree in Art Education and a Bachelor's degree in Painting and Sculpture from the Kwame Nkrumah University of Science and Technology (KNUST), Kumasi. His research focuses on the assessment of practical works, fashion illustration, computer-aided design, aesthetics and the criticism of artefacts. He supervised the undergraduate study on which this article is based.



Andrews Delali Ahun is an Assistant Lecturer at Jasikan College of Education, Jasikan, Ghana. He holds a Bachelor of Fine Arts in Animation and a Master of Technology in Graphic Design from Takoradi Technical University, Takoradi. He is currently a PhD candidate in Visual Communication Design.

Research Field

Kenneth Osei Yeboah: Visual Communication Design, Design Thinking, Sustainable Design, Packaging Design, Interaction Design, Educational Technology, Animation for Conservation Communication, Design and Cultural History, Practice-based Design Research, Colour Psychology

Atta Kusi Ankrah: Assessment of Practical Works, Fashion Illustration, Computer Aided Design, Aesthetics, Art Criticism, Art Education

Andrews Delali Ahun: Visual Communication Design, Graphic Design, Animation, Design Education