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The Effectiveness of Signages Found on the North Campus of University of Education, Winneba, Ghana

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Abstract:

The study sought to examine the effectiveness of signages found on the north campus of University of Education, Winneba. This was done through the exploration of the behaviour, perspectives and experiences of the people under study, using questionnaire and participant observation as the primary tools for data collection from 100 participants. The purposive sampling method was adopted for the study to obtain a reliable representation of the population made up mainly of abled and students with disabilities who ply the North Campus of the university for lectures and residency. The study revealed that 45% of respondents disagreed with 15% strongly disagreeing that signages on the North Campus were readable, therefore not communicating the intended message. 60% of respondents agreed signages were accessible; however, they should come with an audio system and braille to serve students and persons with disability. Lastly, 70% found the messages on the signages were not clear, thus no message was delivered to the target; this was due to readability of the size of the fonts used. It is, therefore, recommended that a survey should be carried out to capture the views and needs of the intended targets of the signages on the various campuses to gain a better understanding of their needs. These should be implemented while designing subsequent signages. Additionally, coordinated way-finding systems, such as pictograms and audios that transmit information through receivers to individuals, should be provided to aid persons with disabilities.

Keywords: Signage, importance of Signages, UEW North Campus, way finding, persons with disability

1. Introduction

The main purpose of a signage is to convey messages to help people make the right decision based on the information provided (Meis & Yoshihisa, 2017). Traditionally, signages were made on materials such as cloth, wood, metal, wall, etc. Today, signages are digitally and electronically available in the virtual world. These signages, apart from giving information for wayfinding, have been made for interactivity giving the opportunity for personalization by the user (SignDesignBooks, 2015).

Additionally, signages can be used to create unique identities on sites which can be completely independent of the visual characteristics of the site. On the other hand, signages can be used to reflect and support the visual characteristics of an architectural design for a seamless integrated identity (Calori & Vanden-Eynden, 2015).

Directional and wayfinding signages, whether digitally or on traditional flat surfaces, are necessary to help people find their way about and they also allow institutions and organizations to function and operate effectively (UCL, 2021). Consequently, every signage system, which aims at providing information for consumption for a specific target, should satisfy some human ergonomic factors listed below (New York State Small Business Development Center, 2001).

1.1. Visibility

There are essential defined characteristics that help observers distinguish signages from their surrounding environment. Creating visibility with a signage helps to grab the attention of target. Essentially, signages should be clear, concise, legible and distinct from the surrounding environment with aesthetic qualities. Though a signage may work well as an isolated design, the signage may blend into the background while mounted together with others making it really invisible (New York State Small Business Development Center, 2004).

Thus, signages should be placed or mounted in an area that gives prime introduction to the target group.

1.2. Readability

Well-thought out and planned signages prevent ambiguity with clear fonts and appropriate colours selected project messages concisely. Too many fonts or different fonts clustered on the space may be tiring for the eye and can confuse readers. Additionally, small point sizes make it difficult to read the message and may cause the target to gloss over the message thus defeating the purpose of the sign. While letters must be individually identified, the text, as a whole, should be clear and readable by keeping messages simple, and also using san-serif fonts, such as Arial bold, which help readability (UCL, 2021).

1.3. Noticeability

Signages should stand out to make them easily recognizable with adequate contrast from their surroundings to make them easily and readily discovered by the eye. In order to achieve safe and efficient operation of a road network, it is important that all signages provide clear and unambiguous messages to all road users at the appropriate time. Thus, messages must be quickly and easily understood at the point of need; the information should not be forgotten too soon, not too late either for the safe performance of any necessary maneuvers (The Department for Transport, 2018).

1.4. Environmental Factors

The environment plays a very important role in helping people find their way about. A structure including the geography of the environment through which the journey is made also affects how easy people find signages to make appropriate decisions along their way (IG, 2005). Various cues including landmarks and most significantly signages for the purpose of this study enhance the overall experience of a place or atmosphere.

2. The UEW North Campus

The University of Education, Winneba (UEW) was the first mandated institution to take up the training of the Ghanaian teacher to meet the demand for teachers at every level of the Ghanaian educational landscape. The University of Education, Winneba is a merger of seven diploma institutions brought together and established in September 1992 under PNDC Law 322 (University of Education, Winneba, November, 2018). It was then the University College of Education, Winneba (UCEW) made up of these seven diploma awarding colleges located in different towns put into one umbrella institution namely the Advanced Teacher Training College, the Specialist Training College and the National Academy of Music, all at Winneba; the School of Ghana Languages, Ajumako; College of Special Education, Akwapim-Mampong; the Advanced Technical Training College, Kumasi; and the St. Andrews Agricultural Training College, Mampong-Ashanti. The Winneba campus is the seat of the Vice-Chancellor made up of three campuses in the Winnebatownship. The University College of Education of Winneba became a full fledged university on 14th May, 2004 owing to the enactment of the University of Education Act; Act 672 which upgraded the status of the university (University of Education, Winneba, November, 2018).

UEW is one of the high-ranking institutions of higher learning and has chalked many successes in academics and social facilities. This feat can be attested by alumni of the then UCEW in the late 1990s to present UEW in terms of infrastructure and human resource. Though the university has made great leaps in infrastructural construction, much cannot be said about the design, production and installation of signages most especially on the North campus of the University which happens to be the seat of administration.

The signages, found on the North Campus, lack uniformity in the use and choice of fonts, colour, size and even positioning.

Based on these factors, a great institution, such as the University of Education, Winneba, needs effective signages that help students, staff and visitors to navigate through the various parts of the campus for effective day-to-day operations within the environs of the campus.

Thus, this study sought to:

- Investigate the effectiveness of signages on the north campus of University of Education, Winneba.
- Come up with recommendations to help address challenges identified with regards to the effectiveness of signages found on the north campus of the University of Education, Winneba.

Additionally, this study was necessary because signages found on the north campus lack uniformity and possibly designed without taking into consideration the needs of persons intended for and with disability though the institution is recognized for having an all-inclusive system of education. This consequently, raised the question whether signages on the North Campus of the University of Education, Winneba (UEW) are serving the purposes for which they were made? To answer this question, a study was conducted among hundred (100) students including students with disabilities on the North Campus.

The outcome of the study indicated that signages including directories found on the north campus of University of Education, Winneba were not clearly communicating to the intended audience and also did not cater for the needs of persons with disability.

The following pages contain some images of signages mounted at the North Campus of UEW;



Figure 1: This Signage Is Found at the Main Entrance of the North Campus of UEW and the Design Is So Clustered and Faded It Makes It Difficult to Read
Source: Researchers' Archive, 2022



*Figure2& 3: TheInstallation of This Sign Makes It Difficult to Relate the Sign to the Roundabout
People Don't See It and Rather End up Walking in the Roundabout
Source: Researchers' Archive, 2022*



Figure: 4& 5: No Directional or Informational Sign to Help Users of the Facility to Navigate
Source: Researchers' Archive, 2022



Figure: 6 & 7: No Standardized Signage Designs
Source: Researchers' Archive, 2022

2.1. Signages and Types

We come across signages everyday especially for directions on the roads, traffic control, on our smart phones, and in facilities; all these signages ask us to perform specific task in the form of transmitting information that affect us through some form of persuasive communication (Meis & Yoshihisa, 2017). Essentially, signages that aid in wayfinding are most commonly designed through the integration of information and visuals seamlessly on sites (Calori & Vanden-Eynden, 2015).

Signages are usually made from everyday found materials such as wood, card, aluminum, perspex, etc. These materials are moderate in pricing and inexpensive to maintain making them highly popular methods for communication which cause some behaviour change (Meis & Yoshihisa, 2017). Consequently, users typically do not need any special equipment to access information. However, the sensory organs of a recipient of the message must be effectively equipped to perceive the information that may influence the behaviour of the recipient (Calori & Vanden-Eynden, 2015).

Signages are made for both interior and exterior purposes and come in various forms which can be grouped under the following classifications:

2.2. Identification Signs

Identification signs help identify locations, and point out specific landmarks. Though these signs do not provide directions; they let users know when they have arrived at a destination and confirm the identity, name or function of individual buildings, departments, rooms or locations. They also, sometimes, confirm destinations referred to by directional signs; however, most are independent of any wayfinding system. These signs can be found on buildings, departments, rooms, door signage, and numbering (Arthur & Passini, 1992).

2.3. Directional Signs

They provide defined paths, routes or directions needed to guide consumers to specific destinations. Message contents are usually in accordance with accepted terminology which include clear directional arrows matching the corresponding destination sign (Cooperative Research Centre for Construction Innovation, 2007). This category of signs uses text and images and can be found at entries, exits, restrooms, breakrooms, conference rooms, and other common destinations around a facility. Subsequently, directional signs are what most people imagine when they think of wayfinding and may be used at several locations throughout a facility:

- To help visitors find reception desks, offices, loading docks, and other common destinations
- To inform users about locations found on specific floors
- Displayed as overhead signs at junctions where users may need directions

2.4. Informational Signs

Informational signs supplement users with useful information along the way. For example, "wet floor" sign may alert users of a walkway in a facility to be mindful so they don't slip on wet floor (National Health Service, 2005). Thus, users can take that information into account and act accordingly.

Thus, informational signs in facilities of organizations can help:

- users know where and how to obtain certain or more information about a facility can be accessed
- drivers know which parking spots are reserved for visitors or employees
- caution workers about heavy equipment present or danger associated with certain equipment or parts of the facility

2.5. Regulatory Signs

Regulatory signs inform users of regulations and requirements that are in place (National Health Service, 2005). Most of these signs may remind

- users to wear proper PPE, such as face mask,
- inform users about smoking and no smoking zones in a facility
- warn visitors and workers about off limits areas
- post speed limits for road users

2.6. Orientational Signs

These signs give users an overview of the shape of a building or site, present location of the user as well-intended destination. They also provide other relevant information about the general setting of the facility. Examples of this type of sign include maps, directories, floor plans and exploded views.

2.7. Statutory Signs

These include all obligatory signs required by regulation and statute (Arthur & Passini, 1992). They include fire safety, occupational health and safety and building code requirements; as well as those of services such as telecommunications, electricity, post and security.

2.8. Traffic and Parking Signs

This category covers all vehicular traffic flow and parking control signs; both on-site and off-site including signage in loading and service areas (Arthur & Passini, 1992).

2.9. Miscellaneous Signs

These signs generally provide information regarding procedures relating to operational matters, and are usually intended to be read by staff (National Health Service, 2005).

2.10. Significance of Signages

Signages are meant to provide information to recipients to help them make informed decisions. Hence, providing *clear communication* through signage can increase the chance for purchases by the end-user (Meis & Yoshihisa, 2017).

Additionally, signages convey *brand character and identity* through consistent use of space, choice of colour, fonts and design style (Calori & Vanden-Eynden, 2015). This fits into the brand vision of the organization and presents the organization as a leader in their field of endeavour. This creates *brand awareness* by informing potential customers about what the brand is all about, as well as the experience they should expect (NYSSBDC, 2001).

Consequently, *the right audience is reached* with the intended message at the right time by providing the customer with what they need, and allowing them, to be in control of their experience (NYSSBDC, 2001). Hence, potential customers are turned into customers.

Lastly, signages can be *extremely cost-effective* when compared to pay-per-impression (PPI) style advertising where payments are made for each advertisement placed via email, on social media, and through other media outlets like television, radio, and print. This is because signages are one-time, up-front cost that can last for a considerable long period of time, making it a wise and worthwhile investment (Arthur & Passini, 1992).

2.11. The Significance of Signages at the North Campus

Brand strategy and management is very important to the corporate identity of any organisation which is used to maximize experience and inform clients about the quality of services provided.

Essentially, signages on the various university campuses should adopt a visual identity system which visually links the university's academic and support entities as well as its commercial entities back to the Masterbrand (logotype) which is currently not the case with the various UEW campuses as various signage designs are independent of each other in terms of size of signage, fonts, design concepts, and even choice of colours.

Therefore, there is the need for a signage manual which should provide UEW with guidelines for developing a signage system that will enable the University to display consistent, informative external and internal signage to all buildings and campus grounds.

Hence, developing a signage and wayfinding design manual will better promote the UEW brand and enhance the experience of students, faculty, staff and visitors. It will also serve as a planning tool to be used whenever funding becomes available for improvements to existing and future sites throughout the various campuses.

This manual will help design signages that would reflect the needs of various users and also, provide information on an 'as-needed' basis in a logical sequence from 'campus perimeter' through to 'destination arrival' (RMIT University, 2015).

As a result, the needs of people with disability when considered during the design and mounting of signages will make their way finding easier and less cumbersome.

3. Methodology

The study sought to explore the behaviour, perspectives and experiences of the people under study, (Gray, 2004) which involved the participation and acceptance of the views and opinions of students with regards to the effectiveness of signages found on the North Campus. Consequently, one hundred (100) students, who ply the north campus for lectures and residency, participated in the study. These students were purposively sampled to ensure the population included persons with disability because of their unique physical characteristic that impacted on the results of the study (Tongco, 2007).

In order to gather the relevant data, both qualitative and quantitative approaches were used for the study with an inductive approach where the research data was used to describe the prevailing situation. The quantitative data was obtained from the questionnaires made up of structured questions with Likert scale type answers; observations were made during the field research; interviews were conducted for the visually impaired (students) respondents to complement the qualitative data to support the study (Gray, 2004).

The respondents were given a consent form regarding the confidentiality of their identity and the information they were giving out. This ensured that the identities of the participants were protected and most importantly any information they gave would not be used against them in any way or anytime (AMA, 2003). This was done to promote trust between the researcher and the respondents.

4. Data Presentation, Analysis and Discussions of Findings

The main purpose of this study aimed at assessing the effectiveness of signages found on the north campus of UEW. This called for the exploration of the effective use of signages as a tool for communication through the review of existing literature and data collected to support the study. Consequently, the study gave an insight on signage accessibility, readability and effective communication to the intended audience.

Respondents agreed that signages were an important part of life because they help make life a little easier by helping with wayfinding. However, the purpose of a signage or directory is defeated if it does not communicate clearly to the intended audience or is not easily accessible to them. The responses from the persons with disability indicated that

they certainly were not taken into consideration during the designing stages of the signages and directories mounted on the north campus.

The findings were categorized under the following themes:

- Demographic characteristics of respondents for students with and without disability
- Gender
- Level of students
- Readability of current signages and directories
- Easy accessibility of signages and directories
- Clear communication of images used on signages

4.1. Validity of the Research

Gillham (2000) states that if the response rate of a research is less than 30%, the value and validity of the method and results are in question. Therefore, it is reasonable to conclude that a satisfactory response rate should be at least 30%. In this study, the target was met with a response rate of 100%; which are discussed and analysed.

4.2. Demographic Characteristics of Respondents for Students and Persons with Disability

Variables	Respondents	Percentage (%)
Male	55	55
Female	45	45
Total	100	100

Table 1: Gender
Source: Field Survey - May, 2021

One hundred (100) questionnaires were sent out; the respondents were made up of 55 males representing 55% and 45 females representing 45% making a total of 100 respondents as shown in the table above.

Variables	Respondents	Percentage (%)
Level 100	35	31.8
Level 200	20	18.2
Level 300	15	13.6
Level 400	30	27.3
Total	100	100

Table 2: Levels of Students
Source: Field Survey - May 2021

Table 2 gives the academic levels of the respondents. The sample for the survey consisted of 35 Level 100 students representing 31.8%, 20 Level 200 students representing 18.2%, 15 Level 300 students representing 13.6% and 30 Level 400 students representing 27.3%. There were 10 no responses representing 9.1% who did not respond or return the questionnaire.

4.3. Analysis of Results

Variables	Respondents	Percentage (%)
Yes	35	35
No	65	65
Total	100	100

Table 3: Do You Have Any Disability?
Source: Field Survey - May, 2021

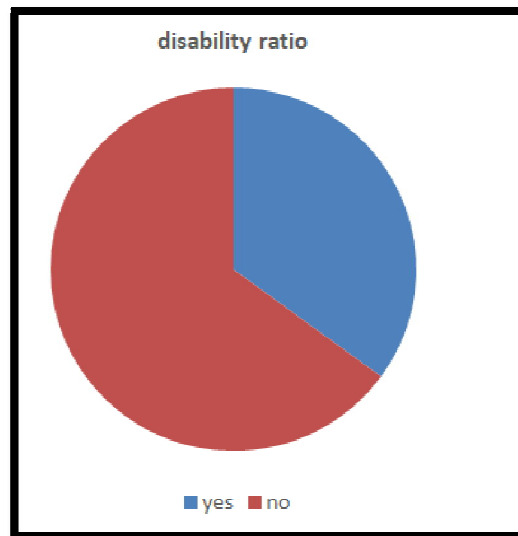


Figure 8

Table 3 indicates that 35 students representing 35% of the respondents had a disability, while 65 students representing 65% of the respondents were without disabilities. University of Education, Winneba is known for the training of persons with disability and this result affirms the importance of taking into consideration the needs of such persons while designing.

4.4. What Is Your Definition of a Signage?

Variables	Respondents	Percentage (%)
Knows definition	68	68
Didn't know	28	28
Not sure	4	4
Total	100	100

Table 4: Respondents Understanding of a Signage
Source: Field Survey - May, 2021

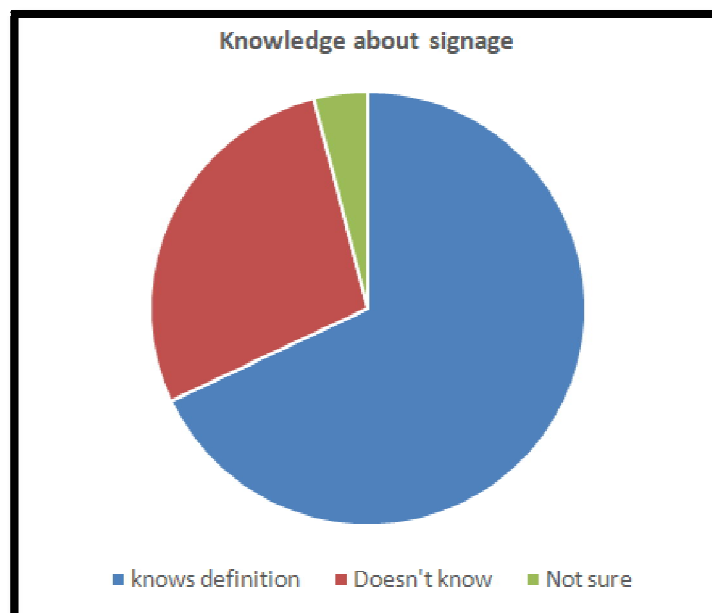


Figure 9

68 respondents representing 68% of responses described signages as symbols, emblems or words, used for identification and means of giving directions or warning. 28 respondents representing 28% of the responses could not define signages, while 4 respondents representing 4% were unsure of what to say. Though majority of the respondents had an idea of what a signage was, it will be really helpful if from time-to-time workshops or leaflets with education on such are given out to cater for the few to bring them to par with the majority in the know.

Variables	Respondents	Percentage (%)
Strongly Agree	17	17
Agree	23	23
Undecided	0	0
Disagree	45	45
Strongly Disagree	15	15
Total	100	100

Table 5: Are Current Signages and Directories on the North Campus Readable?
Source: Field Survey - May, 2021

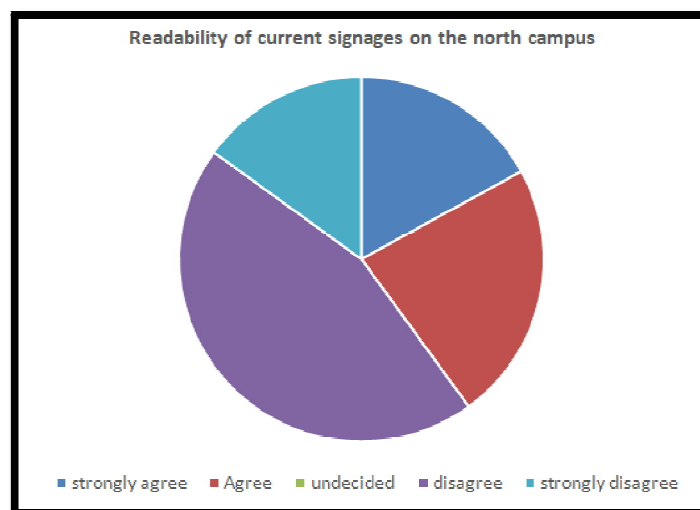


Figure 10

The responses in Table 5 represent the question of readability of signages on the north campus; 17 respondents representing 17% strongly agreed, 23 respondents representing 23% agreed, none was undecided, 45 respondents representing 45% disagreed with 15 respondents representing 15% strongly disagreed. This implied that majority of the respondents found it difficult to read current campus signages; thus, the purpose for installing the signage was defeated.

Variables	Respondents	Percentage (%)
Strongly Agree	60	60
Agree	30	30
Undecided	0	0
Disagree	10	10
Strongly Disagree	0	0
Total	100	100

Table 6: Are Signages and Directories on the North Campus Easily Accessible?
Source: Field Survey - May, 2021

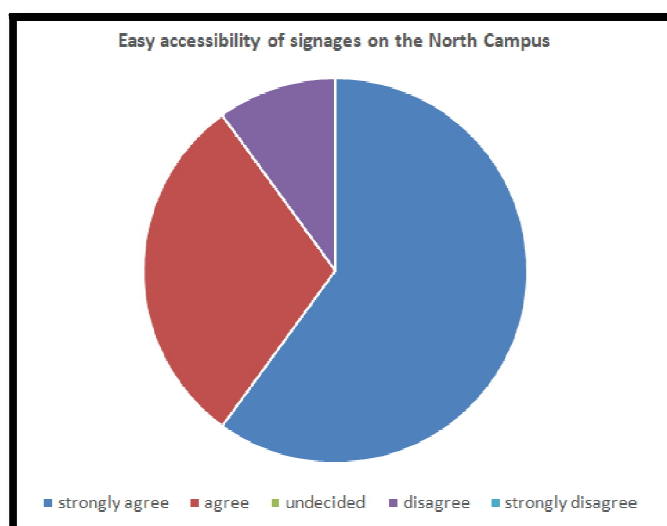


Figure 11

Data presented in Table 6 indicates the following through various responses; 60 respondents representing 60% strongly agreed, 30 respondents representing 30% agreed, none was undecided, 10 respondents representing 10% disagreed with none strongly disagreeing. This implied that majority of the respondents were able to access campus signages and directories though they are not able to read because the lettering is small and does not cater for persons visually impaired.

Variables	Respondents	Percentage (%)
Yes	100	100
No	0	0
Total	100	100

Table 7: Should Signs and Directories Be Accompanied with Pictograms and Braille?

Source: Field Survey - May, 2021

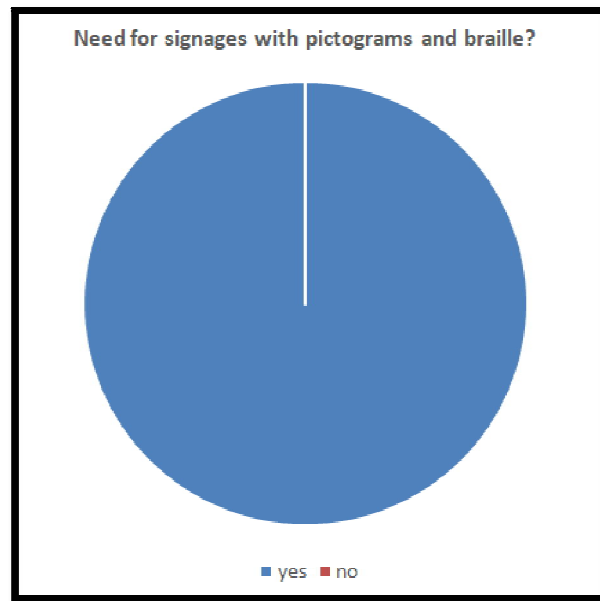


Figure 12

Data presented in the Table 7 answered the question: *should signs and directories be accompanied with pictograms and Braille?* There was a 100% affirmation to this question with an explanation that, by design, production and installation of appropriate signages, that address the needs of persons with disabilities, will enable them to easily find their way about and also help them integrate into the school system independently and freely without limitations.

Interviews were conducted among the thirty-five (35) students with some form of the visual impairment and they expressed the difficulties they faced trying to find their way around which alienated them from having passage to various locations on campus. They had to rely on directions given to them by other users of the facility which was often not very clear or helpful leading to frustration. Those with some form of partial vision impairment also reiterated the frustration associated with trying to read the very small and tiny text used for the design of signages and the poor choice of colours used for text and background in addition to faded designs.

Variables	Respondents	Percentage (%)
Strongly Agree	52	52
Agree	20	20
Undecided	0	0
Disagree	18	18
Strongly Disagree	10	10
Total	100	100

Table 8: Are Signages and Directories at Vantage Points?

Source: Field Survey - May, 2021

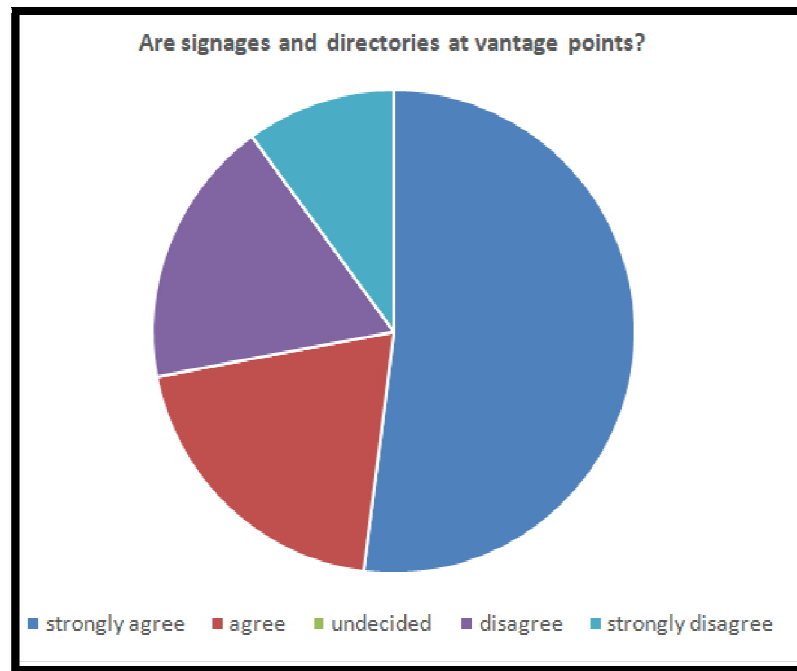


Figure 13

Data presented in the table 3.8 indicated that 52 respondents representing 52% strongly agreed, 20 respondents representing 20% agreed, none was undecided, 18 disagreed with 10 of the respondents strongly disagreeing. The results, thus, implied that signages should be at vantage points and if possible, with auditory services to notify users about various entrances and exits.

The respondents from the interviews suggested the need for auditory equipment with description to help promote greater independence by enabling them to move about easily and also perform tasks they were formerly unable to do. They also suggested the need for appropriate directional and informational signs to help them find their way about easily without having to rely on asking other users for directions or information which are mostly not accurate and misleading.

Variables	Respondents	Percentage (%)
Strongly Agree	0	0
Agree	20	20
Undecided	10	10
Disagree	70	70
Strongly Disagree	0	0
Total	100	100

Table 9: Do Signages And Directories on the North Campus Convey Clear Messages?

Source: Field Survey - May, 2021

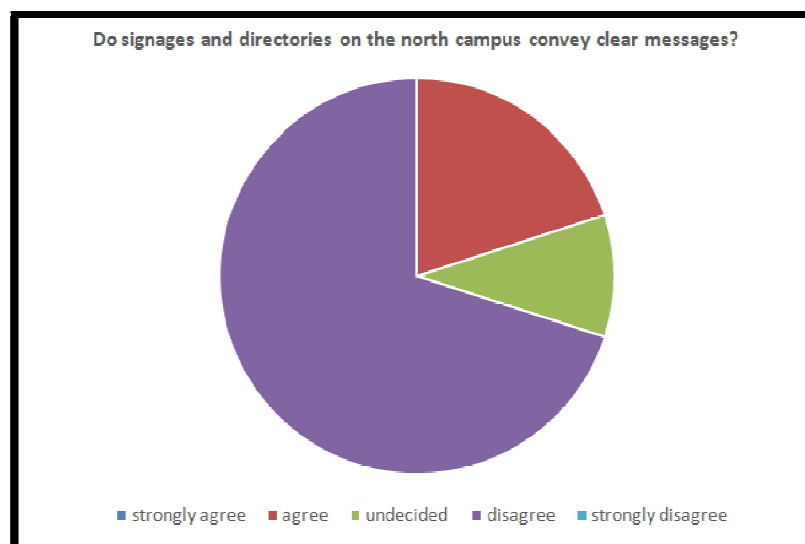


Figure 14

Data presented in the above Table 8 answered the question: *do campus signages and directories on the north campus convey clear messages?* 70 respondents representing 70% disagreed, while 20 respondents representing 20% agreed, 10 respondents were undecided, none strongly agreed and none of the respondents strongly disagreed.

The objective of this study was to assess the effectiveness of current signages installed on the north campus and also to determine whether they are fit for purpose through a survey which involved students; abled and disabled.

The study revealed that 52% of respondents agreed that signages on the North Campus were not readable, therefore not communicating the intended message. 60% of respondents agreed that signages were accessible; however, they should come with some form of audio system and braille to serve students and persons with disability. Lastly, 70% found the messages on the signages were not clear; thus no message was delivered or passed on to the target; this was due to readability with regards to the size of the fonts used. Thus, the conclusion is that the signages on the North Campus of UEW are not communicating to the intended users due to the above reasons.

5. Conclusions

Wayfinding on the North Campus of UEW was difficult and cumbersome for most users of the facility especially for persons who are new to the facility and also for persons with some form of visual and hearing impairment. This was because there are no clear signages to give directions, and information to help in navigation and wayfinding; thus, most users have to rely on other users who may not give accurate information making it difficult to get to their destinations. And even where there are signages, the proximity of these installed signs to the sites made it difficult to relate the messages on the signs to the intended site. Besides, information on the designs is either faded or clustered, with very tiny fonts making readability very difficult.

Additionally, Persons with disabilities also faced certain barriers such as the inability to locate and access the library at the College of Distance Learning (CoDEL) and other informational centers because signages were not in systems or *languages* they could easily access and understand. Specifically, it was difficult for both hearing and sight impaired students to access signages on the North Campus because these signages were without braille or audio facilities that could help them find their way about; they, therefore, relied on taking directions from people who show them around.

6. Recommendations

It is recommended that a survey should be carried out to capture the views and needs of the intended targets of the signages on the various campuses to gain a better understanding of their needs. These should be implemented while designing and installing the signages. Thus, standard signs, that are clear and easy to read, with sufficient colour contrast and appropriate typeface and type size, should be used for to help visually impaired people as well as non-impaired users.

Additionally, co-ordinated way-finding systems, such as pictograms, braille and audios that transmit information through receivers for persons with disabilities, should be included in the design of these signages. Additionally, directional signages should be brought down to appropriate level for easy access by students, with visual impairments or mobility impairments. Similarly, directional signages should be provided at wayfinding decision points with effective lighting provided to make the signage conspicuous at all times.

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