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Multimodal and Multimedia: An Evaluation of Revoicing in Agent Raghav TV Series of Hausa in Areawa24

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Abstract: Translation implies the transfer of speech to written text, while revoicing is the replacement of the original voice through the use of multimodal or multimedia technology. Therefore, revoicing is an aspect of Audiovisual Translation that replaces the original speech which was translated in the target language to transfer the culture and language of the source language to an audience. The purpose of this study is to explore the use of revoicing especially in multimedia translation, application and limitations. There is also subtitling that leaves the original speech intact and adds a written translation on screen. The choice of translation procedure depends on a variety of factors. The researchers extracted some segments that served as their corpus for analysis. The researchers applied semiotic theory and comparative approach. The comparison assisted them in identifying some inadequacies in the revoicing and making observations and interpretations. At the end, the following findings were made: i) lips synchronisation became difficult in some instances as the length of sentences in two languages are not the same, ii) revoicing plays a vital role in culture and language preservation, hence an important tool in communication delivery. It was also identified that the two different languages (Hindi and Hausa) have different patterns and language structures.

Keywords: Multimodal, Multimedia, Revoicing, equivalence, Audiovisual Translation

1. Introduction

If there is no language, then no translation because a translation uses language as a tool in its operation. As Cattrysse, (5) supports that "language is the most obvious element that must be changed to reach several native audiences". This is the reason why some films or videos are translated into other languages to reach the audience of reaching minority languages and the global market.

Consequently, Multimedia Translation according to Cattrysse, (1) is "the processing and presentation of information in two or more media simultaneously". Therefore, the Translation on Arewa24 series of Agent Raghav is the transformation of a communication into an Audio-visual message and a Multimedia message. Multimedia Translation is a situation that requires adaptation and development from linguistic and literary translation into Audiovisual Translation, media translation. In the film industry such as Arewa24, the multimedia production process requires electrical gadgets, software, and telecommunications. Gambier, (20) also insists that multimedia establishes "certain ways of viewing language and dealing with verbal code, for considering the relationship between verbal and other semiotic systems to focus more on cultural and communicative aspects rather than solely on language and text". This is achieved through the widespread of Hausa culture as well as language by Arewa24 TV and their programmes. Continuing, Gambier confirms that "modes of language transfer in audiovisual media and localisation in multimedia make it clear that translation does not end with "text" but with delivery", (34).

AVT in the last two decades has become a recognised form of translation and also an academic research field. AVT is now one of the fastest-growing areas in the field of Translation Studies. As supported by Cintas, (1) the AVT is "experiencing the expansion and consolidation as an academic discipline". There is a debate on superiority amongst translation experts on the differences between

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dubbing and subtitling. Research in the field of Multimedia Translation is difficult because of a lack of theoretical frameworks and methodological tools. It is commonly concerned with the transmission of multimedia speech from language A into language B and its culture, Gambier, (64).

Arewa24 is a Nigerian satellite television channel that showcases the lifestyle and the society in Northern Nigeria available on DSTV, GOtv, and StarTimes with its headquarters in Kano. It is the first free-TV channel to use the Hausa language. It broadcasts programs from Kano, Nigeria and also from South Africa, Niger, Sri Lanka, Cameroon and West Africa. Zaki, et al., (3) describes Arewa24 as a satellite station that serves as the medium of reaching the intended audience with their language not only in Nigeria but to the Hausa community in Sub-Saharan Africa and other parts of the world.

Infact, the TV series "Agent Raghav Crime Branch" which is a Hindi series of episodes produced in 2018 on "& TV HD" that is available on YouTube channels was introduced on Arewa24 programmes. The actor, Agent Raghav Sinha joins Crime Branch Special Unit because of his exceptional and high skills of observation and also his expertise at reading a person's mind and body language. He works with his colleagues Trisha, Rajbir, Bikram, Swati, Gauri and Dr. Aarti under Dilip Chauhan, the chief of the Crime Bureau of Investigation's (CBI) team. Trisha, the leader of this special Unit shares a relationship with Raghav. Despite their personal problems, they form a team and work to achieve a crime-free society. In comparison, the TV series is similar to "The Mentalist", an American-based television series on crime investigation using mentalism; the highly developed observational skill he employed to read people's minds, the physical reality, and intelligence to arrest criminals. The actor is Patrick Jane, a "psychic" and works as a consultant to the Califonia Bureau of Investigation (CBI) with his colleagues and his boss, Teresa Lisbon, a senior agent.

The research questions include:

- i. What kind of revoicing is appropriate and in which situation?
- ii. What synchrony should priority in a certain situation?
- iii. What is the role of a translator in revoicing process?
- iv. What does translation look like compared to its original?

2. The Concept of Multimedia Translation

Multimedia Translation is viewed in different ways by different theorists and authors in the field of translation. Baker et al., (8) define the term as "audiovisual translation and as a branch of translation studies concerned with the transmission of multimodal and multimedial texts into another language and/or culture". This transfer involves translation with technological gadgets that employs the act of revoicing by actors. Suffice it to say that revoicing of the Indian series to the Hausa language through a selection of some Hausa voice actors to fit the original voices is part of cultural transfer. As Pym (278) argues "culture is a set of factors creating resistance to the movement of information; or more exactly, sets of factors that alter the status of information as it is moved". For him, culture is what you thought it was but we can look at it from the text and "text-bearers" which include movement, period and space. Considering the factors of media translation, the researchers did not look at the target culture but the actors stirring the text by putting into consideration the "cultural products" and responding to changes brought about in translating through "selecting, arranging, programming and constructing metatexts". In his view, Pym (2020) believes that in multimedia translation, actors are the transformers of culture with the help of a translator as they operate between two cultures.

Attention is drawn on an audio-medial text by Reiss, (2012) as the first to notice political speeches or lectures. Media Translation according to Gambier, (11) "covers voice-over, narration, simultaneous interpreting and subtitling". Initially, slides, TV, video were used in teaching and later developed into the use of computer and Internet. Some of the criteria applied to Multimedia translation includes "comprehensibility", "accessibility" and "usability", Gambier, (11). Multiple technologies are involved in the process of media translation and revoicing in particular. Revoicing can be achieved through the collaborative work of the voice mixer, editor, video editor, and translator.

Therefore, Multimedia involves dubbing speaking actors with time associated with limitations. Translators ought to work with programmers, graphic designers, voice mixers, editors to actualise the sound to realise it in the translated version. Technically, the "digital manipulation of the picture could make screen translating much less constrained; normally the translation of the oral elements of the

audiovisual text is constrained by the need for it to be synchronised and coherent with the nonverbal and visual constituents", Gambier et al., (105).

Presently, translation is a complex activity and cannot be accounted for in linguistic terms any longer. This is because there are new translation approaches that have changed the pattern due to their influence and informed translator training also due to the change in source text. Dicerto (2) adds that there are "different theories of translation aim at providing translators with varying views of the translation process that can help them make translation choices based on different principles".

2.1. Methodology

This research used a qualitative approach and semiotic theory of translation to explore the challenges encountered in revoicing. The researchers worked on eight episodes, four selected from Hausa translations of (Agent Raghav: episodes 17, 33, 49 and 55) as well as four episodes from Hindi episodes 49, 51, 58 and 60. The researchers extracted some variables from the series of videos and also made some observations in the revoicing process. The extracted variables are presented in a tabular form which helped in analysing the results.

3. Literature Review: Integration of Revoicing in Videos for Localisation

There is a series of growth and advancements in the field of multimedia and nature of digital communication amongst media, telecommunications and Information and Communication Technology (ICT). According to Gambier (12):

> Media production in a free market economy, media distribution, media effects on children, stereotypes, violence, [...] the audience, history and future of the media, rights and their regulation and control authorities, media policy, but practically nothing about the media as one of the essential elements in forming cultural and linguistic identities.

The interest of this research lies on Interlingual translation which is the substitution of fundamentals of one language, into another by equivalent fundamentals. Revoicing falls under the category of Interlingual translation which contains of lips synchronization, dubbing, voice-overs and narration. Revoicing or dubbing according to Mujagic, (4) "covers entirely the spoken source text with the target text and that is why it is also called lip-sync dubbing". In this case study, it fits the lip movements of the original.

On the contrary, Mujagic, (20) argues that revoincing do not lay emphasis on lips movement of the original voice. Adding that it is unrestricted analysis of the departed language in the arrived language. Mark, (126) supports the idea by explaining that "revoicing" method with lips synchronization, dubbing are libral commentary and a classical voice-over that was earlier translated and followed by a professional speaker as the original sound is reduced to a low level. This further explains that the actor's voice overrides the voice of the main actor in the movie.

Technically, revoicing is operated in two different ways as confirmed by Cintas (24). First is by entirely deleting the voices of the source program (dubbing) or by contrasting a new recording to the original one: voice-over, interpreting, audio description. The first is an "un-style voiceover or revoicing" where an interviewee speaks a foreign language as the voice actors record over the original audio. In this form, the viewer hears the interviewee in the background speaking their language while the voice actor interprets. The volume of the speech actor is higher and delays for some seconds after the original audio track allowing the audience to hear it. The technique is useful nevertheless not commonly used presently as it allows the viewer to both hear and comprehend the speaker's words at the same time¹.

The second is widely accepted in the media as it fits the characteristics. This is revoicing which is quite different from the first scenario. In this form, viewers hear only the voice actor's voice in the translated version as if it is the original voice. The original voice is erased by replacing it with a new one. In support of this, Cintas (9) further explains that "in the first instance the original dialogue is replaced by a new soundtrack in the target language in a process generally known as revoicing".

Besides, Audiovisual texts are principally spoken texts -radio/TV programmes, films that are translated either by revoicing or subtitling, Williams, et al., (22). In support of this, Cintas et al., (13) add that "audiovisual translation refers to the translation of products in which the verbal dimension is supplemented by elements in other media". There are two kinds of AVT: the Intralingual and the Interlingual AVT.

¹ https://www.techsmith.com/blog/voice-over/

In other words, there might be a slight difference in the use of the terms dubbing, voiceover and revoicing. We have tried above to identify and differentiate them in our research but here we are differentiating between the two terminologies in AVT: revoicing and subtitling. Vijayadurai (2) views "dubbing or voice-over/revoicing from a source language (SL) to a Target language (TL) as replacing totally the SL aural-oral text there while subtitling is the oral text of SL that is converted into written TL text'— as they have been accustomed to find the only oral text of SL (English) into written SL text (English)".

Therefore, "revoicing" replaces the original spoken text with a translation in the target language. And revoicing in AVT is a technique of boosting minority language context. So, technology goes along way with AVT as advancements take effect on the latter as supported by Orero (2) that "the term is widely perceived as related to the field of IT". Some difficulties encountered in Multimedia translation include voice matching from the Hindi language to the Hausa language which will be difficult because of the structure of the two languages in question. The delay in the mouth movement may be short from the original video to the new video through the replacement of the characters' voice — "revoicing". However, crossing cultural boundaries is difficult especially after the issue of equivalence is considered.

In this case study, the film is in Hindi as a majority of the audience watching Arewa24 does not understand it but with revoicing using Hausa they understand. The producers used such phenomenon to revoice some videos to pass the original message to their audience orally in their culture. As supported by Williams et al., (18), "cultural shift in translation led translators to look at how translations, in turn, have effects on target readers and culture". African languages like Hausa are boosting as producers and directors integrate revoicing and subtitling which are renarrated scripts, although "Language Services" do a great deal of revoicing work into other languages. When compared to subtitles that are an option, nevertheless an audience desires to watch a video in their language rather than to read it as the images go by easily without watching. This is where the idea of "revoicing" or replacing the audio with translated audio comes to play.

In the film industry, "dubbing" is used when the original speaker's audio track is completely replaced by the voice actor in contrast to an un-style voiceover that reserves the original track underneath the voice actor. Then, the dubbing of the voice actor's voice must be carefully recorded, set, timed and synchronised to match the speaker's lips. The process considers the actions and even intonations of the actor that are not too obvious and distracting when viewers are watching the film. This is often called lip-sync dubbing or 'revoicing'. According to Gambier (16) in most cases, the process is difficult and overextending; the voice actor must compulsorily work with editors in a studio (re)recording sections where the audio and visuals strive to match, Gambier (12). Nowadays, an attempt is being made to identify a slight difference between the two terminologies. The terminologies are two sides of one coin, they are used interchangeably by researchers in a different context "revoicing" and "dubbing".

Nowadays, "revoicing", is a technique applied to enable a large audience in a country where the original language is not understood like (Hindi). It is often used to localise a foreign movie like *Agent Raghav*, an Indian series on Arewa24 to the Hausa language. The speed of the video can be logically slowed in the dubbing process to accommodate articulation in another language to attain a timeline and sync the voiceover with the video, (...). In the process, the audio must be studied and translated into the target language before the actual revoicing begins. In revoicing, there is a limited amount of time that the audio must be heard to fit the needed piece of the original movie; as this process is quite different from written translation. And with dubbing, however, the speech sounds of the voice actor must match the shape of the original actor's mouth movement. This means that the movement of the mouth tallies with that of the original actor. The fact is that, in most cases, the voice actors have to match the tone and rhythm of the original audio, and it is a tedious work ahead, Jordan (15).

There are some challenging issues in this study, these include professional practice, the impact of technology and training. The training of the translator is fast changing with training and retraining in translating skills, aptitude to work under pressure, cultural differences in languages and language skills are the requirements and competence that an audiovisual translator needs. In most cases, a translator is not given a script, a dialogue list, a video, s/he must download the necessary material from the internet if available, or provide it as the time frames are tight. The translator's work on the script might help in solving ambiguity as proofreading and revision are practiced. And technically, technology especially

digital changes in audiovisual production should be up to standard considering the quality in sound, pictures and editing. Professionally, there should be a synergy between the translator, producer, the sound engineer and the actors for revoicing, in a nutshell, teamwork. Some of the issues are the actors' voice, synchronisation, actors' accent, speakers' errors, terminology and text-image synchronisation. A cinematic translator should:

- analyse the needs of the audience to match with the visual,
- consider the time frame given with commitment and teamwork,
- write expressions "concisely" and "succinctly" with a sense to provide an accurate translation that could be understood,
- adapt to and train with new tools and
- revise and assess the quality of the translation.

Infact, the technical know-how is more important including accumulating knowledge of the translator and his exposure. In any case, translators are frequently requested to translate (mostly from English) to other languages. Therefore, translators need to apply competence and techniques in translation that involve drafting, rephrasing, restructuring, shortening and editing within the agreed time frame and space constraints, (Gambier, 12).

In all, there are some challenging issues in the process of revoicing. They include but are not restricted to professional practice, training, the impact of technology. The act is tedious and tasking as the translation itself must be considered, the synchronisation and lips movement and above all the timeline.

3.1 Defining Key terms

Audio-Visual Translation

Audiovisual Translation (AVT) also referred to as La traduction audiovisuelle in French which contests with other terms like audiovisual language transfer, diagonal translation, screen translation, multimedia translation and transadaptation. Today, AVT is normally acknowledged and it shelters interlingual, bilingual, intralingual subtitlings, dubbing, voice-over and audio description, Zaki, et al., (240).

Subtitling

Subtitles according to Luyken et al, (31) and Cintas (36) are defined as "... condensed written translations of original dialogue which appear as lines of text, usually positioned towards the foot of the screen". Cintas (9) adds "subtitles entail a change of mode from oral to written and resort frequently to the omission of lexical items from the original". This involves the sizes of the actual screen being fixed while the target text (TT) will have to fit the measurement of the screen. This is built on certain standards: linguistic, rehearsal time, mechanical, means of projection and projection format. The rehearsal time has disconnected subtitling. Here, translators are expected to translate the subtitles using complete utterances depending on the situation. While online subtitling comprises MT as there is no enough time such as interviews, political statement, sports programmes and news bulletin.

4. The Metrics of Evaluating a Video

There are a lot of metrics for evaluating a localised video. A translated video may be localised in three (3) ways:

- subtitling
- dubbing
- recreated

We can evaluate a translated video using the following parameters:

- 1. Functionality is to make sure users can access a video and get information from it. Also, we can gain accessibility via different platforms and in different localities as users can reach and watch it through mobile, satellite and desktop. Display through encoding process, its font type and size and resolution as it can save many issues. The issue of low resolution is mostly found in translated and recreated videos which make it difficult for the user to read a text on the
- 2. Standards infers a falling inside an recognized choice of size, amount, power, or quality of a video. These are sync and texts on screen:
 - a) Sync is a king in subtitling or revoicing. There are guides to follow in sync which includes punctuation, segmentation, numbers, dates, measurements, capitalisation, acronyms,

abbreviation and initials. These are golden rules for making awesome subtitles or revoicing. It can have different styles for different subtitles.

- b) Texts on screen (translated) help the viewer to get the information he needs. It will be difficult to catch up in a situation where your language is not spoken.
- 3. Translation quality, the terminology in translation should be correct and consistent, easy to understand and with complete information. Translation quality has to do with the correct and consistent terminology. If terms are translated wrongly, viewers become confused and mislead with the message. The language should be easy to understand. This is important because the main purpose of the new language (translated) is to teach, engage and help viewers learn things in other cultures. Age is considered because the use of sophisticated language discourages viewers. Finally, the translation must contain all information in the original language of the
- 4. Revoicing is the sound that should be natural, the voice-over actor must be passionate about it like a professional teacher, the language should not sound like the translated video. And in the case of dubbing authenticity, balance pace, technical issues and engagement are considered. These are parameters that will assist us in the study and evaluation of the process of revoicing and the series of the film in particular.

5. Observations and Data Analysis

This research observed some instances where an actor is quiet, lips not moving, or voice incoherent about what is going on. "Revoicing" is helpful as it helps the viewer to comprehend the movie because initially, it is not in his native language. Therefore, revoicing is employed in numerous ways through media as it is a means of reaching out to the audience globally with technological advancement. The substitution in voice-over and interpreting may be complete, whereby the listeners of the programme will assume is the original, as in lip-sync dubbing and narration, or incomplete, as the original soundtrack is lowered in the main video.

Technically, the original Hindi videos automatically fit the screen while the translated ones do not. Names are not translated through the translator replaces some names with Hausa names such as "Suhaila" in episode 33. The analysis is based on the extracted texts from the series and the Hausa language usage in the translation was purely Kananci as most Sub-Saharan African Hausa speakers may not understand some terminologies. Below are some of the extracts:

Extract 1

Hausa translation	Assumed English	Interpretation
"sarewa"	Flute	Words used "sarewa" instead of "mabusa",

The translator used the dialectal word "sarewa" instead of the recognised word in the Sub-Saharan African Hausa "Mabusa". The word "Mabusa" conforms to the English word "Flute" instead of "Sarewa"; which is acceptable only in some parts of the region.

Extract 2

Hausa translation	Assumed English	Inte	rpretati	on		
"gidankaso"	Prison	Word "gidan	used y <i>ari</i> "	"gidankaso"	instead	of

Observation:

The word "gidankaso" was used "gidanyari". We observed in the translation that gidanyari also featured. There should be consistency for easy comprehension by viewers.

Extract 3

Hausa translation	Assumed English	Interpretation	
"Yarinyar babban	Daughter of the	The word "yarinya" is not supposed to be	
jami'in koleji".	College Director	applied as it refers to "girl", not "daughter".	
		The word "diya" or "yar" is more preferred in	
		the translation.	

Observation:

This terminology "Yarinyar" should be replaced with "'yar" or "diyar" and adding the phrase "babban jami'in koleji" as the assumed English "daughter of the College Director" or "Top-ranking College member".

Extract 4

Hausa translation	Assumed English	Interpretation
"cin sandwic"	Eat sandwich.	Sandwich is an English word not a Hausa word
		that is applied with no translation.

Observation:

Sandwitch is a variety of food consisting of two pieces of bread with meat usually eaten as a light meal that does not exist in Hausa culture. In this kind of situation, the translator adapted the word to his culture by integrating it in Hausa using the modified word "sanwic".

Extract 5

Hausa translation	Assumed English	Interpretation
[] Allah ya na	[] God is with	Unlike Hausa, most languages do not involve
tare da ni.	me.	God in their affairs. The translator is solely
		taken by his language and culture which
		support such statement.

Observation:

[...] Allah yana tare da ni ... the translator based his thought on the target language, not the source language. The Hausa of Sub-Saharan Africa is more related to the Arabic language, where God's intervention is acknowledged.

6. Research Findings

With the advent of technological advancement in multimedia, multimedia translation has become less expensive but also expensive with software, computers, and technical experts involved in the process. Arewa24 has such gadgets and software that can execute the revoicing process.

- i. revoicing involves adapting content that is quite different from the target culture conventions and customs: what is allowed in one language may be hostile another.
- ii. voice quality in some instances is not adequate,
- iii. the volume became mute in some instances compared to the original,
- iv. changes are recognised in the Hausa version: videos are elongated by a few minutes as adverts are included.
- v. translation from foreign languages like (India) to African languages, (Hausa) helped to reach new markets.
- vi. Lips synchronisation became difficult in some instances as India and Hausa are two different languages with different structures.
- Some scenes that involve sexual acts considered as unacceptable in Hausa culture are omitted vii. from the translated version.

7. Research Discussions

The researchers' discussions were based on the evaluation made in the series of videos. Emphasis was laid on synchronisation, lips synchronisation and the use of words considering some inadequacies. In other words, the standard Hausa should be used. The terminological inadequacies are not eliminated in Multimedia and AVT, as a word may be ambiguous.

There is perfection in the background sound, the sound of objects as they are well placed. This is due to the division of labour in the process. As mentioned above, the researchers worked on the original episodes chronologically (49, 51, 58 and 60); and translated episodes (17, 33, 49 and 55). The voices of actors, body movements are well placed compared to the original actors. Some sounds that are less important are ignored like shouts and cries of school children in the translated version of "Ragaf 17" which are some of the inadequacies observed. There is a change in the arrangement and revoicing.

8. Conclusion

Technology plays a vital role in Multimodal translation as it eases the task of every aspect of human endevour. It also plays a vibrant role in culture and language preservation, hence an important tool in communication delivery. Synchronisation is one of the tasking aspects of revoicing especially lips synchronisation. Arewa24 used electronic gadgets in revoicing not only Agent Raghav but other series that are showing in the Hausa language. Revoicing cannot take effect without first translating the original video to the target language. The research recommends the use of standard variety in future application of this kind of technology. Multimodal communication involves the use of various modes to convey meaning, while multimedia typically refers to the integration of multiple forms of media

within a single presentation or application. Both concepts highlight the importance of leveraging diverse forms of communication to enhance the overall understanding and engagement of the audience.

8.1 Future Research

Localisation now is a key area in the field of Multimedia. A lots of TV series are localised from India (Bollywood), Ameriacan (Hollywood) to Hausa (Kannywood) which their Translations should be studied accordingly.

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References

- [1] Baker, M., Saldanha, G., *Translating and Interpreting-Encyclopedias*. London: Routledge Taylor and Francis Group, 2016.
- [2] Cintas, J. D, Allen, R., Audiovisual Translation: Subtitling Translation Practices Explained. Second edition. London: Routledge Taylor and Francis Group, 2014.
- [3] Cintas, J. D, Gunilla, M. A., Audiovisual Translation: Language Transfer on Screen. Second edition. New York: Palgrave, 2009.
- [4] Cintas, J. D., New Trends in Audiovisual Translation. Toronto: Multilingual Matters Publishing, 2009.
- [5] Dicerto, S., Multimodal Pragmatics and Translation A New Model for Source Text *Analysis*. Cham: Palgrave, 2018.
- [6] Gambier, Y., The Translation: Studies in Intercultural Communication. Screen *Translation*. Amsterdam: Routledge. Vol. 9. No. 2., 2003.
- [7] Gambier, Y., Gottlieb, H., (Multi) Media Translation: Concepts, Practices and Research. Amsterdam: John Benjamin Publishing Company, 2001.
- [8] Jordan Sarah-Claire The Dubbing or "Revoicing" Process. June 15, 2015. Alpha Omega Translations.https://alphaomegatranslations.com/translation-services/the-dubbing-or-revoicing-process/accessed 16th January 2021.
- [9] Mujagic, L. A., Audiovisual Translation: subtitling the BBC's documentary "The *Quantum Revolution*". Universita Degli Studi di Padova, 2013.
- [10] Munday, J., Introducing Translation Studies: Theories and Applications. Fourth Edition. London: Routledge Taylor and Francis Group, 2016.
- [11] Orero, P., *Topics in Audiovisual Translation*. Amsterdam: John Benjamins Publishing, 2004.
- [12] Shastri, P. D., Fundamental Aspects of Translation. New Delhi: PHI Learning Private Limited and Raj Press, 2012.
- [13] Williams, J., Chesterman, A., The Map, Beginner's Guide to Doing Research in Translation *Studies*. St Jerome: St Jerome Publishing, 2002.
- [14] Yakasai, S. A., Sanin Makamar Fassara. Kaduna: Amal Printing Press, 2019.
- [15] Yakasai, S. A., Jagoran Ilmin Walwalar Harshe. Kaduna: Amal Printing Press, 2020.
- [16] Zaki, M. Z., Nwanjoku, A. C., Understanding Terminologies of CAT Tools and Machine Translation *Applications. Case Studies Journal.* ISSN (2305-509X) Volume 10, Issue 12, pages 30-39, December, 2021
- [17] Zaki, M. Z., Nwanjoku, A. C., "An appraisal of Audio-Visual Translation, Implications of Subtitling from Hausa of Sub-Saharan Africa to English". International Journal of Scientific & Engineering Research (2021) Vol. 12, Issue (4)
- [18] Zaki, M. Z., Nwanjoku, A. C., "Appreciating Online Software Based Machine Translation: Google translator". International Journal of Multidisciplinary Academic Research (2021) Vol. 2, Issue (2)
- [19] Zaki, M. Z., Abubakar. H., "Recourse to Modern Technology The EduERP Usage: An Appraisal of UDUS Reports Portal". NUFJOL: Northern Inter-University French Journal, Revue Française Inter-Universitaire du Nord. (2019) Vol. 6 No 1, pages. 169-188.
- [20] Zaki, M. Z., Abubakar, M. T., "Translation and Modern Technologies: An Appraisal of Some Machine Translation". Degel: Journal of Faculty of Arts and Islamic Studies. (2017) Vol. 15, Issues 1.

- [21] Zaki, M. Z., Maxim, K. Yunus, Y, Sani, A., 'Media and Translation of Terminologies Associated with Coronavirus, A Case Study of Arewa24's English-Hausa Translation'. Quest Journals, Journal in Humanities and Social Sciences. (2021) Vol 9 (10) 32-40
- [22] Agent Raghav Series http://arewanishadi.comepisode 17, 33, 49 and 55 accessed December 2020.
- [23] Agent Raghav Hausa Translation Series http://bit.ly/WatchNowOnZEE5 49, 51, 58 and 60 August, 29th 2018 accessed November, 2020