



A Transitivity Analysis Of English-Written HND Research Project Abstracts In Public Administration Discipline

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ABSTRACT

This study is concerned with transitivity analysis of selected English-written HND research project abstracts in public administration discipline. The aims of this research are to study the kinds of transitivity processes that are used by the students in their research project abstracts; how the processes are realised by the students in their research project abstracts; and why the processes are realised in the students' research project abstracts in the way they are. This study adopted a combination of quantitative and qualitative methods. The data were obtained from the final year Higher National Diploma 2 projects (HND2) of Public Administration students, at Federal Polytechnic, Ilaro, Ogun State, Nigeria. The corpus contained 100 research project abstracts, which were randomly selected from five sessions (that is, 2017/2018, 2018/2019, 2019/2020, 2020/2021, 21/22). Five abstracts were taken from each session respectively. The result of the research was five types of process that occurred in the students' research project abstracts. There were material process (61.6%), mental process (8.1%), relational process (18.6%), verbal process (3.5%), and existential process (2.3%). The dominant type of transitivity is material process. It means that students' final-year research project abstracts contain action and physical activities. Furthermore, the benefit that can be gained from analysing the transitivity in the text could stimulate the research writing skills of the students to comprehend the idea and information in a text that could be applied in spoken and written texts. We suggest to the teachers and students to adopt functional grammar when writing/teaching research writing, so that the students would be motivated to understand and write in clear ways.

Keywords: Abstract; Transitivity; Public Administration; Project Abstracts

INTRODUCTION

Research project abstract (RPA) is an abridged version of a full research work that stands as an independent discourse. Research abstract helps writers to pack important and significant information and findings reported by a researcher into a compact unit (Martin, 2003; Ventola, 1994). The role of research abstract is to guide the flow of information to be communicated to the readers or disciplinary community. RPA does not take long time reading and this is done by “informing the reader about the exact content of the article”, convincing the reader to read the full text if deemed relevant (Martin, 2003 p. 26).

RPA, like research article (RA) genre, has been dominated by the theoretical and methodological approaches of genre analysis (Kanoksilapatham, 2015; Kuteeva & McGrath, 2013; Loi & Evans, 2010; Ozturk, 2007; Ruiying & Allison, 2004; Stoller & Robinson, 2013; Tessuto, 2015) and corpus linguistics (Esfandiari & Barbary, 2017; Gilmore & Millar, 2018; Le & Harrington, 2015; Pan, Reppen, & Biber, 2016), with little work employing Halliday's (2014) Systemic Functional Linguistics (SFL) approach in the analysis of transitivity in students' final-year research project abstracts.

Application of systemic functional linguistics (hereafter, SFL) helps students see how meaning and form in the various choices in the grammatical system and know how language is construed in both written and

spoken texts. In view of the above explanation, the analysis of transitivity in the selected final-year students' research project abstracts will facilitate the teacher in teaching grammar and meaning in the text meant for communicating research findings. It will also help students to build grammar in text analysis which could be in spoken or written forms. Application of SFL to research writing will help both the teachers and students teaching and learning. For the teachers, it will increase their creativity in teaching and for the students; it will allow them to think critically of a phenomenon by analysing the relationship, meaning, content and purpose of the text.

Several studies have been carried out on the genre of research abstract (Pho, 2008; Kanoksilapatham, 2013; Golebiowski, 2009; Hu & Cao, 2011; Khedri et al., 2013; Ebrahimi & Chan, 2015; Lores, 2004; Alyousef & Alzahrani, 2020; Ebrahimi, 2016b; Mirahayuni, 2002; Cutting, 2012; Gillaerts & Van De Velde, 2010). Kanoksilapatham (2013) investigated the linguistic realisation of organisational moves of 60 research article (RA) abstracts from the discipline of Civil Engineering. The study suggested an appropriate academic style of writing in Civil Engineering RA abstracts in specific discipline of Civil Engineering.

Again, Golebiowski (2009) studied the rhetorical structure of abstracts from two disciplines, that is, Applied Linguistics and Education. The findings revealed that writers use different rhetorical structures to meet the objectives of abstracts.

Hu & Cao (2011) examined 649 abstracts published in English and Chinese-medium journal to shed the light on the use of hedge and boost metadiscourse markers in applied linguistics RA abstracts. The findings showed that English-medium journals use more hedges compared to Chinese medium journals.

In addition, Khedri, et al (2013) focused on the mapping of interactive metadiscourse markers in the RA abstracts from different disciplines. The findings revealed that disciplinary knowledge influenced selections of interactive metadiscourse markers in an explicit ways.

Ebrahimi & Chan (2015) centred on the discourse functions of grammatical subjects used in research article abstracts from two disciplines (Applied Linguistics and Economics). The results of their study showed that there are significant disciplinary differences among two sets of research article abstracts in relation to the grammatical subjects' discourse functions.

Lores (2004) studied the realisation of thematic structure in 36 RA abstracts selected from four Applied Linguistic journals. The analysis was carried out from the purview of Gosden (1992) and Davies (1988, 1996) models of thematic structures. The findings revealed that thematic distributions and choices were different due to differences in the structures of RA abstracts.

Ebrahimi (2016) examined the Theme types and patterns used in 120 research article abstracts from the disciplines of Applied Linguistics, Economics, Agriculture and Applied Physics. The extracted data were analysed based on Halliday's (1994) model of thematic organisation and Eggins' (2004) model of thematic progression. The findings revealed disciplinary differences, which generally lead to specificity of selection of the Theme types and patterns used in the writing of the research article abstract.

Alyousef & Alzahrani (2020) investigate the texture of electrical engineering RA introduction sections written by NES scholars and NNEs Saudi scholars from a message perspective. The results of their findings revealed that NESs' and Saudi NNEs' introductions overlap at a clause level, but they start to diverge beyond the clause.

Furthermore, Mirahayuni (2002) analysed 652 independent and complex clauses from 10 RA Introductions on education written by NES scholars and NNEs Indonesian scholars and found that 16 % of the total clause-Themes consist of marked Themes in native and non-native English. The findings revealed that constant and linear TP patterns were the most frequently occurring patterns in the two data sets. Whereas constant TP pattern was the most dominant in NES scholars' introduction (38.6%), linear TP was the most dominant in NNEs Indonesian scholars' (44%) texts.

To the best of our knowledge, no study has been reported focusing on the transitivity analysis of selected English-written HND research project abstracts in public administration discipline. To fill this gap, we conducted this transitivity analysis to study the kinds of transitivity processes that are used by the students in their research project abstracts; how the processes are realised by the students in their research project abstracts; and why the processes are realised in the students' research project abstracts in the way they are.

The findings of this study we hope could be applied by students in their research project abstracts. This study intends to answer the following research questions:

- What kinds of transitivity processes are used by the students in their research project abstracts?
- How are the processes realised by the students in their research project abstracts?
- Why are the processes realised in the students' research project abstracts in the way they are?

This study adopts the theoretical framework of transitivity system propounded by Halliday (Halliday, 1994, 2004, 2014). Human being use language to express both “outer” and “inner” experiences of the world and the experiential meaning of language is construed by transitivity system (Halliday, 2014, p. 214). The transitivity system “provides the lexicogrammatical resources for construing a quantum of change in the flow of events as a figure – as a configuration of elements centred on a process”, which is realised in processes, the participants involved and certain circumstances (Halliday, 2014, p. 213). There are six types of processes which represent human experiences. They are: material, mental, relational, behavioral, verbal, and existential processes (Halliday, 1994, 2004, 2014; Thompson, 1996).

Material processes are concerned with the processes of doing-and-happening, which describe concrete and tangible actions taking place with some input of energy. Material processes have one participant, the Actor, performs physical actions to another participant, the Goal. The participants (i.e., the Actor and the Goal) can be animate, inanimate, or abstract entities and the material clauses can be transitive (including two participants) or intransitive (including one participant). One example of material process is shown in example (1):

The study	examined	the roles of traditional rulers	in managing Customs-smugglers crisis in Ogun State.
Actor	Pr: Material	Goal	Circumstances

Mental processes deal with the experience of human consciousness, representing emotion or reaction, cognition, perception, and desideration. These processes have two participants: the Senser (being endowed with consciousness and being able to feel, think, want, or perceive) and the Phenomenon (usually being realised by a thing, an act, or a fact and being the one which is felt, thought, wanted, or perceived), as is shown in example (2):

The study	found	that for organisations to see improvements in employee performance there is a need to develop training programmes
Senser	Pr: Mental	Phenomenon

Relational processes, or processes of being and having, serve to make characterisation and identification. The main characteristic of relational process is that they relate a participant to its identity and description. In essence, they state that something is/was/will be and hence relational process are often described as process of being. But other verbs may relate a participant to a description, for example seem, become, look, appear, etc (Marbun, 2017, p.9). Halliday (1994) stated that relational process come in two distinct modes, they are attributive, a is an then attributive of x, and identifying, a is the identifying of x.

According to the potential for reversibility, relational processes are categorised into attributive relational processes and identifying relational processes. In a relation of attribution, the two participants, the Carrier and the Attribute, are not reversible; whereas in a relation of identification, the two participants, the Token and the Value, are reversible. For example (3):

The primary data	are	the primary data
Carrier	Pr: Rel, Attrib.	Attribute

Verbal processes are processes of saying, contributing to narrative creation through setting up dialogic passages. They are the processes of saying and meaning (Halliday, 2004). According to Appendi and Mulyani (2020), there are four participants of verbal process, they are sayer (someone who says), receiver (the one whom saying is directed), verbiage (a name of verbalization itself), and target (entity targeted by the process of saying). It relates to direct and directs speech, so the verb used like say, ask, suggest, etc. Three participants are involved in these processes: the Sayer, the Receiver, and the Verbiage. The Sayer is responsible for the verbal processes, which is typically but not necessarily conscious; the Receiver is the participant the saying is directed to; and the Verbiage functions as the content of what is said or the name of the saying, as illustrated in example (4):

The study	suggested	that if the government must close its borders, it should encourage a mechanised agricultural production
Sayer	Pr: Verbal	Verbiage

Behavioral processes are about physiological and psychological behaviors, such as breathing, coughing, smiling, dreaming, and staring. These processes partly resemble material processes and partly resemble mental processes. They consist of the participant who behaves, called behavior, in the behavioural process, and circumstances (place, manner) and range. One participant, the Behavior, is involved in behavioural clauses. As the Behavior is usually a conscious being, behavioural processes do not seem to be prominent in academic discourse.

Existential processes represent the existence or happening of entities and do not predicate anything else. They are known to use the words like there is, there are, so on. Typically, an existential clause is realised by a There-construction containing a participant, the Existent, as in example (5):

There	is	also one study that examined the challenges faced by students in online voting
	Pr: Existential	Existent

Although Halliday (1994, 2004, 2014) and Thompson (1996) provided criteria for distinguishing one type of processes from another, the identification of process types may not be straightforward. This is because some clauses could be classified under more than one process type, depending on their use in text. For example, verbs such as “indicate”, “suggest”, and “show” may be categorized as verbal processes when they have a Sayer preceding them and project the Verbiage, as is shown in example (6). They may also be identified as relational processes when functioning to relate abstract nominal participants. An example is provided in (6):

The findings	showed	that Nigeria local government implement development programmes that focus on raising awareness of rural opportunities and providing information on resources in the country
Sayer	Pr: verbal	Verbiage

METHODOLOGY

The present study adopts a combination of quantitative and qualitative method since the research provides the descriptive analysis based on the percentage of the occurrence of the findings. The quantitative approach allows us to determine the frequency of certain language clause types, whereas the function of the second approach helps to examine the frequency of each process type used in the data. The data for analyses were taken from the final year Higher National Diploma 2 projects (HND2) of Public Administration students, at Federal Polytechnic, Ilaro, Ogun State, Nigeria. The corpus contained 100

research project abstracts, which were randomly selected from five sessions (that is, 2017/2018, 2018/2019, 2019/2020, 2020/2021, 21/22). Five abstracts were taken from each session respectively. We also used abbreviations such as Pr., rel., ident., attrib., to mean process, relational, identifying, attribute in the clause analysis respectively. To analyse the data, the texts were divided into clauses in order to gauge the number of transitivity patterns deployed. There were total of 860 clauses in the data.

RESULTS AND DISCUSSION

The data was taken from selected 100 research project abstracts written by HND2 final year students of Public Administration, at the Federal Polytechnic, Ilaro, Ogun State, Nigeria. The data were analysed based on the process of transitivity. There are six processes in the transitivity analysis; those are material process, mental process, relational process, verbal process, behavioural process, and existential process. In the research, it was found and analysed 860 clauses. The distribution of transitivity analysis in the selected students' research project abstracts can be seen below:

Table 1. The distribution of transitivity analysis in the students' abstracts.

Sessions	Processes					
	Material	Mental	Relational	Behavioural	Verbal	Existential
2017/2018	110	15	35	0	16	3
2018/2019	105	10	40	0	14	3
2019/2020	120	13	30	0	15	4
2020/2021	90	17	30	0	18	4
2021/2022	105	15	25	0	17	6
Total	530	70	160	0	80	20

From the distribution above, it can be known that the material process occurred 530 times, mental process had 70 times, relational process was 160 times, behavioral process got nothing, verbal process occurred 80 times, and existential process was 20 times.

Table 2. Appearances of processes

Processes	Frequency of Appearances	Percentages
Material	530	61.6
Mental	70	8.1
Relational	160	18.6
Behavioural	0	0
Verbal	80	3.5
Existential	20	2.3
Total	860	100%

The table above showed that material process is the most dominant process found in the students' research project abstracts. It had 530 clauses or 61.1%. Then, relational process is in the second position, and it has 160 clauses or 18.6%. The third is verbal process; it is about 80 clauses or 3.5%. The fourth is mental process; it has 70 clauses or 8.1%. The fifth is existential process which has 20 clauses or 2.3%. The last is behavioural process, it only occurs 0 time.

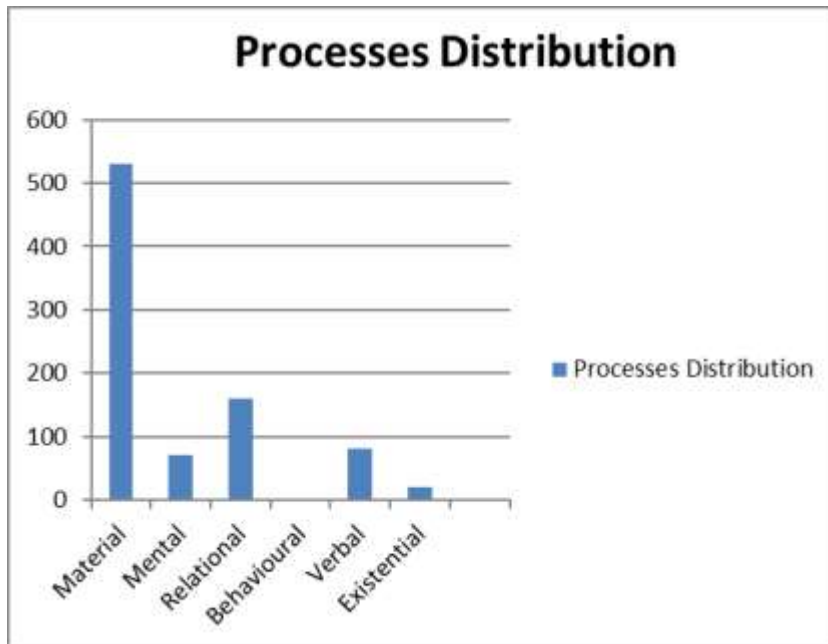


Figure 1. Processes distribution

This part is used to discuss the interpretation of the transitivity process obtained in the data. As depicted in Figure 1 above, material clauses outnumbered other types of clauses, followed by relational, verbal, mental and existential in sequence. Another type of process, behavioural process was not identified from the data set.

Based on the data calculation, there are five transitivity processes found, those are material process, mental process, relational process, verbal process, and existential process. The explanation about the five transitivity processes can be seen below: The first is material process, there were 530 material transitivity found from all the data analysed. Material process must have an action (process), an actor (participant) and goal, it is classified into three parts, and they are actor, process, and goal. In the research, it was found that in each sentence, it almost used actor and goal in active clause, and it has just one passive clause. It is used by the students in the 20 selected research project abstracts in 2017/2018 session and it occurs 110 times, 2018/2019 session (105 times), 2019/2020 session (120 times), 2020/2021 session (90 times), 2021/2022 (105 times). The following shows some clauses of the selected abstracts used material process:

The study examined	the effect of cybercrime	on academic performance of Nigerian polytechnic students
Actor/Pr: Material	Goal	Circumstance

COVID-19 pandemic	has impaired	the economies and activities of the country
Actor	Pr: Material	Goal

The study	employed	descriptive research design	with focus on literature in the area of local government administration and COVID-19 pandemic
Actor	Pr: Material	Goal	Circumstance

The researcher	designed	questionnaires titled "roles of local government administration on community development"	
Actor	Pr: Material	Goal	

The study	was anchored	on Stakeholder Theory
Actor	Pr: Material	Circumstance

The study	applied	convenience sampling technique
Actor	Pr: Material	Goal

The students used material process in their research project abstracts to explain what the actor does or acts. It is the process of actor doing something, and something is done by an actor, called goal. In the research, the students can understand the function of actor and goal in their clauses, for instance, the study examined the effect of cybercrime, the student give the function of the study as an actor, and make the actor to have a goal, the effect of cybercrime, and of course examined as a verb is used to express material process.

The second process is mental process, it relates to thought, feeling, and perception. In addition, perceiving in the mental process are seeing and hearing. The happening is sensed like felt, thought, heard, and seen. Mental process consists of sensor, process (cognition, affection, and perception), and phenomenon. In mental process, the kinds of clauses usually used by students are mental affection and perception. It is used in the students' research project abstracts of 2017/2018 session (15 times), 2018/2019 session (10 times), 2019/2020 (13 times), 2020/2021 (17 times), and 2021/2022 (15 times). The total of clauses identified as the mental process in the students' research project abstracts are 70. The following shows some clauses of the research project abstracts used mental process:

The findings	revealed	training and development activities in Ogun State Broadcasting Corporation to achieve both individual and organisational performance.
Sensor	Pr: Mental	Phenomenon

The study	finds out	the role of nongovernmental organisations in alleviating poverty
Sensor	Pr: Mental	Phenomenon

The results	showed	that the maintenance of primary health care centres was based on provision made available for maintaining the health care
Senser	Pr: Mental	Phenomenon

The study	seeks to inform	the Federal Government that more should be done on the functionality systems of the third tier of government by the state government
Senser	Pr: Mental	Phenomenon

The students used mental process in their abstracts to describe what someone (senser) thought, feel, and perceive about a thing / a person. Someone who thinks, feels, and perceives, called senser. What a senser thinks, feels, and perceives namely mental process. The thing is thought, felt, and perceived, it can be said as phenomenon. In the research, the students can understand how to use the mental process in clauses, for example, the findings revealed training and development activities in Ogun State Broadcasting Corporation to achieve both individual and organisational performance. The findings is as a senser, revealed is as mental process (perception), and training and development activities at Ogun State Broadcasting Corporation to achieve both individual and organisational performance is considered as a phenomenon.

The third is relational process; we found 160 clauses from the data. In the relational process, it is divided into three parts, those are carrier, attributive (intensive, possessive, and circumstantial), and attribute. In this study, relational process is used in the students' research project abstracts of 2017/2018 session (35 times), 2018/2019 session (40 times), 2019/2020 (30 times), 2020/2021 (30 times), and 2021/2022 (25 times). The following shows some clauses of descriptive text used relational process:

The population of the study	was	forty-two (42) people out of all the population of the 12 CDs in Itolu Community in Yewa South Local Government Ogun State
Token	Pr: Rel, ident.	Value

The primary data	are	questionnaires
Carrier	Pr: Rel, Attrib.	Attribute

Revenue	is	a prerequisite for effective and efficient service delivery in rural areas which helps in endangering rural development
Token	Pr: Rel. Ident.	Value

The population of the study	was	two hundred and sixty (260) employees of the company under study
Token	Pr: Rel, ident.	Value

The students used relational process in their abstracts to explain and identify (identifying) what they described. Also the relational processes are used to give a quality to something (attributing). For instance, the population of the study was forty-two (42) people out of all the population of the 12 CDs in Itolu Community in Yewa South Local Government Ogun State. The student try to identify and attribute something described, the population of the study (carrier), was is attributed as attribute.

The fourth is behavioural process, it relates to physiological process. It is between material process and mental process. Behavioural process consists of behavior, process (behavioural), circumstances (place, manner, and range). In the research, it occurred 0 time.

Verbal process consists of sayer, reporting/quoting/projecting, and reported/quoted/projected. In the study, there was 80 occurrence of verbal process used in the students' research project abstracts of 2017/2018 session (16 times), 2018/2019 session (14 times), 2019/2020 (15 times), 2020/2021 (18 times), and 2021/2022 (17 times). The following shows a clause of descriptive text used verbal process:

Major findings	indicated	that there is a significant effect of environmental responsibility and economic responsibility on the development of rural communities in Agbara
Sayer	Pr: Verbal	Verbiage

The study	recommends	that that there must be grassroots consultation to determine where and which type of project must be provided
Sayer	Pr: Verbal	Verbiage

The findings	reported	that government should rethink its border policy as it doesn't address the causal factors for irate smuggling and dwindling natural productivity in the country
Sayer	Pr: Verbal	Verbiage

The study	suggested	that if the government must close its borders, it should encourage a mechanised agricultural production
Sayer	Pr: Verbal	Verbiage

The sentence in the verbal process used by students was reporting and reported, it is about saying something by asking the object to do something. The sentence major findings indicated that there is a significant effect of environmental responsibility and economic responsibility on the development of rural communities in Agbara, in which major findings has a function as sayer, indicated is verbal (reporting), and that there is a significant effect of environmental responsibility and economic responsibility on the development of rural communities in Agbara (reported).

The last process is existential process; it explains the existence of something. In the existential process, there was 20 occurrence of existential process used in the students' research project abstracts of 2017/2018 session (3 times), 2018/2019 session (3 times), 2019/2020 (4 times), 2020/2021 (4 times), and 2021/2022 (6 times). It can be seen below the example clauses by using the existential process.

There	are	possible ways that could be put forward in ensuring the reduction of unemployment level in Nigeria
	Pr: Existential	Existent

There	is	need for better propagation of the roles of professional project managers
	Pr: Existential	Existent

There	is	also one study that examined the challenges faced by students in online voting
	Pr: Existential	Existent

In the research students used the existential process to explain the existence of something. To explain existence, it uses there and to be (past/present/future). In this case, the clause just uses there and to be in the singular present tense form. For instance, there are six types of processes, there are shows existential process, and six types of processes is identified as existent. From discussion of the research above, it can be inferred that the most dominant transitivity process is material process. All students used it to write the research project abstracts, it is in accordance with its function, the material process, and it has a function to describe an activity or a doing done by doer. The second and third are relational and verbal processes respectively. The relational process deals with process of being, and the verbal process is a transitivity involving reporting. The fourth is mental process which refers to feeling, thinking, and perception, in which these three kinds are used to describe an object in the selected abstracts. The fifth is existential process which tells about the existence of something. So, it is obvious that these five mental processes are really needed in writing a research abstract. The lowest transitivity process used by students in writing the research abstract is existential process; it intends to state the existence of facts in the research.

CONCLUSION

In the research, it was found 860 clauses in the five transitivity processes. Material process got 530 times or 61.6 %, mental process obtained 70 times or 8.1 %, relational process was 160 times or 18.6%, verbal process obtained 80 times or 3.5%, and existential process was 20 times or 2.3% from the result of analysing of the transitivity process of the selected final-year students' research at the Federal Polytechnic Ilaro, Ogun State, Nigeria. It can be concluded that, students use five transitivity processes in writing research abstract. The most dominant is material process and the lowest is existential process.

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