

On Nominalization, a Rhetorical Device in Academic Writing (with Special Attention to Electronic Engineering Research Articles)

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Abstract

Indubitably, writing for science and technology is proliferating, which results in scientists being under ever-increasing pressure to write and publish their articles. In order to fulfill the goal, being familiar with the peculiarities of the written style of the language of the discourse community is of paramount importance. As far as engineering disciplines are concerned, foremost with electronic engineering in mind, of all various stylistic problems with scientific/technical writing, the present article has tackled "nominalization", one of the most distinctive linguistic characteristics of academic writing, as academic writing is often characterized by high frequency of nominalization, in the hope of providing a new insight into the development of writing for engineering to conclude that awareness of the salutary effects of this systemic resource will put the students and academics on the path of academic excellence.

Key words: nominalization, academic writing, rhetorical impact

Introduction

As believed, using the English language to successfully communicate scientific findings does not come easily to most writers, i.e. good scientists are not always good writers, especially non-native writers. To create a persuasive scientific text one should be able to meet the requirements of the genre and the expectations of the discourse community. In this respect academic writing plays a crucial role in the dissemination of scientific knowledge, being the main and most effective means of communication within different spheres of scholarship.

It is written time and again that the style of academic writing is depersonalized or objective, since it concentrates on the field of discourse, the subject matter or the content of research findings as well as following a conventionalized format with specifications on the number of pages and length of report. This creates a need for a specialized information packaging and texture regarding not only the economy of words, but also retaining the sophistication and scholarly taste through which a particular text can be marked as academic.

One of the key strategies to achieving information density in academic writing as well as objectivity is through nominalizations. This paper analyzes the effects of nominalizations in achieving word economy and information density and objectivity, as well, in the writing of an electronic engineering research article. In this study the analysis concentrates on morphological verb and adjective based nominalized items of Romance affixations which are believed to be ubiquitous in academic and professional writing. As Biber (1988) puts it, "They are often used to expand an idea and integrate information laconically" (P. 45). Bhatia (1993), also maintains that nominalizations often refer to abstract concepts and generalizations; they can be overused in formal register, as well, especially when writers desire to give the text an enhanced style.

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On the other hand, according to Halliday (1998, 1995), nominalization as a process is used in scientific discourse to "create technical taxonomies; it helps the writer to relate one process to another and thus create chains of reasoning". Francis (1990) states that, "nominalisation is a synoptic interpretation of reality: it freezes the processes and makes them static so that they can be talked about and evaluated. In other words, they are no longer about *what is happening*, but what is being internalised and 'factualised' by society as to *the status of what has already happened*: the relationships *between events* rather than the events themselves." (p.54)

Being constantly utilized in all aspects of such a broad discipline as electronic engineering is, it is crucial for the students to understand and perform well in the language for a variety of reasons, mainly those concerned with their career advancement and scientific development. As far as the frequency of nominalizations is concerned, we should hasten to add that nominalizations were found to occur most frequently in academic papers, 92 occurrences per 1,000 words, as compared to 27 per 1,000 in conversations, 56 per 1,000 in lectures, and 55 per 1,000 in letters (Chafe & Danielewicz, 1987).

Halliday (1998) also describes two advantages of nominalization:

"[w]hen a figure ... is reworded ... in a nominalized form; a considerable amount of energy is released, in terms of the two semantic potentials; the potential for referring, and the potential for expanding. That is, for transforming the flux of experience into configurations of semiotic categories, and for building up such configurations into sequences of reasoned argument (p.197)."

It is also believed that lexical nominalizations can sometimes reduce reader comprehension. According to Bhatia, nominalization in academic genre "have gained a certain degree of notoriety" because of their prevalence but also due to their "pomposity" (1991, P. 217). As he maintains, nominalization is considered a convention in academic writing, being employed for specific communicative function, which requires shared knowledge of discourse community.

Hitchings (2013), also maintains, "Nominalizations give priority to actions rather than to the people responsible for them. Sometimes this is apt, perhaps because we don't know who is responsible or because responsibility isn't relevant. But often they conceal power relationships and reduce our sense of what's truly involved in a transaction. As such, they are an instrument of manipulation, in politics and in business. They emphasize products and results, rather than the processes by which products and results are achieved." (on-line) However, it has been shown that nominalizations are able to fulfill certain communicative needs and to function as rhetorical devices enabling scientific writers to present their findings in a clear and concise way.

Analysis: Characteristics of Nominalization in Academic Writing

In this section, we concentrate on the analysis of the rhetorical impacts of using nominalizations in an electronic engineering research article, published in Journal of Electrical and Electronic Engineering, 2014, Vol. 2(1), pp. 9-16; available at: <http://www.sciencepublishinggroup.com/j/jeee>. Nominalization, as the sentences adduced below reveal, has converted verbs (actions or events) as well as adjectives into nouns (things, concepts, or people).

(1) Ghana has developed a Strategic National Energy Plan (2006-2020) [6] with issues concerning energy efficiency, electrification, elimination of power shortage and liberalisation of the power generation market, which will allow independent power producers to add their generated power to the national grid.

(2) The use of the off-grid PV system depends on the comparative costs, affordability, quality of service, and accessibility of other energy options which are locally available.

(3) The equipment costs are the initial costs incurred at the beginning of the PV system electrification whilst the operational costs include the running costs, maintenance and replacement costs.

(4) Energy demand is increasing day in day out due to increase in population, urbanization and industrialization with its concomitant lifestyle. The world's fossil fuel supply e.g. coal, petroleum and natural gas will thus be depleted in a few hundred years [1].

(5) Energy plays a pivotal role in our daily activities. For this reason, the degree of development and civilization of a country is measured by the amount of utilization of energy by its citizenry.

(6) In order to ensure that there are no defects or inefficiency in the PV system which is usually caused by poor maintenance or ageing of its components [14], it is essential to collect accurate data for the long term performance analysis of the system.

Otherwise stated, Verbs: electrify; eliminate; liberalise; maintain; generate; replace; urbanize; industrialize, etc. have been turned to electrification; elimination; liberalization; maintenance; generation; and replacement; urbanization; industrialization, etc, as well as, adjectives: efficient; affordable; and accessible into efficiency;affordability; and accessibility.

We cannot but say that, when a verb or an adjective is nominalized, it becomes a concept rather than an action, or feature. As a consequence, the tone of the writing sounds more abstract and also more formal. Nominalizations, being predominantly of Romance origin here, account for the scarcity of their expressive-emotional-evaluative overtones. It is generally assumed that for native speakers of English words of Romance origin often denote something very general and abstract. (Akhmanova&Idzelis, 1978)

This is also in line with widely held view that nominalizations tend to be associated with academic writing as they can assist in maintaining an impersonal tone, often by deleting a human agent within a given sentence. We cannot but notify that nominalization could enable the author to argue for a certain idea without his personal involvement. Otherwise stated, it facilitates the author with being able to eliminate the need to specify participants, such as the agent and the patient, resulting in focus in the proposition to be shifted from the "doer" to the "deed". This can be equated with the concept of 'objectivity' which is one of the peculiarities of scientific/technical writing.

Moreover, as the extracted sentences show, several complex abstract ideas are also packed into one sentence. As a consequence, according to Christie (2001) nominalized phrases "abstract away from immediate, lived experiences, to build instead truths, abstractions, generalisations, and arguments" (p. 66), resulting in the nominalized words being the participants in the process. As easily recognizable, when verbs and adjectives are nominalized, they become concepts rather than actions. As a result, the writer is provided with the chance of increasing the amount and density of information to make further comment or observation about the concept in the clause.

(7) E.g. The required load on a daily basis for the premise is calculated and estimated.

The verbs 'calculated and estimated' are nominalized, so:

(8) The calculation and estimation of the required load on a daily basis for the premise, resulting in:

(9) The calculation and estimation of the required load on a daily basis for the premise is 43534.4 Wh/day or 43.53 kWh/day calculated earlier.

Consequently, according to the above examples, the verbs in the first sentence are nominalized to construct the adduced sentence. As such, the author is facilitated by adding more information commenting upon the newly formed concept. According to Jamshid (2005), nominalization can be characterized by "information density", which is hard to achieve with more congruent use of the verbs. This means, more meanings can be packed into nouns than into verbs thereby opening up for the nominalized process more expressive possibilities as a result of the fact that more operations in terms of modification, subordination, coordination can be made on nouns than on verbs.

The motivation for nominalization may be that the turning of a verb into a noun facilitates readers with the process of identifying the processes and events that are being subject to study – it is easier to identify that we are studying, for example *the elimination of power shortage* than studying power shortage is eliminated.

Concluding Remarks

Suffice to say that language and science are inter-connected, otherwise stated, learning science is to learn a language created for codifying, extending and transmitting scientific knowledge. As Martin (1993a: 200) maintains:

"(...) in science, language is a fundamental tool. It is used to classify, decompose and explain, and to recount the investigations that form the basis of a scientific worldview. It follows that to be illiterate in science is to be denied access to a crucial aspect of its technology. (...) Science cannot be understood 'in your own words'. It has evolved a special use of language in order to interpret the world in its own, not in common sense, terms."

The conclusion could be drawn that nominalizations significantly increase the general volume of information in an economical way and contribute to the objectivity of the text, being a marker of academic writing. Otherwise stated, nominalizations render the text more formal for they enable the author to incorporate more information, hence more complex sentences.

Being marked as a peculiarity of scientific/technical writing, it does not seem unreasonable to nominalize verbs and adjectives quite often in EAP. Nominalizations enable a writer to classify events as abstract things and predicate over them. This very useful conceptual and linguistic operation is not least made extensive use of in all scientific texts.

Since nominalization is an essential resource for constructing scientific discourse, we are hoping to help EAP learners with handling the kind of language they need to write in order to meet the publication standards required, enabling them to face an increasing demand for academic writing competence. What tends to be intangible to non-native writers resulting in being generally avoided if not taught appropriately.

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