Reading in Communication Perspective

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Abstrak/Abstract

Sebagai aktivitas yang dekat dengan keseharian manusia, konsep membaca acapkali digunakan tanpa merujuk makna konseptualnya. Membaca mengalami penyempitan makna, sehingga hanya dikaitkan dengan aktivitas memindai aksara. Penyempitan makna ini tidak hanya terjadi dalam konteks percakapan populer, melainkan dapat ditemukan pula dalam literatur akademis. Dengan memanfaatkan metode kajian literatur, artikel konseptual ini berusaha menemukan definisi membaca yang relevan dengan perspektif ilmu komunikasi dan perkembangan teknologi komunikasi. Hasil analisis menunjukkan bahwa konsep membaca dalam konteks perspektif ilmu komunikasi tidak terbatas pada kegiatan membaca aksara tekstual. Dalam perspektif ilmu komunikasi, membaca lebih tepat dipandang sebagai aktivitas memindai kode, simbol, dan bentuk representasi lain yang mengandung pola, termasuk di dalamnya aksara. Data dan informasi yang dibaca atau dipindai diposisikan sebagai pesan, sedangkan panca indera dan teknologi sebagai perpanjangan sistem indera diposisikan sebagai sensor yang penerima pesan.

As a part of daily activities, the concept of reading is often used without referring to its conceptual meaning. The meaning of reading is simplified, to be only associated with the activity of scanning textual literatures. This simplified meaning does not only occur in the context of popular conversation, but can also be found in academic literature. By utilizing the literature review method, this conceptual article seeks to find a more relevant definition of reading that can explain the activity of reading in a communication perspective, especially related to the development of communication technology. Result of this study shows that the concept of reading in the field of communication is not limited to written script reading. In communication perspective, reading is more properly seen as an activity of scanning codes, symbols, and other forms of representation that contain patterns, including written scripts. Data and information can be seen as messages, while the five senses and technology as an extension of the sensory system, can be seen as sensors that receive the messages.

Kata kunci/Keywords:

konsep membaca, hierarki informasi, pesan komunikasi, transmisi informasi

the concept of reading, information hierarchy, communication message, information transmission

Introduction

Reading is a very broad subject and feasible to discern from various perspectives ranging from biology, history, psychology, education, to sociology (Bleeker, 2010). In numerous academic references, experts from different fields of study could determine the notion of reading in various ways. From biological perspective, for example, reading activity is associated with brain neural mechanism. Reading and interpreting capability symbolic systems require brain neural links to enable someone’s visual representation correlate to linguistics and conceptual information (Wolf, 2007). Periodically these links are interwoven together as substantial information is retrieved and processed in brain neural networks. This points to the frequency each individual reading texts. The more the frequency, the more the individual’s brain capacity could construct mental awareness from text he or she reads. This brain
mechanism is replicated and developed to refine technology in reading.

Associative reading, in which it is the repercussion of brain intricate networks, is constructed on abundant information the neural system captures. Digital landscape would then adopt this associative thinking. This adaptation yields ideas to connect these various interwoven texts through an expressway called the hypertext (Giffard, 2009). Wolf (2007), and Giffard (2009) have compared reading activities to the written texts, particularly digital texts. Whereas, Giffard suggests that recalling processes in the brain, could be assigned to technology built to imitate similar functions, such as the ease of contact list application in cellphone and the search menu to obtain files. However, as Giffard reminds us, reading texts in digital format pose a risk of distraction in concentrating. While our devices are connected to the Internet, messages like ads could divert our attention toward the texts we read. Digital texts readers require better skill. Readers are both consumers to what they read and editors for further reading and links to search.

From the literary field of study, reading fictional texts tends to sway the readers into something called immersive fiction reading (Mangen, 2008). For Mangen, there is a significant connection between texts and technology platforms utilized to read texts. The more our senses involved in the reading process, the more captivated the readers with the texts. This what characterizes reading books, in which readers are able to feel the texts and touch the pages rather than that of reading through smartphone or computer. Mangen believes that immersive reading is viable when readers consume fictions through books or other printed media. Reading texts on digital devices alleviate risk of distraction and curtail attention while reading (Giffard, 2009; Mangen, 2008).

In the educational field of study, reading notion notably relates to language learning (Patel & Jain, 2008) covering writing, speaking, and listening skills. Reading is believed to be a meaning construction mechanism from written and printed messages (Day & Bamford, 1998). Meaning construction occurs when readers correlate information from what they read with knowledge background they have to generate meaning. By reading individuals develop their knowledge. Reading is not only a source of information and amusement, it is also a medium for linguistic skill consolidation and intensification (Patel & Jain, 2008).

From various literatures aforementioned, each elaborates the reading concept from different points of view. Nonetheless, each literature illustrates the inclination toward associating the reading concept with written scripts (either printed or digital format). At a glance, this association seems straightforward. Yet, when it is associated with information technology development, it becomes vague when the reading concept is merely defined as scanning written scripts. As Giffard (2009) states, there are numerous technological innovations that could imitate human abilities. Does the algorithmic process of scanning and filtering data from Big Data be classified as a reading activity? Does retrieving audio-visual signals by a television receiver that enable us to watch broadcast programs from another side of the globe can not be categorized as a reading activity?

The rise of people unyielding interaction to communication technology in various social and cultural aspects has driven the need for novel framework to understand the social change (Simanowski, 2015), including the need for relevant and contemporary reading conceptualization. This need has prompted this study questions, elaborated as follows:

Does reading activity merely associate to orthography and language?

How is the reading concept discussed from communication study?

To answer these questions, this study adopted a literary review method. The researchers gathered numerous literatures pertaining to reading concepts ranging from the earliest to present-day references covering the reading concept in relation to the development of communication technology.

Although the reading concept has been widely discussed through diverse fields of study perspectives (Bleecker, 2010), as far as we are concerned, the study of reading concepts through the lens of communication study has unlikely been published. Therefore academically, the novelty of this research is noticeable on the re-conceptualization of reading in the communication study field, particularly on the development of communication technology.

**Literary Review**

**Reading Concept**

The term ‘reading’ in various modern references occasionally refers to the ability to understand written orthography or printed symbols (Fischer, 2004). Readers employ these available symbols as a guide to recall information from their memory to construct possible interpretation of the written message. Further, Fischer states that reading is different from writing activity. When we write, we prioritize orthography, in order words are documented through representative signs. Whereas, reading deduces mainly the meaning.

Reading activity comes into existence from curiosity about the world (Jennings, 1965). Curiosity becomes the point of origin of our consciousness toward recurrence of phenomenon. Long before writing was invented, recurrence of phenomena like lightning, cloudy, before the rain have been familiar to our consciousness. This recurrence creates predictable patterns. Each predictable pattern expedites the readers not only in how the world works, but also in deciding which relevant
action to take to respond to a probable occurring reaction. The reading of such a pattern has become the root of logical deduction (Jennings, 1965).

The concept of reading can be narrowly and broadly defined. The conventional reading concept originated from the invention of writing, in which we observe every brush stroke we make, either as pictures or writings. This narrow definition of reading concept refers to the labor of reading orthographic symbols printed on the document or whatever platform it employs (Jennings, 1965). Yet, reading is hardly attaching certain sound to a written stroke (Fischer, 2004). In reading, there is a requirement to extract meaning. This meaning extraction involves higher thinking skills. In which on this level, reading could also mean conveying meaning to readers regardless of any sound production.

Reading letters has become the pinnacle of different kinds of reading skills. When we read, we surround ourselves with various marks and their representation of symbols. Orthographic skills involve reflection of abstract ideas and concepts, where the actual form of something is represented by only words and symbols. The word “night”, “heat”, “height”, “moon”, “orange”, “apple”, and so on, can only be meaningful when readers could preemptively distinguish occurrence patterns, like between night and day, heat and freeze, high and low, numerous astral objects, and various fruits. In a broader sense, reading deals with the endeavor of scanning the patterns. Each object and facet that contains a pattern is a decipherable data. By only demonstrating reading literacy in its broader definition, we could do narrow reading activity as well (Jennings, 1965).

On the other hand, reading is an art of delivering ideas, facts, and feelings from a writer’s thought and soul, and also readers’ emotional space. In this context, readers interpret meaning from the texts they read. Language is fabricated from words and their element signifying things, behavior, and characteristics. Words could elaborate things and explain other words farther.

Yet, reading can not be constrained to merely its wording, linguistics elements, and written documents contexts. Reading emanates from the sign formulation, either signs which signify actions, occurrences, or things. These activities derive from our bodily sensing toward surrounding, in which our five senses receive stimulus and transmit them to our brain. Reading facilitates the brain to signify hunger, predict the weather, count the time, anticipate danger, associate someone’s face with a character, to tolerate emotion and empathy (Jennings, 1965).

Reading involves our cognitive system to carry out scanning of visual data retrieved immediately (Fischer, 2004). These visual data can be information in the form of shapes, elements, patterns, directions, or even phases. Distinct interpretation toward visual data produces two contrastive perspectives that define reading activity differently.

First perspective believes that reading is an exclusive linguistics procedure. It means that reading is defined phonologically, which relates to the sound system in a language. Reading is a linear mechanism where meaning is derived when each letter is tethered to a bigger and more comprehensive language element. Only when a letter is combined into words and sentences, a shared understanding is achieved.

Second perspective considers reading activity differently. Reading can be defined accurately as a visual semantic procedure, where graphical forms are meaningful regardless of their exclusive relation to language. Graphical forms in this context are logogram (word signs), syllabogram (syllable signs), or word combination (as like that of signs on the alphabet).

**Information Hierarchy**

In various literatures, Information Hierarchy is also known as Knowledge Hierarchy, Knowledge Pyramid, and DIKW (Data, Information, Knowledge, Wisdom) Hierarchy (Baškarada & Koronios, 2013). In the Information Hierarchy, data is the smallest unit that represents an object of things or event (Ackoff, 1989), and it is a meaningless pattern (Aamodt & Nygård, 1995). Knowledge is a cluster of useful information, while wisdom is the capacity to identify time and perfect reasoning to exploit knowledge to a certain interest (Ackoff, 1989).

Datum, the singular form of data, is a representation symbol that bears the existence of the others (Beynon-Davies, 2009b). Information is an idea extracted from a cluster of data containing symbols and signs (Beynon-Davies, 2009a), processed information (Ackoff, 1989), interpreted to gain meaning (Aamodt & Nygård, 1995). In order the data extraction process converts to information does not randomly happen, but it should correspond with the aim of increasing available data function value. Data and information both serve as objects of things and events. However, unlike data, information tends to be opaque and useful to someone who possesses them (Ackoff, 1989).

Ackoff (1989) describes that information is applicable to correspond to questions such as who, what, when, where, and how much. Whereas knowledge provides the answer to the question how. If knowledge is conveyed through instruction, understanding is conveyed through explanations, which also answers the question of why. When knowledge accompanied by understanding, it would lead to wisdom. However, there is a difference between wisdom and data, information, and knowledge, that relates to its affiliation to value and skill to determine between good and evil. To illustrate, the assumption to the hierarchy constitutes the following pyramid.
Nonetheless, the relation between data, information, knowledge, and wisdom is not always linear. In a digital landscape for example, data is perceivable as a medium of communication embedded on binary codes. In a digital transmission chain, information from the sender is encrypted or converted to binary codes and is saved as data in the digital world. These data are re-coded and extracted to become information to the receiver (Kock, McQueen, & Corner, 1997).

In reality, educational systems in every part of this world are heavily dedicated to the transmission of information (Ackoff, 1989). The underlying reasoning of reading as information transmission, correlates mostly with reading activities in its narrow definition, which reading corresponds to written text and language. However, writing aims attention at documenting signs, while reading focuses on constructing meanings (Fischer, 2004). Consequently, academics sometimes overlook the knowledge achievement through processing the meaning of information, which is more important and significant than on how much information is retrieved (Ackoff, 1989).

Communication information system is a system that combines social aspect with technical aspect. Information system refers to a communication system that exploits artefact to represent and transmit data (Beynon-Davies, 2009c). This system has historically persisted before communication and information technology emerged (Baškarada & Koronios, 2013), which is as old as reading activity. In the past, system information could operate regardless of written language. Transmission of information was operable even on rolled-up cotton threads bundled and colored, which was practiced by the Inca civilization (Beynon-Davies, 2007). This illustrates that the definition of data and information as the object of reading activity is not exclusively in association to written language. Whereas it pinpoints on the use of sign system and sign representation.

From the communication study perspective, the relation between representation, intended meaning, and interpretation of the signs and symbols has been discussed in the field of semiotics (Baskarada, 2012). Semiotics believes that our experiences are crammed by interpreting activities mediated by a sign system (Deely, 1990). Social activities like communication are therefore based on the sign system (Beynon-Davies, 2007). Datum as singular form of data, is a symbol or network of symbols utilized to depict the others (Beynon-Davies, 2009c).

Methodology
This paper is a conceptual paper delivered qualitatively using literary review method. Literary review is a research methodology that relies on previous literature as the source of information (Jesson, Matheson, Lacey, 2011). Literary review is conducted by reviewing main ideas from related researches to the concurrent research paper. The main literatures for this research are illustrated on the following table:

While the main references are available, this study also excerpts various information from other references in the communication study field and digital media as the supporting data interpretation as referred to in the citation. The results of literary review are elaborate in the form of narratives to illustrate comprehensive depiction about application of reading concept in communication study (Bryman, 2016).

Discussion
Reading Concept In Communication Study Perspective
Reading actually mirrors the visual information extraction from numerous sign and code systems to be interpreted (Fischer, 2004). This extraction of visual information in its development is limited to the writing engraved or chiseled on an obelisk. Reading also has its narrow definition, which is the activity to extract information from textual data (Jennings, 1965).

Although sometimes the narrow definition is employed by academics from diverse fields of study, in which it unables to accommodate data scanning chores and information transmission in communication study. Exchange of information occurs in five phases, namely production, transmission, reception, storage, and repetition (Fischer, 2004). In the communication transmission chain (Lasswell, 1948; Shannon & Weaver, 1949), data and information are exchanged between senders and receivers. In the transmission process, the data and information claimed as the message enable the communication as a meaningful process. The message is the one produced, transmitted, received, stored, and repeated in communication.
This Is Reading (Jennings, 1965)  
Jennings in this study describes the concept of reading, spanning from the definition, history of reading, techniques of reading, to why human reads. Eminent contribution from Jennings’ to this study is on the classification of narrow and broad definition of reading. Reading in narrow definition refers to the process of gaining knowledge from linguistic texts. While for broad definition, reading is knowledge retrieval from scanning objects or events through codes, symbols, and traceable patterns.

A History of Reading (Fischer, 2004)  
Fischer in his work discusses the history of reading since the 1300 before century throughout the first decade of the millenium. Fischer emphasizes that reading is different to writing. While writing underlies documenting texts in writing, reading focuses on the importance of meaning. Reading is considered as extracting meaning from encrypted visual information, either in the form of words, pictures, colors, symbols, and other visual language in which information is conveyed and defined. According to Fischer, writing always correlates to language. However reading is associated with sighting sense in general, or touch sense for the visually impaired individuals.

From Data to Wisdom (Ackoff, 1989)  
In his brief article, Ackoff explains the difference between data, information, knowledge, and wisdom. Information Hierarchy which famously referred to contemporary research, is basically the development of Ackoff’s core idea (Rowley, 2007).

On Reading in the Digital Age (Bleeker, 2010)  
In this article, the elaboration of the reading concept is viewed from different perspectives like biology, literary study, technology, and sociology. Bleeker provides significant ideas from prominent theorists of respective fields of study, in order to extract those thinking to major themes pertaining to the concept of reading. His article reveals that the theorists from various fields of studies tend to relate the concept of reading to the scanning activity, either in written, printed, or digitally-rendered formats.

Data, Information, Knowledge, Wisdom (DIKW): A Semiotic Theoretical and Empirical Exploration of the Hierarchy and its Quality Dimension (Baškarada & Koronios, 2013)  
Baskarada and Koronios reveal the complexity of various concepts in the information system, including data, information, and knowledge. The interwoven concept does not merely refer to popular usage or pronunciation practically, it happens also on experts of information technology systems. In their work, Baskarada and Koronios stated that data and information are in fact a cluster of signs and symbols. Therefore, reading as data and information retrieval process also relates to the process of reading signs and symbols, and hardly reading written scripts.

Religion and Social Construction of Reality (Mugambi, 1996)  
His writing mainly discusses how we perceive realities through our five senses. Main contribution from Mugambi that is useful for this study is the idea of reading data and information from the outside world is done through our senses activation. Any stimulus our senses receive is transmitted to the brain for processing, interpreting, and obtaining meaning.

Big Data, the Internet of Things, and the Revised Knowledge Pyramid (Jennex, 2017)  
In his article, Jennex discusses the Information Hierarchy modification. Jennex demonstrates how the shift of communication technology demands conceptual and relevant umbrellas concepts. DIKW as his statement, does not merely hierarchical which anyone on higher hierarchy reflects filtration of lower hierarchy, thus the number of data would always surpass information, and farther to the wisdom. Jennex stresses Big Data and IoT as the Information Hierarchy basis of modification. Big Data and IoT, he thinks could play a role in extending human sight and enabling us to read signs. Therefore, senses are not the only scanning instrument to read data and information around us.
Data serves as an object of thing or phenomenon (Ackoff, 1989). Basically, data is a meaningless pattern (Aamodt & Nygård, 1995). Once data got the pattern, data became comprehensible (Jennings, 1965). For people encountering the data every day, data is converted to valuable information when the data network is performed (Ackoff, 1989), and interpreted to retrieve meaning (Aamodt & Nygård, 1995). The data extraction process producing information does not randomly occur, but it is calibrated to enhance the available value added data (Jennex, 2017).

Messages can be purposeful or undetermined. However, both could become sources of potential information that may contribute to the decision making in behavior. Messages are in diverse forms according to the senses used to perceive it. Visual sense could scan visual messages, tactile sense could feel physical contact, auditory sense could decipher sound, while olfactory and gustatory senses could notice smell and taste (Ruben & Stewart, 2006).

Data is part of reality which is classified into two categories, namely nature reality, and cultural reality (Mugambi, 1996). Whereas data and information act as the message, the senses play an important role as the stimulus receptor scanning the data. Stimulus retrieved by our sense system is transmitted to our brain neural system to be processed and comprehended. The interpretation results in subjective meaning (Fischer, 2004; Mugambi, 1996) for the readers or individuals perceiving the data. In a more analogous context, the mechanism of reading the information can be simplified in the following figure:

![Figure 2. Reading as a process of scanning the data (adapted from Mugambi, 1996)](image)

In digital environment, sensors scan the stored data in the form of binary code. These codes are translated as integral elements of a presentation (Simanowski, 2015). Everything that happens in diverse digital presentations (such as in the movie or scenes of movies) should correspond to language structure and politics of code. The existence of code enables us to interpret information and builds meaning logically. As long as there are codes (Fischer, 2004), that contain patterns (Jennings, 1965), data is viable, information is obtainable, and meaning interpretation is achievable. Therefore, reading represents information filtration in which information is the primary material of communication (Jennings, 1965). Mastery in reading leads to the combination of comprehension constructed on inter-connected elements of codes (Simanowski, 2015).

**Communication Technology and The Existence of Five Senses**

Communication technological development empowers us to extend the senses system through digital devices (McLuhan, 1964). Television for example, is considered as the extension of our visual sense that facilitates the public to watch events or things which are spatially distant in our sight coverage. Accordingly with the telephone that becomes our auditory sense extension. Furthermore, in the last two decades, Internet and computer innovation facilitates our sense extension even further. We unnecessarily scanned information with our primary senses anymore, but it is extracted through the Big Data stored in the network. Information scanning is no longer limited to linguistic texts. Information is now in the forms of numbers, pictures, symbols, weather events, location, temperatures, to numerous data represented by a combination of binary code. Thus, reading is not necessarily associated with written texts, but covers distinct symbolic codes rather than language.

In the communication field of study, visual information exclusively aims at message communication known as visual language-VL (Fischer, 2004). Visual language can be described as the combination of writing based on words and pictures showcasing novel sensation in the reading activity. The use of visual language, Fischer adds, addresses the complicated ideas expressed by using a simpler version of our perception stimulus ability. Message communication through virtual language provides the possibility of avoiding abundant information because of considerable text consumption.

As communication technology progresses, the use of visual language becomes more common in people’s daily chore (Fischer, 2004). Instruction buttons on digital devices like television remote control, radio, oven, laundry machine, speedometer, vehicle fuel indicator, battery indicator on laptops and phones, to GPS.
People continually read the world. In terms of analog world, data as a mirror of reality is interpreted through five senses (Mugambi, 1996), which functions as scanning sensor data. The advancement of communication technology does not only increase the richness of data, it has also enabled us to read and organize much more data and information (Jennex, 2017). Technology imitates and extends our senses ability as data sensor scanner. With the aid of technology, we could interact with data through various sensors, ranging from our senses, others’ people senses, to mechanical instruments people made like heat detector, radio wave detector, pressure transducer, transaction recorder (Jennex, 2017), to virus detector meter.

Innovation of Big Data accommodates us to analyze data in the binary codes universe by using algorithms and other analytic tools (Jennex, 2017). Different to data in analog landscape, data in the digital landscape presumably unstructured (McAfee & Brynjolfsson, 2012). Therefore, digital analytic tools like text analytics, web analytics, network analytics, mobile analytics, and data analytics are necessary to organize and present a more structured information. Analytic tools in this context, function as filtering Big Data and convert it to data, information, knowledge, and intelligence to assist us in decision making and action execution (Chen, Chiang, & Storey, 2012).

As a data scanner, technology accelerates accuracy, scope, and/or sensitivity of the sensor, so people could discern and understand more phenomena in the world. Nonetheless, the amount of data never exceeds information, knowledge, and wisdom people possess (Jennex, 2017). Sometimes the relation between data, information, knowledge, and wisdom in the information hierarchy are flexible. Individuals with a bigger capacity of knowledge and wisdom of a certain field, could discover more information from unlimited data numbers.

Therefore, sensing extension through digital devices does not directly eradicate the need and capacity toward our sense and interpretation. Tsoumi (2000) suggests that data is always stable. Data would keep moving, and people simultaneously encounter and scan the data. Likewise the data scanning, data interpretation also incessantly happen. Our ability is built upon wisdom and knowledge to ensure people decide best suit data (Jennex, 2017). Digital analytic tools and any other technological devices that extend our sensing ability are basically just helping tools. People need to determine what data they want to search, and what information relevant to their needs.

Conclusion

The conclusion of this literary review demonstrates that the reading concept does not merely refer to reading text activity. Academically, the reading concept have long been under discussion since decades ago. Reading has two categories namely, narrow and broad definition (Jennings, 1965). In its narrow term, reading activity commonly relates to orthography or letters aspects. Reading is seen as scanning and retrieving data and information activity from written, printed, or even digital format documents. In its broader definition, reading reflects the activity of scanning the data in the form of codes, symbols, signs, pictures, or event having patterns (Fischer, 2004; Jennex, 2017; Jennings, 1965).

This conceptual paper underlies the tendency of reading activity toward narrow definition, including in the different academic references. Though there are many communication study papers, the most common acceptable proposition is reading in broader sense. Written documents are one of the predictable pattern forms.

In the communication study perspective, data and information are parts of a message. Our five senses and technology as extension of our five senses, is now considered as a receptor, communication sensor receiver. Therefore, reading activity in the communication study field can be deduced as a process of data and information scanning in the form of codes, symbols, and patterns found in either analog and digital contexts, through either the help of our senses system or technology as our senses extension.

Figure 3. Some examples of virtual language use

### Bibliography


