SCHEMA THEORY: A CONCEPTUAL REVIEW

Adekoya, Helen Odunola PhD

Babcock University, Ogun State, Nigeria.

ABSTRACT

The mass media field through experiments and observation has come up with varieties of theories to establish different kind of relationships between the media and the audience, audience reception, processing, interpretation and reaction to media messages. These theories are the anchor base that helps most times to make sense in the reaction of mass media audience to various media messages in different socio-cultural and psychological situations. On a constant basis, we are daily bombarded with loads of information which consciously or otherwise are internalized. In the light of these considerations this paper discusses the SCHEMA THEORY in terms of its origin, basic assumptions, similarity to other theories and its relevance in the contemporary world.

INTRODUCTION

Theory has been defined by various eminent scholars in different ways. The summation of all these definitions is that theories are basically the foundational principles through which insight is given to various concepts and phenomenon so that meaning and understanding of these concepts can be derived. In essence theories help us to understand the way things work.

Theories are not just arrived at arbitrarily, it most of the times the outcome of vigorous study, observation and experimentations that are systematically planned and carried out over a period of time. For this reason, theories are subjected to test, and if proven to be consistent given the same situation, then it can be generalized and adopted as a valid. Based on these intrinsic qualities, Folarin (1989:3), identified four characteristics of a theory; intellectual rigor, dynamism, datedness and economy. From these identified qualities one can deduce that a lot of vigorous observations and experimentations are the foundation of a good theory. Without these, consistency cannot be guaranteed and the theory may not be able to stand the test of time. Again intellectual rigor is imperative so that under similar conditions, a good theory must be effective to account or help the researcher using it to make sense – in other words, a good theory must be generalizable or applicable under the same condition or situation.

There is nothing immutable about theories. For this reason theories are likely to change as new conditions and situation arise. For this reason many theories have been radically changed or totally scraped out of existence especially in the arts and social sciences that deals largely with human behavior which in reality is constantly changing with new situations.

In the words of Folarin (1989:3), despite its dynamism, “a theory is nearly always a step behind reality”. This factor will then account for the reason why theories especially in behavioral sciences are always not realizable with exactitude as event most of the time would have overrun the theory and make it inadequate in explaining a situation without flaws. It may be for this reason that most times researchers in these fields make use of more than one theory to account
for a single situation, hence, where one is limited the others can account, so that sense can be made out of a phenomenon.

Finally a good theory must account for many cases without much words and when proven there should be little or no exception so that there will not be room for doubt. In the light of these considerations this paper discusses the SCHEMA THEORY in terms of its origin, basic assumptions, similarity to other theories and its relevance in the contemporary world

WHAT IS SCHEMA?

Schema beyond being a theory is a phenomenon that is commonly referred to as an outline of a plan. Oxford Advanced Learner’s Dictionary referred to it as a form of diagram that shows the main features or relationships but not the detail. Denise McQuail (2005:567) says schema is ‘a preconceived frame or script which is typically available to journalist for reporting isolated cases or event. It is an aid to communication and understanding because it provides some wider context and sense making’. From the above it is obvious that schema is important to the reporter as it helps them in filling the gap in the process of reporting an incomplete situation. Beyond being use as an instrument of ‘gap filling’ by the reporters, one can see it also as a major element in news and general media information processing by media consumers as it helps them in the retrieval process of stored information especially television, when they are exposed to similar messages. Confirming this, Baran and Davis (2003:240), says that in information processing theory, sets of symbols called schema enables us to routinely make sense of the sensory information we take in. Mead (1934), cited in Baran and Davis (2003:240), believed that mind, self and the society are internalized as complex set of symbols and that they serve as filtering mechanism for our experiences. For this reason, information theorist believe that schema perform similar functions. Constantly bombarded with information, Schema theory is one of many that explains and helps us interpret messages sent by the media though a process of filtering and retention. The theory was originally applied to messages sent by news media but its application has been extended to cover various interpretations of messages which can extend so far as stereotype research as well as agenda setting. Fiske and Kinder (1981), cited in Severin and Tankard (2001:82), described schema as “serviceable although imperfect devices for coping with complexity. They suggest that people are “cognitive misers” whose limited complexity for dealing with information forces them to practice “cognitive economy”, by forming simplified mental notes. From this statement and conclusion derived from the extract of Mind, Self and society by Mead (1934) the present writer then would define schema as:

an aspect of information processing through which a media consumer internalize a part not the whole of the media content as relevant to him either socially or culturally and also a process of retrieval of information that is stored when similar information is presented in future.

This affirms my agreement to the terms “cognitive miser” and “cognitive economy” by Fiske and Kinder (1981)

HISTORICAL BACKGROUND/ ORIGIN OF SCHEMA
The origin of schema as a theory is a very difficult one to pinpoint as there are many versions. Anaeto et al (2008:68) for instance claimed that the theory was propounded in the year 1981 by S.T. Fiske and D.R. Kinda, however scholars like Stanly J. Baran and Dennis K. Davis (2003:240), claimed that the theory was first articulated in 1934 by Mead in the book; Mind, Self and Society however it started gaining attention in the 70’s and 80’s in media studies when mass communication experts started paying attention to symbolic interaction. Another account of the origin of schema from Wikipedia the free encyclopedia says; early developments of the idea in psychology emerged with the Gestalt psychologist and Piaget. However, it is with the work of Sir Fredrick Barlett (himself drawing on the term as used by the neurologist Sir Henry Head) that the term came to be used in its modern sense. Bartlett's work was neglected in America during the behaviorist era until its wholesale recapitulation in Ulric Neisser's massively influential Cognitive Psychology (1967). Neisser's work led to the ubiquity of the term in psychology, and its extension to other disciplines, notably the cognitive and computational sciences. Since that time, many other terms have been used as well, including "frame", "scene", and "script".

Another account by Mcvee, M.B, James R. Gaveleck and Kailonnie Dunsmore (2011) says that during the 1970s, schema theory gained prominence as reading researchers took up early work by cognitive scientists to explore the role of schemas in reading. According to them, the idea of schemas existing as ideal types in the mind dates back all the way back to Plato. Also in the 19th century German philosopher Immanuel Kant developed the idea that every person’s experiences are gathered in memory, forming higher order concepts. In the 1920s Piaget’s work investigated schemas in infants. In the 1930s Bartlett tested memory for schemas. From the 1970s to the 1990s, many researchers obtained loads of evidence showing that people’s behaviors are deeply embedded to what they store in their brains. Through these studies researchers learned that human behavior relies heavily on past experiences and the knowledge stored in one’s brain. Research also revealed that schemas operate at many different levels. The experiences which are unique to individuals allow them to acquire personal schemas. Societal schemas may emerge from a group’s collective knowledge and are represented across the minds in a society, enabling people to think as if they are one mind.

ASSUMPTIONS OF THE THEORY

1. Schemata can be reorganized as incoming data reveals a need to restructure the concept.

2. Schemata may change moment to moment as information is received.

By implication, the assumptions above are strong indicators that current information that is obtained by an individual can influence a previously obtained or preconceived ideas or information about a phenomenon, and there is nothing constant or immutable about stored or preconceived information as they are subject to modification in lieu of the current information obtained. In line with these fundamental assumptions, Rumelhart (1980) proposes three processes for modification of schemata

- Accretion : which refers to information that is instantiated in the context of an existing schema and does not alter that schema (this can be likened to cognitive dissonance)
- Tuning: which refers to the situation in which new information or experience cannot be fully accommodated in the existing schema, as a result the schema must expand to become more consistent with the new experience.
- Restructuring: which refers to the situation in which new information cannot be accommodated through tuning; thus, a new schema must be created.

SIMILARITY TO OTHER THEORIES

Schema theory in function and situational application is similar in nature to many theories like; information processing theory, cognitive learning theory, cognitive dissonance theory, reception theory uses and gratification theory, framing etc.

This present study evaluates the similarity and differences between schema, information processing theory and uses and gratification theories.

SCHEMA VS. INFORMATION PROCESSING THEORY

According to Baran and Davis (2009:250), information processing theory uses mechanistic analogies to describe and interpret how each of us takes in and make sense of the flood of information our senses encounter every moment of each day. It assumes that individuals work like complex biocomputers with certain built-in information-handling capacity and strategies. In this lies the similarity and interrelationship between the schema theory and information processing theory. Since human beings are exposed on daily basis to a vast amount of information that cannot all be consciously internalized, this is where schema comes in the information processing process. In information processing theory, set of symbols called schema enables an individual to routinely make sense out of the load of information he takes in every moment. Schemas also serve as filtering mechanism through which new information is retrieved and matched with the internalized one. The information processing cannot be realizable without active participation of the brain (psychology) as it is at the neurotic level that obtained information can be processed and internalize consciously or otherwise. Schema is closely related to information process for this reason as it has to do with how the brain works in terms of association i.e. recollection of old, and matching of newly acquired information to the previously consciously or unconsciously internalized information.

The difference in these theories lies in some of the assumptions and steps as presented by Anaeto et al (2008) for information processing theory. These steps are reception attention, comprehension of the message and the receiver’s conviction of the argument, new position adopted and finally desired behavior. This is not so in the case of schema as there is the retrieval and matching of the new information with the current one. The outcome of the final behavior by the receiver can either be positive or negative as there are other factors that come to play i.e., socio-cultural and psychological conditions of the receiver. This determines acceptance or cognitive dissonance of the message by the receiver. Knowledge acquisition begins with the pursuit of information. In this quest, the individual utilizes previously produced descriptive
knowledge on how to best organize, classify, and understand information. The act of searching for and acquiring new information is connected to the schemata that the individual possesses. Searching for information leads to the gathering of information. Ultimately, the information must be integrated into the existing knowledge structure.

USES AND GRATIFICATION THEORY VS. SCHEMA

Herzog a colleague of Lazarfeld’s is often credited as the originator of the uses and gratification approach. According to Baran and Davis (2009:232), her 1944 article entitled “Motivations and Gratification of Daily Serial Listeners” was the first published research to provide an in-depth examination of media gratification. In this research, she interviewed one hundred radio soap opera fans and identified three major types of gratifications:

1. Listening was merely a means of emotional release
2. A second and commonly recognized form of enjoyment concerns the opportunity for wishful thinking
3. Gratification which concerns the advice obtained from listening to day time serials.

In agreement with the above, Zillman (1980) cited in McQuail (2005:501), identified the appeal of drama in terms of enjoyment and annoyance induced by the changing fortune of positively or negatively portrayed characters.

Media use depends on the perceived satisfaction, needs and wishes or motive of the prospective audience member. According to McQuail (2005:423), such needs include; information, relaxation, companionship, diversion or escape. Researches in the tradition of media uses and gratification has shed light on the nature of the underlying audience demand and the way in which they are structured.

The link between this theory and schema can be viewed from the lens of the motivation expressed for the choice of media content, and the ways in which this content is interpreted and evaluated by the audience point to the existence of a fairly stable and consistent structure of demand. All these activities happen at the neurological level. Interpretation of the assimilated media content is largely dependent and affected by socio-cultural experience and knowledge of this audience, and this is brought to the fore though a process of retrieval and matching which enables filtering of what would be taken in by the media message consumer – a process of schema.

The major difference between these two theories is that whereas schema helps in the processing, through the process of retrieval and filtering, the uses and gratification theory is more concerned with the use the audience put the received messages into, and the satisfaction they derive from it. Schema theory indicates that the activation of background knowledge prior to and during instruction of new information is paramount. Stripped to its most basic assumptions, schema theory proposes that the knowledge a person possesses, their existing knowledge repertoire, directly influences the content, the form, and the connections they make about new knowledge.

RESEARCHES CONDUCTED USING SCHEMA
During the 1970s, schema theory gained prominence as reading researchers took up early work by cognitive scientists to explore the role of schemas in reading. In the 1980s and '90s, the field shifted as researchers increasingly used socio-cultural theories, particularly the work of L. S. Vygotsky, to frame investigations of literacy. Also in the contemporary world schema theory has been effectively used in the field of education to evaluate how schema works in the process of cumulative knowledge and information processing. In the field of advertising it has been used especially to evaluate recognition and differences in advantages of competing or similar brands or products and in advertising it is called schematic memory. In the field of consumer behavior and act of copy writing schematic memory which also is referred to as semantic memory is important. It is this form of memory that is concerned with the association and combination of various chunks of information. Concrete examples are advert messages like “obey your thirst” which was sometimes used for sprite, which is a drink from the Coca Cola stock.

RELEVANCE OF THE THEORY IN CONTEMPORARY SOCIETY

The schema theory is still very relevant in the contemporary world as virtually all our activities and ability to recall or recollect is based on it. In agreement with Mead in Mind, Self and Society, cited in Baran and Davis (2003:240) ‘we use symbols to create our experience of realization (mind), our understanding of ourselves (self), and our knowledge of the larger social order (society). Schema is relevant in all facet of human endeavour especially when one considers the bulk of information we are daily loaded with. Schema enables us to practice cognitive economy as most of the information undergo a process of filtration and only pertinent ones are retained (uses and gratification) and recalled for matching with new ones as occasion demands. In the fields of education and communication research, it has been used and is still an important research tool in guiding and interpreting how people decode and learn from television and various other media news. In news for instance people tend to give more attention to news items that affects them directly in terms of impact and proximity. This is not to say that other items are not obtained, however the ones that affect the audience pertinently may be internalized consciously while others although absorbed are just on the peripheral i.e. unconsciously. This also marks the difference between mere hearing and listening capacities. Schema accounts for effective retrieval and matching when similar situations or news is presented.

For the advert professionals and copy writers in contemporary society, the knowledge of the consumers’ schema, both current and potential goes a long way to determine what will constitute or be contained in the advert message to make the product message stick or be retained in the audience minds. It has a great role in brand recall. Since it deals with the brain and the role it plays in the retention and retrieval of stored information, the importance of schema theory cannot be undermine as it is obvious that it cuts across all fields of knowledge and human endeavor.
REFERENCES


Mcvee, M.B, Dunsmore, K., Gavelek, J.R. Schema Theory revisited. http://rer.sagepub.com/content/75/4/531.abstract1i/2/11 retrieved on 8/2/11


ata.htm retrieved on 9/2/11.
