COGNITIVE METAPHOR THEORY: A REVIEW

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Abstract
Metaphor means understanding something with the help of something else that means saying something indirectly. In this process, human cognition activates the meaning and the listeners comprehend the concept by attaching it with the frame of experience which is already made in the mind and become the part of human cognition. The concept of Cognitive metaphor was given by Lakoff and Johnson in 1980, in which they proposed that human thinking is in the form of metaphors. Since the inception of the theory, there were many critiques offered by different scholars and some of the criticism was answered by the proponents of the theory and some of them were answered by other researchers. In the current study, the author has chosen library research method to understand the concept itself and the objections raised against the theory so the comprehension of the theory could be materialized. The current study was conducted to review the objections raised against cognitive metaphor theory and the answers offered by different research scholars in their works. For the current research 5 important research studies was reviewed in terms of objections and their answered for cognitive metaphor theory.
Keywords: Metaphor, Cognition, Cognitive Metaphor Theory, Library research method

Background
Conceptual metaphor Theory (CMT) was given by Lakoff and Johnson in 1980 through a book 'Metaphor We Live By'. Since then, it is widely been used in different domains like semantics, psychology, anthropology, public policy, law, marketing, literature, music, nursing, philosophy cognitive science, semiotics, artificial intelligence, machine learning, and computer science etc. As per the initial presentation of Lakoff and Johnson (1980) metaphors are everywhere and except some tangible lexical items, human normally talk in metaphors. It is possible that some of the metaphor after being used hugely become dead and we human do not think about them in terms of metaphors. Normally metaphor is a way to understand some abstract concept.

Since its inception, it is under criticism and updated by the authors to answer the criticism put on the theory.

Research Questions
1. What are the objections raised against and answers given for supporting Cognitive Metaphor Theory (CMT)?
2. What kind of tools and method of research are being applied to explore Cognitive Metaphor Theory (CMT)?

Research Design

The current study is library research using different search engine, and databases to find some authentic research articles on the concept of CMT published in renowned research journal and reviewed the idea based on their foci, instruments, settings, methodologies, and conclusions. The current research has used four research articles published in renowned journal. Following are the four articles downloaded from https://scholar.google,com and some other free databases:

1. McGlone, M. S. (2007). What is explanatory value of a conceptual metaphor. *Language and Communication*, 27, 109-126.
2. Gibbs, R. W. (2009). Why do some people dislike conceptual metaphor theory? *Cognitive Semiotics*, *5*(1-2), 14-36.
3. Kertész, A., & Rákosi, C. (2009). Cyclic vs. circular argumentation in the Conceptual Metaphor Theory. *Cognitive Linguistics, 20*(4), 703–732.
4. Bundgaard, P. F. (2019). The structure of our concepts: A critical assessment of Conceptual Metaphor Theory as a theory of concepts. *Cognitive Semiotics*, *12*(1).
5. Reid, J. N., & Katz, A. (2022). Conceptual metaphors influence memory automatically: Evidence from a divided attention false memory task. *Memory & Cognition*, *50*(6), 1336-1349.

REVIEW

In the following sections, the download articles would be discussed as per their foci, tools of analyses, instrumentations, methodologies, and conclusions. It was necessary to review the theory because it is very pertinent to understand the theory and its objections, and that was difficult without reviewing the prime research studies which were done to explore the issues related to the conception of this theory.

Foci

McGlone (2007) worked on the explanatory value of conceptual metaphor. The author has discussed the value of CM as a construct based on the allegations put through by the different scholars in different disciplines like communication scholars have not found any empirical evidence of CM as a mode of thinking at unconscious level. The author said that there are two positions: one is representational view that is taken from 'cognitive economy' and the other is the process role of metaphors. The discussion was presented in three parts. The first part is dealing with the representational claims of CM with relation to human conceptual structure. The second part deals with empirical evidences on process claims of CM about its use and understanding and in the last part that is concluding part of the article, the author has drawn the conclusion regarding about CM as a comprehensive theory. He has refuted the false claims forwarded against CMT by discussing the economy of cognition while thinking on cognitive metaphor and the process it takes before execution. It is strange that time and again the issues are arisen against CMT. This time the refutation was cancelled by Gibbs (2009), who focused on the reasons and objections for which, normally scholars are against using CMT. He has collected all the objections of disliking CMT in past 30 years from his article publication. The problems were concerning to i) the evidence for CMT, ii) ubiquity of CMT, iii) about metaphorical thought pattern of language and action, iv) CMT grounding in brain, v) CMT is used ordinarily, vi) CMT can explain creative nature of language, and last vii) comparison of CMT with other metaphor theories. After discussing possible reasons of above issues, he has shared his vision about the future of CMT. In his words, practitioners should work on collaboration of CMT with other

discipline by using linguistic analysis, neuro and corpus-based data should be utilized for CMT analysis. He also related that other theories which are dealing with metaphor are not comprehensive enough to deal with the cognitive aspects of human brain so the only theory i.e. CMT can deal with the complexity of brain in terms of its thinking pattern. In the same year Kertész, and Rákosi, (2009), dealt with another allegation on CMT that was about circularity. It is the grave objection on any scientific concept and some of the authors charged CMT with circularity which was then defended by the authors in their publication. They posed 3 problem sets to deals with in their article. 1st problem set was about adequacy of circularity charge, 2nd was about challenging the metatheoretical framework on which the circulation argumentation was posed, and the last charge was circularity argumentation itself posed on Lakoff and Johnson (1980) original conception. They proved that the argumentation was not circular rather cyclic which is the result of argumentation because cyclic mean the same point but from a different cognitive level (Rescher, 1976). They are of the view that the charges are based on the true problems hence defense is a bit harder but the issue of circularity can only be refuted through cyclicity because theorizing a linguistic concept is a complex task which needs to be dealt with strong argumentation.

Later on, the research studies on CMT continued on and Bundgaard (2019) discussed CMT as a theory of concepts. He wants to present another theory about cognitive processes which are based on cross-domain mapping. The author challenges the one part of hypothesis presented by Lakoff and Johnson (1980) that is metaphors are the way to understand abstract concepts, yet the author agrees with the other part of same hypothesis that is about cross-domain mapping for meaning making process of human mind. He accepts that psychological experiments proved about cross-domain mapping of different cognitive tasks but the same experiments did not support metaphorical nature of human thought patterns. So, his focus was on rejecting the concept relating to understanding of abstract conception through CMT and presenting his ecological theory of meaning. His theory claims that thought patterns are vague without their situation of use so situation predicts about the thought or in other words situation give meaning to the abstract thoughts. No further research available on its ecological theory of meaning proposed in his article but the research was continued on the previous strain like in 2022 Reid and Katz focused on memory automation mapping that is done by human mind when a task is presented. Reid and Katz (2022) focused on automatical memory mapping for a task. Their work has explored the relation of CMT with previous research studies that have concluded that CMT can produce false memory effect in which if the participants were given unrelated phrases or sentences with the same underlying conceptual metaphor (CM) it can produce false recognition while reading some other relating expressions which is called false memory effect. The basic study was about automaticity of CMT activation for reading skill under attention deficit and attention given tasks.

Tools of Analysis

Analyzing some data about meaning mostly required observation as a tool that is why there are people who objected studies of meaning as a non-science subject, but some of the studies have also used different tools for understanding meaning making process in human cognition. The analyzing tools in the selected articles was sometimes used and sometimes old method of observation and reflection used. McGlone (2007), which is based on the previous studies in which the claims of CM have been accepted or refuted like CM as a model of human

thought patterns or cognitive economy or process model. To analyze these conceptions, the author has used interpretive mode of enquiry, he has applied library research technique to find the articles on CMT and reviewed and presented. Same happened in the study of Gibbs (2009) has not used any tool for analysis rather his method was critical reading and reviewing previous research, which can be considered his tool. It can be said the author has used systematic review of past research and used it as a tool. Another study conducted by Kertész, and Rákosi, (2009) was again based on the previous reading but this time the argumentation was from another discipline rhetoric because the objections were from the rhetorical point of view. The issue of circularity was discussed by the author and through critical reading and focused arguments, the authors proved that circularity issue can be resolved from looking at the problem from cyclic point of view.

The study conducted by Bundgaard (2019) was experimental, he studied the concept from meta-analytic point of view. The author deals with the psychological experiments done by Boroditsky (2000) and proved that mental schemas activated in space and reasoning in time that is other domain so cross-domain mapping of the mental concepts was proved in her experiment. The second experiment the author mentioned is of himself that was Bundgaard (2013) which resulted in the concepts of source and target domain which creates a semantic network. The third experiment was again from Boroditsky (2015) to analyze the metaphoric structuring in spatial domain and it is activated every time when we reasoned about it from the temporal domain. The author then rejects these by presenting an FMRI-study by Wallentin et al., (2005) that was done to analyze sentence processing in mind with spatial information and having a concrete meaning. The results suggested that for concrete sentences activation is done in a navigation way but in abstract sentences this was no supported in the study. The results are supported by Aziz-Zadeh et al., (2006) in which it was concluded that in case of concrete information the motor cortex area is activated but in case of abstract information it is not activated. Hence the author proved that the studies does not support that neural circuits are bound with mapping of abstract domain through coactivation of concrete and abstract domains. The more recent study by Reid and Katz (2022) worked on the previous study made by the same authors Reid and Katz (2018) in which they proved through experimental methods that CM can activate other items having same metaphoric mapping but as Lakoff (1993) claimed that this process is automatic, hence the current study used experimental method to analyze this automaticity claim by making two experiments under creation of hypothesis. The hypothesis was based on the claims of Lakoff (1993; 2008) about automatic activation of CM. The authors have used G-power software for analyzing the sample size sufficiency and for applying ANOVA for between subject conditions.

Methodologies

Method is very important step in any research study because this is the way to reach conclusion whether it supports your idea or not but the way should be rightly justified, hence choosing research method is an important concept for a research study (Bloomfield & Fisher, 2019). Research methodology in another words a solution to the problem in hand and we know if the calculation method would be wrong the solution would also be wrong (Patel & Patel, 2019). It is an important step for scientific process which should be completed before starting the research.

McGlone (2007) has used library research method through critical observation and description of the findings. The style of presentation was like meta-analysis but in an enquiry-

based approach. The other author, Gibbs (2009) used critical observation method and used descriptive research in which he described the phenomenon in the eyes of others. In the same vein, Kertész, and Rákosi, (2009) worked on question answer method of research, they started from presenting a problem and then by referring previous research studies and connecting the concepts, they moved further to answer the problem sets presented by the authors. The other study by Bundgaard (2019) adopted a proper method and used it through thick and thin. He has used meta-analysis method in which he has merged the results of previous studies to describe the phenomenon and reached new results by presenting his theory of ecology of meaning. Reid and Katz (2022) used quasi experimental method by selecting 2 non-homogenous groups for task 1 and for task 2 one group study to further the results of 1st study by adding control and encoding of CM. The authors are very particular about conducting this study and at each step they tried their best to ensure the scientific objectivity through using statistical measures and reduced the researcher bias level at .5%.

Sampling

Sampling is considered the core of research (Lakens, 2022) because if the sampling is erroneous the results could not be generalized (Henninck & Kaiser, 2022). In the discipline of cognitive semantics, most of the time, the authors are going to use convenient sampling through getting the consent of the samples and started experimentation or they prefer to critical reading for which they collect sufficient number of research studies and started working on that to build their arguments. McGlone (2007) did not use any particular sample for this study because it was observational descriptive method in which he did not need any sample to get opinions or use any test. In this sense, it can be said that his sampling scheme was about choosing some particular research papers to review and conclude about the selected research questions. Definitely, number of research papers depend upon the question chosen for the study. Kertész, and Rákosi, (2009) considered the problem sets as their samples and picked up one main criticism on CMT that was about circularity. By picking up that issue, they divided it into three problem sets (adequacy, metatheoretical framework, circular argumentation) and started solving the issue, but Gibbs (2009) used convenient sampling in which all the presented articles have been reviewed and results are shared in a cogent way. Another author, Bungaard (2019) did not used any particular samples rather his sampling technique was purposive in which the article supports his claims are chosen for argumentation and rejecting the hypothesis. Reid and Katz (2022) have used 100 participants for the first study in which the participants were recruited through a website, some of them were paid and some were students. For the second study, 158 participants were finalized for which the selection method was same as used for the first study. The sampling technique was multi-stage in which at first stage cluster sampling was applied and at second stage, they used purposive sampling like they check the seriousness and class performance to include that person for their study.

Instrumentation

Andrews, Stock, and Sun (2019) stated that weak instruments can give weak results, so the inference and estimation of the results would be considered unreliable. That means instrumentation is also important for any research study. Clark and Watson, (2019) related it with validity issue because weak instrument can post low or missing validity of the research. Kertész, and Rákosi, (2009) have used argumentation as an instrument because their study was about rhetorical problem of CM as a theory. The issue of circularity can only be resolved through

argumentation; hence they took it as an instrument. Gibbs (2009) has used the author as an instrument because through his efforts the data is collected and analyzed not in terms of statistical procedure but through critical reading. Bungaard (2019) has used meta-analysis as an instrument because his focus was on the results of previous studies. Reid and Katz (2022 used study lists with four types of recognition lures in which two were controlled lures and remaining two were critical lures by dividing attention while doing the task. For critical lures, the authors used CM label and source-to-target having same mapping as the study items have, and for control lures, the authors used target and source. In target lure, the authors used different mapping than the critical lure and for source lure, they used literal sense in the sentences. McGlone (2007) has used the author as an instrument because through his efforts the data is collected and analyzed not in terms of statistical procedure but through critical reading. We can say his instrument was meta-analysis because his study focus was on the results of previous studies. In meta-analysis, the focus is on the results of previous studies and the author either wants to confirm the results or wants to refute them by adding their results in the field.

Findings

Kertész, and Rákosi, (2009) found out that the issue of circularity is very grave and the problems on which the issue is raised really very strong. The only solution is to take the argument from another cognitive point of view that is cyclicity. The difference between circularity and cyclicity is the different cognitive points. From the perspective of circularity, which is about starting and ending on the same point, the theory of CM is circular that means it is not offering any serious results and no addition in science but from the point of view of cyclicity the starting and ending are at the same point but the cognitive layers are different at both points. That means the problem was started from a point and at that time the cognitive layer was different which was used at the ending point. In this way, cyclicity can solve the problem of circularity of argumentation. The next study conducted by Gibbs (2009) has not shared any findings rather its focus was on collecting all the challenges faced by CMT and how the scholars are thinking and based on those challenges what would be the future of CMT. In other words, we can say that presenting all the objections faced by CMT was the finding of the article. Bundgaard (2019) finds out that ontogentic nature of CMT and metaphorical structure are not supported by the psychological experiments hence the claims made by Lakoff and Johnson about CMT as a theory of concepts is partially true. One more finding was the presentation of ecology theory of meaning. Reid and Katz (2022) used two experiments to analyze the automaticity of CM activation claim and concluded that false recognition of same mapping can occur while reading a list of sentences/expressions. In this study, it was found that source to target lure can initiate false recognition more than the control lures. Though control lures can initiate it but at a lesser level of mapping. Along with that, it was also proved that attention either on study or on test, has no dependency on metaphor activation even if the conscious effort in terms of conscious attention towards the metaphor mapping is done. It supports the claims of CMT automaticity and rejects the claims of Steen (2009, 2015, 2017) and Glucksberg et al., (1993) which said that the effect of CM depends on conscious attending of metaphor mapping. McGlone (2007) finds out that many expressions that most people would consider literal are treated by CM theorist as metaphorical. Metaphorical expressions are assumed to be understood in terms of their constituents' literal category memberships, yet our knowledge of these literal categories is assumed to be metaphorical at some deep level. By blurring the distinction between the literal and

metaphorical, the CM framework becomes incoherent, both as a theory of conceptual structure and as a model of language understanding. This is a pessimistic conclusion drawn by the author of the CMT, yet the author is not denying the importance of CMT.

CONCLUSION

The study was started to know about the concept of cognitive metaphor theory which was presented in 1980 by Lakoff and Johnson. They thought that human mind thinks in terms of metaphors that is why they named their book as metaphor we live by, because this was the only way of thinking for them. In their point of view, human cognitive framework thinks in terms of making relations, and inferences to attach the words with the meaning already acquired that is metaphor which is a symbolic relationship of things and entities. After the inception of theory, there were many objections posed on it and some were answered by Lakoff and Johnson individually and collectively and some of them were answered by other researchers. The current study is one such effort to comprehend the objections and answers against CMT. Along with that what kind of tools of analysis, sampling procedures, methodologies, and instruments are being applied to explore CMT in the scientific domain was the other research questions to be explored by this research. The author used library research method and downloaded five certain articles to answer the research questions.

The objections against CMT were manyfold like the issue of circularity, which was based on argumentation and solve by transforming the concept of circularity with cyclicity. Another issue was about explanatory value of CMT, which was based on no empirical evidence found out to support the idea but solved by presenting economy of cognition. The next issue was about a culmination of all past 30 years issue in a single study which were about empiricity, grounding, metaphoricity, evidential aspect, comparative study, and patterns of language in action. Unfortunately, the author has not provided the solution to the problems mentioned by him but he proposed that the solution can be sought after, after unifying the experts. The next study used experimental method to refute CMT at all and presented his theory that was ecological theory of meaning but there is no study found out by the author of this research which focused on ecological theory of meaning. the last study presented another challenge and solve it. The problem was about automatic mapping of human brain while working on one task and in this way, they proved the validity of CMT.

The next research question was about the methodologies, sampling, and instrumentation of the research studies to explore CMT. The studies selected used most of the time critical reading, observation, and experimentation as method of conducting the research. Sampling procedure was mostly about selecting the previous research work to meta-analytically review the working in the field of CMT. The process of instrument was also simple because most of the time, the author himself or herself was the instrument to explore the issue or answer the refutations and objections posed against the theory.

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