Tikrit University | جامعة تكريت
مجلة آداب الفراهيدي
Journal of Al-Farahidi's Arts

The Globalization Effect of Visual Artificial Intelligence Materials on the Cognitive Structures' of Arab Children

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SUBMISSION	ACCEPTED	E-PUBLISHED
10/08/2024	17/10/2024	30/12/2024

P-ISSN: 2074-9554 | E-ISSN: 2663-8118 https://doi.org/10.25130/jaa.9th.1.5 Conference (9th) No (1) September (2024) P (57-72)

ABSTRACT

Artificial intelligence (AI) has become a global tool which has a huge impact on the real and virtual world especially in Arab communities and mostly on children without respect for cultural or value differences.

In this context, the current study aims to shed light on the possible effects of hybrid visual materials manufactured with (AI) on the initial conceptual structure of Arabic children and stating the possible consequences of these effects on their mental mechanisms and learning abilities.

This study is basically dependent on the model of Conceptual Metaphor Theory by Fauconnier (1997).

To achieve the aim of the study, two types of procedures have been followed: theoretical and practical. The theoretical part consists of presenting a brief theoretical framework of the concept of Conceptual Metaphor Theory by Fauconnier (1997). This is considered the base for all types of mental structures and mechanism theories that can be applied in visual domains.

The practical part consists of analyzing visual materials manufactured by (AI) devices taken from social media platforms via employing the mentioned models above. The study attempts to show if the visual materials made by AI may distort children's perception and distinction of the two realities since the brain does not realize whether it is true at early age for children.

KEYWORDS

Globalization, Artificial Intelligence, Conceptual Structures, Globalization, Arab Children, Cognitive Structure

1. Introduction:

1.1. The Problem:

When dealing with modern linguistic studies, there are particularly interesting issues in the cognitive field regarding how this discipline can be used to answer and explain many phenomena associated to our perception, understanding and communication. One of these novel phenomena is the creation of parallel worlds to our world by (AI) which use the same data of the real world and produce hybrid worlds far from reality. The process of perceiving and understanding these worlds is a challenge in itself for adults, so what if the recipient is children at the beginning of their learning and developing their mental ability of perception of the surrounding world. This puts them in front of a cognitive dilemma that makes the child in an early age unable to separate between the two worlds because s/he cannot distinguish which is the real one due to his/her reliance on the distorted initial storage of mental data.

The artificial intelligence (AI) world quickly mutates the way we work, live, play and communicate. Whereas AI has a creative prospective to help us solve complex problems, but there are increased serious concerns about it, especially, the ways AI might reform the world of people, especially children and teens.

The study attempts to answer these questions by verifying the hypothesis that states that: is there possible effects of hybrid visual materials manufactured with (AI) on the initial conceptual structure of Arab children and what are the possible consequences of these effects on their mental development, mechanisms and learning abilities.

For this purpose, the study has relies on the Conceptual Metaphor Theory by Fauconnier (1997), which is the base for both verbal and visual mental assemblies. The aim is to test how hybrid images and scenes data that the child receives through his use of different technological communication platforms can become part of the data that is used in the child's mental conceptual construction, which in turn can contribute to distorting his/her mental abilities and delaying his/her realistic perception of the environment.

The aim of research is to examine certain hybrid images generated by (AI) from social platforms by using Image schema, Conceptual Metaphor Theory and symbolic assemble entities, and then analyzing it. After that, it is clarified how data stores mental entities, how it can be reused and how it affects the communicative level.

The importance of the research arises from shedding light on raising awareness of the consequences of (AI) in the long term regarding future human mental structure reflected on human behavior and on personal and social levels

1.2. Research Questions:

This study raises several problematic questions that require urgent replies among which are:

1. Can the theories of the Conceptual Metaphor Theory by Fauconnier (1997), and Conceptual Blending Theory of Turner and Fauconnier (2003) reveal the conceptual structuring and mental mechanisms for generating visual mental constructions of (AI)?
2. Do hybrid visual materials that are generated by (AI) have an impact on children's comprehension and their perception of the world?
3. Can theories of cognitive linguistics help us to improve our understanding of contemporary social phenomena, highlight their consequences and make suggestions?

1.3. The Aims:

The study aims at finding out:

1. The applicability of the Cognitive linguistics theories to examine pictorial materials that are generated by (AI) and clarifying the mental mechanisms used to store and regenerate them.

2. Whether or not supposed cognitive linguistics theories can be applied to study hybrid visual materials that are generated by (AI) to examine and show its impact on children's mental structures and how it is reflected on children's real-world perception.

3. Whether or not cognitive linguistics works to help us advance our understanding of (AI) consequences and give suggestions to deal with it.

1.4. The Procedures:

To achieve the aims of the study, the following steps are followed:

1. Presenting a theoretical framework of globalization, visual artificial intelligence, image schema, symbolic assemble, Conceptual Metaphor Theory by Fauconnier (1997) from cognitive linguistics perspectives .
2. Adopting the concept of Conceptual Metaphor Theory by Fauconnier (1997).
3. Using hybrid visual materials that are generated by (AI) which are taken from (Instagram app pages).
4. Analyzing of hybrid visual materials that are generated by (AI) which are taken from (Instagram app page) by Conceptual Metaphor Theory of Fauconnier (1997) from visual perspective
5. Clarifying the mental structures and mechanisms that are used to store and regenerate them and create meaning.
6. Showing the different between the real-world Image schema and that invoke from hybrid visual materials that are generated by (AI).
7. Showing the impact of hybrid visual materials that are generated by (AI) on mental structures and their consequences.
8. Drawing conclusions, and stating recommendations and suggestions for further studies.

2. Globalization, Visual Artificial Intelligence, Image Schema, Symbolic Assemble, Conceptual Metaphor Theory: Definitions and Overviews:

2.1. Globalization Aspect:

According to Al-Rodhan (2006, p.1-21) "Globalization is a process that encompasses the causes, course, and consequences of transnational and transcultural integration of human and non-human activities". On the other hand, Al-Rodhan also argues that Globalization implicates many elements that can effect each other as economic integration; radical ideas; the broadcast of different types of knowledge; cultural, relations, and even discourses of power; it is considered a global process, a notion, a revolution, and "a global market free from sociopolitical control. Generally, in the novel years it is refered to as progress, growth and solidity, integration and collaboration, and others, but there are other opinions that use it to refer to regression, colonialism, and destabilization. Al-Rodhan and others believe that this term carries with it a multitude of secret political ideology, geographic, social status, cultural, and ethnic and religious agendas (ibid). On the other hand, Giddens (1990, p. 64) gives another definition ""Globalization can thus be defined as the intensification of worldwide social relations which link distant localities in such a way that local happenings are shaped by events occurring many miles away and vice versa.".

Others go towards a more economically definition "The world is becoming a global shopping mall in which ideas and products are available everywhere at the same time" (Rosabeth 1999, p. 15). Martin Khor, as cited in J. A. Scholte, deals with this aspect as a political aspect and calls it "Globalization is what we in the Third World have for several centuries called colonization." (1999, p. 15). In Spich's, "Globalization Folklore: Problems of Myth and Ideology in the Discourse on Globalization" give us more conceptual notion for Globalization "[I]t is a mindset, an idea set, an ideal visualization, a popular metaphor and, finally, a stylized way of thinking about complex international developments.", (1995, pp. 6-29, pp. 10-11). Chinnammai (2005, p. 67-72) believes there is a huge effect of globalization on education and culture. Melluish also deals with it and

argues that the effect of globalization can be extended to the psychological level of human beings, he claims cultural and psychological levels that include human identity, ideas of privacy and intimacy can also be affected by globalization (2014, p.538-543). Melluish sees it involves the spread of capitalism, cultural homogenization, the force of dominant 'global north' ideas and the resultant growing inequalities in health and well-being.

Chareonwongsak believes that globalization and technology will change our society. Globalization, along with digitization and bio-technologization, could produce catastrophic and beneficial effects in society over the next 20 years. The ability of governments, corporations, community groups, and individuals to handle such future trends will be contingent upon their ability to handle the changes that technology has already thrust into way at present. Success is not only determined by our ability to handle the present challenges but even more so, to correctly foresee (191-206, 2022). In his theory of culture, social institutions need time to adapt to major technological changes. Today technology is advancing faster than human history has ever experienced. The possibility that societies will not be able to adjust to these changing technologies is highly probable. In the future (ibid).

2.2. Children Under the Tent of Technology and Globalization:

The studies on the effect of globalization on children are many, but the problem is that studies that focus on technology globalization in relation to its effect on the mental structures of children and its impact on their development are rare. Political, economic, and cultural changes associated with globalization and surely affect all human levels but still not clear how it affects children's lives which requires diverse research strategies to couch it.

Fass (2003, p.963-977) in his early work "Children and Globalization" argues that globalization is impacting children in many spots of the world but the problem is that, children have rarely been part of the discussion of globalization. To bring the consideration of children into the center of our discussions. Fass focuses on three areas—work, play, and sexuality—and argues that our understanding of how globalization is likely to affect the world's children altering the world everywhere today.

According to Fass (2007), the impact of globalization is not limited to adults, its real problem extends into the younger generation. It has direct effect on children of the new world. Bandura, (2001, p.12-24) believes Societies today are undergoing drastic changes at all levels that invoke from the revolutionary of technologies and globalization that are change the nature of human. Mintz (2019, pp. 1-13) state that globalization has carried vast consequences for children contributing to far-reaching transformations in the structure and dynamics of family life, and profoundly altering the trajectories of growing up, in addition, it has increased sensitivity to children's psychological well-being, their inner lives, and their peer relationships (ibid).

Thompson (2012,p.187-192), through his work entititled "Changing societies, Changing Childhood: Studying the Impact of Globalization on Child Development Perspectives," offers a clear work about above aspects needed to (1) offer an analysis of the impact of changes that correlate with globalization on local social ecologies, for instance; families, schools, neighborhoods depend on children's experience; (2) observe how globalization effects the knowledge, skills, and process of learning essential of children as cultures which are obstructed by worldwide powers and influences ; and (3) these studies need to focus on explore children's construal of these changes for themselves and their future. These precise research strategies require data invoke from sometimes be drawn from national or international datasets(ibid).

One of the studies in this field found that globalization technology has both positive and negative influences on children's behavior patterns. In the positive side they are exposed to various cultures with low effort, and develop broader perspective and a diversified life style with easy flow of data and new ideas can be developed. While negative reflection on their drifting away from the core of the social and cultural values of their family and society. Personal interaction and emotion among family members has also reduced. The researcher adds that massive data can generate noise

in the child's mind of childand confuse him. Children could not getting right signal complex (Mohanty, 2013, p. 31).

McChesney believes that globalization of technology is associated with the "deregulation" from "globalization" which offer a massive media market directed at children which can be a controversial development. The researcher debates that the current trends, without media policy, point to dubious outcomes, for democracy, culture and public health.

2.2.1. What is Artificial Intelligence (AI):

Artificial intelligence or (AI) can be defined as "the science and engineering of creating intelligent machines"(McCarthy, 2007, p. 2). Artificial intelligence (AI) is a subdivision of computer science invoked from machine learning, novel algorithm, and natural language processing (Akgun & Greenhow, 2021.p,1-10). Sometimes termed machine intelligence, it is intelligence configured and generated by machines or computers (Solanki et al., 2021, p.2758-2770). AI was used to imitate complex tasks allied with the human mind activities, such as sensing, learning, and predicting (Russell & Norvig, 2002).

AI is an imitation of the human brain in how it collects different types of data that come from real world through senses. The difference between them is that AI draws the input together, sorting them then over immediately accessible to us. Yet, unlike human, it doesn't have the capability to attach new data to all of our other life experiences (https://www.healthychildren.org).

Howley (2019, P.11) shows that AI is used to mimic human senses and language, Howley depends on Jan et al., (2019). through his research believes that there is a visible evolution of AI even it can learn to make decisions of its own. Machines' decisions have no consciousness or evolved level of reasoning. The combination of "Deep Learning and Big Data "is creating a revolution in AI.

2.2.2. Children and AI:

Rely (2018) found that children around the world use AI almost daily. Most interactive toys, games and internet platforms made for children depend on AI technology.

They are many studies on AI and children which point to several worries:

Young children may share personal material considered private with AI platforms. Many studies find that children among 3 and 6 years old supposed that smart speakers had beliefs, feelings and social capabilities which could affect how children learn to interact with others, and thought that (AI)speakers have more dependable data than real people. They also use AI to create images and videos for social sharing (Howley ,2019, P.11-28).

We should put in our mind AI has potential dangers on children families, AI platforms reflect the same prejudices since AI use internet data without logical sense. Wide studies show that AI-generated materials improve stereotypes and falsehoods. So, adults should observe AI beliefs and actions that are exposed by children. The real problem is that, AI collects a huge amount of data about us, often without us knowing it. According to that we need to avoid interactive toys that chat with kids (AI) (Ford, 2019; Howley ,2019, P.27-28).

According to Howley (2019, P.26) researchers recently have aware to the long-term consequences of AI. AI can modify the way children interconnect and even deal with real relations, even they tend to be alone, with possible weakening learning desire, as well as their own intelligence will be in questioned. A time where a child deals AI's toy or device is as human very real. As children get nearer and more relaxed with AI devices, the level of data given to the AI will rise and make children even more weak to abuse and manipulation by marketers, large companies and even hackers (ibid).

3. Conceptual Metaphor Theory:

A conceptual metaphor is a mental structure composed of a huge number of mental entities that store human experiences and generate their information as needed with different mental mechanisms according to the need and the meaning to be conveyed, as we will discuss later.

In order to realize the resemblance between verbal and visual constructions and how linguistic theories can clarify visual phenomena, we must clarify the basic underline conceptual structure that responsible for storing input as concepts and generating meanings through the relations between sings and symbolic assembly in order to understand analogical behavior.

3.1. Symbolic Assembly and Semiotic Entities:

Swiss linguist Ferdinand de Saussure (1857-1913), a founder of semiotics. The most common brief definition of semiotics is 'the science of signs'. signs' may be anything from which meanings may be generated (such as words, images, sounds, gestures and objects). Saussure believes every sign is composed of:Sign: The written word 'tree'; Signifier: The letters 't-r-e-e'; Signified concept: The category 'tree'(Johansen et al (2005);.Sebeok, (2001).

On this basis, the semiotic structural constructions of both verbal and visual structures follow the same structural behavior to transport the same meaning, but the means differs, where one of them is merely ph onetic and the other depends on the sense of sight, for interpretation and perception of linguistic contens.

This semiotic structure is considered the communicative inputs and outputs data which saved in a conceptual structure called image schema, which we will explain it later. It is generated by conceptual mechanism following the method of combining meaning and form, which Langacker called "A symbolic assembly". This is consistent with C.S. Peirce classification of signs that can be: icon, index and symbol. A symbol can represent conventional meaning that asossiat with things or words that would seem to be examples of verbal symbols, whil the other type of singe can be visual entities (Saeed, 2009.p, 5).

Symbols are 'bits of language' or form. These symbols involve forms, which may be signed, verbal, written or, image and meanings with which the forms are conventionally paired. In other words, this symbolic assembly is a form-meaning pairing (Evans& Green, 2006.p,6).

3.2. Image Schema:

Conceptual metaphors are based in their basic structure on the embodiment processes of experiences and their stores in image schemas intities and mental mechanisms for the production of meaning. Embodiment,it manifests notion as ideas or concepts reform by using a physical symbol (love, hate, fear, justice, etc). For instance, A while a wedding ring is an embodiment sing of love (https://www.researchcatalogue.net). The notion of embodiment means that our real experiences could be embodied in our mental constructions and saving all our bio-psychological, socio-cultural data that absorbs by neurological system and download in our cognition organism. This lead into very importan aspect which is Our perspective of world is, as we think is not as it is in reality since our mental assemblies imitate the world rely on what we absorbs (Evans & Green, 2006, p.27-54).

Image schemas are mental colonies for embodiment human knowleges, generate and emerge from our knowledge. Johnson (1987) in his famous "The Body in the Mind" make these entities vital for our "The Bodily Basis of Meaning, Imagination, and Reason". Johnson portrays image schema as a dynamic abstract negative construction for the real-world image which can links up a massive range of numerous "experiences that manifest this same recurring construction" (1987, p. 2). Imagination as the basis mental element arouses from two elementary constructions: image schema, and their metaphorical extensions which contributes in incarnating our conceptualization of the world (Etches,1990, p.357_358). Johnson categorizes image schemas into 27 sorts grounded on the human experience some of them: *containment, compulsion, contact, balance, attraction, enablement*, and so on(ibid.). In summary image schemas is the abstract image and all types of data that save in mental structures about of the real-world entities.

Saeed rely on Johnson termes image schemas "gestalt structures" can "hang together" in a invoke and stimulated by experience. (2016, p.359). Rely on Lakoff and Johnson's (1980) Saeed argues that, image schema can be extended by virtue of *metaphorical extension* into abstract

domains in both visual and verbal levels, for instance, In the visual domain, a container aspect can be:

(1) *The ship is coming into view.* (2) *He's out of sight now.*

While in state concept can be: (3) *He's in love. (ibid.).*

Image schemas generate and locat with in mental domains, in order to link diferent domain of knowledge Fauconnier's (1997, p. 1-25) establishes the concept of mappings, which refer to mental mechanisms of linking between different type of mental domains which arise every time humans think or talk. It is part of many mental phenomena.

Fauconnier shows that mapping can be:

1. Projection mappings that emerge between source (of data and bodily experience) and target (the notion that need to convey) domains of metaphors. Generally, it is the core of conceptual metaphor. Talking about domains (target domains), we use the data of other domains (source domains) which are more concrete or more directly attached to bodily experience with the analogous vocabulary. For instance, Love *is War*.
2. Mapping for pragmatic function that involves A analogous relation of two entities in the same domain where one entity can stand for the other, for instance the mutual relation between the *author and his books* such as *Chomsky.*

3.3. Conceptual Metaphor Theory Structure:

Fauconnier (1997, p.168) claims that metaphor is a universal phenomenon in the cognitive domain that connects to human conceptualisation. It depend fundamentally on mapping procedure between the source and the target domains' inputs. For Fauconnier, this makes metaphor a crucial candidate for the conceptual blends. The vital conceptual base that metaphor emerge from it are image schemas that invoke from the embodiment of human bio- socio-psychological knowledge and experences about real-world which gives image schema its worth, and by the metaphorical projection process of using image schemas and other abstract mental concepts to generat meaning. we create new conceptual structures like the following case of image schemas CONTAINER depend on our previous expernces rely on Lakoff and Johnson's work (1980) (Saeed, 2016, p. 359).

(4) (a) *He's in love.*

Metaphors in its alignment follow foreground vs. background sequences where The source domain of a metaphor is the background of target domain which represent background. Normally, the source is more concrete and relate to bodily experience. Both metaphor domains in other cases can be categorized as a background of a hybrid domain, or blended concepts. This novel domain gets features of both original domains but will be hybrid unrelated of its content to its parents which will be the foregrounded of them. In case of (my thought just flew out of my head) is a hybrid metaphor as it offers a sense of living to a thought which is abstract (Langacker,2008, p.57). This helps us to see that metaphor play major role in creation hybrid senses add to that not only on verbal level but also con be visual also.

Conceptual metaphors to provide advanced meaning require other more complex mental mechanisms that produce more creative and innovative texts based on basic data that are stored as image schema in mental structures within mental domains, which in turn generate it through activation processes. These processes have been called conceptual blending mechanisms (Turner and Fauconnier,2003, p.469) All these mechanisms can be activated to produce linguistic as well as pictorial texts.

3.4. Conceptual Blending Theory and its Mechanisms:

Evans & Green indicate that Fauconnier and Turner have the first version of Conceptual Blending. Fauconnier established the Mental Spaces Theory for meaning construction, Turner's work has devoted on metaphor in literary language.By their cooperate through Conceptual Metaphor and Conceptual Blending work, have found that meaning can arise from linguistic and conceptual structure sources (2006, p.401-402). Oakley et. al. explain that Fauconnier and Turner's

(1994; 1998) works unify conceptual linguistic phenomena, which led to Conceptual Blending model, (1999, p.1-26). **Turner** and Fauconnier (2003, p.469) portray their CBT as "Conceptual integration--also known as "blending" or "mental blending"--is a basic mental operation whose uniform structural and dynamic properties apply over many areas of thought and action, including metaphor and metonymy".

Evans & Green (2006, p.403_409) claims conceptual blending mechanism uses target data in conceptual structures as image schema in mental domain within mental space include linguistic and non- linguistic ones depend on the target meaning needs. The process of integration in the mental networks includes: ageneric space, two inputs, and a blended space. Generic space offer space for data from basic schematic structure of two input spaces which are 'reality spaces' that have the basic data. The two inputs within two domains will finally chain by mapping within projection techniques into a blended space to be part of output structure after integration and generate them into the target content in blended space. For instance, when submitting concepts such as SURGEON and BUTCHER to mental blending, besides their conventional content which both represent real input, the result definitely will not satisfy the surgeon since depict him as pithless without mercy or materialistic (Oakley, et al.,1999,p.1-26). Oakley, et al. claim that by the virtue of the four-space conceptual blending theory help us to explain phenomena two-domain model fail. (ibid.).

3.5. Visual Metaphor:

Langacker is aware of the import of visual metaphor as another way to stimulate senses (Langacker,2013, p.55). In the last years, researches increasingly focus on visual metaphors including "monomodal" and "multimodal" metaphors. these types of metaphors could be found everywhere such as in cartooning, and advertising (Negro, 2017, p.119-126). Ojha (2013, p.XIII) describes Visual metaphor as a "nonverbal recreate of metaphorical thought, where one or both notions of the metaphor (the target and the source) are portrayed in images". In current years, the visual metaphor has a main role in contemporary culture, it can be seen in advertising, political, social, global issues as and so on, in more eligible way than verbal. Novelty and systematicity features of metaphor can also be a portion of visual metaphor assemblies. They can help it to extended into novel senses to more development's concepts (Saeed 2016, p.372).

Visual metaphors track the alike principles and features of conceptual one do but from a visual angle, Kaplan (2005, p.168) proposes that the vital segments of a metaphor can be applied for both verbal and non-verbal types, but with visual one, the procedure of identifying is more challenging. This type of metaphor has the ability to pressure large sums of conceptual data within its visual buildings which at the same time need vast background knowledge to analyze its content (ibid). Metaphor general features and its ability to extended into novel senses where the structures of its domains are not only combined but may be extended in more advance's novel concepts (Saeed, 2016: p.372).

Kaplan considers that visual metaphor's structures and features is reflect to the linguistic one which both occur from and hinge on the same psychological and encyclopedic facts sources that we save in our mental structures for instance using juxtaposing image of the leopard as symbol for and sport car, this need knowledge about the features of both (2005, p.167-169).

4. Previous Studies:

There are a huge number of studies that deal with AI in different scope of knowledge and some are to be discussed:

Early studies in this field is Goldstein et al, (1977), through his work" Artificial intelligence, language, and the study of knowledge" studies the connection between AI to the study of language and the depiction of the underlying knowledge which backings the comprehension process. According to him intelligence is grounded on the capacity to use large amounts of diverse kinds of data of knowledge in technical ways, rather than uniform principles. The researcher believes that

AI have a essential influence on education if we have the proper awareness and tools. Barbour (1999) by studying Neuroscience and philosophical nature of human in scope of artificial intelligence, he develop "a multilevel, holistic view of persons, emphasizing embodiment, emotions, awareness, and the social self". The researcher draw his data from *Theology*. *Neuroscience*, *Artificial intelligence, Relations between levels*, *Philosophy of mind, and Process philosophy*. He propose that procedure thought offers a coherent philosophical outline as one unit. The old studies in this field have luck of information about AI and their works rely on poor data and most of them tend to be theoretical.

On the other hand, the modern studies show more developing and solidity. Kandlhofer, et al (2016) study AI computer science in field education. They examine the important of learning AI and computer science through novel methods to different level of learners from kindergarten to university. Williams et al (2019) deal with AI activities on young children's perceptions. They developed a new early childhood (AI) platform, to train children and make them interact with social robots to learn AI concepts. Then, they analyzed the influence of the activities on children's awareness of robots. Younger children see robots as smart toys than them, while their older deal with it as human that were not as smart as them. the researcher consider early AI education can authorize children to understand the AI.

Barnden (2006) deals with AI from linguistic viewpoint, the study deals with metaphor in general and conceptual metaphor in Cognitive Linguistics. The researcher argues that AI can contribute to Cognitive Linguistics field by trying to build computationally detailed of metaphor that can expose new problems and issues. On the other hand, Dupoux (2018) discus the idea of Cognitive science in the era of AI. Here, the researcher analyse the situations under which "'reverse engineering' language development," as system that imitators infant's achievements by using AI advice, which can participate to our scientific knowledge of early infant's language development.

Ali et al (2021) focuse on Education in the age of AI. They believes that (AI) approaches open up new avenues of digital creation, and are simultaneously accompanied by societal and ethical implications such as the creation of Deepfakes on social media and the spread of misinformation, which make it as socio-technical system. These platforms are used by children heavily and it could have AI-manipulated media. In this work, Ali et al offer using AI techniques as a tool for creation. Fosch-Villaronga et al (2023) focus on AI game's effect (smart connected toys) on children which creates severe side effects at the technical, individual, and societal levels. These side effects are often unexpected. This article provides an analysis of the rising side effects of games.

Zhang et al (2024) stimulate human mind mechanism by **AI**. They rely on language cognition as a base of human cognition. Yang et al (2024) discus using AI education for young children. The study collected data from several sources, as classroom observations, documents teacher interviews. The outcomes exposed that children could learn about AI through interaction with intelligent agents in embodied learning contexts.

As we have noted in our previous discussion about prior researchers' work from the different eras about AI and its relationship to human, note that studies emphasis on how to use AI in different fields, as education, experimental goals, its advantages or disadvantages, and its impact on the in social or individual level. Recent research has not included any space to discuss the effects of its use on social platforms to generate surreal images, stories and characters that do not exist in reality.

Children consider the largest addict group of social platform, especially the Arab world, because the lack of entertainment options orl ack of parental experiences about the dangers of media nowadays .This has made the child exposed intensively to the media as a source of his basic knowledge, and this will subsequently affect his mental structure and will be reflected in his behavior in society .Add to that will distort his perception of the real environment cause initial information that received from media which far from reality, this will lead to the creation of an alternative imaginary reality based on I data generated by AI.

This research paper will focus primarily on these artificial entities, analyze them and explain how AI leads to distorting children's mental inputs and outputs.

5. Methodology:

5.1. The Adopted Model:

The model adopted in this paper is the Conceptual Metaphor Theory of Fauconnier (1997). The researcher has used the theory of Conceptual Metaphor Theory of Fauconnier (1997) to analyze 10 different hybrid visual materials that are generated by (AI) that extract from Instagram apps. The purpose is to analyze them, interpret the resulting meanings, and compare them with the original images and decide what are the inputs and outputs.

5.2. Method of Analysis:

The adopted model of Conceptual Metaphor Theory of Fauconnier (1997) will apply to the analysis of the selected ten hybrid images from Instagram apps that are generated by (AI) and, interpret meanings, after comparing the content of them with the original images and decide what the supposed input data and outputs content in both.

5.3. The Sample:

The selected texts are invoked from Instagram app pages. They are 10 different hybrid images that are generated by (AI) by artists who specialize in generating hybrid worlds and entities made up of more than one element using artificial intelligence, relying on real entities in reality.

5.4. Analysis of Data:

The data have been obtained from Instagram app pages. The data are 10 different hybrid images that are generated by (AI) by different visual artists with different nationality. The data was collected by research randomly. It depends on the application's suggestions, which is what often happens to children, as unrestricted means are opportunistic and suggest many pages randomly and appear continuously because they are not bound by logic and do not distinguish the user. The researcher use this technique to prove that anyone can face this dilemma and to show the type of materials that modern visual AI can generate even with low knowledge. The research wants to show the psychological effect of these material on childern especially Arbain's.

To declare these consequences the researcher will elect the 10 images classify them depending on content and analyse them depending on conceptual metaphor to reveal the hidden meaning and compare them with the original one if there is, The following Table will help to show the process of analysis.

Table 1.1 Show The Process of Analysis Depending on Conceptual Metaphor Theory of Fauconnier (1997)

S	Image	Type	Source Domain (1)	Source Domain (2)	Target Domain / The Conventional Meaning	Target Domain/The Hybrid Meaning	The Effects That Result from Conceptual Blending
1		hybrid images that are generated by (AI)	Human, man	Clown	Funny / laughable / friendly humorous	Frightening/ psychopathy / killer/ murder/dangerous	By red eyes and mouth which indicate blood with white appearance symbilizes death and madness
2		hybrid images that are generated by (AI)	Human, woman	Rabbit	Rabbit ia a pet and nice animal peaceful, symbolizes nice peaceful girl	Frightening/ psychopathy / killer/ murder/dangerous Can crenation in human shape	Dark color, shabby clllothes and blue skin tone symbolize evil
3		hybrid images that are generated by (AI)	Human, woman	Fantasy creature	The white and golden color indicates richness and peace, and beautiful women	Frightening/ psychopathy / killer/ symbolize evil. which can act as human	Demonic symbol

4		hybrid images that are generated by (AI)	Human, woman or man	Elephant	A large African animal that cannot walk or fly by balloon or act as human	Frightening / psychopathy / killer / symbolize evil animal which can act as human	Dark color, shabby clllothes and blue skin tone symbolize evil
5		hybrid images that are generated by (AI)	Horse	Pig	The hours symbolize to chivalry and nobility/ forbidden and bad animal	Demonic symbol/ death / monster	Dark color, and blue read skin tone symbolize evil and Demonic symbol
6		hybrid images that are generated by (AI)	Human/woman	Chameleon	An animal that changes its shape and color symbol of dodge	A person can take the shape of an animal and act like it in malice way	We can incarnation in different bady
7		hybrid images that are generated by (AI)	Human / man	Animal	Human can take the form of bloody savage creatuer	Demonic symbol / death / monster	We can act as bloody beast since it refers to strength
8		hybrid images that are generated by (AI)	Human / man/ child	monster	savage creature	Demonic symbol/ death / monster	Provokes violence against children
9		brid images that are generated by (AI)	Human / man/	monster	savage creature	Frightening/ psychopathy / killer / murder/dangerous	It encourages violence and portrays it as a batter way for human to be more receptive
10		brid images that are generated by (AI)	human	turtle	It can be strong and behave as invincible human	Act as human	The child will imagine that turtles have human abilities which affect his conceptualization

We will discuss the data that have been obtained from the table of analysis about the 10 different hybrid images that are generated by (AI) made by different visual artists with different nationalities and elect randomly. The visual data analysis depends on the Conceptual Metaphor Theory of Fauconnier (1997). The researcher specifies four conceptual domains. There are two source domains since these images are generated by AI from two entities to represent one. On the other side, the target domain reflects two different contents: the conventional and the hybrid meaning. We should put in our mind the new content that results from conceptual blending and consider the effective meaning.

5.5. Discussing The Results of Analyzing The Data:

The study has focused on observing the effect of the globalization phenomena of visual AI materials on the cognitive structures of Arabian children. The researcher focuses his work on image categories and exam ten different hybrid images that are generated by (AI) by different visual artists with unlike tendencies and nationalities. The data was togethed by research randomly as can appear to childern through suggestion of media. The data have been obtained from Instagram app pages.

The researcher focused his study on children in general and Arabian in particular for the following reasons:

1. Children in this era are more exposed and addicted of technological tools and media.

2. They are exposed to Media platforms and technological tools are often at a very early age even in the first year, sometimes due to the ignorance of parents or the child's obsession with it.

3. In the last two years, AI has become a reality in all areas, but what concerns us is the generative and interactive type on social media pages and games that behaves like a human being and can generate conversations and visual materials that appear to those with little experience as real as children (Brynjolfsson & Mcafee ,2017, P.1-31).

4. Children are characterized by endless curiosity and desire to know everything, especially if technological media are not monitored, and suggesting different content to them due to the unawareness of the identity of the recipient and the absence of restrictions and policies that prevent it (Keeley & Little, 2017; Livingstone, & Blum-Ross, 2020).

5. Children's brain are characterized at an early age by being in the stage of forming experiences and learning to develop their mental ability, and in this case, the material seen will be the main source of learning and acquiring experiences with the absence of alternative source (Gilmore, et al (2018, p.123-137).

6. Children will interact with the virtual world as a real one (Bailey & Bailenson ,2017, P. 107-113). Due the constant and direct contact with virtual world and as a result of the lack of alternatives or awareness from parents towards the effects of this intense contact, which will lead to isolation and his preference over real connect (Iwanicka, 2020, p.61-76).

7. Children cannot distinguish what is real or not due to the lack of experiences, so everything will be interacted with and stored based on facts in the mind, and this will affect their maturation processes and experiences.

8. The researcher chose the Arabian children in particular because the social and religious privacy which must be taken into consideration, the importance of early awareness in the Arab community on the importance of educating and protecting children from harmful technology materials that have disastrous consequences in the future for the society in which today's children will be its members (Baazeem, 2020).

Now let us analyze the table in detail in light of the fact that the user is an Arab child to reveal the type of influence and hybrid messages conveyed through the pictorial text.

1. At the first image, we can see that it consists of two source domains resulting from mixing two characters by artificial intelligence, one of them is human and the other is a clown. The target domains refer into the traditional content that reflects the character of the clown, known as a symbol of laughter, clowning and fun times. While the hybrid meaning made it a symbol of death, evil and mental illness as a result of additions to the character, such as the red color in the eyes, which indicates anger and rage, and the mouth, which indicates blood, which is a symbol of death and harm. The effect resulting from all these elements is violence, deception and fear of murder, as a result of it being a symbol of a crime in many visual materials. This type of visual material leaves a harmful psychological impact on children and may contribute to distorting the real meanings in the real world as many studies indicate (Ioan, et al,2013, p.40, 48-60; Dogutas, 2013, p.1). Such images do not fit our society. The seventh, eighth and ninth samples reflect the same trends.

2. In the second image, the patterns of the conceptual construction is recurrent and the metaphor fields and perform the same. There are two source domain and two target one. The targeted sense is generated by mixing the hybrid meaning with the traditional connotation and coming up with an effect that is anomalous to human nature. We notice that the artist used the rabbit, which is a symbol of the weak, targeted, peaceful animal that children love, give it the form of a human. He kept the features of the rabbit but with different colours and features for both sexes. This type of image will leave a dark and wrong consequence on the childern, which will affect the child's mind

construction and affect his psychology and cognizance, as we discussed before. The child will store a unlike image of the rabbit's form and features, which leads to delayed mental and cognitive growth in children and the rise of tendencies to embody themselves in the form of animals. This phenomenon is widespread in the West world, but it is not socially and humanly acceptable, especially in our Arabian societies, because it affects the being of the individual and society (Jung & Lennon, 2003, p.27-51; Salomon, 2012). This also applies to the fourth and sixth samples.

3. In the third image, the artist used a altered form of the devil, using white and gold to create an beautiful image in the form of a female human, using two contradictory ideas and making it an image of one beautiful devil and a female in the form of a human. This type of imagery affects religious notions and values in our society and pushes children to accept these ideas as a symbol of goodness and beauty (Hosseini, 2008, p.56-69). In addition, it creates tendencies to resemble such images.

4. In the fifth sample, we find the same conceptual structure and mechanisms that he used to produce the intended meaning, but using different inputs. The artist used two animal entities, one of which is a horse that symbolizes chivalry, nobility, and chivalry, and paired it with the head of a pig, which is one of the ferocious animals that symbolizes greed and avarice in all religions, by making it the head of the horse that eats its body, thus indicating death and ugliness, which is a dark symbol in many works of art. This process of creation and mixing of bodies contributes to the confusion of the child when he comes into contact with the outside world as a result of the distorted mental inputs that he previously acquired through social media (Hoque & Fatema, 2022, p. 46-47; Anwar & Yadav, 2023, p.1).

5. The child's constant exposure to such data filled with violence and the incarnation of humans in other forms, giving animals the form and characteristics of humans, these materials carry hidden messages that unconsciously impact the mental, personal and social elements of the child, particularly if they begins to be exposed to such material at an early age. The results will inevitably appear when the intrusion begins or he is forced to go out into the real world away from the virtual world that he knows, as we live through our thoughts.

6. Conclusions, Recommendations and Suggestions for Further Studies:

6.1. Conclusions:

The findings of the study lead to the following conclusions:

1. Theories of cognitive linguistics Conceptual Metaphor Theory of Fauconnier (1997), and Conceptual Blending Theory of Turner and Fauconnier (2003) reveal the conceptual structuring and mental mechanisms for generating visual constructions of (AI)?
2. Cognitive studies can reveal the mental structure and mechanisms that children use to invoke and store inputs structures. This knowledge helps to understand conceptual devices responsible for saving data in image schemas, and how to generate meaning consciously or unconsciously, contributing to mental development.
3. Hybrid visual materials that are generated by (AI) impact children's comprehension and their perception of their world. Add to that in this vein there is a study from North America showing that: there is steady sign that violent imagery in TV, films and videos, and computer games has short and long -term effects on arousal, thoughts, and emotions, growing the likelihood of aggressive or fear behavior in children, particularly in boys. The sign grow into inconsistent when considering teenagers, and long-term outcomes for all ages (Browne, & Hamilton-Giachritsis,2005, p 702-710).
4. Theories of cognitive linguistics help us to improve our understanding of contemporary social phenomena, highlights their consequences and makes suggestions.
5. The extreme use of media can limit conductive learning at home or school. There should be limited use of media since it is the age of development particularly in under five children (Hoque & Fatema, 2022, p.46-47.).

6. This type of visual material pays to isolating the child, making him distant from human perceptions. It influence children and changes their fear threshold and makes them not react reasonably to situations. For instance, when the media depicts a dog or a bear as a friend animal that have a human nature, this will make them not avoiding them in reality.

7. According to the American Psychological Association, children who watched violent materials heavily tend to be less sensitive to pain and suffering, more fearful of the real world and behave in an aggressive or harmful manner with others. A 2010 review by psychologist Craig A. Anderson and others concluded that "the evidence strongly suggests that exposure to violent video games is a causal risk factor for increased aggressive behavior, aggressive cognition, and aggressive affect and for decreased empathy and prosocial behavior." (https://www.apa.org/topics/).

8. Media impacts on speech & language since there is less human interaction especially with parents. "Infant's vocabulary growthis directly related to the amount of time parents spend speaking to them" (Hoque & Fatema, 2022, p.46-47.).

9. Long exposure to media has been associated with irregular sleep schedule leading to abnormal mood, behaviour and concentration (ibid).

10. The chosen isolation that is imposed by media casts child away from the playtime peers effect his creativity nature and problem-solving capacity (ibid).

6.2. Recommendations:

We are what we think, all that we are arises with our thoughts, with our thoughts we make the world." ― Buddha.

These are the ideas that we live and are restricted by, so what if these ideas were directed and imposed on us since we were directed from an early age without awareness of their dangers and we will pay the price of their accumulation in the future of our societies.

In the light of study findings, the following recommendations can be put forward:

1. Society, family and government must be aware of the damaging and consequences of using media in general and AI in particular. Therefore, the Ministry of Communications must monitor the generated content and launch awareness campaigns to urge parents to monitor what their children are watching.
2. World Health Organization recommend: No use of technology and exposure to screen for less 1-year olds (World Health Organization, 2019).
3. Find other ways for children to spend their free time, take them out to spend time outside the home, and encourage them to engage in activities and play with their peers.
4. Parents should stop the use of technological at an early age, particularly if they are not educational materials based on fancy data or creat by AI.
5. They should also monitor the viewing times and what their children watch.
6. Monitor interactive games based on AI because they often violate privacy or contain aggressive or abuses material.

6.3. Suggestions:

To follow up this study, the following topics can be suggested:

1. Investigating the possibility of Long-term studies that should be conducted to decide the effects of games and interactive materials of AI on social media platforms on children's mental and psychological abilities.
2. Creating green spaces, recreational, educational and creative means that attract children to increase their interaction with their peers and communication with their community.
3. The Ministry of Education must develop teaching approaches that keep with the AI revolution and harness it to educate sector and children's creativity.
4. Investigating the possibility of using cognitive studies and more modern theories to identify socio-psychological issues that associated with the new age of technology.

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