

Creativity & Cognitive Closure

Creatividad y cierre cognitivo

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Abstract

The aim of this paper is to present the relationship between the need for cognitive closure (NFC) and creativity. In light of previous research, a theoretical foundation is established for the term creativity. Next the social-cognitive phenomenon of the need for cognitive closure is explained based on the theory of Kruglanski and Webster, and considering the tendencies of urgency and permanency. **Conclusion:** The role of creativity is to control cognitive closure in order to solve problems that arise during the learning process and usually during the life.

Keywords: Creativity | Cognitive Closure

Resumen

El objetivo de este trabajo es presentar la relación entre la necesidad de cierre cognitivo (NCC) y la creatividad. A la luz de las investigaciones realizadas, se establece la base teórica para el término de creatividad y la explica del fenómeno socio-cognitivo de necesidad de cierre cognitivo en base a la teoría de Kruglanski y Webster, teniendo en cuenta las tendencias de urgencia y permanencia. Conclusión: La creatividad tiene un papel importante de control del cierre cognitivo con el fin de resolver los problemas que surjan durante el proceso de aprendizaje y en general durante la vida.

Palabras clave: Creatividad | Cierre cognitivo

Introduction

Nature is described by Khatena (1995) as “an alphabet of art” in her article Art and Creative Imagination. Nature stresses the known. All of our profound knowledge throughout history comes from what nature gives us to observe, to investigate, and to give meaning to what is discovered. It also encourages creativity, giving us the tools to create. The rest depends on using those tools, combining them in an original, innovative way irrespective of their functionality. In light of the literature review, creativity can be achieved by taking as a base what is known while adding to it a need for approaching the unknown.

Creativity and imagination are defined as spiritual energy by Romance poet William Blake. As its more general explanation states, based on a review of the literature, creativity entails imagination, open-mindedness, flexibility and risk-taking (Hu, Wu, Jia, Yi, Duan, Meyer, & Kaufman, 2013) which may be said to be compulsory for approaching the

unknown along with being motivated by curiosity. Hu and his colleagues (2013) also attribute a meaning to creativity in terms of going beyond existing knowledge and developing new technology to increase our understanding.

Creativity, which is bound to one's willingness to express the self as well as one's identity, is one of the most crucial elements of innovation. Despite the fact that there has been a strong emphasis on creativity in educational fields in recent years, in terms of both learning and teaching methods, we may deduce that for decades education and learning discourse has taken the notion of creativity as a pivotal component of the process of knowledge focusing on innovative teaching and learning techniques (Fiorini, & Garcia-Ramirez, 2013; Garcia-Ramirez, 2014; Collard, & Looney, 2014).

Highlighting its reconstructive function to transform the typical into the particular, creativity has been a key concept in nearly all areas of life. However, the mimicry of masters is accepted as a fundamental step to becoming a successful artist, focusing on the known, as Khatena (1995) argues and continues that rules are basic elements for structuring and organizing knowledge, whereas creativity requires design and context to create a unique, original product. Moreover, as a prerequisite for establishing competent learning, and thus, generating new perspectives, construction of profound knowledge is a crucial challenge for creativity (Collard, & Looney, 2014) while helping to achieve more comprehensible products (Hu, Wu, Jia, Yi, Duan, Meyer & Kaufman, 2013). Therefore, to take the argument one step further, it can be said that an open and critical mind which is free from established judgments is a crucial building block for creativity, which brings us to consider the need for cognitive closure.

Need for Cognitive Closure

According to the epistemic theory of need for cognitive closure (Webster and Kruglanski, 1994), one's willingness to achieve a definite knowledge of some issue and discomfort when confronted with ambiguous situations is referred to as the need for closure, as opposed to having a desire to explore the unknown and lacking the ability to tolerate ambiguity. Two dimension of need for cognitive closure are investigated, one as an individual level of basis and the other as a cross-situational property. In other words, as well as one's level of NFC may depend on situational factors however it may be a relatively stable individual difference.

It is claimed that outcomes of this social-cognitive phenomenon that can be found at intrapersonal, interpersonal and group levels of analysis stem from two given tendencies: Urgency and permanency. The former refers to one's desire to obtain an answer immediately, and the latter refers to adhering to an established idea, and maintaining it as long as possible. These tendencies enhance the need for cognitive closure and have a great influence on life in areas such as forming an impression, attempting to persuade someone and making decisions with groups (Kruglanski & Webster, 1996).

Personal goals and motivation have a mutual relationship in which they stimulate each other. Information processing is mainly affected by one's motivation regarding cognitive closure which is related to one's objectives (Kruglanski & Webster, 1996). Taking the absence of urgency and permanency tendency as aversive, one in need to obtain knowledge as soon as possible, which is called the seizing effect, experiences considerable discomfort in any case of postponement. Moreover, one in need of

permanency conserves early knowledge to protect any possible future information, which is called freezing. When new information which is regarded as a threat to prior knowledge emerges, those high in need for cognitive closure fail to acknowledge additional information, maintaining their prior beliefs; when there is no prior knowledge structure before encountering the information, then they engage in immediate acts of seizing, and finally freezing (DeBacker & Crowson, 2007).

In the light of assumptions of seizing and freezing effects, Kruglanski et al. (1996) have found that although those who have a greater need for cognitive closure may engage in less information processing when they are to form a judgment, they are more confident in those judgments. As an effect of seizing, they base their opinions on prior and predetermined judgments rather than any future information.

In other words, the most general point of seizing and freezing mechanism (Kruglanski & Webster, 1996) implies that people with high need for cognitive closure use early cues as quickly as possible based on the urgency tendency and maintain early-formed judgments without considering new information or alternative ways relying on the freezing tendency. So, most basically they establish their final judgments based on early cues. There are several phenomena supporting this point of view. One of these is the impressional-primacy effect, which like freezing claims that first impressions of a social target are constructed by the early cues rather than sequential ones (Asch, 1946; Luchins, 1957, as cited in Kruglanski & Webster, 1996). Therefore, it is not surprising to say that those people possess a greater number of stereotypes.

The results of an experiment designed by Chirumbolo, Mannetti, Pierro, Areni and Kruglanski (2005) are such as to support the hypothesis developed by Kruglanski and Webster (1996) which stresses the urgency tendency: Instead of generating different ideas or considering new perspectives, people with high need for cognitive closure tend to maintain their initial ideas and follow them strictly. In addition, their results support the permanency tendency, that those with high NFC levels avoid deviant ideas, maintaining group consensus. Those who are high in NFC are likely to interact with those who share the same ideas and promote group consensus while avoiding those who threaten it with deviant opinions (Kruglanski & Webster, 1996). In several experiments, Kruglanski et al. (1996) showed that NFC and the consensus desire of participants are positively correlated and consequently, participants who supported the consensus were appreciated, and vice versa.

Regarding the relationship between external stimuli information and internal hypothesis generation (Kruglanski & Webster, 1996) there is a strong link between them based on the level of NFC. As the seizing and freezing notion implies, the more detailed the examination of external information, the greater the generation of new hypotheses about recently-received information, which may enhance further external information processing in a mutual way.

When in NFC situations, according to these authors, one should not necessarily engage in thinking without attaining closure despite the fact that further processing of information is limited for the NFC in favor of attaining high judgmental confidence. The seizing and freezing effects working together, in a situation of heightened NFC may cause the judgmental effect to appear. In turn, this statement implies that the less the evidence is considered the higher the level of NFC when forming judgments.

NFC Scale

Assuming that striving for order and structure are determinant characteristics of NFC, Webster and Kruglanski (1994) have generated a NFC Scale that aims to assess levels of those aspects respective to NFC on an individual level. It consists of 5 groups of items of fundamental aspects that are correlated with notions of authoritarianism, dogmatism, etc., two of which were found in Thompson, Naccarato, Parker and Moskowitz (1993) Personal Fear of Invalidity Scale and Personal Need for Structure Scale.

One subset of items stresses the relationship between order and structure, and personal environment. Another subset assesses the level of discomfort a person experiences while confronting a situation of ambiguity, which is referred to as absence of closure while the third group of items evaluates the urgency tendency.

The last two groups of items are generated to obtain information about one's desire for two kinds of knowledge: The first is called secure knowledge and the second is stable knowledge. The former refers to consistency of knowledge across different situations and the latter focuses on close-mindedness.

It is suggested that, especially in situations that requires time pressure, people show a tendency towards NFC. In other words, when they are required decide quickly, they usually utilize predetermined, sometimes stereotypical, judgments when forming an impression, ignoring the alternative explanations (Kruglanski & Webster, 1994). In an experiment conducted by Webster (1993, as cited in Kruglanski & Webster, 1994) not only time pressure, but also attractiveness of the given task has an influence on people's NFC, so that it is utterly avoided by participants when engaging in highly attractive tasks.

On the reliability and validity of the scale, these authors state that: "As predicted, scores on the NFCS were found to be related to a wide range of theoretically specified effects in the same way as other seemingly divergent, though conceptually related, factors (e.g., time pressure, environmental noise, or the perception of task attractiveness)." (p.1061). In addition, they argued that both stable individual characteristics as well as impacts of situational context have an effect on motivational aspect, which all judgments consist of.

Need to Avoid Closure

The need to avoid closure is referred to as the reverse of NFC, assuming that they are opposite sides of a continuum which ranges from extreme avoidance to extreme desire in terms of cognitive closure (Kruglanski & Webster, 1994; Kruglanski & Webster, 1996).

These authors claim that people with high levels of NFC, exhibit cognitive impatience and impulsivity while employing rigidity of thoughts and sticking with their own ideas. On the other hand, they continue, those who are higher on need for cognition levels have a skeptical approach towards judgments, and consider divergent perspectives without holding a rigid opinion. As they explain, both anticipated pros of need for cognition and cons of need for closure may give rise to this kind of avoidance of closure. Those high in need for cognition are generally regarded as being creative and "are also able to sustain ambiguity and stay in a state of "indecision" for longer than others, and may show a risk-taking attitude" (Kristensen, 2004, p.89). In other words, while prototypical information is sufficient and serves well under high NFC conditions, under high need to avoid closure, on

the other hand, there is a tendency for seeking diagnostic information which is apt for evaluating the differences between alternative categories (Kruglanski & Webster, 1996).

Conclusion

Creativity and the need for cognitive closure are contradictory; however, according to the above-mentioned research, people need cognitive closure in order to advance in life. The role of creativity is to control cognitive closure in order to solve problems that arise during the learning process, which helps improve the quality of education and usually during the life.

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