

Inculcating Creativity and Innovation: A Plan of Action for Muslim Educational Systems*

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Abstract:

The real purpose of education is to inculcate students with a state of mind that is congenial for creativity and innovation. However, such is not the case in the Muslim world. The present article is an attempt to provide a new plan of action for creativity and innovation in the Muslim world by developing an epistemology defined as “the anatomy of human knowledge.” The article begins with the present discussions of creativity and innovation in the West and solutions that are primarily psychological offered. Then, an attempt is made to provide an alternative approach to the issue in the Muslim world. The author offers an epistemology as the ground of a new philosophy of education which may lead to an educational system that fosters the critical attitude needed for acquiring such skills.

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Creativity is a skill that one *may* have as a potential gift from birth. It must be developed properly in order that it may lead to innovation. To some degree, every human being has potential creativity which must be developed through education. Creativity, thus, can be taught. Being a skill, or “know-how,” different methods of inculcating creativity are needed as the teaching of skills differs from that of knowledge. This distinction, though, should not put them apart from each other. To clarify, someone who knows something or knows how to do it is still possibly unable to produce it or do it. Thus, one may have the know-how but is still unable to do something. In other words, “knowing how to do something” is different from “having the skill to do it.” Furthermore, “knowing how to do something” is identified as the technical knowledge required for the production of something while “having the skill to do it” is the talent, aptitude or ability for its production. Creativity can exist in both characteristics. Although manifested in different ways, creativity and innovation can be inculcated first to students in the education system, next to the workforce in all working areas, and finally, to the society as a whole. Hence, creativity needs to be defined more specifically so that its nature is transparent. This paper is an attempt to capture this understanding of creativity, and explain how it can be integrated into the educational system.

With definitions of creativity abound, neither a specific definition can be agreed upon nor a unified one be easily reached. However, they seem to emphasise only one absolutely essential characteristic without which creativity is deemed impossible. Such a common characteristic may be expressed as the “*departure* from the existing,” regardless of what it may be.

Next, the most widespread conception of creativity available in the scholarly literature will be examined for the nature of this phenomenon:

Creativity is manifested in the production of a creative work (for example, a new work of art or a scientific hypothesis) that is both *original* and *useful*.¹

Such an approach introduces “usefulness” which is another criterion for the definition of creativity. In this context, the idea of “departure” is expressed as “new.” If something is *new*, a departure from the *old* practice or existing idea is implied. On the other hand, the introduction of the concept of *usefulness* in this definition has nothing to do with the nature of creativity because putting forward something original but not useful is possible. In fact, it can even be something very harmful. As such, the most essential nature of creativity is “novelty.” Hence, as far as creativity is concerned, four basic features will be argued:

1. Producing something partly or wholly new, called “novelty”;
2. Putting new properties into an existing practice or idea, called “arrival”;
3. *Imagining* new possibilities that were not conceived of before; called “representation” (*tamthīl*);
4. Reaching for something different from what was available, or doing something different from what was previously thought common, represented with the concept of “departure.”

1. See Calvin W. Taylor, “Various Approaches to and Definitions of Creativity,” in *The Nature of Creativity: Contemporary Psychological Perspectives*, ed. R. J. Sternberg (Cambridge: Cambridge University Press, 1988).

Thus, in something produced creatively, two ends exist: "Departure," the point which is left behind; and "arrival," the point which is arrived at in the activity as something new. "Representation" (*tamthil*) belongs to the departure because it is the starting point of imagination; namely, imagining something new and a future possibility. Thus, as a characteristic of our imagination, "*tamthil*" as a significant term in Islamic epistemology is translated into English as "creative imagination." The significance of such a concept is understood by those familiar with Ibn 'Arabī's philosophy. As a basis of an educational system that aims at creative process, the epistemology underlying creative imagination will be discussed.²

Novelty, on the other hand, belongs to the arrival as something new and novel in the property or characteristic arrived at exists. These show something about what creativity is and its extent which may be further understood if the history of this phenomenon is briefly examined.³ The earlier conception of creativity both in Islam and the West is that a new idea arises in the soul through inspiration. Such an inspiration to al-Ghazālī is divine; a view which was almost exactly followed by the Medieval Western thinkers.⁴ However, this idea gradually changed in the West. For example, a Renaissance thinker, Baltasar Gracián (1601-1658), wrote: "Art is the completion of nature, as if it were a *second Creator*..."⁵ For

2. For more information on Ibn al-'Arabī's concept of "creative imagination," see Henry Corbin, *Creative Imagination in the Sufism of Ibn 'Arabī*, trans. by Ralph Manheim (Princeton: Bollingen Series, 1981).
3. For more details, see R. S. Albert and M. A. Runce, "A History of Research on Creativity," in *Handbook of Creativity*, ed. R. J. Sternberg (Cambridge: Cambridge University Press, 1999).
4. See *The Faith and Practice of Ghazālī* for a translation of the *Munqidh* by W. M. Watt (London: George Allen And Unwin Ltd., 1970), 33-39.
5. Wladyslaw Tatarkiewicz, *A History of Six Ideas: An Essay in Aesthetics*, trans. from the Polish by Christopher Kasparek (The Hague: Martinus Nijhoff, 1980).

such an idea of creativity, arrogance and insult to reality are evident as God is totally ignored in the act of creation. Clearly, Gracián's statement regards nature as the first creator while art the second. On the contrary, the Islamic idea of creation is when only one creator exists in the real sense, while all other innovations by man and *nature*⁶ or "created *cosmos*" are so-called figuratively. Hence, human beings may be called "creative" by way of metaphor in relation to God's act of creation, as if something emerges out of nothing. This metaphorical usage is carried out in the sphere of nature as well.

Another concept related to creativity is innovation. Its root meaning connotes that there is something "new to be used." Therefore, the difference between creativity and innovation is usually expressed as creativity being the production or generation of something new, whereas innovation means the generation of something new as well as its application. Arguably, creativity is typically used to refer to the act of producing new ideas, approaches or actions, while innovation is the process of both generating *and applying* such creative ideas in some specific context. In the context of organisations, therefore, the term *innovation* is often used to refer to the entire process by which organisations generate creative new ideas and convert them into novel, useful and viable commercial products, services, and business practices, while the term *creativity* is reserved to apply specifically to the generation of novel ideas by individuals or groups, as a necessary step within the innovation process.⁷ In essence,

6. This is a problem term in Islamic thought because, in reality, Islamic worldview is alien to this concept. The word "*tabī'ah*" entered into the jargon of Muslim Aristotelians through Greek translation. Its Islamic counterpart is the term "*kā'ināt*," which is derived from the Qur'anic term "*kun*," a cosmic command of God expressed in the Revelation. Hence, "*kā'ināt*" means "cosmos that came to exist after the Divine Command "*kun*." But the term "nature" means "cosmos there" without any reference to its origin as if it is eternal.

7. Teresa M. Amabile, et. al., *Creativity in Context: Update to the Social Psychology of Creativity* (Boulder, Co.: Westview Press, 1996).

creativity can exist without innovation. In creativity, something new is produced without necessarily putting it into application; whereas, in innovation exist both creativity and application.⁸

How is creativity possible? Usually, the notion of creativity implies the presence of inspiration and intuitive insight, which make cognitive leaps within creativity possible.⁹ Claims of new discoveries made serendipitously incorporate the element of chance into creativity. In all discussions, it is neither possible to see a moral nor an epistemological element. To date, all the approaches adopted are mainly psychological given that literatures on this topic are either in psychology or education.¹⁰ As a result, some educationists have taken a more pragmatic approach, by claiming that creativity can be taught with various creativity techniques.¹¹ Thus, various theories are offered to explain the process of creativity. For example, Graham Wallas and Richard Smith presented one of the first models of the creative process. In the Wallas' model, creative insights and

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8. See also A. Baregheh, J. Rowley, and S. Sambrook, "Towards a Multi-disciplinary Definition of Innovation," *Management Decision* 47, no. 8 (2009): 1323-1339.
 9. Arthur Koestler, *The Act of Creation* (London, New York: Arkana-Penguin Books, 1989).
 10. It is even said that the starting point to pay attention to scholarly study of creativity, from the standpoint of psychological literature, is generally considered to have been J. P. Guilford's 1950 presidential address to the American Psychological Association. This call for scientific study of creativity helped popularise the topic and this way, efforts to conceptualise creativity and measure it by means of psychometric testing began to amplify. R. J. Sternberg and T. I. Lubart, "The Concept of Creativity: Prospects and Paradigms," in *Handbook of Creativity*, ed. R. J. Sternberg (Cambridge: Cambridge University Press, 1999), 3-4.
 11. Among these, the following are the most influential: Alex Osborn's *Your Creative Power: How to Use Your Imagination* (New York: Charles Scribner's Sons, 2009); Genrikh Altshuller's idea known as "Theory of Inventive Problem Solving (TRIZ)," see his *The Innovation Algorithm: TRIZ Systematic Innovation And Technical Creativity*, trans. Lev Shulyak and Steven Rodman (Worcester, MA.: Technical Innovation Center, Inc., 1999); Michael Orloff's *Inventive Thinking through TRIZ* (Berlin: Springer, 2010); and Edward de Bono's *Six Thinking Hats* (Boston and New York: Little, Brown and Company, 1989).

illuminations may be explained by a process consisting of five fundamental steps:¹²

1. *Preparation*, preparatory work on a problem that focuses the individual's mind on the problem and explores the problem in various dimensions;
2. *Incubation*, where the problem is internalised into the unconscious mind and nothing appears externally to be happening; the issue is, however, worked out subconsciously;
3. *Intimation*, the creative person somehow *feels* that a solution is on its way. "I found it convenient to use the term "Intimation" for that moment in the Illumination stage when our fringe-consciousness of an association-train is in the stage of rising consciousness which indicates that the fully conscious flash of success is coming."¹³
4. *Illumination* or insight where the creative idea bursts forth from its preconscious processing into conscious awareness; and finally,
5. *Verification* (where the idea is consciously verified, elaborated, and then applied).

On the other hand, several psychologists maintained that creativity is the outcome of the same cognitive processes as intelligence. It perceived creativity only in terms of its consequences. *In other words, when the outcome of cognitive processes happens to produce something novel, it is distinguished from intelligence.*¹⁴

12. Graham Wallas, *The Art of Thought* (London: Jonathan Cape Ltd., 1931), see Chapter IV: Stages of Control.

13. *Ibid.*, 97.

14. See, for example, L. A. O'Hara and R. J. Sternberg, "Creativity and Intelligence," in *Handbook of Creativity*, ed. R. J. Sternberg (Cambridge: Cambridge University Press, 1999).

On the basis of these theoretical explanations, an attempt to develop a model derived from historical experience in civilisation and formulate a plan of action will be made.¹⁵ Creativity is considered as mainly a dynamic process of acquiring knowledge with two aspects: the external and the internal. The internal aspect of the process of acquiring knowledge means the operations of faculties employed while acquiring knowledge, which is simply *epistemology*. The external process of acquiring knowledge is, on the other hand, called “learning.” Such a process, defined as “education,” is the subject of examination in this present context. Indeed, in the external process, many external factors, such as the instructor, teaching methods and other means utilised in teaching and learning, will be briefly discussed in relation to productive learning.

As an internal process of acquiring knowledge, learning occurs in two ways: natural learning, which is attaining knowledge mainly by the use of our faculties of learning and senses, and systematic knowledge acquisition which should be considered as real education. Since education as systematic learning is an external process of acquiring knowledge, based on the internal process of acquiring knowledge, the role of epistemology in education needs to be recognised. It entails the operations of our mind and other faculties of learning while trying to acquire knowledge. Thus, knowing how the faculties of learning operate will impact the teaching of students more effectively. Hence, the internal process of acquiring knowledge can generate more effective methods of teaching. As this aspect is discussed in epistemology, a theory of knowledge will

15. My idea of inculcating creativity is based on a theory of education which I tried to outline in my paper entitled “Challenges and New Trends in Higher Education,” in *Higher Education in the Twenty-First Century: Issues and Challenges*, ed. Abdulla Y. Al-Hawaj, Wajeeh Elali and E. H. Twizell (Boca Raton, London, New York: CRC Press, Taylor & Francis Group, 2008), 29–46.

be assumed on the basis of which a theory of education will be developed that may provide guidance in developing effective methods of teaching creativity as a skill outlined above.

In arguing for a theory of education in this context, it consists of the internal process of acquiring knowledge, on the one hand, and the learning subject, that is the human being, which represents the external process, including teaching, on the other. The former includes an analysis of the internal processes which take place in the mind and learning faculties of the learning subject. The latter includes the efforts of systematic learning and teaching. Only with a viable educational system can creativity be inculcated. As the anatomy of human knowledge system is similar to that of the human digestive system, the internal process of learning is the operations of faculties used in order to acquire knowledge. These operations begin at the level of objects of knowledge and end at the level where their complete concepts, ideas and knowledge are transferred to the mind. Such a process, either natural or systematic, will give an effective method of teaching to be utilised in creative education.

The natural process of learning or of acquisition of knowledge is the personal trial and error of an individual in acquiring knowledge. Such is usually the way things are first learnt upon birth. As a result, a worldview is formed, that is, the mental perspective developed by the unity and inclusive of conceptions of the world. It is this mental perspective through which the learning subject views the world and thus called "worldview." Initially, the worldview is simply made up of only two structures: Life Structure and World Structure. The former starts to be formed as soon as we are born. In the first experience of life, the first thing learnt, that is, the first experience converted into a piece of knowledge, is extremely hard to determine. On the other hand, an approximate kind of knowledge in the mental content can be identified which

can neither be an abstract idea nor a philosophical notion, but one that pertains to our life then. Most of the experiences will be related to the preservation of life, as the most naturally-inclined phenomenon, such as finding and choosing certain foods and developing habits of how to attract the attention of others to make food available among others.

In our early ages, we *naturally* have such experiences that are available to our mental consciousness which are then converted into knowledge. The so-called Life Structure is the knowledge that is available in this way and is primarily related to biological and daily life. Thus, Life Structure in our worldview includes most of our daily habits related to the preservation of our life. It becomes more refined and sophisticated as we add to it what we learn from our social environment. In this way, it begins to include many of our cultural habits as well, such as, eating, and ways of daily behaviour, manners and customs. It is called “structure” due to the mind forming it according to its natural rules and principles explained in such disciplines as logic and epistemology. For this reason, knowledge gathered in this structure is not a hotch-potch gathering of experiences in our mind. Rather, it is an orderly unity according to certain rules and principles which our mind possesses *a priori*. Therefore, Life Structure is such a coherent mental unity which makes up the total contents of our mind in our earliest life onwards enriching itself until adulthood according to the natural rules and principles of the mind through its social and physical surroundings. Such an internal process is called natural. With interference from either ourselves or our surroundings, learning becomes systematic.

Interestingly, the natural internal process of learning is comparable to the process of food digestion. Both the knowledge and biological digestive systems have internal and external processes, which have “natural” and “systematic” ways, albeit termed differently in anatomy. The internal digestive

process takes place once food is put into the mouth. Prior to this, the external process takes place during the gathering and preparing of the food. Hence, the internal process of digestion is similar to the internal process of learning, in that the process takes place after “information” received from the objects of knowledge is put into the *mind*. Similarly, the external process of digestion reflects the external process of learning or of acquiring knowledge, in that the process that takes place before the “information” received from the objects of knowledge is put into the mind. If the natural and systematic natures of the procedures are grasped well, a creative teaching may be established in schools and educational systems.

As far as the internal process of learning is concerned, no difference exists in natural or systematic learning except for external applications of our learning faculties. As a result, a more systematic worldview is formed in the mind, thus, making a significant change in learning. As soon as a mental conception of a natural experience is formed, as had begun from babyhood onwards, one begins to act not out of the natural instincts alone, but also out of the mental content acquired called “Life Structure.” The more sophisticated the Life Structure, the more conceptual the experience, and thus, the more acting out of mental frameworks, that is, the knowledge thus far acquired. Hence, knowledge formed thereupon is more systematic. In such a conceptual Life Structure, certain elements, called “mentality” may be distinguished. A mentality is an understanding or conception of certain things, living types, and facts of life and of the world. As we grow, these mentalities are developed according to our personality, mental abilities and the kind of education received. Each mentality begins to develop through the education received into a structure termed “sub-structure.” So coherently related to each other are these mentalities that they form the totality of the Life Structure together. Hence, the arrangement of our

life begins according to our own life structure. Similarly, its contents as the Life Structure will reflect our attitude for life and understanding of the universe in general. Our worldview at this stage has only a Life Structure which reflects our conception of the universe, such as the meaning of life, the origin of existence, and human destiny among others.

Reflecting on these fundamental issues will give rise to the formation of the worldview. It begins to be more sophisticated through our education whereby mental conceptions gradually form a clearly discernible structure in the mind, that is, distinguishable from the Life Structure. The new structure first forms a mentality within the Life Structure. If it can be fully developed, it provides well-formed ideas, doctrines and even scientific opinion concerning the world we live in; hence, called “World Structure.” As soon as it is established within the worldview, it begins to function in conjunction with the Life Structure and vice versa.

Establishing a good education in the community develops the worldview in the mind further. Certain concepts in our worldview usually dominate our life. Such concepts can be possibly reduced to five fundamental ones: life, world, knowledge, human and value. A fundamental concept is one which forms a complicated understanding and a mentality in our mind which directs us to a certain behaviour in life and society. As such, these concepts can be characterised as “doctrinal concepts” because each one of them may constitute a specific well-developed doctrine which determines our worldview. The development of these concepts depends upon the type of education a person receives. Such is the importance of education which will be evaluated as the external process of acquiring knowledge. At least two doctrinal concepts grow into structures in our worldview as a natural internal process of learning—Life and World Structures. Additionally, with scientific education, the concept of knowledge can also

acquire a doctrinal characteristic and form into a “Knowledge Structure.” In the same way, both human and value concepts can develop into doctrinal concepts resulting in forming the structures of Man and Value. More importantly for an educational philosophy viable for the *teaching* of creativity is the process in this development. Two structures, namely, Life and World Structures develop as a result of the natural internal process of learning or of acquiring knowledge. However, no structure is perfect in relation to knowledge unless it is developed through systematic process of learning. Hence, the other three structures, Knowledge, Human and Value, can develop only if a systematic process of learning exists. Thus, the educational philosophy is built on the system of the development of a worldview. Concepts of structures and their way towards certain behaviour in life need to be clarified first. In fact, such concepts in our worldview that guide us in our actions have to be proven.

Firstly, other concepts restored in these structures have to be established. The Knowledge Structure includes within itself the key scientific terminology and all other concepts of technology that may be derived from these concepts. The network of the key scientific terminology may be called “Scientific Conceptual Scheme,” which will be dealt with briefly below. In the Value Structure, moral concepts, ideas, doctrines, and, depending on the kind of worldview, religious and legal conceptions may be formed. On the other hand, conceptions of ourselves, as well as of the society and the societal organisation exist in the Human Structure. All structures of a worldview operate in relation to each other and none can do so independently. Hence, its independent treatment is only a logical analysis of a worldview.

Being grounded in human biology, Life Structure will have the most common elements with all other worldviews. As such, the Life Structure of the Islamic worldview is its aspect that

is most dominant in the local Muslim cultural activities. The World Structure is that aspect of the Islamic worldview which includes, amongst others, the most fundamental elements, such as the idea of *tawhîd* (God's Being and Oneness), prophethood, resurrection and the ideas of religion and the hereafter, *al-ākhirah*. Each structure by itself represents a doctrinal element which includes within itself many other fundamental Islamic key terminologies. The extensions of these key concepts and terminologies constitute substructures that lie about within some basic structures of the Islamic worldview, perhaps, of lesser fundamental in degree. As a result, differences of opinion in those substructural elements can be permitted. As an extension of the World Structure, Knowledge Structure is also a fundamental doctrinal element, which is represented by the umbrella term '*Ilm*'. This structure includes within itself the key scientific terminology of Islamic science, called "Islamic scientific conceptual scheme." The Value Structure in the Islamic worldview, on the other hand, includes moral, ethical and legal practices. Although the concept of law, namely, *al-fiqh*, is closely linked with the World Structure in the early Islamic worldview, it naturally included religious law, which cannot be devoid of moral content. Hence, law, religion and morality are manifested as an integral part of one structure. This conceptual understanding of law, religion and morality has never brought about a sharp distinction between these three substructures. Finally, the Human Structure is represented within the Islamic worldview by the concepts of *khalīfah* and *ummah*. As such, this structure manifests the Islamic understanding of man and society, which is totally grounded in the world structure. Thirdly, each structure in a worldview has a specific function in life and in human activities. From another perspective, a worldview in which the Knowledge Structure is not discernible as a manifest mentality is assumed. Neither scientific activity will ensue from the individual having such a worldview nor

scientific concepts that can form a scientific framework for the mind to work exist in that worldview. As a result, neither scientific attitude nor any scientific tradition that can support such activities exists. In fact, worldview can only be analysed into its Life and World Structures if Knowledge Structure does not exist within it. Indeed, the scientific activity manifests other structures as analysable units of a worldview; without such activity, those structures cannot be developed to such an extent that they become manifest in their respective worldviews. This means that neither a worldview without a manifest Knowledge Structure lacks a value system, nor a Human Structure that acts as the ground of social and political activities. On the contrary, these activities will be carried out and regulated by a World Structure that may acquire a degree of sophistication within its respective worldview. However, it cannot acquire the level of sophistication manifested in such scientific worldviews that can adequately be analysed into their Knowledge, Value and Human Structures. Such is the significance of the preferred term “scientific worldviews” for they can be cogently analysed into their manifest structures.

Notably, this general epistemology on which an educational system is established is the so-called plan of action for creativity. Only with such a system can creative learning takes place. As a skill, a gifted person may develop creativity by following an independent method suggested by such skilful practitioners as Osborn, Altshuller, Orloff and de Bono¹⁶ whose approaches are psychological based. Creative education can develop one’s creative skill by these practical methods. Such a situation is evidently lacking in the educational systems in the Muslim world which are not based on a philosophy of education that envisions a creative educational theory. In almost every Muslim country, the educational system is commonly based

16. See footnote 11.

on observation of similar existing systems primarily in the West. Knowledge is mainly inculcated but the skill to learn “what to do with that knowledge” is unfortunately left out. An approach in which creativity is infused into the system is the one that should be adopted by the Muslim educational systems throughout the world. To develop such an educational system termed “critical approach in education,” a thorough analysis of the operations of the internal process of human knowledge system is essential.¹⁷

The operations of the internal process in education constitute a full-fledged epistemological theory. They depend on our faculties of knowledge. Therefore, this process needs to be analysed as an epistemological function of our mental faculties which shall reveal both the internal learning process and the faculties simultaneously. In the first place, the process begins at the level where our faculties of external experience somehow get in touch with an object of knowledge. Which faculty gets in touch with such an object depends on the object. With a material object, it is received into the mind by way of one or more of the five senses called external senses. For a non-material, it is received into the mind through one or more internal faculties. Some objects whose nature can never be touched due to our lack of the necessary faculty may exist but remain unknown. Hence, attempting to acquire and convey their knowledge is futile. This shows where education may begin and where it should end.

Once an object of knowledge is received into the mind, the impression formed is called “mental representation” which is the result of an object undergoing through the process of experience. Similar to categories of objects for knowledge, two kinds of experience exist—external and internal—both of which take place differently. The latter depends on the former.

17. This analysis is based on my previous work entitled *Scientific Thought and its Burdens* (Istanbul: Fatih University Press, 2000), Chapter 1.

Therefore, external experience develops in us first. Thus, occupying the first place is the beginning of the process of experience, while in the second is the beginning of the whole process of knowing. Any viable philosophy of education must focus on such processes to form a theory of education.

The awareness of an object of knowledge produced is perception. Any awareness received through one or more of the five senses is *sensible perception*, that is, it can be qualified as “sensible,” and termed “sense datum.” All the data of the sensible perception is called “external” or “outer experience.” As humans possess five senses to be in contact directly with the material reality, the ultimate beginning point of the process of acquiring knowledge concerning the physical universe is sensible perception. The process of outer experience begins at one or more sense organ(s) and ends at the *physical consciousness*. Since this process as a whole is totally physical, it needs mental consciousness to be conceptualised. Otherwise, it cannot be utilised as an object of knowledge. Therefore, such a perception needs to be perceived by the mind as well so that it can be a proper object of human knowledge, thus, posits the existence of a mental perception, on the one hand, and of a mental awareness, on the other. Sensible perceptions produced by the faculty of consciousness are utilised in two ways: they are either directly perceived by the mind, and thus, are on the way to be conceptualised; and/or taken by the faculties of internal experience to be utilised, in Kant’s term, as raw material in their functions. Thus, the process of acquiring knowledge after the physical consciousness will continue in two directions: the internal experience; and/or of the mind. The *inner* perception of an object of knowledge is emotion which undeniably plays a role in the process of acquiring knowledge, and by extension, in education, too. Where emotions move, excite or sadden us, how can they contribute to the process of acquiring knowledge?

In response to the question, a lion is given by way of illustration. Hypothetically, with an absence of fear, one would still flee from a lion knowing how formidable and dangerous the animal is. Indeed, it is the emotion and not the sensible perception of the lion that is mentally evaluated, and ultimately, the decision to take flight from the king of the jungle. One may tend to think of seeing a lion, when none actually exists, thus, activating him to take cover. In the same vein, the idea of a lion by itself is insufficient to make one look for a shelter. Even so, it will not prompt him to move immediately. Hence, the decision to look for cover is considerably influenced by fear. Epistemologically, this conclusion is formulated as “the internal perception of an object of knowledge given to the mind as raw material” similar to the sensible perception of an object of knowledge. In other words, our mental faculties of knowledge can neither function without our faculty of outer experience, nor can they work in isolation from the faculties of inner experience.

The internal experience nearest to the sensible perception is the *sensible intuition* which may perceive an object as existing without physically perceiving it, as no physical object can directly affect our faculties of internal experience. “Sensible intuition” intuits object the way our mind intuits the conclusion of a deductive argument, without it being a mental intuition. Though a sensible perception is absent, it is assumed as mediating between the faculty of sensible intuition and its object. This faculty produces our instincts, which are direct and immediate. As such, they can play a significant role in the manifestation of an emotion. Due to this, the sensible intuition may interfere to mediate between the sensible perception and the other faculties of inner experience by intuiting data. When such a sensible intuition of a sensible perception is made available for an emotional state, the corresponding emotion may be yielded. Another important function of the sensible

intuition is that, being the centre of our instincts, it retains the copies of our emotions through which we instinctively recognise such emotive experiences.

The central faculty of our inner experience is the *heart* which assesses our emotions by rendering them meaningful for the ethical and religious life. The function of the heart in the epistemological process is to provide our mind with representations of ethical and fundamental concepts of life and death in an experiential way. Rather than being a faculty of outer experience, the heart cannot perceive external objects, but it can perceive “emotive objects of knowledge” which transcend external experiences. The sphere of knowledge comprehensive of all things that may be subjected to the emotive process identified as the “Experiential Realm” which is transcendent to the external experience. Conclusively, two comprehensive realms of knowledge are clearly distinguished: The Realm of External experience and the Realm of Internal Experience identified as Experiential Realm. Both realms are to be taken into consideration in the educational curricula as well. Moreover, the Experiential Realm has two further spheres; one moral, with clear limits, and the other religious, which requires clarification. In the theological sense, both realms involve the same subject but different aspects; whereas the experiential realm, for instance, encompasses God as an existent Being, the Transcendent Realm has God in the Absolute sense, namely, as He is in Himself. Therefore, the experiential representation of God’s existence is an inner experience, but His Essence is an Absolute behind “seventy thousand veils,” as expressed in a tradition of the Prophet. Furthermore, our mind needs the guidance of the Revelation in attaining the theological experiential realm. Our intellect operates with causality in order to infer a Maker for the whole existence. Although it may discover a *Cause* for the universe, it still needs another argument to prove that the *Cause* is God

as defined in the Revealed Texts. The question whether the experiential perception provided by the heart is sufficient to make such an inference, indeed, poses the greatest dilemma of philosophy and apparently, still leaves much to be desired. This warrants the necessity of *guidance* provided by Revelation. Such an epistemological principle guides us as to which method is to be used in the education of these subjects.

Experiential inquiries belong directly to the inquirer, albeit without being perceived directly. Specifically, the inner faculty of representation needs an awakening by and the mediation of Revelation. Just as our faculty of outer experience sometimes needs the mediation of a device to see or hear things afar, even though they are perceivable directly, the inner faculty needs a finer and more subtle mediation. Such mediation is guidance, which is reflected in the mental states of the inquirer that represent the terms of the internal experience. Since our emotions primarily yield such a mental state, the preferred term for it is “subjective mood.” As a mental state, the subjective mood is very important for the faculties of inner experience to perceive the truths of the experiential realm. An analysis of the process of knowledge highlights the faculty of ethical feelings, called “conscience.” Despite being the most fundamental, the heart does not represent all our internal faculties as through it originates most of our moral and religious experiential representations of entities as objects of knowledge. This approach solves an issue that remains inadequately answered in the Critical philosophy of Kant.

The process of knowledge through internal experience converges into and culminates at a unity which gives awareness of the “self.” As such, it functions as a faculty termed as “the faculty of consciousness” or “faculty of the self.” Through this faculty, one experientially becomes aware of one’s existence similar to the external experience through which one becomes aware of an object around him. Just as the external awareness

differs from the mental awareness, the internal awareness of the *subject* differs from the mental awareness of the self. Hence, in addition to the external and internal awareness, a mental awareness should exist. Where the first process of consciousness yields the awareness of things and the world around us, and the second, through the aid of our internal faculties and the experience resulting from them, yields the awareness of our inner world which revolves around the consciousness of our self (ego); it is the third, namely the mental awareness, that yields a conception of both the external and internal awareness. Significantly, to grasp experiences in the way a human conceives them, mental awareness is essential.

All the representations of objects of knowledge are, thus, transferred to the mind to undergo mental operations. Generally, the term “mind” (*dhihn*) is used to mean the “faculty of conceptual experience.” In this sense, “mind” refers to the totality of our mental activities that are mainly conceptual. Thus, such an understanding is the lowest faculty of the mind. In order to discover all mental faculties, some of the functions of our mind are explicated as follows: firstly, the mind must somehow retain all conceptual activities to utilise them in all its functions leading to the faculty of *memory*; secondly, objects of knowledge must be presented to the mind in a conceptually concrete way, that is, the reproduction of representations as images which poses a *faculty of imagination* (*khayāl*); thirdly, the mind must think the objects of knowledge, leading to a *faculty of thinking* called “intellect” (*‘aql*); fourthly, as a result of thinking, the mind must decide, which is an act of “choice,” to know its objects, thus in need of a *faculty of judgment*, known as the “will” (*irādah*); finally, the mind functions to formulate arguments and reach conclusions out of these arguments, that is, it somehow possess a faculty which enables it to deduce the implications and entailments of organised propositions, or faculty of inference preferably called “(mental) intuition” (*ḥads*).

For educational purposes, a theory of knowledge facilitates the understanding of how humans acquire knowledge which enables the use of more effective methods in teaching as it primarily consists of “making the student acquire knowledge,” that is, “to learn” *creatively*. Thus, this is the first step in enhancing creativity. The rest of the practical steps concerned are only special tools to develop the student’s skills. As such, our educational system needs to be set up on a philosophy that supports the idea of creativity. Such a philosophy entails the following:

The external process of learning is made up of all activities taking place outside the learning subject when a student is engaged in learning, and thus, making it education in the real sense. If this process is fully outlined, it will be in the true sense of our philosophy of education on the basis of which our educational theory will be developed. Nevertheless, the present context does not warrant such an outline for other concepts are involved, such as the purpose of education and the nature of the subjects to be educated. Therefore, focus should be directed on the main problems concerning creativity in the educational system.

Actual education takes place when systematic learning begins in a scientific way. Since the natural processes are excluded from the educational philosophy, although it may be included within the theory of education itself, the systematic internal process needs to be used to develop the framework of our philosophy of education. Among the basic structures within the concept of worldview is the Life Structure that is developed within the natural process. While it is excluded from the systematic process, discussions of it in an educational philosophy are welcomed. On the contrary, the epistemological process at this stage through which a worldview emerges should be discussed in the present context even though it lacks significant relevance for the challenges facing higher

education today. Hence, it is sufficient to indicate that this is the initial process through which worldview begins to be formed in the mind of an individual. Excluding this structure leaves two fundamental groups of structures:

1. World Structure as the fundamental outlook representing the individual's identity, as well as, his perception of the whole world; and,
2. Knowledge Structure as representing the rest of the structures.

In arguing for the philosophy of education, the remaining structures in the Knowledge Structure need to be included for their development on the basis of knowledge, and indeed, through the scientific knowledge acquired through one's education. With this analysis, three structures—Life, World and Knowledge stand. As the Life Structure is excluded from the philosophy of education, only World and Knowledge Structures are to be utilised.

Since the Knowledge Structure regulates scientific activities, it also includes within itself the network of our scientific terminology, which is called "Scientific Conceptual Scheme." Being a developed mentality, it must be included in the higher stages of education, and inevitably, in our philosophy of education. Thus, the three stages in education are as follows:

1. The Stage of the World Structure constitutes the earliest systematic learning process. Since the worldview of the individual is not fully developed to be distinguished from his/her World Structure at this stage, "Stage of Worldview" is an apt term given to it.
2. The Stage of the Knowledge Structure constitutes

the middle stage, where the basic terminology of sciences is given and the Knowledge Structure of the worldview is fully inculcated into the minds of individuals.

3. The Scientific Stage is where attention is paid to develop in the worldview of the individuals a scientific mentality. Since this represents the final stage of education, it must be the stage of higher education. Another stage, Specialisation, can be added to this philosophy of education. This stage develops a more specific network of concepts in the minds of individuals called the "Specific Scientific Conceptual Scheme" in which the nomenclature of individual disciplines is harmonised.

Hence, based on this philosophy of education, our educational theory reveals five stages of learning:

1. The early education comprises the Life Structure as the most important component that begins at birth before formal schooling starts. In addition, this education should continue throughout one's life as it concerns the Life Structure as the initial worldview;
2. Elementary Education concerns the worldview of the individual;
3. Middle Education concerns the Knowledge Structure within the worldview of the individual;
4. Higher Education concerns developing the Scientific Conceptual Scheme within the Knowledge Structure; and finally,
5. Graduate Education aims at developing the Specific Scientific Conceptual Scheme, where specialisation is focussed.

Of the five stages, the last two are of importance as they deal with the higher education. However, all the stages need to be elaborated to clarify how one comes to it. First of all, in the early education, an individual is prepared for early education and taught cultural elements in which knowledge should occupy a special place. Through this, everyone knows that learning is significant. At this stage, both the home environment and parental behaviour play a crucial role. An individual with a good Life Structure in mind is one who has a worldview that backs up knowledge tendency. It is at this stage that the person is motivated to do what s/he wants to do later in life. By extension, it determines, for the most part, the person's tendency to develop, though somewhat unconsciously and naturally, his/her leaning for a career in life. It may play a role in developing the person's inherent ability, regardless of what it may be.

Secondly, the individual is ready for the Elementary Education when s/he has a solid Life Structure in mind. Since this corresponds to the Stage of Worldview, only elements that make up the basic structure of the individual's worldview must be given. Special techniques should be developed to the teaching of his/her worldview. The curriculum should also be developed on the basis of that worldview. Teaching basic sciences at this stage as currently practised in the Muslim world is unnecessary.

Next, in the Third Stage, the Knowledge Structure of the individual's worldview is given. Crucial for an educational theory, this is the stage that prepares the student for higher education. In the Knowledge Structure of a worldview, concepts that provide a mentality to the individual exist. Such concepts are held in unity under the umbrella concept "knowledge" which, thus, acquires a doctrinal character. Other related concepts in this unity are science, truth, falsehood, opinion, belief, certainty, method, theory, understanding,

and doubt, among others. Such concepts are well formed and harmonised together that their unity projects an understanding called “knowledge mentality.” In turn, it projects one’s understanding of knowledge, method and truth together with their significance. With this mentality, the student learns that knowledge is valuable and a necessity in life. In addition, he finds out that knowledge acquired with a special method is called “science,” and its application is technology, among others. Indeed, propositions explicated in this context may be expressed differently in every worldview. A characteristic common in all worldviews is the presence of a specific Knowledge Structure of their own. When this structure is well developed in the minds of students, they find out what to do with knowledge. Interest in the same type of systematic knowledge will spur them to continue for higher education where all sciences will be taught in a general way. Next, the Fourth Stage, or the stage of Higher Education, should offer interdisciplinary approach in which all sciences are taught in a general way, but veer in later years of this stage to a more particular area which will eventually become their area of expertise.

Upon graduation from this level which corresponds to the bachelor’s degree, the student will continue for deeper specialisation in graduate studies which represents the Fifth and final stage of the educational theory for creativity. In summary, creativity and innovation can, indeed, be fostered by providing a comprehensive foundation for an educational theory as depicted by the whole educational process in the following table:

Educational Process

