Spiritual Intelligence and its Role in Education

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Abstract.
The present study is an attempt to demystify the concept of spiritual intelligence (hereafter SI) and its role in education. To undertake the study first an overview of intelligence and its corresponding types and role will be brief. Then SI from theoretical perspective and its relation with some psychological theories as the theory of hierarchy of needs and self-actualization of learners by Maslow (1908-1970), social embedded learning and Zone of Proximal Development (ZPD) that scaffolds learning by Vygotsky (1896-1934), and the theory of multiple intelligences by Gardner (1943) will be discussed in detail. Finally its role in education unmasked. The findings have implication in language teaching in particular and education in general.

Keywords: spiritual intelligence, intelligence, brain, spiritual experience

1. Introduction.

Intelligence is one of the crucial factors and characteristics in second or foreign language learning and results in individual differences among peoples. After a long history of research, there is no standard definition of intelligence yet. This shows that this concept maybe approximately described, but cannot be fully defined. This phenomenon have been defined and measured by different scholars and psychologists in different contexts. There are many similarities among various definitions that have been proposed by different scholars and psychologists. These different observations help us to believe that a single and comprehensive definition for arbitrary systems can be possible. According to Gardner (1999), this concept adopted different interpretations across different cultures (Gardner, 1999).

Burt (1957, cited in Legg &Hutter, 2007) defined intelligence as a quality that is intellectual and not emotional or moral: in measuring it we try to rule out the effects of the child's zeal, interest, industry, and the like. Secondly, it denotes a general capacity, a capacity that enters into everything the child says or does or thinks; any want of 'intelligence' will therefore be revealed to some degree in almost all that he attempts.

He asserted that intelligence is as an intellectual phenomenon and not emotional or moral and leads to one's attempts in doing or achieving goals. In the last few years, Sternberg (1985) defined intelligence as "the ability to adapt to a new environment which draws upon a number of cognitive processes, such as perception, learning, memory, reasoning, and problem solving" (Stenberg, 1985). Moreover, intelligence is defined as a collection of the notions of knowledge and mental processes and the role of context and culture (Sternberg, 2000). Stenberg (2000) explained that Binet argued that intelligence includes of complicated mental processes and individual differences involving complex functions. He asserted that intelligence is as the ability to perceive information and retain it as knowledge for applying to itself or other instances of knowledge or information, thereby creating referable understanding models of any size, density, or complexity, due to any conscious or subconscious imposed will or instruction to do so, Based on Gardner's view, intelligence is as "the ability to solve problems, or fashion products, that are valued in one or more cultural or community settings" (Gardner, 1993, p.7). According to these definitions, different category of intelligence will be elaborated.

2. Literature Review

2.1. Multiple Intelligence Theory

When Gardner (1983) introduced Multiple Intelligences, the notion of general intelligences had been adopted by psychologists. Multiple intelligences is a new view of human intelligence as a result of his dissatisfaction with the traditional IQ tests. In Multiple Intelligences, different independent ability areas had been proposed. Gardner (1993) called intelligence as a "bio-psychological potential" that could be affected by cultural and motivational factors (Gardner, 1993, p. 7). He states that individuals own at least eight intelligences which are independent and can be genetically inherited, developed or improved through education or social environment. Gardner (1983) initially introduced multiple intelligences in seven intelligences: Linguistic, Spatial, Logical/Mathematical, Interpersonal, Intrapersonal, Bodily-Kinesthetic, and Musical. Later, Gardner (1999) added Naturalistic intelligence and has suggested that an existential intelligence might exist, but he believed that spiritual intelligence does not exist. He believed that his eight intelligences are as abilities or talents, but it is assumed that quantitative or verbal abilities are referred to as talents. He argued that there is no hierarchy of ability. Before publishing his book "*Frames of Mind*", Gardner (1999) states that eight intelligences are based on eight criteria: "the potential of isolation by brain damage; an evolutionary history and evolutionary plausibility; an identifiable core operation or set of operations; susceptibility to encoding in a symbol system; a distinct developmental history; the existence of savants, prodigies, and other exceptional people; support from

experimental psychological tasks; and support from psychometric findings" (Gardner, 1999, p. 46). He believed that these criteria are flexible. Some intelligence possesses multiple criteria.

Educators and parents accepted enthusiastically multiple intelligences theory. Gardner (1983) believed that children possess unique and various abilities as they can learn things in different ways. He argued that a child that is poor in reading and math, he/she can be successful in art, geography or even music. Gardner (1983) claimed that the traditional intelligence tests cannot measure all types of intelligences and it can measure verbal and mathematical abilities, the two intelligence domains most valued in school. He insisted that "Whereas IQ tests could predict academic success; he insisted that they had little utility in predicting success beyond school (Gardner, 1983, p. 3).Gottfredson's (2002) contradicted this claim with his findings in his study. Gardner (1999) introduced his theory as an empirically-based theory and asserted in new findings: "The questions to ask of a new theory are whether it stimulates important questions and investigations, and whether it's initial delineation of factors appears to be on the right track" (Gardner, 1999, p. 86). In the next section, the different intelligences will be explained.

2.2.Theoretical Framework of SI

However, it is considered that the concept of SI is fairly novel, it can be found in some psychological theories as the theory of hierarchy of needs and self-actualization of learners developed by Maslow (1908-1970), social embedded learning and Zone of Proximal Development (ZPD) that scaffolds learning advocated by Vygotsky (1896-1934), and the theory of multiple intelligences purported by Gardner (1943-).

The first theory is the hierarchy of needs and self-actualization of learners developed by Maslow (1908-1970) that was famous for his work in behavioral psychology and motivation. Two basic principles of his work have particular significance for individual growth, education, and the spiritual and these concepts are salient in this study. His hierarchy of needs theory and concept of self-actualization support the major premises of SI. One of the most well-known of Maslow's theories is based on a hierarchy of needs pyramid. Maslow (1943) described these needs in a ladder or pyramid of progression that contained the five main sets of goals: physiological, safety, love, esteem, and self-actualization, with the basic physiological needs being at the foundation and moving up to the highest self-actualization needs. Physiological needs contain deficiency needs delineated as the need for safety, love, respect and information (Maslow, 1943, cited in Brown, 2001).These are opposed to growth needs, which include "need to know and understand, aesthetic, and self-actualization needs" (Slavin, 2003, p. 332).

Self-actualization is one of the important concepts in Maslow's hierarchy of needs. The ongoing process of self-actualization within individuals was expanded and defined by Maslow as an "actualization of potentials, capacities and talents, as fulfillment of mission (fate, destiny, or vocation), as a fuller knowledge of, and acceptance of, the person's own intrinsic nature, as an unceasing trend toward unity, integration or synergy within" (Maslow, 1968, cited in Heylighen, 1992, p. 41). To be self-actualized is an ongoing process with the fundamental goal to develop all of one's talents and to reach ultimate fulfillment. He felt that the primary goal of education was to help all to reach their ultimate capacities or to become self-actualized (Heylighen, 1992). According to Maslow (1968, cited in Heylighen, 1992), self-actualization includes eight ways: (a) exhibits total absorptive self-awareness; (b) participates in an on-going growth procedure; (c) listens to his or her inner voice; (d) allows personal intuition to guide his or her life; (e) honestly takes responsibility for his or her own actions; (f) makes wise choices for personal satisfaction; (g) encounters and recognizes when he or she has faced a peak experience; and lastly (h) analyzes, identifies, and renounces personally erected defenses.

Sisk (2002), in his article mentioned Maslow's work on self-identity as foundational to their work with SI. Maslow discussed important aspects in self-identity that are significant to understanding SI and its concepts. He felt that unfortunately, external educational experiences could sometimes squelch the internal, inherent natures of self. He encouraged a type of meditational separateness that allowed for the quietness necessary to search for one's individuality or self (Sisk, 2002). This was in line with Sisk's (2002) views that "SI can be described as a deep self-awareness in which one becomes more and more aware of the dimensions of self, not simply as a body, but as a mind-body and Spirit" (Sisk, 2002, p. 209). This reinforces Emmons (2000) view that "the intelligent use of spiritual intelligence can contribute to positive life outcomes such as emotional well-being, positive functioning, and an enhanced overall quality of life" (Emmons, 2000, p. 20).

The research of Lev Vygotsky (1896-1934), a Soviet psychologist, presents another major theory that explains learning with implications for SI, according to his sociocultural theory, social and cultural aspects are the main parts of this theory. Ratner (1991) writes that Vygotsky proposed the theory that intellectual development occurred via two distinct ways - through *social contacts* that are evidenced and then shaped by *cultural artifacts* belonging to each particular community system. In essence, Vygotsky believed that intellectual development originates only through the historical, cultural, and social relationships and interactions experienced by individuals. According to Vygotsky (1978), because learning takes place within both social and cultural environments, then to a certain extent, what is learned reflects these two entities implying that discrepancies may be reflective of cultural restrictions.

Essentially, Vygotsky advocated selections that came from "a socio historical point of view, of reaching beyond, of advancing the processes of human knowledge, in a way, helping to form a new person" (Rosa, & Montero, 1990, p. 81). This formation of a "new person" complements the SI principles of existentialism and personal meaning production advocated by King (2008). Although Vygotsky did not mention the spiritual specifically, there are implications that learning may be enhanced by incorporating the culture of the student's family. Ratner (1991) observed that "just as language, religion, and customs are not the accidental discovery of an individual, so all higher psychological functions are creations of the social community" (Ratner, 1991, p. 15) reinforcing that religion and spirituality are social constructs. If that social culture is steeped in the spiritual, then perhaps Vygotsky's socio-cultural embedded theory could support the premise that spiritual influences impact learning.

The last and most important contributor to the conceptual framework of the current research is the Theory of Multiple Intelligences developed by Howard Gardner (1983). Gardner set forth to challenge existing thinking about intelligence as having only one dimension measured by an intelligence test. In other words, he was attempting to expand thinking about human potential. His definition of a human intelligence is "the ability to solve problems, or to create products, that are valued within one or more cultural settings" (Gardner, 1983, p. x). In addition, in order to be termed an intelligence, the skills must be important, useful, and include a majority of these eight criteria: a) Potential isolation by brain damage; b) The existence of idiots savants, prodigies, and other exceptional individuals; c) An identifiable core operation or set of operations; d) A distinctive developmental history, along with a definable set of expert 'end-state' performances; e) An evolutionary history and evolutionary plausibility; f) Support from experimental psychological tasks; g) Support from psychometric findings; h) Susceptibility to encoding in a symbol system. (Gardner, 1983, pp. 63 & 67). More than those types of intelligences that were mentioned in the previous sections, Gardner (2000) has also considered spirituality as an intelligence. His main objection to adding spirituality to his list of intelligences is based primarily on the lack of brain research to support its inclusion. Although not fully embracing the idea of spirituality as an intelligence, Gardner admits that several arguments for SI require further analysis and empirical scrutiny.

Gardner's contributions to the intelligence debate and to the current research in particular are crucial. His empirically based research including not only the gifted and savants, but normal children and adults as well as brain damaged individuals, led him to the conclusion that intelligence cannot be reduced to a number on a single test. Because of his expanded definitions of other varieties of intelligence, he has opened the door to a consideration of the spiritual as an intelligence.

For the current study, the theories provided by Maslow, Vygotsky, and Gardner lay a solid foundation for the consideration of spirituality as an intelligence. In the next section, the evidences of a ninth intelligence (SI) will be explained.

2.2.1. Scientific Evidence for Spiritual Intelligence

Zohar and Marshall (2000) believed that "anything that has a bearing on intelligence is routed and controlled by both the brain and its neural extensions in the body" (Zohar & Marshall, 2000, p. 39).

2.2.1.1. Neural Organization in the Brain

One type of neural organization that is named Intelligence Quotient, enables rule-bound and logical thinking. This model of thinking is both logical and linear derived from formal, Aristotelian logic and from arithmetic. Bowell (2004) stated that "Intelligence Quotient is beneficial for solving rational problems and for performing definite tasks. The brain is able to carry out such functions because of an extremely distinctive type of neural wiring − known as neural tracts − which is required for serial or linear thinking". This type of thinking is referred to as "thinking" with the head (Bowell, 2004, p.12).

On the other side, Zohar and Marshall (2000) proposed another kind of thinking, which allows associative, habit-bound, and pattern-recognizing thinking, with this type of thinking being referred to as Emotional Quotient. According to McGeachy (2001, p. 62), Emotional Quotient is dealt with associative neural wiring – a far more complex interaction than Intelligence Quotient.

Spiritual Quotient is a third kind of neural organization that makes it possible to engage in creative, insightful, intuitive rule-making and rule-breaking thinking. Zohar and Marshall (2000) refer to this type of thinking as "unitive thinking" as this kind of thinking is, in essence, holistic and comprises an ability to grasp the overall context linking the component parts (Zohar and Marshall, 2000, p. 59 & 60). In other words, it is the thinking which an adolescent may use to reframe and transform previous thinking and is also referred to as "thinking with the soul". It is believed that, since this type of thinking involves the head (thinking – IQ), the heart (feeling – EQ) and the soul (intuitive thinking – SQ) it is possible to develop, in a deliberate way, the ability of people to access Spiritual Quotient.

2.2.1.2. Domain Specificity and Spiritual Experience

According to Hyde (2004), different researchers have concluded that different cognitive abilities are specialized in order to manage specific types of information. In other words, much of human cognition may be termed "domain specific" (Hyde, 2004, p. 44). While reluctant to attach the notion of a domain to a set definition, Hirschfeld and Gelman (1994) have recommended the properties of a domain: "A domain is a body

that identifies and interprets a class of phenomena assumed to share certain properties and to be of a distinct and general type. A domain functions as a stable response to a set of recurring and complex problems faced by the organisms. The response involves difficult-to-access perceptual, encoding, retrieval, inferential processes dedicated to the solution (Hirschfeld&Gelman, 1994, p. 21).

Hyde (2004) deduces that it is possible that such an independent body of knowledge or a domain does, indeed, exist within the composition of the human mind and that it may enable adolescents to solve problems of meaning and value in life.

2.2.1.3. Evolution and Spiritual Intelligence

According to the architecture of the brain, Newberg et al. (2001), have claimed that the human brain has evolved over millions of years in order to enable individuals both to adapt and to solve the immediate problems of survival within a particular environment (Newberg et al, 2001, pp. 15 & 17). In other words, the function of the human brain is to solve problems, which is one of the central features of intelligence. Furthermore, Newberg et al. (2001) speculated whether the structures of the human brain that are involved in spiritual experience evolved specifically for the purpose of enabling an individual to find solutions to the problems of meaning and value (Newberg et al, 2001, pp. 15 & 17). In addition, Newberg et al. (2001) maintain that many of the brain's higher functions developed initially from simpler neurological processes that evolved specifically to address the more basic survival needs. However, as evolution proceeded, the potential for spiritual experience and its usefulness in finding solutions to the problems of meaning and value in life was both realized and favored by the process of natural selection (Newberg et al, 2001, pp. 15 & 17).

Accordingly, Newberg et al. (2001) maintain that the notion of SI is supported by the fact that the human brain has evolved with certain structures that are involved in spiritual experience and it is these structures which enable the individual and, by implication, the adolescent, to draw upon spiritual experience in this way (Newberg et al, 2001, pp. 15 & 17).

2.3. Spiritual Intelligence Definitions.

As emotional intelligence is defined as a set of abilities that draw on emotional resources and information (Mayer, Salovey, & Caruso, 2004), SI is associated with a set of abilities that draw on spiritual resources (Emmons, 1999). Moreover, he (2000) stated that SI is as "the adaptive use of spiritual information to facilitate everyday problem solving and goal attainment" (Emmons, 2000, p. 4). Based on Gardner's definition of intelligence, Emmons (2000) argued that spirituality can be viewed as a form of intelligence because it predicts functioning and adaptation and suggests capabilities that enable people to solve problems and achieve goals.

Emmons (1999, 2000) believed that SI contains different types of abilities that are based on spiritual resources in a similar manner to emotional intelligence, which defines a set of abilities that are associated with emotional resources and information (Mayer, Salovey& Caruso, 2004). Just as Emotional intelligence is not equal to emotionality, SI is not equal to spirituality.SI combines the constructs of spirituality and intelligence into a new construct of SI. Whereas spirituality refers to the individual search for, and experiential elements of, the sacred, meaning, higher-consciousness and transcendence, SI places a greater emphasis on abilities that draw on such spiritual themes to predict functioning and adaptation, and to produce valuable products or outcomes (Emmons, 1999).In other words, spirituality is dealt with abilities that produce valuable outcomes Zohar and Marshal (2000) defined SI as: the intelligence with which we address and solve problems of meaning and value, the intelligence with which we can place our actions and our lives in a wider, richer, meaning-giving context, the intelligence with which we can assess that one course of action or one life-path is more meaningful than another. (Zohar & Marshal, 2000, p. 3). This definition also highlights and hints at linking SI to a sense of connection to the wider and greater whole.

King (2008) viewed SI as a set of adaptive mental capacities based on non-material and transcendent aspects of reality, specifically those which are related to the nature of one's existence, personal meaning, transcendence, and heightened states of consciousness.

Thorsons (2001) defines SI as progresses naturally from your personal Intelligence (knowledge, appreciation and understanding of yourself, through social Intelligence knowledge, appreciation and understanding of other people), to the appreciation and understanding of all other life forms and the universe itself.

According to Nasel (2004), SI is as the ability to draw on one's spiritual abilities and resources to better identify, find meaning in, and resolve existential, spiritual, and practical issues. Such resources and abilities, be it prayer, intuition, or transcendence, ought to be relevant to facilitating an individual's capacity for finding meaning in experiences, for facilitating problem solving, and for enhancing an individual's capacity for adaptive decision making (Nasel, 2004, p. 42).

2.3.1. The Components of Spiritual Intelligence

Emmons (2000) proposes five elements for SI: (a) ability to use spiritual resources to solve problems, (b) ability to enter heightened states of consciousness, (c) ability to invest everyday activities and relationships with a sense of the sacred, (d) capacity for transcendence of the physical and material, and (e) capacity to be virtuous.

However, in responding to criticisms from Mayer (2000) who argues that virtuous behavior belongs more to ethics and personality rather than intelligence, Emmons (2000) drops (e) the capacity to be virtuous.

Based on Vaughan's (2002) view, SI is dealt with the inner life of mind and spirit and its relationship to being in the world. He proposed a model that SI includes three components: a) the ability to create meaning based on deep understanding of existential questions; b) an awareness of and the ability to use multiple levels of consciousness in problem solving; and c) an awareness of the interconnection of all beings to each other and to the transcendent.

Amram and Dryer (2007) determined five components of Spiritual Intelligence; those items are Consciousness, Transcendence, Grace, Meaning and Truth. A consciousness trait is the ability to raise consciousness, to tap intuition and to synthesize multiple viewpoints in ways that will enhance daily functioning and well-being. Transcendence is a trait of the ability to align with the sacred and transcend the egoistic self with the sense of relatedness and holism in ways that enhances functioning. Grace is a trait that reflects the love for life drawing on the inspiration beauty and joy inherent in each present moment to enhance the functioning and well-being. While Meaning is a trait of the ability to experience meaning, link activities and experiences to values and construct interpretations in ways that that enhance functioning and wellbeing in the face of pain and suffering. Truth is a trait of the ability to be present, to love peacefully and surrender to truth, manifesting open receptivity, presence, humility and trust in ways that enhance daily functioning and well-being.

2.3.2. The Features of Spiritual Intelligence.

They determined the following features of SI as the definition of SI:

1. Self-awareness: Who you really are and know about connecting with the whole universe.

2. Led by vision and values: Children naturally want to serve. Vision and values are definitive of our humanity.

3. The ability to face and to use adversity: Owning both our mistakes and adversity and using pain and tragedy with which to learn.

4. Holistic: Seeing the connections between things.

5. Appreciation of diversity: Thriving in the celebration of diversity.

6. Field independent: This indicates the courage to be independent.

7. The tendency to ask "why"? Questions are infinite, and may create reality.

8. The ability to reframe: Putting things into a larger context of meaning.

9. Spontaneity: This does not mean acting impulsively. Spontaneity comes from the same Latin roots as "response" and "responsibility".

According to the different views, Levin (2000) claimed that when we live in a way that integrates spirituality into our daily life, SI is exhibited (Levin, 2000). He recommended that the development of SI needs the recognition of our interconnection to all of life, and the capacity to utilize perceptual powers beyond the five senses including our intuition, which is seen as another level of consciousness and intelligence beyond analytical, linear, and rational thought.

King (2008) viewed SI as a set of adaptive mental capacities based on non-material and transcendent aspects of reality, specifically those which are related to the nature of one's existence, personal meaning, transcendence, and heightened states of consciousness. According to this definition, King proposed four core abilities or capacities of SI: a) Critical Existential Thinking: This principle shows the capacity to critically think about the nature of existence, reality, the universe, space, time, and other existential/metaphysical issues; also the capacity to think about non-existential issues in relation to one's existence (i.e., from an existential perspective); b) Personal Meaning Production: It deals with the ability to originate personal meaning and purpose from all physical and mental experiences, including the capacity to create and master a life's purpose; c) Transcendental Awareness: This property shows the ability to determine transcendent dimensions/patterns of the self (i.e., a transpersonal or transcendent self), of others, and of the physical world (e.g., non-materialism) during normal states of consciousness, accompanied by the capacity to determine their relationship to one's self and to the physical; and d) Conscious State Expansion: This characteristic shows the ability to enter and exit higher states of consciousness (e.g. pure consciousness, cosmic consciousness, unity, oneness) and other states of trance at one's own discretion (as in deep contemplation, meditation, prayer, etc.). According to the above characteristics, SI refers to various skills and abilities that empower you to live in harmony with your highest values and move unswervingly towards your life goals.

2.4. The Role of SI in Education.

Intelligence plays an important role in education; furthermore, Education provides ways and means for achieving the progress of body, intelligence and strength. The main leader in this process is the teacher. Thus teachers are to be emotionally and spiritually mature enough to deal with the affecting and spiritual requirements of the students. During the pre-service agenda itself, the students-teachers require to be showing to emotional and spiritual development program. Teachers do influence the character of students. Their emotional, logical, social and spiritual realms have profound influence on the development of children. Only teachers who are

spiritually intelligent can encourage the development of students. Estimate of the important educational dimensions is a foundation for valuating educational institutes (Leenaars & Laster, 2006).

Educational getting estimation can be considered as one of the most important educational evaluations. Continuous evaluation of the students' educational achievement during their academic stage and analytical its efficient factors is one of the crucial and predictable bases of educational system improvement especially in the universities. It plays a prompting educational quality, and at last correcting and improving academic managers' efficiency (Bakhtiarpoor, 2009). Students' academic performance in different fields, levels, and universities is educational factors. Determining appropriate criterions and factors is one of the potential research areas. Gange and St Pere (2002), Vigil are the authors who are active in this field. The scores of intelligence and academic achievement are one of the important measures that have been used as indicators for predicting students' future conditions by several authors (Gange & St Pere, 2002).

A study was conducted by Ruiz (2005) on "Spiritual dimension in educational leadership" at the University of Texas, USA. Spirit filled experiences and education were considered as two separate areas. This study seeks to provide ontological and epistemological knowledge to uncover and understand the power of the spiritual dimension in the life of successful educational leaders. This study is qualitative in nature and it seeks to explore successful educational leaders' use of spirituality to strengthen their effectiveness as it relates to school and their performance. Based on the major findings, four attributes related to educational leadership are obvious: accountability and compliance, curriculum and instruction, planning and decision making, and community involvement – and these are all related to spiritual dimension. Based on this study, an 'Interactive Atom Shaped Model for Leadership' was proposed, symbolizing special type of energy which interconnects the spiritual element in the educational leaders' intrapersonal, interpersonal, and ecological relationships producing new life for the educational system and global organism.

3. Conclusion

Spiritual intelligence is ability in every human being which can be used for solving problems and deep understanding of issues which are related to life, values and education. There are some neurological processes in brain that leads to solving problem in human's body. SI motivates individuals to find out relations and unification. It has different degrees in different people. Although there aren't many direct premises to SI influence on education but many of psychologists and socio culturists indirectly support the impact of SI on learning. The impact of SI on education will be emphasized by the role of the teachers. Teachers with high spiritual intelligence can elicit progress in   students' education.

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