



Ethical-Spiritual Dimensions of 21st-Century Education: Taming Artificial Intelligence with Human Intelligence

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Abstract:

Intellectual intelligence and multiple intelligences have produced very sophisticated artificial intelligence. The progress of the artificial intelligence sector has implications for an educational paradigm that prioritizes cognition so that the ethical-spiritual dimension of education is increasingly eroded. This study aims to analyze the importance of developing heart education (human intelligence) in 21st-century education. The discussions in this literature study are focused on human intelligence, artificial intelligence, and the ethical-spiritual dimension of 21st-century education. Documented data from books, journals, and articles was then analyzed using content analysis techniques. The results show that artificial intelligence is developed in a value-free and uncontrolled manner. The impact is an increase in the number of unemployed (job automation), privacy violations, and even weapons automation. This must be controlled from an early age, both through collective awareness of ethical-spiritual values and through the development of humane, dignified, and spiritual artificial intelligence creativity. This research has implications for the importance of developing the ethical-spiritual dimension of 21st-century education, which not only fills the void in values in education but also helps educators, students, and other concerned parties find and know God.

INTRODUCTION

An inspiring statement by a Greek philosopher, Aristotle (384 BC-322 BC), that “educating the mind without educating the heart is no education at all” (Wass 2018), serves as the foundation for an ethical-constructive argument. Of course, this classic statement jolts the academic reasoning of contemporary educational scientists, who position the processing of intellectual intelligence—such as lower and higher-order thinking skills—as a central point in today’s education and learning process (Ghanizadeh, Al-Hoorie, and Jahedizadeh 2020; Conklin 2011). Even Aristotle’s statement was ignored by educational policymakers who developed a curriculum based on industrial needs, not human needs (Young and Hordern 2022; Pambudi and Harjanto 2020). They place intellectual development as more important than emotional and spiritual intelligence (Burga 2019).

It is undeniable that studies on intellectual intelligence—such as Intelligence Quotient (IQ)—as the mental capacity of human thinking have dominated the realms of psychology and education in the last ten decades. Beginning with William Stern’s findings on the concept of IQ

in the 1890s, who found a relationship between the neo-cortex layer in the human brain and the ability to count, speak, and visualize (Lamiell 2012). At the same time, these findings received serious attention from Alfred Binet, who developed an IQ test in 1899 (Galicioli et al. 2022) and underwent several revisions with Theodore Simon, whose test is popularly called the Binet-Simon Test (De Boeck et al. 2020; Deary 2020). In further development, Lewis Madison Terman of Stanford University adopted the test known as the Stanford Binet Test in 1916, then released it in 1937 (Hollingworth 2022; Peterson, Peterson, and Carducci 2020). This Bine-Simon and Stanford-Binet intelligence scale has influenced many psychological and educational tests up to the present day.

In the field of education, the study of intellectual intelligence has received wide support from adherents of cognitivism and constructivism learning theories. One cognitive psychologist named Jean Piaget built a theory of intellectual development through four stages of cognitive development that are connected with age chronology. The four stages are the sensorimotor stage (age 0–2 years), the preoperational stage (age 2–7 years), the concrete operational stage (age 7–11 years), and the formal operational stage (age 11–adulthood) (Zhao et al. 2022). This theory contributes positively to the determination of elementary school age, which starts at the beginning of the concrete operational phase or the age of 7 years, so that it changes the old paradigm that links physical development with school age. In the past, schoolchildren's age was measured based on their ability to hold the right earlobe by using the fingers of the left hand across the head, or vice versa (Rindermann and Laura Ackermann 2021).

Piaget's view, which tends to generalize the universality of age as a standard age in one's intellectual development, invited Lev Semyonovich Vygotsky to conduct a study of intellectual development from the perspective of socio-cultural psychology and succeeded in building a theory of the Zone of Proximal Development, abbreviated as ZPD. ZPD is the distance between the zones of actual development (current ability) and potential development (actual ability) (Benvenuto 2023; Tinungki 2019). The zones of intellectual development are: (1) full dependence; (2) less dependence; (3) automatization (initial independence); (4) D-automatization (perfect independence). Zones 1 and 2 have sparked the birth of a collaborative learning model. While the entire intellectual development zone contributes positively to the development of acceleration and escalation programs by tracing the talents and interests of generations who have above-average levels of intelligence, it also serves as a psychological-academic foundation for formulating Independent Learning-Independent Campus (MBKM).

A similar study was also carried out by Howard Gardner by polarizing the left and right brains as zones of intelligence, known as the theory of multiple intelligences (MI). A theory of the eight human intelligences, including linguistic, mathematical, visual, kinesthetic, musical, intrapersonal, interpersonal, and naturalistic. Admirers of this theory claim that MI has existed to correct the established conditions of IQ theory with limited coverage that only covers the four intelligences: verbal, logical, visual, and intrapersonal (Yaumi, Sirate, and Patak 2018; Artvinli and Dönmez 2020). Later, the MI theory was adopted in educational institutions throughout the United States through the Harvard Project Zero program (Gardner 2024). The author conducted research related to Project Zero at nine schools in the state of Ohio, USA,

between 2010-2011, which later became a book entitled *Multiple Intelligence-Based Learning* (Nurani 2023; Yaumi and Ibrahim 2013).

Although classical studies on IQ, intellectual intelligence, and multiple intelligences have been proven to build human creativity and change the world's paradigm of scientific progress, they have not reflected Aristotle's ethical-constructive arguments previously described. Therefore, the ethical-spiritual dimension of education has not been specifically studied by previous researchers.

This study highlights the importance of developing heart education (human intelligence) in 21st-century education. The sub-discussions are focused on human and artificial intelligences and the ethical-spiritual dimension of 21st-century education. The focus of this discussion is very important because it analyzes the artificial intelligence taming model in a humane and dignified manner through the development of the ethical-spiritual dimension of education.

This type of research is a literature study. The data sources consist of journals and books that discuss human intelligence, artificial intelligence, and the ethical-spiritual dimensions of 21st-century education. Data was collected using documentation techniques and then analyzed using content analysis techniques.

HUMAN AND ARTIFICIAL INTELLIGENCES

Most of the United States' scientists and academics attended the 1948 American Psychological Association Convention held in Boston. Outside of the official agenda of the convention, scientists held informal dialogic meetings to reflect on and evaluate 172 years of education and scientific development since the United States' independence in 1776. The meeting gave birth to a new idea about "Urgency Taxonomy of Educational Objectives" as a basic framework in educational development that began with a national conference that was held in 1949–1953. During the five years that the conference lasted, the organizing committee succeeded in formulating a new formulation of educational goals in three domains: cognitive, affective, and psychomotor (Pranajaya, Idris, and Abidin 2023; Mallillin 2020). The standard formulation of the cognitive domain can be published officially under the coordination of Benjamin S. Bloom in 1956; for the affective domain, under the coordination of David R. Krathwohl in 1956 (Hoque et al. 2021); and for the psychomotor domain, by Elizabeth Jane Simpson in 1966 and continued by Anita J. Harrow in 1972 (Dalkiran, Eryigit, and Sivri 2020). In subsequent developments, the taxonomy of educational goals in the cognitive domain was revised by Anderson & Krathwohl (Adijaya et al. 2023) by changing several levels of thinking, as shown in Figure 1 below.

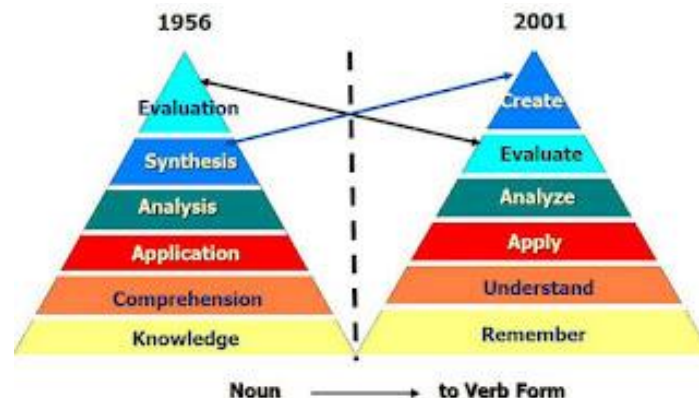


Figure 1. Cognitive Domain in Bloom's Taxonomy and Anderson's Revision

The cognitive domain relates to the recognition of knowledge and the development of intellectual abilities and skills. Starting with lower-order thinking skills such as knowing, understanding, and applying up to higher-order thinking skills, including analyzing, evaluating, and creating. Indicators of educational success are not only focused on the cognitive domain but also on the achievement of the affective domain, as illustrated in Figure 2 below.

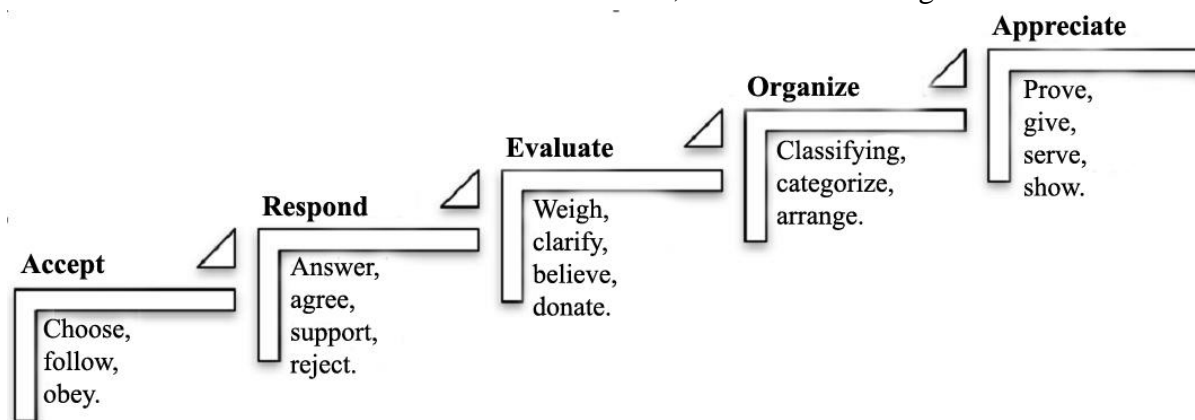


Figure 2. Taxonomy of Affective Domain Educational Objectives

The affective domain is related to interests, attitudes, and values as well as the development of appreciation and adjustment. The affective domain regulates a person's expressing feelings, controlling emotions, and showing attitudes. Indicators of educational success depend on how a person develops intellectual intelligence, shows attitudes and behaviors, and has the skills to demonstrate something. The development of skills, or so-called procedural abilities, is the focus of the psychomotor domain. According to Simpson (Chandio, Zafar, and Solangi 2021), the psychomotor domain is very relevant to education in general and is most suitable for describing scientific specializations in areas of expertise, such as learning technology, agriculture, the creative economy, and so on. To see more deeply about the scope of the psychomotor domain, the following will describe the level of ability as illustrated in Figure 3.

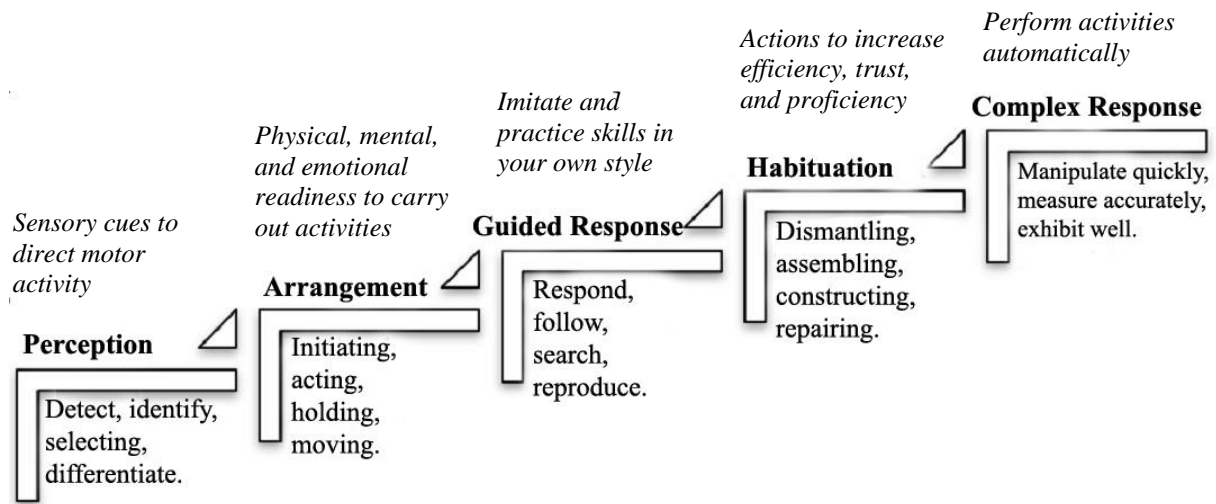


Figure 3. Elizabeth J. Simpson's Psychomotor Domain

The conference organizing committee did not produce a compilation and classification model for the psychomotor domain as it had for the cognitive and affective domains, giving rise to a diversity of views among scientists. Simpson then added the classification to a higher level of complex responses by introducing the terms adaptation and origination (Arievitch 2020).

Adaptation is an effort to modify movement patterns to suit specific requirements, such as adjusting, changing, rearranging, revising, and adding variations. Meanwhile, origination is creating new movement patterns to suit certain situations or problems, such as designing, composing, building, creating, constructing, and creating something new (Combs, McDonald, and Leimenstoll 2023).

It seems that the classification of educational objectives, which includes the domains of cognition, affection, and psychomotor, has become a strong foundation in determining the direction and future trends of a nation's education. The taxonomy of educational objectives is not only a basic framework for educating a nation's life, but it can also speed up the formation of a roadmap for the development of science and technology, including artificial intelligence, which represents the new rise of education in the 21st-century today (Liao 2020).

Artificial intelligence, known by the acronym AI, is a simulation of human intelligence that is modeled on a machine and programmed to be able to think like humans (Shamman et al. 2023). According to Lucci, Kopec, and Musa (2022), AI is designed to be able to carry out activities like humans, acting humanly, thinking humanly, thinking rationally, and acting rationally, thinking and acting like humans, so that they can replace humans in carrying out all their activities. Mostufa and Chakrabarti (2024) investigated three types of artificial intelligence: ANI (Artificial Narrow Intelligence), AGI (Artificial General Intelligence), and ASI (Artificial Super Intelligence), which can be elaborated as follows:

1. ANI is the most general, narrow, and simple form of AI because it is only able to complete specific tasks in everyday life. ANI is able to give advice on choosing the right direction, suggest Gojek and Gofood, recommend e-books, e-libraries, and LMS that are suitable, predict the weather correctly, and perform various other special tasks. However, the ability of ANI is not as great as that of humans.

2. AGI is designed to be able to carry out cognitive tasks like humans and has abilities that are equivalent to human abilities. AGI is capable of translating language and images, although the accuracy is not very precise. AGI is also capable of carrying out computing and reasoning functions such as studying, working, and socializing. The ability of the Sophia robot to answer various interviews around the world and the Humanoid robot to interact and look because its entire body resembles human beauty is one of the most sought-after forms of AGI. Even the Sophia robot developed by the Hong Kong Hanson Robotics company was naturalized as a Saudi Arabian citizen in 2017.
3. ASI has abilities that go beyond all human capabilities, such as taking the right policies super fast, producing beautiful works of art, and being able to build emotional relationships well.

It is indeed difficult to deny that advances in AI technology have changed culture, traditions, and human perspectives, including the shift in the paradigm of education and learning today that is heavily influenced by AI. (Nagao 2019) describes how AI is integrated and crosses classrooms synchronously and asynchronously in the implementation of online learning. AI has carried out the roles of (a) virtual mentor, when giving feedback on exercises; (b) voice assistant, to ask for directions by voice; (c) smart content, to get learning resources precisely and quickly; (d) presentation translator, to translate foreign languages automatically; (e) global course, when you want to offer courses elsewhere; (f) automatic assessment, to get grades or scores; and (g) personalized learning, to get the best ways and resources for learning.

Even so, the development of AI tends to be free and uncontrollable. Research results from Brundage et al. (2018) show that the use of AI has led to the following dangers:

1. Unemployment is increasing: Data from the Central Statistics Agency (BPS) shows that the unemployment rate in Indonesia for the August 2021 period was 6.49%, or 9.1 million people. The largest unemployment rate occurs in the age group of 20–29 years. In India, as much as 70% of jobs can be done by AI, and there are 36 million people whose jobs are susceptible to being replaced by automation (Muro, Maxim, and Whiton 2019).
2. Privacy invasion: AI misuse often threatens digital security. AI is used to hack and perform other criminal acts. In September 2021, CNN Indonesia reported that Chinese hackers were reported to have penetrated the internal network of 10 ministries and Indonesian government agencies, including the State Intelligence Agency (BIN). Currently, the Chinese government is using facial recognition technology to detect the movements of its citizens, be they in offices, schools, or various other public places. What about the current FaceLock technology in Indonesia—isn't it threatening?
3. Weapons automation: The United States military proposes a 2020 budget of USD 718 billion, of which USD 1 billion is for the development of AI and machine learning. That is why many scientists say that AI is much more dangerous than nuclear technology.

Even cosmological physicist Stephen William Hawking (1942–2010) of the University of Cambridge stated that if scientists were unable to control the development of artificial intelligence, this world would become the end of the world in the history of human civilization. AI would destroy the earth to pieces, so that would be doomsday (Kharpal 2017). Therefore, it is necessary to reflect again on the importance of developing the ethical-spiritual dimension in 21st-century education.

ETHICAL-SPIRITUAL DIMENSIONS OF 21ST-CENTURY EDUCATION

After examining the persistence of scientists in formulating a taxonomy of educational objectives for the cognition, affective, and psychomotor domains as well as the impact caused by AI and machine learning, it seems that something is wrong in planning the future of 21st-century education. Collective awareness is needed to reconstruct the values that should be integrated into the taxonomy of educational objectives. The values in question are ethical and moral-spiritual values, or, in the terms used here, the ethical-spiritual dimension, which is defined as the side of evaluating the truth or goodness of a social action based on ethical and spiritual values.

Indonesia as a large nation that has a rich culture, language, and high religious values, should initiate and present a taxonomy of national education objectives based on the mandate of the 1945 Constitution of the Republic of Indonesia, article 31 paragraphs 3 and 5, as follows:

- (3) The government seeks and organizes a national education system that **increases faith, piety, and noble character** in the context of educating the life of the nation, which is regulated by law.
- (5) The government advances science and technology by **upholding religious values** and national unity for the advancement of civilization and the welfare of mankind.

Ironically, after 78 years of independence, Indonesia has yet to formulate a taxonomy of national education objectives as the embodiment of the phrases “increasing faith, piety, and noble character” (paragraph 3) and “upholding religious values” (paragraph 5). If dissection of the content is carried out according to the classification of educational and learning objectives as developed by Benjamin S. Bloom et al. in 1956 for the cognitive domain, Krathwohl et al. in 1956 for the affective domain, and Elizabeth Simpson in 1971 for the psychomotor domain, there is no domain that can build spiritual intelligence that covers faith, piety, and noble character, as well as religious values. It is not even an exaggeration to say that the taxonomy of educational objectives adopted by many educational institutions in Indonesia, including state Islamic educational institutions, has been uprooted from its spiritual roots.

In fact, curriculum developers and learning designers in Indonesia have included aspects of religiosity into the attitude domain, but it seems forced because it reduces the holistic scope of spiritual values into a narrow and rigid scope of religiosity. According to the principle of linear thinking, the attitude domain is insufficiently capable of accommodating the magnitude of essential spiritual values. The logical consequence is that the cognitive and psychomotor domains experience emptiness and lack of spirituality because they are not touched by these essential values. Supposedly, the spiritual domain covers the other three domains, namely knowledge, attitudes, and skills, or at least becomes a separate domain in a taxonomy of learning objectives. The problem is how to formulate a spiritual domain with various classifications so that it can be measured in terms of achieving learning outcomes?

The word “spirit” comes from the Latin word “spiritus,” which means “breath.” In modern terms, it refers to “non-physical inner energy” encompassing emotions and character. In the psychology dictionary, “spirit” means a substance (*zat*) or immaterial being, usually divine in nature, that is a source of strength, energy, enthusiasm, morals, or motivation (Priyanto, Mahdafi, and Saputri 2024; Ruslan, Burga, and Noer 2022). Spirituality is the aspect of humanity that refers to the way individuals seek and express meaning and purpose and the

way they experience their connectedness to the moment, to self, to others, to nature, and to the significant or sacred (Ryff 2021; Almirzanah 2020; Ferrell and Baird 2012).

Ki Hajar Dewantara introduced the term “*budi pekerti*” as one of the pillars of education. The term comes from two root words, namely: first, “*budi*,” which means thoughts, feelings, and will; and second, “*pekerti*,” which means energy (Masitoh 2023). Thus, *budi pekerti* are the unification of mind, feelings, and willingness, which then generate energy (Wijayanti 2018). The *budi pekerti* concept then develops into a conceptual domain that underlies the construction of a national education conceptual framework with the formulation of (1) *olah pikir* (mind exercise), which refers to the cognitive domain; (2) *olah rasa* (feeling exercise), which includes the realm of affection; (3) *olah raga* (body exercise), which focuses on psychomotor development; and (4) *olah hati* (heart exercise), which is the driving force that produces energy (spirit) (Widiyanto and Purnomo 2023).

There have been many studies related to spirituality. Paul Pearsall (Yeoh 2022) studied the communication between the heart and the brain and found that the heart stores a number of strengths and has a code known as the “heart’s code.” In Pearsall’s view, the heart is not just a pump that distributes codes throughout the body, but rather a “cellular symphony” that moves all cells as the core of human existence. According to Pearsall (Yeoh 2022), the brain is just a computer to help solve problems, not the center of our being. It is the heart that holds the secret that can connect the body, mind, and soul. Many people know that the heart can love and feel, but more than that, the heart also thinks, remembers, communicates with other hearts, helps regulate immunity, and stores information.

Communication between the heart and the brain of humans was also discovered by Christiana Bishop (Parisian 2018), where the heart along the communication channel significantly influences brain activity. In addition, this study also shows that messages sent from the heart to the brain can affect a person’s performance (Parisian 2018). She added that heart-brain communication occurs through four channels: (1) neurologically, through the transmission of nerve movements; (2) biochemically, through hormones; (3) biophysically, through pressure waves; and (4) energetically, through interactions of the electromagnetic field. Unfortunately, this study was unable to reveal the source behind the awesomeness of the human heart that moves automatically. However, both of these studies reject views that glorify the brain’s prowess as a source of knowledge.

In relation to spirituality, Amram (2022) examines spiritual traditions in the lives of religions such as Islam, Hinduism, Buddhism, Christianity, and Judaism, including Taoism, Yoga, Earth-based (shamans and infidels), Eclectic (integration of several traditions), and Non-Dual (spiritual self-realization involving transcendence of object-subject duality). From the results of his grounded theory research, Amram succeeded in constructing a theory formulated in seven dimensions of spirituality, which include: (1) consciousness, (2) grace, (3) meaning, (4) transcendence, (5) truth, (6) peaceful surrender, and (7) inner directedness. This study, at least, provides an overall picture of how all religions believe that the spiritual dimension is integrated into intrapersonal, interpersonal, and transcendent relationships with Allah and His messengers.

To understand more deeply about the study of spirituality, the following will be examined using the theological-normative basis in the Qur'an and hadith. From the hadith perspective, the spiritual concept refers to several terms, including *rūḥ*, *nafs*, *ṣadr*, *qalb*, and *fu'ād*, as are described in the following hadiths.

1. Hadith from Umar ibn al-Khattab: “*Hum qaumun taḥabbu bi rūḥillāh.*” They are people who love each other with the spirit of Allah (Abu Daud no. 3527).
2. Hadith from Abu Hurairah: “*Allāhumma ayyadhu bi rūhi al-Qudus.*” O Allah, strengthen him with the spirit of Qudus. (Bukhari no. 6152; Muslim no. 2485)
3. Hadith from Abu Hurairah: “*La yadkhulu al-Jannah illā nafs muslimah.*” Nothing enters heaven except the *nafs* of Muslims (Bukhari no. 3062). This *nafs* is a means by which faith can increase or decrease.
4. Hadith from Abu Hurairah: “*Syarahallahu ṣadra Abi Bakr.*” Allah has enlightened Abu Bakr’s chest/heart (Bukhari no. 1399).
5. Hadith from Abu Hurairah: “*Al-Taqwāhā hunā wa yusyīru ilā ṣadrihī.*” Taqwa is here, then pointing to his chest (Muslim no. 2664).
6. Hadith from Nu‘man bin Basyir: “*Izā ṣalahat ṣalaha al-jasadu kulluh wa izā fasadat fasada al-jasadu kulluh alā wahiya al-qalbu.*” If it is good, then the whole body is good; if it is damaged, then the whole body is damaged; know that it is the heart (Muslim no. 1599). The word “heart” in this hadith contains the physical dimension of the heart and the spiritual dimension of the heart.
7. Hadith from Abu Hurairah: “*Man qāla lā Ilāha illallāh khālisan min qalbiḥī.*” Who says there is no god but Allah sincerely from his heart (Bukhari no. 99).

Several terms associated with spirituality in these hadiths are related to non-material elements consisting of spirit, soul, heart, and mind, which come directly from God Almighty (Fidelis, Moreira, and Vitória 2024). The word “*al-nafs*” means “soul” and “self”. The soul is a spiritual totality that is internalized and actualized in human life; it also means the true self or personality (Zulfatmi 2020). There are several types of souls, namely *al-Nafs al-Muṭmainnah* (the calm soul), *al-Nafs al-Lawwāmah* (the soul that regrets itself), and *al-Nafs al-Amārah* (the soul that commands evil) (Iqbal 2022). The heart is an entity that has an inner level, namely the chest (*ṣadr*), heart (*qalb*), little heart (*fu'ād*), and conscience (*lubb*) (Burga 2019).

Although the terms *al-Rūḥ*, *al-Nafs*, *al-Qalb*, and *al-Aql* look different, they are basically the same. If *al-Rūḥ* can control lust, then the area is called *al-Nafs*; when *al-Rūḥ* can master forbidden lust, then the area is called *al-Aql*; when *al-Rūḥ* is found in faith, the area is called *al-Qalb*; and when *al-Rūḥ* realizes God with true knowledge, then that area is called *al-Rūḥ* (Baharuddin and Ismail 2015). Therefore, *al-Rūḥ* is the core of life that directs the heart, soul, mind, and faith spread by God in the human heart. *Al-Rūḥ* is a divine chip to bear witness to good and bad deeds in human life. It gives good and bad codes through the conscience that only those with spiritual intelligence can hear and feel.

Similar to the hadith concept, the spiritual concept in the Qur'an refers to *al-Rūḥ*, as found in QS al-Sajdah (32): 9.

ثُمَّ سَوَّاهُ وَنَفَخَ فِيهِ مِنْ رُوحِهِ ۚ وَجَعَلَ لَكُمُ السَّمْعَ وَالْأَبْصَارَ وَالْأَفْئِدَةَ ۚ قَلِيلًا مَّا تَشْكُرُونَ (٩)

Then He perfected it and breathed His spirit (creation) into him (the body), and He made hearing, sight, and heart for you—but very few of you are grateful.

Al-Rūh in this verse is a very essential immaterial dimension that causes the functioning of hearing, sight, and heart, which are important pillars in human life. That is, without being blown by His spirit (creation), the senses of the ear, eye, and heart cannot function at all. In this section, the spiritual dimension is the substance of the spirit that can encourage and move all human senses to be able to do activities, including acquiring knowledge that is useful for human civilization. It can also be said that *al-Ruh* is something given or lent by God to humans that does not involve human intervention in its management, such as QS *al-Isra* (17): 85.

وَيَسْأَلُونَكَ عَنِ الرُّوحِ ۚ قُلِ الرُّوحُ مِنْ أَمْرِ رَبِّي وَمَا أُوتِيتُمْ مِنَ الْعِلْمِ إِلَّا قَلِيلًا (٨٥)

And they ask you (Muhammad) about the spirit. Say, “The spirit is part of my God’s business, while you are given only a little knowledge.”

This verse informs us of two critical points. First, the authority to control *al-Ruh* is the prerogative and full authority of God Almighty. This negates the superiority of the human will, which always shows greatness in monumental works such as artificial intelligence. Second, humans are given very little knowledge about *al-Rūh*, including the essence of his presence on Earth. Even so, there is great hope to be able to interact directly with God through intrapersonal communication channels inwardly, such as His Word in QS *al-Syura* (42): 51-52.

وَمَا كَانَ لِنَبِيٍّ أَنْ يَكْلِمَهُ اللَّهُ إِلَّا وَحْيًا أَوْ مِنْ وَرَاءِ حِجَابٍ أَوْ يُرْسِلَ رَسُولًا فَيُوحِيَ بِإِذْنِهِ مَا يَشَاءُ ۚ إِنَّهُ عَلِيُّ حَكِيمٌ (٥١) وَكَذَلِكَ أَوْحَيْنَا إِلَيْكَ رُوحًا مِنْ أَمْرِنَا ۚ مَا كُنْتَ تَدْرِي مَا الْكِتَابُ وَلَا الْإِيمَانُ وَلَكِنْ جَعَلْنَاهُ نُورًا نَهْدِي بِهِ مَنْ نَشَاءُ مِنْ عِبَادِنَا ۚ وَإِنَّكَ لَتَهْدِي إِلَى صِرَاطٍ مُسْتَقِيمٍ (٥٢)

(51) It is impossible for a human being to be spoken to directly by Allah, except by (the mediation of) revelation, from behind the veil, or by sending messengers (angels) and then revealing to him with His permission what He wills. Verily, He is Most High, Most Wise. (52) Thus We revealed to you (Muhammad) the *rūh* (Qur’an) by Our order. Previously, you did not know what the Book (Qur’an) was and what faith was, but We made it (the Qur’an) a light by which We guide whomever We will among Our servants. Indeed, you really guide (peoples) to the right path.

Verse 51 confirms that the limited knowledge given to humans about *al-Rūh* as explained in QS 17:85 previously gives new hope that knowledge can be obtained through revelation, control behind the veil, or the intercession of messengers. Of course, an effort must be made to locate him so that what the Almighty desires is met by the search efforts. Verse 52 emphasizes in more detail that the limited knowledge of *al-Rūh* (spirit) also describes the limitations of human knowledge about the book and faith. However, when the Qur’an is formatted in the form of light, then with that light humans are guided according to His will.

CONCLUSION

This research concludes: *First*, human intelligence is a person’s ability to cultivate intellectual, emotional, skillful, and spiritual intelligence based on wisdom to build self-relationships with God transcendently and with humans and their natural surroundings. Human intelligence is centered in the heart and emanates from the *rūh* (spirit) to be used to

advance human civilization. *Second*, the reconstruction of the taxonomy of national education objectives is directed at processing the domains of mind, feeling, body, and heart in order to realize faith, piety, and noble character as well as uphold religious values in accordance with the mandate of the 1945 Constitution of the Republic of Indonesia. Incorporating spiritual attitudes into the affection domain tends to reduce the breadth of spiritual values and leaves the domains of knowledge and skills empty because their spiritual roots are uprooted.

This research has implications for advances in artificial intelligence technology that have changed the educational paradigm so that education can be implemented anytime, anywhere, and under any conditions by utilizing multiple sources and synchronous and asynchronous learning activities. The use of ANI, AGI, and ASI must be based on ethical and spiritual values to support advancing 21st-century education. Misuse of artificial intelligence through job automation, invasion of privacy, and automation of weapons may occur. Still, it must be controlled early on, either through collective awareness of ethical-spiritual values or through the development of AI creativity that is humane, dignified, and based on spirituality.

The limitation of this research is that it only uses a literature study, so it only reaches the level of criticism and concept suggestions. Therefore, it is recommended for future researchers to conduct empirical studies on the strengths, weaknesses, threats, opportunities, and challenges of 21st-century Islamic education. Especially in Indonesian educational institutions, where the characteristics of religion and the nation's cultural values must be maintained. At the same time, it is adopting modernization as a form of progress and competition with the global world.

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REFERENCES

Adijaya, Made Aryawan, I Wayan Widian, I Agung Parwata, and I Suwela Antara. 2023. "Bloom's Taxonomy Revision-Oriented Learning Activities to Improve Procedural Capabilities and Learning Outcomes." *International Journal of Educational Methodology* 9 (1): 261–70. <https://doi.org/10.12973/ijem.9.1.261>.

- Almirzanah, Syafaatun. 2020. "God, Humanity and Nature: Cosmology in Islamic Spirituality." *HTS Theologiese Studies/Theological Studies* 76 (1). <https://doi.org/10.4102/hts.v76i1.6130>.
- Amram, Yosi Joseph. 2022. "The Intelligence of Spiritual Intelligence: Making the Case." *Religions* 13 (12): 1140. <https://doi.org/10.3390/rel13121140>.
- Arievitch, Igor M. 2020. "Reprint of: The Vision of Developmental Teaching and Learning and Bloom's Taxonomy of Educational Objectives." *Learning, Culture and Social Interaction* 27: 100473. <https://doi.org/10.1016/j.lcsi.2020.100473>.
- Artvinli, Eyüp, and Leyla Dönmez. 2020. "IQ Levels in Geography of Preschool Students Multiple Intelligence Types." *Proceedings Book*, 68.
- Baharuddin, Elmi Bin, and Zainab Binti Ismail. 2015. "7 Domains of Spiritual Intelligence from Islamic Perspective." *Procedia-Social and Behavioral Sciences* 211: 568–577. <https://doi.org/10.1016/j.sbspro.2015.11.075>.
- Benvenuto, Guido. 2023. *The Zone of Proximal Development (ZDP) in the School Education and Clinical Practice: Proceedings of the Symposium for the 9th Intercontinental Convention of Psychology Hominis 2023*. Roma: Edizioni Nuova Cultura.
- Boeck, Paul De, Laurence Robert Gore, Trinidad González, and Ernesto San Martín. 2020. "An Alternative View on the Measurement of Intelligence and Its History." In *Cambridge Handbook of Intelligence*. Sternberg, RJ (Ed). 2nd Ed.; UK: Cambridge University Press. <https://doi.org/10.1017/9781108770422.005>.
- Brundage, Miles, Shahar Avin, Jack Clark, Helen Toner, Peter Eckersley, Ben Garfinkel, Allan Dafoe, et al. 2018. "The Malicious Use of Artificial Intelligence: Forecasting, Prevention, and Mitigation." <https://doi.org/10.48550/arXiv.1802.07228>.
- Burga, Muhammad Alqadri. 2019. "Hakikat Manusia Sebagai Makhluk Pedagogik." *Al-Musannif* 1 (1): 19–32. <https://doi.org/10.56324/al-musannif.v1i1.16>.
- Chandio, Muhammad Tufail, Nishat Zafar, and Ghulam Muhiuddin Solangi. 2021. "Bloom's Taxonomy: Reforming Pedagogy through Assessment." *Journal of Education and Educational Development* 8 (1): 109–140. <http://dx.doi.org/10.22555/joeed.v8i1.308>.
- Combs, Tabitha S, Noreen C McDonald, and William Leimenstoll. 2023. "Evolution in Local Traffic Impact Assessment Practices." *Journal of Planning Education and Research* 43 (4): 815–828. <https://doi.org/10.1177/0739456X20908928>.
- Conklin, Wendy. 2011. *Higher-Order Thinking Skills to Develop 21st Century Learners*. California: Teacher Created Materials.
- Dalkiran, Oguzhan, Fatma Eryigit, and Soner Sivri. 2020. "Comparison of the Effects of Constructivist Learning on Cognitive, Affective and Psychomotor Fields Applied in Physical Education Courses." *African Educational Research Journal* 8: 327–334. <https://eric.ed.gov/?id=EJ1274604>.
- Deary, Ian J. 2020. *Intelligence: A Very Short Introduction*. Vol. 39. USA: Oxford University Press.
- Ferrell, Betty R, and Pamela Baird. 2012. "Deriving Meaning and Faith in Caregiving." In *Seminars in Oncology Nursing*, 28:256–61. Elsevier. <https://doi.org/10.1016/j.soncn.2012.09.008>.
- Fidelis, Andréa, António Carrizo Moreira, and Andreia Vitória. 2024. "Multiple Perspectives of Spiritual Intelligence: A Systematic Literature Review." *Social Sciences & Humanities Open* 9: 100879. <https://doi.org/10.1016/j.ssaho.2024.100879>.
- Galiciolli, Maria Eduarda A, Luíza Siqueira Lima, Nayara de Souza da Costa, Diancarlos P de Andrade, Ana C Irioda, and Cláudia S Oliveira. 2022. "IQ Alteration Induced by Lead in Developed and Underdeveloped/Developing Countries: A Systematic Review and a Meta-Analysis." *Environmental Pollution* 292: 118316. <https://doi.org/10.1016/j.envpol.2021.118316>.
- Gardner, Howard. 2024. *The Essential Howard Gardner on Education*. California: Teachers College Press.

- Ghanizadeh, Afsaneh, Ali H Al-Hoorie, and Safoura Jahedizadeh. 2020. *Higher Order Thinking Skills in the Language Classroom: A Concise Guide*. Berlin: Springer.
- Hollingworth, Leta Stetter. 2022. *Children above 180 IQ Stanford-Binet: Origin and Development*. DigiCat.
- Hoque, Shahjada Syed Irfanul, Ali Azgar Chowdhury, Md Rabiul Hossen, and Dina Arjumand. 2021. "Can Tailoring Skills Be Delivered through E-Learning Platform; Perspective of the Three-Learning Domains (Cognitive, Affective and Psychomotor Domain)." *American International Journal of Education and Linguistics Research* 4 (1): 31–38. <https://doi.org/10.46545/aijeler.v4i1.290>
- Iqbal, Muhammad. 2022. "Kajian Kritis terhadap Pemikiran tentang Jiwa (al-Nafs) dalam Filsafat Islam." *Inspiratif Pendidikan* 11 (1): 165–184. <https://doi.org/10.24252/ip.v11i1.30125>
- Kharpal, Arjun. 2017. "Stephen Hawking Says A.I. Could Be 'Worst Event in the History of Our Civilization.'" *CNBC*. Accessed December, 12 2022. <https://www.cnbc.com/2017/11/06/stephen-hawking-ai-could-be-worst-event-in-civilization.html>.
- Lamiell, James T. 2012. "Introducing William Stern (1871–1938)." *History of Psychology* 15 (4): 379. <https://doi.org/10.1037/a0027439>.
- Liao, S Matthew. 2020. *Ethics of Artificial Intelligence*. UK: Oxford University Press.
- Lucci, Stephen, Danny Kopec, and Sarhan M Musa. 2022. *Artificial Intelligence in the 21st Century*. Virginia: Mercury Learning and Information.
- Mallillin, Leovigildo Lito D. 2020. "Different Domains in Learning and the Academic Performance of the Students." *Journal of Educational System* 4 (1): 1–11. <https://doi.org/10.22259/2637-5877.0401001>.
- Masitoh, Siti. 2023. "Examining the Teaching of Ki Hajar Dewantara and Its Relevance for Merdeka Belajar in the 21st Century." In *Unima International Conference on Social Sciences and Humanities (UNICSSH 2022)*, 322–30. Atlantis Press. https://doi.org/10.2991/978-2-494069-35-0_40.
- Mostufa, Shahriar, and Kisalaya Chakrabarti. 2024. "A Genre of Cognitive Evolutions Through Artificial Superintelligence and Robotics Technology." In *Brain-like Super Intelligence from Bio-Electromagnetism*, 153–187. Springer.
- Muro, Mark, Robert Maxim, and Jacob Whiton. 2019. "Automation and Artificial Intelligence: How Machines Are Affecting People and Places." Accessed January, 21 2022. <https://www.brookings.edu/articles/automation-and-artificial-intelligence-how-machines-affect-people-and-places>.
- Nagao, Katashi. 2019. "Artificial Intelligence in Education." In *Artificial Intelligence Accelerates Human Learning*, 1–17. Singapore: Springer. https://doi.org/10.1007/978-981-13-6175-3_1.
- Nurani, Yuliani. 2023. *Kurikulum Bermain Kreatif Berbasis Kecerdasan Jamak*. Jakarta: UNJ Press.
- Pambudi, Nugroho Agung, and Budi Harjanto. 2020. "Vocational Education in Indonesia: History, Development, Opportunities, and Challenges." *Children and Youth Services Review* 115: 105092. <https://doi.org/10.1016/j.childyouth.2020.105092>.
- Parisian, David. 2018. "Educating About the Heart." In *HeartMath Newsletter*. SUNY Oswego Cooperation with the HeartMath Institute. January 29, 2018.
- Peterson, Kristina C, Matthew Peterson, and Bernardo J Carducci. 2020. "Stanford-Binet Intelligence Scale." *The Wiley Encyclopedia of Personality and Individual Differences: Measurement and Assessment*, 451–455. <https://doi.org/10.1002/9781119547167.ch145>.
- Pranajaya, Syatria Adymas, Jamaluddin Idris, and Zainal Abidin. 2023. "Integration of Cognitive, Affective, and Psychomotor Domain Scoring in Islamic Religious Education." *Sinergi International Journal of Education* 1 (2): 95–108. <https://doi.org/10.61194/education.v1i2.106>.

- Priyanto, Aris, M Reza Mahdafi, and Mita Mahda Saputri. 2024. "Spiritualitas dan Kewirausahaan: Eksplorasi Peran Praktik Tasawuf dalam Kesuksesan Usaha." *Substantia: Jurnal Ilmu-Ilmu Ushuluddin* 26 (1): 90–103. <http://dx.doi.org/10.22373/substantia.v26i1.21897>.
- Rindermann, Heiner, and A Laura Ackermann. 2021. "Piagetian Tasks and Psychometric Intelligence: Different or Similar Constructs?" *Psychological Reports* 124 (6): 2795–2821. <https://doi.org/10.1177/0033294120965876>.
- Ruslan, Ruslan, Muhammad A Burga, and Muli U Noer. 2022. "Theological Belief towards Islamic Spiritual Belief: Evidence from South Sulawesi, Indonesia." *HTS Teologiese Studies/Theological Studies* 78 (4): 6. <https://doi.org/10.4102/hts.v78i4.8009>.
- Ryff, Carol D. 2021. "Spirituality and Well-Being: Theory, Science, and the Nature Connection." *Religions* 12 (11): 914. <https://doi.org/10.3390/rel12110914>.
- Shamman, Ali H, Ahmed A Hadi, Ali R Ramul, Musaddak M Abdul Zahra, and Hassan M Gheni. 2023. "The Artificial Intelligence (AI) Role for Tackling against COVID-19 Pandemic." *Materials Today: Proceedings* 80: 3663–3667. <https://doi.org/10.1016/j.matpr.2021.07.357>.
- Tinungki, Georgina Maria. 2019. "Zone Proximal Development Gives a New Meaning To the Students' Intelligence in Statistical Method Lesson." *Journal of Honai Math* 2 (2): 129–42. <https://doi.org/10.30862/jhm.v2i2.69>.
- Wass, Val. 2018. "Educating the Mind without Educating the Heart Is No Education at All." *Education for Primary Care* 29 (2). <https://doi.org/10.1080/14739879.2018.1439307>.
- Widiyanto, Sigit, and Budi Purnomo. 2023. "Freedom to Learn in Ki Hajar Dewantara's Perspective: Historical Studies and Their Relevance to Character Education." *International Journal of Business, Law, and Education* 4 (2): 837–844. <https://doi.org/10.56442/ijble.v4i2.185>.
- Wijayanti, Dwi. 2018. "Character Education Designed by Ki Hadjar Dewantara." *Jurnal Pendidikan Dasar* 10 (2): 85–91. <https://doi.org/10.17509/eh.v10i2.10865>.
- Yaumi, Muhammad, and N Ibrahim. 2013. *Pembelajaran Berbasis Kecerdasan Jamak*. Jakarta: Kencana.
- Yaumi, Muhammad, Sitti Fatimah Sangkala Sirate, and Andi Anto Patak. 2018. "Investigating Multiple Intelligence-Based Instructions Approach on Performance Improvement of Indonesian Elementary Madrasah Teachers." *SAGE Open* 8 (4). <https://doi.org/10.1177/2158244018809216>.
- Yeoh, Sepideh. 2022. "Heart-Led Behaviors of Exemplary Unified School District Superintendents." Dissertations, California: University of Massachusetts Global. https://digitalcommons.umassglobal.edu/edd_dissertations/436.
- Young, Michael, and Jim Hordern. 2022. "Does the Vocational Curriculum Have a Future?" *Journal of Vocational Education & Training* 74 (1): 68–88. <https://doi.org/10.1080/13636820.2020.1833078>.
- Zhao, Jian, Mengqing Wu, Liyun Zhou, Xuezhu Wang, and Jian Jia. 2022. "Cognitive Psychology-Based Artificial Intelligence Review." *Frontiers in Neuroscience* 16: 1024316. <https://doi.org/10.3389/fnins.2022.1024316>.
- Zulfatmi, Zulfatmi. 2020. "Al-Nafs dalam Al-Qur'an (Analisis Terma Al-Nafs sebagai Dimensi Psikis Manusia)." *Jurnal Mudarrisuna: Media Kajian Pendidikan Agama Islam* 10 (2): 192–208. <http://dx.doi.org/10.22373/jm.v10i2.7838>.