The insertion of anti-corruption education into Islamic education learning based on neuroscience

Suyadi[1], Zalik Nuryana[2], Anom Wahyu Asmorojati[3]
[1,2]Faculty of Islamic Studies, Universitas Ahmad Dahlan, Indonesia
[2]School of Education Science, Nanjing Normal University, China
[3]Faculty of Law, Universitas Ahmad Dahlan, Indonesia

Article Info

ABSTRACT

This research aimed to analyze the insertion of anti-corruption education in Islamic education. In the context of anti-corruption education, especially students in tertiary institutions, corrupt practices are manifested in the form of corrupt behavior, such as plagiarism, cheating, truancy, and hitchhiking in group assignments, even though they do not contribute. Anti-corruption education in Islamic education has so far used a dogmatic approach, not using an approach that has a transformative impact, especially neuroscience. In this case, Universitas Ahmad Dahlan, with lecturers who have special competence as anti-corruption trainers, has carried out anti-corruption education in various scientific fields, including Islamic education. This phenomenological type of qualitative research involved 52 students and six lecturers in the master study program of Islamic education. The results showed that anti-corruption education was carried out through insertion into all relevant subjects, especially the neuroscience of Islamic education. The lecturer investigates students' corrupt behavior in anticipation of future corruption crimes. The investigation results show that the most corrupt behavior of students is plagiarism, taking names in group assignments, and leaving absences with friends. The insertion of anti-corruption education with a neuroscience approach is applied in building integrity awareness that corrupt behavior is contrary to how the brain works and even has the potential to destroy reason.

Corresponding Author:

Suyadi
Faculty of Islamic Studies
Universitas Ahmad Dahlan
Yogyakarta, Indonesia
Email: suyadi@fai.uad.ac.id

1. INTRODUCTION

All religions, including Islam, strictly forbid corruption [1], but in many cases of corruption committed by Muslims, even two religious ministers in Indonesia were jailed for corruption [2]. Indonesian Corruption Watch (ICW) reported that the ministry of religion that should be the holiest ministry instead ranked second as the most corrupt ministry among 22 other ministries [3]. Islamic education tends to develop the values of religiosity but has not yet developed the values of integrity [4]. The most popular method of learning in Islamic education is by example, but many exemplary figures of Islam are currently involved in corruption cases. Evaluation of learning in Islamic education only assesses the cognitive aspects of the Quran memorization but does not reach broad affective domains including corruptive behavior. Moral violations still occur widely in society, but there has not arguably been sufficient to address these. Islamic education,

therefore, is expected to deal with this ironic situation. The school curriculum has not specifically included anti-corruption values in its teaching even though corruption, as Fatih said is the mother of crime [5]. Research on corruption so far has used more legal, political and economic approaches [6]–[9]. Little, if any, religious approaches, such as Islamic approach has been used. As a result we have seen several studies on anti-corruption education which are more integrated into relevant subject, such as Pancasila Education (civic) [10], and not Islamic education. In fact, Wijaya has mentioned that corruption cannot be separated from the religious dimension and anti-corruption from religious approach is needed [11]. Greene and Cohen also believes that the study of anti-corruption education requires new approaches that are more transformative, like neuroscience [12]. Thus, the formulation of the problem in this study is how is the model of anti-corruption education insertion in the Islamic education with a neuroscience approach carried out?

The purpose of this study is to complement what have been achieved by the previous studies. As mentioned earlier, the approach used to teach anti-corruption values is only limited to integrating such values into certain subjects such as Pancasila Education. The present study, therefore, endeavors to integrate anti-corruption teaching into Islamic education. In addition, this research approach complements the previous approach, mainly concentrating on legal, political, and economic approaches by introducing anti-corruption teaching from the theological approach. This study also added a new approach as recommended by Mourão, namely neuroscience [13]. Thus, this research aims to find a model of insertion of anti-corruption education in Islamic religious learning based on neuroscience.

Islamic religious learning materials are related to the reality of corruption cases. The dimensions of Islamic spirituality (faith, devotion, and honesty) are analyzed from the neuroscience perspective and how corruptive behavior can be prevented empirically. This research is based on the argument that the insertion of anti-corruption education has become a solution to the weaknesses that the current anti-corruption education models. For example, the current model of developing an Islamic education curriculum [3] by providing anti-corruption education courses that are independent and separated from others is perceived to only add to the students' burden and eventually lose its significance [14]. The insertion model enables anti-corruption education to be integrated into all courses implicitly as a moral message. Thus, learning in any form will contribute to the prevention of corruption. The neuroscience approach allows the insertion model of anti-corruption education opportunities to be able to arouse rational and spiritual awareness. On this basis, anti-corruptive behavior does not separate from religious dogma but rather becomes deep spiritual awareness.

So far, studies on anti-corruption education tend to investigate anti-corruption from two points of view. First, the study of anti-corruption education in Islam. This study generally takes the form of a literature review on anti-corruption education [15] and analysis of the text of the Al-Qur'an about the content of anti-corruption values [16]. Second, research have also tried to provide anti-corruption education models [17]. There are two developing models, namely integration and autonomy. Integration combines anti-corruption education with relevant subjects whereas the autonomy model is the implementation of anti-corruption education courses independent and separated from other courses [10]. However, both models are considered ineffective because they are still normative and theoretical so that they do not have transformative effects. This study complements the types of previous studies and offers new models and approaches, namely the insertion of anti-corruption education in Islamic religious learning based on neuroscience. The insertion model in this study is different from the integration and autonomy models. Insertion places more emphasis on inserting and internalizing anti-corruption values through learning activities in a certain subject. The neuroscience approach is a continuation of research that have been proven effective in developing more rational and scientific Islamic education [18]. Without neuroscience, Islamic education tends to be normative and dogmatic, making it difficult to solve social problems, including corruption. Therefore, neuroscience in this study is used as an approach to internalize anti-corruption values through Islamic religious learning.

Valdovinos-Hernandez states that normatively, no religion allows corruption [1], and Islam forbids corruption too. Islami also includes anti-corruption values in the Quran and the teaching of this value can be found in Surah Al-Imran verse 161; Surah Al-Anfal verse 27, and Surah Al-Kahf verse 79. Theoretically, the field of study in Islamic sciences which specifically studies corruption is *fiqh jinayah*, which includes the discussion around *al-rishwah* (bribes), *mukabarah* and *ghasab* (extortion), *saraqa* (theft), *intikhab* (seizing), *aklu Shft* (consuming something from illegitimate source) *al-suht*, *al-ghûl* (cheating), *khiyanat* (abuse of authority), and illegal levies [19], [20]. In addition, Islam also teaches anti-corruption values, such as honesty, trustworthiness, and justice [21] and even jihad against corruption [16]. Thus, there is no doubt that Islam condemns corruption. Ideologically, religious, social organizations such as Muhammadiyah have issued anti-corruption in a *tarjih* verdict entitled anti-corruption jurisprudence. In this jurisprudence, Muhammadiyah views that corruption is a great sin whose punishment is not only in the world but also in the hereafter. In fact, those who were punished were not only the perpetrators but family members (children and wives) of the perpetrators for enjoying the results of corruption. This anti-corruption *fiqh* perspective from Muhammadiyah scholars can guide anti-corruption education in Islamic schools in Indonesia.

Previous research found that neuroscience is becoming a new trend in anti-corruption studies [22]. Therefore, anti-corruption education must be aligned with the characteristics of the workings of each component of the brain. Thus, the main task of the teacher/lecturer is to design anti-corruption learning strategies based on the workings of the brain. Research in neuroscience shows there are six components of the brain that work together to form a spiritual circuit which then regulates behavior and character, including anti-corruption characters. The six components of the brain are the prefrontal cortex, limbic system, basal ganglia, gingras cingulatus, temporal lobe, and cerebellum [23]. The six components of the brain must be examined both anatomically and physiologically [24], [25]. Based on the physiological characteristics of the six brain components, an anti-corruption education learning can be designed to optimize the potential of the six brain components. Based on the previous literature review, previous studies have not analyzed anti-corruption education in Islamic religious learning with a comprehensive and integrative neuroscience approach. While *tarjih* assembly only examines anti-corruption education in Islam, a study examine corruption in a neuroscience perspective [26]. A comprehensive study of anti-corruption education in Islamic religious learning with a neuroscience approach has never been done; thus, the research was conducted.

2. RESEARCH METHOD

This was qualitative research employed phenomenology approach [27] arguing that this study aimed to conduct a phenomenological analysis of the insertion of neuroscience-based anti-corruption education in Islamic higher education institution. The setting of this study is the Master of Islamic Education Study Program of Universitas Ahmad Dahlan, Yogyakarta, Indonesia. This research setting was chosen for two reasons: i) This study program has several lecturers who are specialized in anti-corruption teaching; ii) This study program has conducted an anti-corruption education insertion in the Islamic Education Neuroscience course [28]. This insertion was carried out by a lecturer who is primarily specialized in anti-corruption education. Therefore, research on the insertion of anti-corruption education in Islamic tertiary institutions is very appropriate to be carried out in this setting. The source of data in this study is the process of teaching and learning in Islamic Education neuroscience courses that have been inserted with anti-corruption values. In addition, the data is also gathered from the lecturers who teach in this program. One of the lecturers is a counselor and anti-corruption assessor of the Corruption Eradication Commission of the Republic of Indonesia. Other research subjects are six lecturers with doctoral degrees and 14 master students.

Data collection techniques were done by observation and in-depth interview. Observations were conducted from June 2019 to January 2020 by observing participants' involvement in designing and conducting behavioral interventions for anti-corruption teaching. Interviews about Islamic education and corruption cases were conducted to all informants using the focus group discussion (FGD). Interpretative phenomenological analysis was employed to analyze the data [29]. Data validation is conducted using expert judgment from a neuroscience expert in Islamic education and a national task force on tackling corruption.

The data analysis method contained six stages. The first stage is reading and re-reading. It involved in repeated reading to familiarize with the data and did critical review of the learning materials and modules designed by the lecturers and references listed in semester lecture plans. The next stage, the researchers did initial noting, reviewing the content of each sub-chapter learning material for each meeting, including face-to-face and online meetings. In the next part, the researchers develop the emergent themes. These are the themes generated from the discussion, both through class discussions and special tasks. Subsequently, the researchers searched for connections across those themes (i.e., looking for relationships between study material in the fields of Islamic education, neuroscience, and anti-corruption). This step is carried out directly through in-depth investigative interviews, both to lecturers and students. Then, switching from one casuistic sub-discussion to another sub-discussion of cases but still within the scope of Islamic education neuroscience with anti-corruption content. Finally, the researchers look for patterns across cases and between one sub-case discussion to another, to find a model of insertion of neuroscience-based anti-corruption education.

3. RESULTS AND DISCUSSION

The Master of Islamic Education Study Program inserted an anti-corruption education into the neuroscience Islamic Education course. This insertion has had a significant impact on the behavioral changes of the research participants. All informants demonstrated a change in attitude which adhered to anti-corruption values and was supported by spiritual awareness. Based on the results of investigative interviews, it is found three forms of changes in anti-corruptive attitudes and behavior because of the insertion: i) the possibility of corruptive behavior in the Islamic colleges; ii) corruptive but religious mind; and iii) anti-corruption Islamic education as brain education.

3.1. The possibility of corruptive behavior in the Islamic college

One important informant in this research was the lecturer who oversaw the Islamic Education Neurosciences course. In addition to working as a lecturer, he was also an anti-corruption counselor from the Corruption Eradication Commission of the Republic of Indonesia. He had specialized competence and scientific authority required in the anti-corruption field. According to him, there are three potential corruptive behaviors in Islamic Colleges, namely: plagiarism, faking attendance, and name-taking in group assignments:

> *"Students in Islamic colleges, even though they are at the master's level, their corrupt behavior does not change. For example, the result of the similarity check of their paper assignment is in the range of 40 to 80%. Even worse, many students are hitching names on the assignment that they plagiarized. This shows that they copy and paste more than writing with their original ideas. There are even students who are still absent. He did not go to college, but his friend forged his signature in the presence column. In this case, when students hear the call to prayer, they do not immediately rush to pray. This kind of student can arguably be said to have corrupt behavior in religion. This kind of student is very prone to corruptive behavior in the future, especially when they become a public official."*

All other informants admitted the previous statement. The high results of plagiarism checks evidence this on their paper writing assignments which reached 81.7%. Ironically, in the group assignment of three to five students, only one or two students who fully contributed to the assignment. The assignment they made contains a severe plagiarism. The other students in the group contributes zero to the assignment. Why do students who work on group assignments allow another group member with zero contribution to hitchhike? It was found that on another occasion, students with zero contribution will repay their friends' effort with false attendance. As such, they commit a conspiracy of intellectual crimes. This is evidenced by the recognition of a student, NH in the following investigative interview:

> *"I rarely go to college. To be eligible for the exam, I asked my friend to do false attendance on my name. But in exchange, I did some of the group work by myself. However, I just took everything from google and just copy and paste. I don't know if there is Turnitin now that can detect plagiarism, so all of this plagiarism can be easily detected."*

Based on the NH statement, it can be concluded that the entire academic community has committed corrupt behaviors, especially plagiarism, absenteeism, and name-taking on group assignments. Table 1 shows a recapitulation of the student's corruptive behavior. Table 1 shows that there are five students that did not attend classes, but the attendance list was signed by others under their name. In addition, all the remaining students had put their names on group assignments that they contributed nothing to. In short, some students do not contribute to group assignments but have their names written as if they take part in completing the assignment. The phenomenon of corrupt behavior observed in this study is arguably still lighter than the corrupt behavior of lecturers and students in Nigeria and Ukraine [30]. In those two countries, it is not uncommon for students to bribe their lecturer for a better grade, to praise their lecturer excessively, and to have illegitimate practices in exams [31].

Table 1. Corruptive behavior in Islamic college

No	Initial*	Corruptive behavior		
		Plagiarism	False attendance	Name-taking on a group work
1	NH	70.1%	-	1
2	HZ	40.6%	1	1
3	AH	32.7%	-	1
4	IK	22.8%	1	2
5	SN	11.6%	1	1
6	KY	60.3%	-	1
7	MZ	81.7%	-	1
8	JM	12.8%	-	2
9	FR	30.4%	1	2
10	JK	25.3%	-	1
11	TS	7.5%	-	2
12	SN	27.9%	1	2
13	MZ	44.8%	-	1
14	YK	41.6%	-	1

*Name with initials

The corrupt behavior shown in Table 1 also in line with the study of Starovoytova and Namango, which reveals that 65-70% of engineering students admit that cheating is a common practice. They also admit openly that they always use Google to cheat on their assignments [32]. This research is also relevant to the findings of Schmidt, Huber, and Leontyeva which reveal that students in Russian universities often use information and technology to do plagiarism [33]. They will keep hiding this practice as long as it is not recognized [34]. Thus, the phenomenon of plagiarism or cheating occurs in Indonesian Islamic tertiary institutions and in reputable universities worldwide such as in Nigeria, Russia, and Ukraine. In a more in-depth analysis, Barfort, *et al.* state that in Denmark, a country with the highest index of corruption perception or the least corrupted country, it is found that there's a significant relationship between the level of honesty of students and corruption [35]. The result confirms Banerjee, Baul, and Rosenblat in India which reveals that students who often cheat tend to choose public sector jobs which is closely related to corruption [36]. Conversely, more honest students avoid jobs in the corrupt related public sector. The research in India is also found in Azerbaijan, where students who often bribes their teachers during their study, tend to do bribery after they become state officials [37]. Based on the results of the study, Hanna and Wang further claim that students who often cheat are prospective corruptors in the future [38]. Thus, corrupt behavior in universities has become a global phenomenon in many universities in the world and becomes a real threat for future development.

Ahenkora explained that plagiarism behavior while still student indicated that they would become a corruptor when serving to the country [39]. Therefore, the denial of corruptive behavior of the nation's generation should be carried out as long as they are educated, from elementary school to higher education [31]. Kuswati recommends the importance of anti-corruption literacy in schools [40]. Thus, this preventative behavior is an effective strategy to build anti-corruption character. From a neuroscience perspective, corruption prevention strategies through education are an effort to educate the brain to be normal and healthy.

3.2. Religious but corruptive

All informants feel unfamiliar with neuroscience, a new field of study within Islamic education. This is because neuroscience has only been studied in the faculty of medicine [24], and not in the faculty of education, or even Islamic education. Therefore, the informants are all very curious, and asking why neuroscience needs to be studied in Islamic education faculties and why neuroscience is associated with corruption. They hope that neuroscience can help to explain what happens to the brains of religious leaders when committing criminal acts like corruption. HZ, an informant said:

> "It is the first time for me to hear neuroscience. This science is very complicated but challenging to learn. I became curious when the lecturer delivers this course, and I wondered what happened with the brain of people who are religious but commit corruption?"

HZ's curiosity can be explained from four approaches, namely Islamization of science [41], Islamic science [42], integration-interconnection [43] and hybridization of Islamic education and neuroscience [44]. Of the four approaches, hybridization is highly relevant for answering informants' questions. The hybridization of Islamic education and neuroscience is a cross-disciplinary integration between two different scientific varieties so that they result in a new type of science called "Islamic education neuroscience" [44]. Thus, the insertion of anti-corruption teaching in the neuroscience course of Islamic education is a hybridization of Islamic education and neuroscience to prevent corruption. AH also stated the same thing as:

> "So far, I have often heard of neuroscience, but it is more popular as the brain. However, the brain that I have known so far is brain gymnastics, right-left hemisphere, right-brain activation, and other similar terms. It turns out that this course is completely different in this subject!"

The AH statement differs from the research results in the field of fundamental neuroscience which has developed rapidly including cognitive neuroscience, educational neuroscience, to the synergy of art and neuroscience. The difference in perception is that AH only knows information about the study of the brain from popular sources whose truth is difficult to justify, not from the research results in the field of neuroscience. In this context, SY states that:

> "People with low education background do not commit corruption in Indonesia and nor is it committed by those who know nothing about religious values. It is committed by intelligent and educated people and even by people with Islamic education background. It can be said that the corruptors' brain is normal but is not healthy."

SY statement is taken from the results of Pasiak's research on spiritual neuroscience [45]. According to him, the corruptors' brain is only normal, anatomically complete, but not physiologically healthy. In another study, Zohar and Marshal use neuroscience to predict the future of American children and adolescents who have corrupt behavior but not punished. The study investigates explicitly whether the participants will become better in the future and whether they will still have that corruptive behavior. The research is intended to provide another option for American courts freeing children and adolescents who carry out legal violations [46]. In this case, neuroscience can predict a person's behavior based on how the brain works and suggests that they will become corruptors in the future and, therefore, be punished. Thus, children and adolescents who have corrupt behavior are on their way to prison.

In the field of corruption prevention in education, SY statement is a continuation of previous study on integrating anti-corruption education in Islamic learning based on neuroscience at the level of primary and secondary education [17]. On this basis, SY wanted to initiate a similar study at the higher level, including the postgraduate level. SY statement is also relevant to the progress of neuroscience in the 21st century, which began to attract many experts who want to use this field of study as scientific partners to solve increasingly complex social problems. For example, Walsh used neuroscience to prove whether a child who is raised under poor parenting will become a criminal or criminologist in the future [47]. Thus, neuroscience is a scientific approach to research in corruption prevention in education that can predict the future.

3.3. Anti-corruption in Islamic education as the brain education

Anti-corruption education is about value and character building, but not all values can be associated with anti-corruption values [26]. The Corruption Eradication Commission limits nine character values closely related to anti-corruption education, namely honesty, caring, fairness, independence, responsibility, hard work, modesty, and bravery [48]. As such, these nine values need to be taught in anti-corruption Islamic education. Pasiak states that character education is essentially brain education [45]. This is because human behavior is fully regulated in the brain, including both noble and disgraceful behavior. All informants acknowledged that neuroscience is a new approach in character-building education, especially religious character education. The informants know character education as being normative, textual, and conventional which includes such approaches as habituation, exemplary, and memorization of the holy verses of the Quran. Character education is only oriented to the formation of individual and social piety, not to constitutional piety or anti-corruption piety. In this case, SY states that:

> *"The essence of Islamic education is the optimization of all human potential, including changing behavior or character from the bad to the good one. All human potential is centered on the brain. The only science that studies the brain is neuroscience. Therefore, Islamic education teachers must study neuroscience to develop the Islamic character of students so that it impacts on the resolution on how we can address social problems, especially corruption."*

SY statement is different from studies of character education in Islam that has been developing so far. The studies are literature reviews in the form of an analysis of the Quranic verses [49]–[52]. Many other character education studies have examined patterns of refraction in Islamic boarding schools, but forced refraction cannot be referred to as "education" [53], [54]. Therefore, neuroscience offers a new approach, namely character education as brain education [45].

Pasiak mentions six components of the brain that regulate characters, including anti-corruption characters, namely: prefrontal cortex, limbic system, cingulatus gyrus, basal ganglia, temporal lobe, and cerebellum [23]. The six components of the brain do not work separately but are interrelated to form a network of circuits that instruct human to do or not do something. The task of Islamic education is to design engineered anti-corruption learning strategies in accordance with the workings of the brain. Table 2 is a six-component brain and its characteristics along with anti-corruption learning engineering. Table 2 explains that the engineered anti-corruption learning strategies in Islamic education is based on neuroscience and is described from the workings of the six components of the brain. It has never done in previous studies, so the development in Table 2 offers a novelty in the field of Islamic anti-corruption education [55]. Figure 1 illustrates the insertion model of anti-corruption education into neuroscience of Islamic education course.

Figure 1 is a model of the insertion of anti-corruption education in Islamic learning, specifically the Neuroscience of Islamic education course. The insertion developed three themes: the potential for corrupt behavior in Islamic Religious Colleges, the corrupt but religious brain, and anti-corruption Islamic education as brain education. First, the potential for corruptive behavior in Islamic higher education. As previously stated, that the ministry of religion in Indonesia is the second most corrupt ministry [56]. In fact, this ministry manages Islamic higher education throughout Indonesia [4]. Therefore, the potential for corruptive behavior in Islamic higher education is greater than that of higher education managed by ministries outside of religion.

The findings of this study also support these data, that corruptive behavior (plagiarism) in Islamic higher education environments tends to be high. It is very appropriate if the insertion of anti-corruption education is carried out on Islamic education. Second, the way corrupted brains work is just normal but unhealthy. Previous researches stated that corrupt brains are only normal but unhealthy [23], [55]. This is because corruptors do things contrary to their common sense. Therefore, only neuroscience approaches can build awareness to prevent corruptive behavior. The study of Islamic education should be oriented to the health of the brain so that corruptive behavior can be minimized.

The third, Islamic education of anti-corruption brain education. anti-corruption education is basically character education that is specifically oriented to the prevention of corruptive behavior. If in neuroscience it is explained that there are six areas of the brain that regulate behavior or character, then anti-corruption character education is healthy brain education itself. Neuroscience is a basic science that can be used as a perspective in the analysis of various issues of contemporary Islamic education today [20].

Table 2. Design of anti-corruption learning strategies within neuroscience-based Islamic education

| Brain component	The characteristic of the component	Engineered anti-corruption learning strategies
Prefrontal cortex	Critical-analytical thinking, planning for the future and decision making	Learning strategy that conditions students to ask more questions about anti-corruption according to bloom's taxonomy at depth C4-6 (evaluation, analysis, and creation) rather than answering.
Limbic system	Mood control, motivation, attitude, sleep/eating, attachment, smell, and libido	Learning that conditions students to develop positive emotional sensitivity in responding to phenomenon of corruptive behavior.
Basal ganglia	Feelings of calm, conflict avoidance, movement control, pleasure mediation.	Learning that uses a stress management/coping approach, so it is more challenging to challenge courage against corruption than to make it difficult to prevent corruption.
Cingulatus gyrus	Flexibility, cognitive, teamwork, choice, error detection.	Learning that exposes students to the choices of moral dilemmas, especially those related to corruption cases.
Temporal lobe	Memory, language, hearing, reading social traces, experience, spiritual, recognition.	Learning that exposes students to the phenomenon of corrupt behavior in religion by promoting dialogue, negotiation, and consolidation.
Cerebellum	Motion, speed, integration control.	Learning that has a peak theme in the form of anti-corruption "action plans".
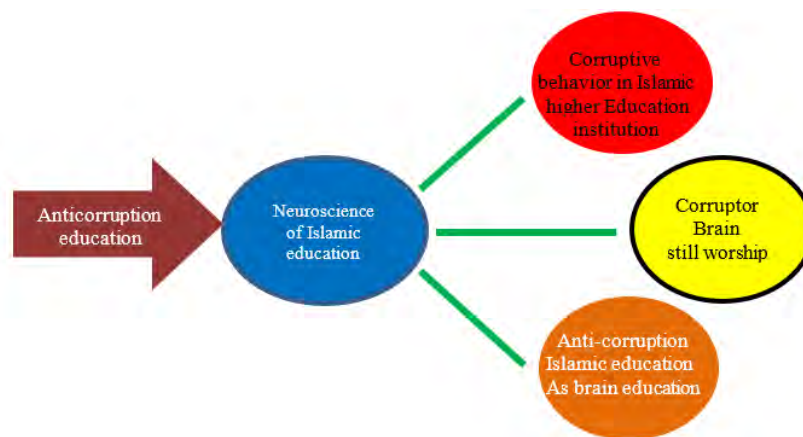
Figure 1. The insertion model of anti-corruption education in Islamic learning

4. CONCLUSION

The model of insertion of anti-corruption education into Islamic religious learning is seen as more effective than the previously available models because the workings of this model can permeate all fields of science without reducing the scientific substance itself. If the insertion of anti-corruption education is carried out in all fields of science, such as in Islamic neuroscience, it will help build a more robust anti-corruption character in students. Thus, whomever the people are and wherever they are working has had anti-corruption values embedded within their minds. The neuroscience approach can shape the character of anti-corruption in students' minds or brains rationally and empirically, no longer normative, dogmatic, and theological as happened before. Anti-corruption behavior becomes a spiritual awareness manifested in daily life and no longer just a religious dogma and legal dictums that are normative but often violated. This model requires special anti-corruption competencies for educators (teachers/lecturers). They need to have anti-corruption competencies to insert anti-corruption values in all fields of science to have a transformative impact.

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