

## INTEGRATING *UNITY OF SCIENCE* CONCEPT IN EFL CLASS OF TERTIARY EDUCATION

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**Abstract:** Science, to some extent, is often dichotomized with religion. The concept of unity of science sees science and religion as one unit. This concept confirms that all sciences are from God. As the result, there must be a kind of dialogue between science and religious values. The objective of this study was to describe the characters integrated and the practices to integrate the characters in EFL class through unity of science concept. It was designed qualitatively using questionnaire documentation, observation, and Focus Group Discussion for collecting data. The data were accessed from 25 lecturers of English. The integration of unity of science in EFL class were based on the topic of each meeting, e.g. *Introduction: Making friends with good people, The importance of knowing each other* and *Talking about Past Events : Learning from experience*, and it was also done through conditioning students to dress and to behave based on Islamic rules, opening and closing lecture by praying, referring to Qur'anic verses and prophetic tradition, employing moderate and absolute integration. The integration of unity of science concept was found to be essential to produce knowledgeable graduates with good characters.

**Key words:** unity of science concept, Islamic values, EFL class, characters

### INTRODUCTION

Addressing characters is demanded in teaching learning process. This is due to the role of lecturer as an educator besides as a knowledge transferer. Nevertheless, knowledge is often prioritized more than characters. Consequently, education only produces knowledgeable people without good characters. To realize the goal, knowledge transfer needs to be integrated with social and religious values. Unity of science views the unity of knowledge and religious-social values.

The concept of unity of science is aimed at giving spiritual touch to science by putting substantive Islamic values as parts of the course contents or integrating them in the teaching learning process. The dichotomy of science and moral spiritual values has provoked the idea of uniting Islamic values and science. Integrating Islamic

values in EFL class is a part of the effort in addressing characters.

The purpose of the integration is to make students aware of the importance of Islamic values and civilizations which later makes them knowledgeable and behave based on the rules of Islam without leaving the characters of the materials being the focus of attention. This study was aimed at describing the characters integrated and the practices to integrate the characters in EFL class through unity of science concept.

This study used a descriptive approach which was conducted at 25 EFL classes of UIN Walisongo, Indonesia. The data were taken through questionnaire, observation, document analysis, and Focus Group Discussion from 25 lecturers of English I focussing on listening and speaking, English II dealing with reading, and English III concerning with writing. The participants were chosen since they are

subjected to implement unit of science concept in their EFL classes

Questionnaire was the main technique of data collection of this study. It was arranged in the open-ended questions. This questionnaire was used to get information about the EFL lecturers' knowledge of the unity of sciences concept, the extent of the implementation of the concept of unity of sciences in EFL class along with the barriers of the implementation. Document analysis was aimed at getting information about the implementation of unity of sciences concept in teaching learning process through the lecturers' documents of syllabi and course plans. Observation was conducted to verify the data collected from the questionnaire and documentation. The classes observed were those which were identified from the focus group discussion having more varied activities and the least activity in implementing unity of sciences concept. Focus Group Discussion was carried out to access more comprehensive information on the implementation of unity of sciences concept which might not be gained through questionnaire, document, and observation. The data resulted in the focus group discussion completed the data from the former techniques.

### **UNITY OF SCIENCE: CONCEPT AND METHOD OF INTEGRATION**

Unity of science sees science is sourced from God. It brings its followers to know, to close to God, and ultimately to be good people. The implementation of unity of science suggests that science which students learn in their learning process, must meet 3 requirements (Anwar 2013, 12-13). The requirements are:

1. Making students know more about their God;
2. Being beneficial for human survival and nature conservation;
3. Developing new sciences based on local culture.

Meanwhile, Plato in the *Sophist*, 257c mentions, "Knowledge is surely one, but each part of it that commands a certain field is marked off and given a special name proper to itself. Hence language recognizes many arts and many forms of knowledge" (*The Unity of Science*, 2014). What is said by Plato is true in terms of the organization of knowledge. But his statement does not clarify the unity of sciences which is the unity of truth and religion.

Dealing with the concept of unity of science, in logical expressions 'Abdu'l-Baha affirmed:

If religious beliefs and opinions are found contrary to the standards of science, they are mere superstitions and imaginations; for the antithesis of knowledge is ignorance, and the child of ignorance is superstition. Unquestionably there must be agreement between true religion and science. If a question be found contrary to reason, faith and belief in it are impossible, and there is no outcome but wavering and vacillation.

... man's intelligence and reasoning powers are a gift from God: "This gift giveth man the power to discern the truth in all things, leadeth him to that which is right, and helpeth him to discover the secrets of creation." Science results from our systematic use of these God-given powers. The truths of science are thus discovered truths. The truths of prophetic religion are revealed truths, i.e., truths which God has shown to us without our having to discover them for ourselves. Bahá'ís consider that it is the same unique God who is both the Author of revelation and the Creator of the reality which science investigates, and hence there can be no contradiction between the two.

It is obvious that truth is one. As it is one, consequently it is not possible for something to be scientifically false and religiously true. What is stated to be true in religion must be true to fact or science. The function of religion is obviously the arranger of the fact.

Unity of science recommends the integration of social and religious

values. Relating to the integration, Octaberlina (2014) suggests two concepts of the integration of Islam and science, i.e. inventing and justifying. The former represents the real invention of science in any field which has relation with Qur'anic statements. Such medieval scholars in medical as Ibnu Sina and Al Farabi had reflected Qur'anic verses to bear new thoughts in medical field. There have, in fact, been some verses in Qur'an from which their thoughts source. We see their thought as invention, not justification. Meanwhile, the later justifies that theories or inventions done by western scholars have been mentioned in the Holy Qur'an. The examples of the justification deals with the invention of computer, tape worm, and iron.

In conducting EFL teaching learning process, it is demanded to implement Islamic education. It is an education system which begins from and reflects Islamic civilization, not only refers to study on English as a foreign language. Islamic civilization is exposed -through its history- giving information about the achievement and the invention of Islamic people from age to age. Integrating this knowledge in English language teaching, may boost students' motivation of learning in order to do the 'same things' in science development as their previous predecessors.

Regarding the methods of integration of Islam and science, Octaberlina (2014) confirms that they may be integrated through two ways; absolute and moderate integration. In absolute integration all teaching materials are about Islam. Knowledge of all subjects is used to learn Islamic values and civilization. For example, in learning about telling experience, students are only allowed to tell their experiences dealing with Islamic way of life, e.g.: experience of going *hajj*/performing pilgrimage, fasting, slaughtering day, etc. Moderate integration suggests specified materials

for each subject or field of study. For example, English for chemistry students must be about chemistry which are linked to the global development of science. Islamic values and civilization are only integrated through the methods of teaching.

## **THE INTEGRATION OF UNITY OF SCIENCE CONCEPT IN EFL LEARNING**

### **The Characters Integrated**

The integration of character education in EFL class is a part of habit formation. The characters addressed in EFL Class of UIN Walisongo were in line with the topic being the focus of attention in every meeting. Supposed that the topic was divorce, the class would have a small discussion on divorce in Islamic perspective, before or after the presentation and the confirmation from the lecturer. Their discussion might be linked to the rules of divorce (Al Baqarah 227-237, 241), the ban of being dispersed (Ali Imron 103-105). When talking about like and dislike, students were reminded that things they dislike may be good for them or vice versa (Al Baqarah 216).

The target of the discussion was to gain students' awareness of the importance of mutual respect, which became the addressed character. As the meeting was controlled by time limit, usually the lecturer used task-based learning by asking the students to search for the Islamic sources on divorce before they attend the class.

*Table 1* shows the examples of integrated characters in English I, II, and III. Each of the characters were commonly linked with Qur'anic verses. The examples of the linkages are listed in *Table 2*.

Just like the examples above, all topics can be traced their links with Qur'anic verse. Regardless the accuracy of the linkage all lectures need to have good understanding about Qur'anic interpretation, so that referring Qur'anic verses as a part of learning activity will not be misleading. For that

purpose, Center for Language Development –the department of the university which is responsible for managing EFL class- is recommended to carry out such a professional development as training on Islamic sources understanding and

discussed learning contract comprising codes for students during joining the class within one semester. One of items of the contract was dress code. The examples of the code was: students are not allowed to wear tight, transparent, or glamour clothes.

Besides, lecturers opened and closed

Table 1: *List of Topics of the English Classes and the Integrated Characters*

Class	Topics	Integrated Characters
English I	Introduction	gregarious, respect
	Job	self reliance, dilligence, responsible
	Likes and Dislikes	love, respect, careful in making choices
	Physical Appearance	respect, faithful
English II	Price	economical, careful in making choice
	Ethnocentrism	The danger of ethnocentrism
	Navajo and Sand	Appreciating our own creation, products
	Painting	
	Antartica	The benefits of different parts of universe
English III	Motor Vehicle: The Pros and Cons	Saving energy, minimizing pollution, conserving the earth
	Divorce	Appreciating others
	Paragraphing	The importantce of setting all things in order, live in order
English III	Description of a Person	Appreciating others' physical appearance, thanking God creating our perfect body
	A Recount Text	The importantce of learning from experience
	A Procedure Text	Doing anything on the rule
	Cause and Effect	The awareness of cause and effect
		The awareness of anticipating problem

interpretation for EFL lecturers.

### **The Practices to Integrate Character Education**

Based on the data from observation, questionnaire, and Focus Group Discussion, the implementation of the concept was done through the following activities:

*Conditioning students to dress and to behave based on Islamic rules*

At the beginning of semester, lecturers commonly informed syllabus as the guideline of teaching learning process within one semester and

their class by praying, paired or grouped students with the same sex when they engaged in cooperative learning, forbode students to smoke in or around campus and other public areas.

*Referring to Qur'anic verses and prophetic tradition*

Table 3 shows us the examples of Qur'anic verses may be refered when the lecturers integrate certain topics in English I. Besides linking a certain topic with a certain Qur'anic verse, the form of integration might be done through the following ways:

1. linking some topics with such Islamic messages as fiqh (Islamic jurisprudence), akhlak (the practice of virtue, etc. For example when a class discuss Like and Dislike the

The third strategy of integrating unity of science concept in EFL class was represented in the teaching learning process of English II. Some topics might follow absolute integration,

Table 2: List of Topics of English 1 and Qur'anic Verses

Topics	Qur'anic Verses
Introduction	Making friends with good good people not with heathen (Al Mumtahanah 7-9)
Job	The importance of knowing each other (Al Hujurat 13)
Likes and Dislikes	Command to work (At Taubah 105, Fushilat 5) Those we dislike may be good for us or vise versa (Al Baqarah 216)
Physical Appearance	Allah smartens human body (Al Mukmin 64, At Taghabun 3, Al Infithar 7-8, At Tiin 4) Human body is specified since he is in the womb (Ali Imran 6)
Price	Don't fall for the worldly life (Luqman 33, Faatir 5)

teacher may refer to Al Baqarah 216 which teaches those we dislike may be good for us or vise versa, when they talk about Physical Appearance, the teacher reminds students to learn from Al Mukmin 64, At Taghabun 3, Al Infithar 7-8, At Tiin 4 which confirm that Allah smartens human body.

since the texts were about Islamic teaching and the they were recommended to be delivered based on Islamic norms. In addition, the knowledge of the subject might be considered to be used to learn Islamic values and civilization. Regarding those features, it may be concluded that those texts followed absolute integration.

Table 3: Topics and their Qur'anic References

Topics	Qur'anic Verses
Likes and Dislikes	Those we dislike may be good for us or vise versa (Al Baqarah 216)
Physical Appearance	Allah smartens human body (Al Mukmin 64, At Taghabun 3, Al Infithar 7-8, At Tiin 4) Human body is specified since he is in the womb (Ali Imran 6)

2. showing the correlation between the materials being taught with concepts in al-Qur'an and other sciences
3. linking the development of knowledge in western countries with Islamic countries
4. elaborating texts on Islam.

*Employing moderate and absolute integration through cultural compare and contrast*

Regarding types of implementation, English I and English III used moderate implementation. The materials were specific on language and language use. They were delivered integratedly with Islamic values and civilization. Nevertheless the materials had not be linked to the global development of science.

Meanwhile, six out of fourteen texts in English II might follow absolute integration, since the texts were about

Islamic teaching and they were recommended to be delivered based on Islamic norms. In addition, the knowledge of the subject may be considered to be used to learn Islamic values and civilization (see Octaberlina, 2014). Whereas the rest of eight texts might be conveyed through moderate integration. The texts were not about Islamic values and civilization, but they were subjected to be linked with the Islamic values and civilization. They also needed to be delivered based on Islamic norms.

language (Rojab, Dian, & Muniroh 2012, 3)

2. Comparing the cultural patterns of the native language to those of the target language particularly concepts and structures.

The lecturers started by highlighting the culture of the target language, then going on with discussion and informing basic values, beliefs, thought patterns, and social action in the view of Islam and local culture.

Bennet suggests that the cultural

Table 4: *List of topics of English II and III and Types of Integration*

Class	Topics	Type of Integration
English I	Introduction	Moderate
	Job	Moderate
	Likes and Dislikes	Moderate
	Physical Appearance	Moderate
	Price	Moderate
English II	Culture in Islam	Absolute
	Divine Tax	Absolute
	Islamic Education	Absolute
	Method of Dakwah	Absolute
	Basic Concept and Rules of Islamic Banking	Absolute
English III	Paragraphing	Moderate
	Description of a Person	Moderate
	A Recount Text	Moderate
	A Procedure Text	Moderate
	Cause and Effect	Moderate

The example of topics of English II and English III and their types of integration is provided in *Table 4*.

In the point of stages of learning, the implementation had met the rules of integrating cultures in EFL class which include the steps as follow:

1. Informing students about how their native language is related to basic values, beliefs, thought patterns, and social action in their own cultures (Bennet, 1997, 20). Exposure to the basic values, beliefs, thought patterns, and social action of their own cultures may also be done first, before going to the target

integration in EFL class also needs to be followed by appropriate assessment. As far as the researcher concerns, the assessment still focused on cognitive and psychomotoric aspects. In fact affective assessment becomes urgent in this matter. Bennet (1997, 20) says, "Assess achievement not just in terms of grammar and vocabulary but also pragmatic dimensions." Assessing pragmatic dimensions means assessing language use not only based on the target language culture but also the native culture of the learners.

Dealing with the implementation of unity of sciences concept, affective assessment is considered as important

as cognitive and psychomotoric assessment since the implementation ends up with the production of graduates with good professionalism and good characters. This is in line with the components of good character from Lickona in Abidin (2012, 54). The components are:

1. Moral knowing: moral awareness, knowing moral values, perspective taking, moral reasoning, decision making, self knowledge
2. Moral feeling: conscience, empathy, loving the good, self control, humility
3. Moral action: competence, will, habit.

The components above also suggests stages of character education, from moral knowing, moral feeling, and moral action. Through those three stages it is expected that a teaching learning process may support students' characters and knowledge.

Rojab, Dian, & Muniroh (2012, 3) suggest the importance of the following activities in the cultural integration:

1. Providing more authentic materials involving target cultural and social elements
2. Giving lectures or having discussion on culturally-related linguistic aspects
3. Using pictures, maps, realia, posters, etc. to help students develop a mental image
4. Comparing and contrasting home and target cultures
5. Role playing, where students can learn the difference of attitudes/values of different characters associated with the culture
6. Designing a project where students can have an exchange with people from different culture.

All the six activities have been executed. The last one was implemented in the form of project-based or task-based learning by instructing students to search for the link of some issues with qur'anic verses

and prophetic tradition. For example, before talking about job students were assigned to search for Qur'anic verses and prophetic tradition related to job as the focus of learning.

One point needs to be pondered in the implementation of unity of sciences in EFL class of UIN Walisongo is the absence of affective assessment in wider scope. Aspects of affective assessment used so far are only attendance and activeness. Regarding this fact, further guidance of affective assessment in EFL class need to be prepared.

## CONCLUSION

Addressing characters in EFL Class through unity of science concept was done by integrating Islamic values from Al Qur'an and prophetic tradition. Moderate integration through cultural compare and contrast and absolute integration are employed. The integrations are recommended to create religious scientists with meaningful existence within their community.

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