วารสารหาดใหญ่วิชาการ

สารบัญ

แนวคิดการศึกษาของไอน์สไตน์ผ่านการอ่าน "ว่าด้วยการศึกษา"

"On Education": Reading Einstein's Ideas about Education

ฮากิม สุดินปรีดา[1*], ฐิติพงศ์ เกตุอมร[1], และ ปิยะดา จิงวังสะ[1]

Hakim Sudinpreeda[1*], Thitiphong Ketamon[1], and Piyada Jingwangsa[1]

Abstract

As Einstein's ideas are suffused with deep insights and intuitions with lofty aspirations and ideals, simply reading his text "On Education" may reflect the readers' personal biases and lack of understanding confirmation. The review of available works of literature has paved the way for the occurrence of the applied method of the study to make available confirmation before grasping idea components and allowed fruition of these following revealed ideas: 1) Einstein is certain that his ideas about education expressed as a speech given to the 300th university celebration occasion are reliable and convincing as that of those educational experts in the past; 2) Youth's spirit can and should be instructed; 3) Motivating students should be done with care as it holds double sides of a sword; 4) The training of the mind is rather more important than that of language or science; and 5) General knowledge, not specialized fields, should be emphasized more. Also, such a result brings to light the applicability of the applied method from reading other difficult texts to the teaching of reading courses and evaluating readers' understanding from the reading.

[1]สาขาภาษาอังกฤษ วิทยาลัยนานาชาติดิษยะศริน มหาวิทยาลัยหาดใหญ่ ต.คอหงส์ อ.หาดใหญ่ จ. สงขลา 90110

[1]English Department, Didyasarin International College, Hatyai University, Kor-Hong Sub-district, Hatyai District, Songkhla Province 90110

[*]ผู้ให้การติดต่อ (Corresponding e-mail: hakim_s@hu.ac.th)

บทคัดย่อ

การอ่านบทความของไอน์สไตน์เรื่อง "On Education" ซึ่งเป็นบทความที่เจ้าของแนวคิด มีความเข้าใจและการหยั่งรู้ที่ลึกซึ้ง รวมทั้งความปรารถนาดีและอุดมการณ์อันสูงส่ง หากอ่านแบบ ผิวเผินอาจจะก่อให้เกิดการมีอคติส่วนตัวของผู้อ่านเองและการเข้าใจที่ไม่สามารถรับรองได้ การวิจัย ครั้งนี้ มีวัตถุประสงค์เพื่อแสดงความเข้าใจของผู้อ่านในการอ่านบทความดังกล่าวของไอน์สไตน์ โดยใช้วิธีวิจัยการอ่านข้อความเชิงวิเคราะห์ ผ่านการประยุกต์ใช้ทูลมินโมเดลและทฤษฎีการอ่านของ เคอร์แลนด์ ผลการวิจัยพบว่า บทความเรื่อง "On Education" สามารถสรุปองค์ประกอบของ แนวคิดด้านการศึกษาของไอน์สไตน์ ได้ดังนี้ 1) ไอน์สไตน์มั่นใจว่าแนวคิดของเขาเกี่ยวกับการศึกษา ที่แสดงเป็นคำพูดในงานเฉลิมฉลองมหาวิทยาลัย ครั้งที่ 300 นั้น มีความน่าเชื่อถือเช่นเดียวกับ แนวคิดของผู้เชี่ยวชาญด้านการศึกษาในอดีต 2) คนรุ่นใหม่ควรได้รับการอบรมด้านจิตใจ 3) การ กระตุ้นผู้เรียนควรดำเนินการไปพร้อมกับการดูแลเอาใจใส่ 4) การฝึกอบรมด้านจิตใจมีความสำคัญ มากกว่าการฝึกอบรมด้านภาษาและวิทยาศาสตร์ และ 5) ควรให้ความสำคัญกับองค์ความรู้ทั่วไป มากกว่าองค์ความรู้เฉพาะ ซึ่งผลการวิจัยครั้งนี้ สามารถสะท้อนให้เห็นถึงการนำเทคนิคการแสดง ความเข้าใจในการอ่านไปประยุกต์ใช้ในการอ่านบทความทางวาทศิลป์อื่น ไปจนถึงการสอนรายวิชา การอ่าน ตลอดจนการประเมินความเข้าใจของผู้อ่านคนอื่นได้ด้วย

คำสำคัญ: *ทูลมินโมเดล การอ่านเชิงวิจารณญาณ ทฤษฎีการอ่านของเคอร์แลนด์ ไอน์สไตน์ แนวคิดการศึกษา*

Introduction

What are Einstein's ideas about education in "On Education"? It was raised up during a class discussion organized a reading course scheduled in the previous semester. Tough and challenging it was, as we had to deal with the text; in which, we were not to simply browse available statements regarding the term 'education' itself and write the summary, we further had to make sure that we had already understood the text, or at least could be able to make sense what the entire text is about.

Like any other texts written by many great educators who have given serious attention and dedicated their contribution to the educational field, founding our culture, initiating trends and making significant advances in the field, it holds similar characters as that of those texts: length, forms, difficulties, accessibilities, and availability. They are always included in restrictions of the task, conditionally. Apart from that, such works and ideas are suffused with deep insights and intuitions, with lofty aspirations and ideals, and sufficiently powerful to bring about effective outcomes (Baskin, 1966).

Once one simply decides to answer the question by browsing without care of understanding the text, it will reflect his/her own personal biases and limitations towards which.

A key matter of the course's objectives, besides the accomplishment of the discussion, was an agreement that there should have had a broad basis for criticism activity on the text. In fact, we were always noticed that the limitation of class hours, availability, and access did not allow the class to have a complete understanding of all Einstein's ideas about the education available in the text come to fruition. This was a reason for our decision to analytically read the text with a condition that prior to answering the question, at least one should have presented the ways to get into the process of understanding the text.

Objectives

The main research question: *What are Einstein's ideas about education in "On Education"?* was no longer entertaining. In fact, it is serious as we were to read the text under the assumption that it is not possible to grasp Einstein's ideas about education without making sure that we have already understood the text. So to speak, it is in need to present how we as readers make sure that we can make sense about the text, prior to getting the ideas. We in this sense should "explore new territory", "recognize the structure", "wrestle with any difficult passages", and "enter into a dialogue" of the text (Crusius & Channell, 2016, pp. 13-20). In another sense, taking that to grasp Einstein's ideas was the purpose of the study, we were required to figure out a method of understanding the text. It refers to "data collection, selection, and interpretation" of the study (Hegelund & Kock, 2003).

Review of Literature

No any study conducted by previous researchers regarding the study of "Einstein's On Education" was possibly perceived and available to be authorized as the source of information applicable for determining the method of the study (Hegelund & Kock, 2003) except that which was done by Denis Hayes (2007) entitled "What Einstein can teach us about education". Hayes's discussion of Einstein's ideas lays down on close analytically reading of several articles and books and 'rebuilding' a connection of the components (resulted from the analytical reading) to the construction of the ideas/views he sees fit to that of Einstein. Under the chain of argument, the paper is likely to advocate teachers in England to consider Einstein's ideas of education instead of that are promoted under the prescribed national policy from the U.K. government at that time.

It is under uncertainty in order to take Haye's paper to authorize the method of this study as no statement mentioned exactly how the data collection, selection, and interpretation were taken place. Additionally, such a method of close analytical reading used is applicable for several articles and books, which is in contrast to the aim of this study, analytically reading only one article entitled "On Education". However, such a technique of discussion and construction of Einstein's ideas about education along with connecting several components resulted from the reading is with exception: it can be partial to the entire method applied for the study.

Crusius and Channell (2016) suggests a method for reading any argumentative text critically as a view of "a critic" by analyzing "how the text is put together and evaluating to decide how well it achieves its aim and advances a position that merits respect". They have cited experts' views that the readers' roles of being critical are to: 1) hold some prior knowledge of the subject matter as a reader's familiarity with the text's background helps make him approach the argument, filling in the gaps, and recognizing the assumptions and biases easier, 2) be able to see piece of writing as "rhetorical", 3) determine the meaning of unfamiliar words, 4) read between the lines, and 5) recognize implied ideas and assumptions.

According to them, prior to critically reading any text "at least three times" with a different purpose in each of which, readers are to recall their prior knowledge about the text and consider the rhetorical context within the text. The main purpose of recalling prior knowledge is to build readers' familiarity with a variety of ideas about a particular issue already known to them, by asking such questions like: *To what extent have I known about the topic?; When was this text written?; Why was it written?; What prompted its creation?; What do I know about the author?; When does the text appear?; and For whom the author is writing?* On the other hand, that of considering the rhetorical context is to see the text's aim of affecting the readers rhetorically, filling in an understanding of its rhetorical context and revising some expectations based on prior knowledge (pp. 11-13).

The first reading should be for exploring "new territory" by simply reading straight through from the beginning or scanning the text, looking for "the opening and closing paragraphs" or at major headings and the first sentences of paragraphs. This stage is able to help readers find "explicit statements of the author's thesis and additional clues" and construct "the rhetorical context". Making marks in the text and "marginal notes" whenever whatever "thoughts occur" to readers are worth practicing (p.13).

The second reading should be for recognizing by 1) analyzing the structure of the argument and 2) wrestling with any difficult passages. To analyze the structure,

readers themselves are to recognize four different parts of the arrangements: Introduction of background, Providing views, Offering to reason, and Rebutting the views. These parts are "infinite" and not formulaic with thesis and reasons "in predetermined places". Readers in this step are to carefully look to reveal the structure of the text, breaking into parts. It is easy for readers when it is "tightly crafted" with "well-defined segments". However, difficult is when the text seems "informal and loosely structured" with "less readily discernable divisions" but in fact, it is "well-crafted". In fact, Crusius and Channell, (2016) suggests readers should "closely analyze" as it will reveal some "fault lines" indicating "specific divisions", showing "the roles played by the various chunks" consisted in a paragraph or more, drawing "lines between the paragraphs" (when detecting dividing points), and describing the function of each part, in order to understand the text. The discussion of an essay entitled Making the Mosaic (by Anna Quindlen) reveals that the analysis of the structure is resulted based on an attempt to find out that how the author's plan or arrangements are presented through the components of the text (sentences and paragraphs). A key technique of doing such so is proposed that readers should notice arguments "crafted" in the text. Several suggestions for readers are as follows:

1. Noting the thesis of the argument(s) and picking out or marking the main reasons supporting the thesis: Readers are to note the thesis and reasons supporting it. In case it does not appear "explicitly", paraphrasing in the "margin" is advised.

2. Considering the evidence offered: This is to answer such a question like how well the evidence supports the reason(s).

3. Looking for the key terms the author defines, analogies being compared, contradictions of the evidence.

4. Identifying the assumptions.

5. Looking for any opposing views.

6. Thinking about the personal response (to the text) (pp. 15-17&20).

In order to wrestle with any difficult (or "less accessible") passages, readers themselves are to classify factors that make the difficult passages. According to Crusius and Channell (2016) they can be classified into four: *Metaphors, Unusual syntax, Multiple voices*, and *Allusions* (pp. 17-19). It is suggested that paraphrasing (putting or restating complex ideas of the passages into the reader's own words) can increase reading comprehension and confidence. Restating a passage (of a sentence (s), paragraph (s), or the whole text) in readers' own words, paraphrasing is to explain "ideas" (especially a complex one) to readers themselves, presented through writing with "a sense of owning the ideas rather than simply borrowing it", involving "more than keeping the original word order" or "plugging in synonyms", "not echoing the

original thoughtlessly", likely "not to be a slave to the original". In this case, writing in a form paraphrasing would occur only when readers read until they "have a firm grasp of an idea" as if they (ideas) have "become part" of readers' "own store of knowledge". Useful skills for readers working with paraphrasing are:

1. Working with the whole ideas: No matter how long the statements are (regardless of the length), readers can paraphrase as soon as they "have a firm grasp of an idea". In this sense, they may read a sentence or more, a paragraph or more, or the entire text, before paraphrasing of the idea is taken place. Readers are to read the passage, before one paraphrasing, until they "think" that they "understand it" or a "part" of it.

2. Making the passage "more accessible": Readers are free to make their paraphrase versions "longer than the original" is, to "rebuild" a "complex sentence into several simple ones" of their own, and to rearrange the order of ideas.

3. Consulting a dictionary: In case of finding unfamiliarity of words, readers should not be "straining" to find substitutes for words that are essential to the meaning of the passage (pp.245-249).

The third reading is to analyze the structure of the text (as a whole). In this step, Crusius and Channell (2016) suggests raising several questions regarding the writer's claim or evidence along with entering into the writer's dialogue and using the text itself as the writer's responses, imaginatively (p. 20). The application of Toulmin's model, "a more systematic technique", helps readers specify the claim and evidence, allowing readers to logically analyze and examine the text (p. 23). Resulted from the demonstration, the use of the model with a piece of written text shows that it is able to lead readers for analyses of the author's claim, reasons to support the claim, evidences to support the reasons, and refutations (pp. 26-30) and a summary of the analyses (p.31).
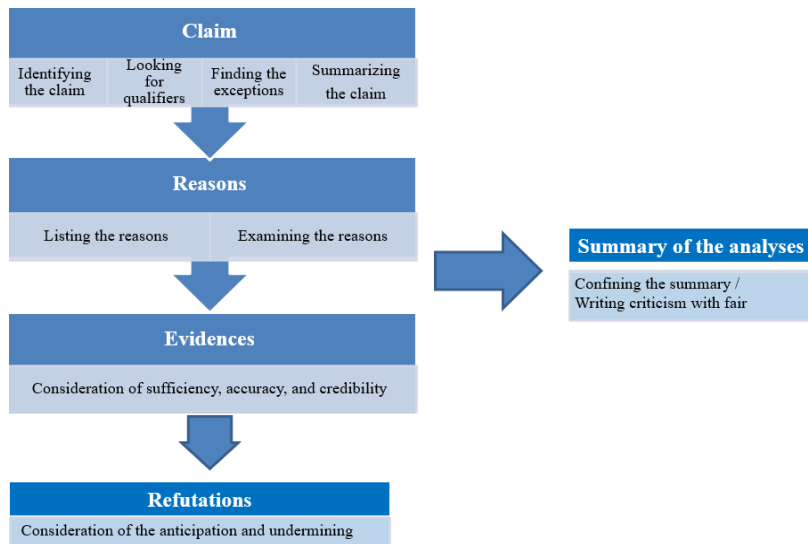
Figure 1 Analyses and a summary of the analyses resulted after the application of the model

As "no method can guarantee that everyone using it will assess an argument the same way" as "uniform results", such proposed techniques including that of the application of the model is with no exception. Therefore, readers can feel free about which as long as they "step back and examine an argument carefully, to detect how it is structured, to assess the cogency and power of its logic"- the key objective of analysis (Crusius & Channell, 2016, p.36).

Kurland (2000) distinguishes non-critical readers and critical readers into such the extent that their purpose of reading is different. While non-critical readers are to consume facts about certain things, critical readers are to "recognize" in various ways how that text "portrays" things uniquely, and to "appreciate" the author's ways of presentation ("of a particular perspective on the events and a particular selection of facts" that can make readers to particularly understand). Unlike that to critical readers, the text to non-critical readers is for providing certain facts: they are just simply memorizing the statements within the text, and are satisfied with recognizing *what a text says* and restating the key remarks. The text to critical readers is to provide a representation of how the author shows or describes ("take one") things or the subject matter. The representation of any text is 'portrayed' based on the author's unique skill of creation. Different 'unique' authors have different unique skills of presentations; therefore, critical readers who are to read different texts must hold skills in order to "recognize" the presentation in "various ways". They go two steps further than non-critical readers do. Apart from recognizing what a text says, critical readers reflect on

what a text does, and 'infer' what the text means as a whole, based on the earlier analysis?

Readers' different characters of reading are dependent on "the nature of the text" (what kind of text it is?) and the readers' goals of reading itself. When they are to "assume a factual presentation", they read whatever for, "a text says". (This is a practice of non-critical readers). In doing so, readers are to raise a question which is about the topic of the text itself like: *How did the New Zealand army (the topic) prevent its soldiers from contracting the venereal disease during World War I?* and read-only to see what the essay says. When they are to "assume personal bias", they read by "looking deeper" to "interpret underlying meanings and perspectives". (This is a practice of critical-readers). In so doing, critical readers are to raise a question concerning the text itself (not simply a topic) like *What issues does the text discuss?* and read for seeing *what the essay does*, and that question like: *What concerns underlie the essay's analysis of history?*, and read for seeing *what the essay means*. In short, critical reading is to read for understanding, which is directly related to the author's expectation of discussing it. In order to achieve the goal, readers must do text interpretation, which can be done by taking three steps reflected from reading and discussion (of the text) called "modes of analysis".

Kurland (2000) proposes three ways of reading and discussing texts (or analyzing or respond to the texts) resulted from different kinds of understanding of reading.

1. Restatement: It refers to the restatement, talking about the same topic as the original text does. Readers in this step are to ask a question like *what does the text say?*

2. Description: It refers to the description, discussing aspects of the discussion itself. Readers in this step are to ask a question like *what does the text do?* (to offer examples, to argue, to appeal for sympathy, to make a contrast to clarify a point). These are considered that of *text analysis*.

3. Interpretation: It refers to interpretation, analyzing the text, and asserting a meaning for the text as a whole. Readers in this step are to ask a question like *what does the text mean?* This can be classified as that of text *inferencing*.

For instance: "Your doctor tells you to eat less chocolate and drink less beer". What the text says: "The doctor said I should eat less chocolate and drink less beer". What the text does: "The text (representing the doctor's saying) advised me to change my diet."

What the text (the doctor's saying) means: "The doctor warned me to reduce my calories for the sake of my health." / "I have been consuming too many calories." / "I am becoming unhealthy" (Kurland, 2000).

Methodology

In order to explore Einstein's ideas about education as resulted from the reading of "On Education", we conducted our method of close analytical reading mainly with the application of Toulmin's model (Crusius & Channell, 2016) and that of Kurland (2000), which can be figured out into 2 following main stages:

Stage 1: Understanding the text

The key objective of the step is to confirm our understanding (making sense) of the text. Through which, firstly we recalled our prior knowledge about the text, and considered its rhetorical context with consequences of paraphrasing and discussing the whole text. Recognizing (by drawing) the structure of the argument in the text as a whole has resulted after the application of Toulmin's model.

Stage 2: Grasping ideas about education

We built a connection of several components to the construction of the ideas/ views fit to that of Einstein regarding education. It is simply to search for to what extent does Einstein say about education? / Based on what criteria that would be found in the text considered as "education"?

Results and Discussion

1. Recalling prior knowledge about Einstein's "On Education"

Scientifically, hearing about the name Einstein, a large number of people usually think of the man with talents who contributed his complex scientific theories and mathematical equation for the calculation of space and times, accepted as one of the greatest scientific minds with few people possessing such a genius to be compared with the world has ever known. On the other hand, the great man also has something to teach us in the field of education which was not formally emerged until he earned a place in history, getting awarded the Noble Prize. The accolade was a turning point to his life as he then later drifted out of the scientific community and kept himself tiring with social reform which is believed as it is a major cause for the emergence of his several ideas regarding social reform and of course education (Hayes, 2007).

Besides, there is a compilation of his ideas in a book entitled "*Ideas and Opinions by Albert Einstein*" (1954) published by Crown Publishers. Inc. In the compilation, the anthologist attempts to gather together in one volume about the most important of Albert Einstein's general writings from three major collections: *The World as I see it* (1934), *Out of My Later Years* (1950), and *Mein Weltbild* (1953). The book, as a representative of Einstein's collections of articles, speeches, statements, and letters, is divided into five main parts with different issues subtly concerned. The "About Education" is a subtle issue of the first part: "*Ideas and Opinions*" in which,

there are eight different topics.

Among the topics, *On Education,* as a part of his speech given to the occasion of 300th anniversary celebration of higher university in the US, on 15th October, 1931 whose audiences were mostly 'active human beings' (educators), is considered the longest written work, containing 5 pages (pp. 59-63) within 19 paragraphs in total.

2. Rhetorical context of the text

Paraphrasing and discussing the whole text led to figuring out the structure of the argument of the text as a whole through the application of Toulmin's Model which can be revealed as follows:
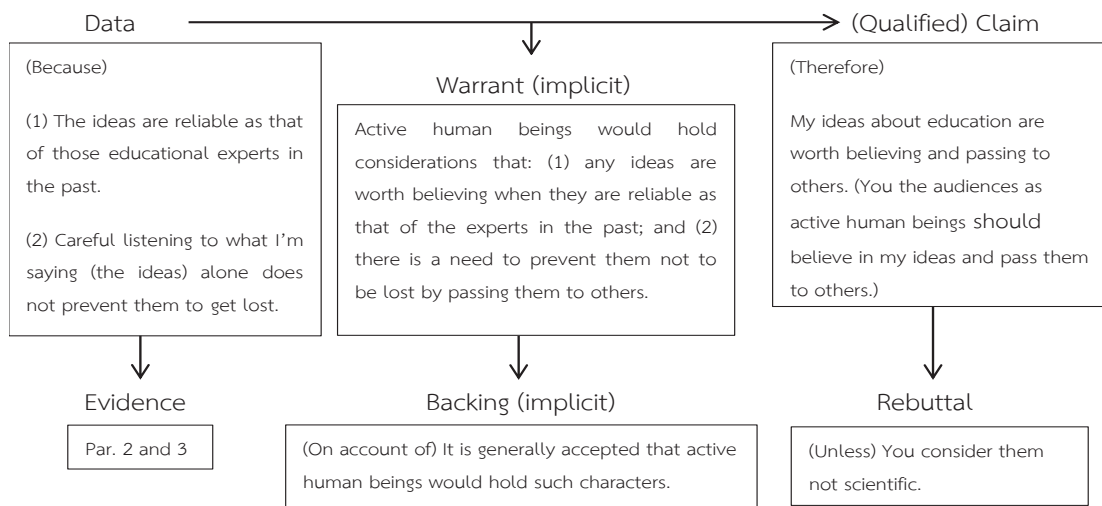

Figure 2 The argument scheme of the entire text with the application of Toulmin's model

Data: Einstein seems to have said that: *Though I (Einstein) am a "partial layman in the realm of pedagogy" ("educational matters"), my "attempt" holds its "authority" on "personal experience" as that of those "intelligent and well-meaning men of all times" who hold their views about education on what they "have dealt with"*. From this paraphrased version, we can understand that Einstein's would further say that: *Since you consider their views are reliable and worth passing to others, so are mine* (Par. 2). The second reason to back up his claim is revealed with his saying seems to have said that: *You (the audiences) should "probably" not only "be tempted to silence" (carefully listening), but also pass my ideas to others like what I am doing now (speaking in public/ offering "hands of service" / "continually" renewing the "marble" (scientific knowledge) / paying the "ceaseless efforts"). This is because my speech is like a marble "continually threatened with burial by the shifting sands". As*

the speech is in need of being expressed and passed to others, the marble is now waiting for some people to make it shining in the sun. The ones who help uncover the marble and make it shining are like the ones who listen to my ideas carefully and pass them to others. Surely, these are people who offer their "hands of service" at work. Those who only listen (even though with care) are not considered as the ones who complete the tasks as that having "knowledge of truth alone does not suffice" and in risk to have it "lost" (to get the knowledge not passed / to get the covered marble un-shinning) (Par.2&3).

Rebuttal: Etienne's rebuttal is tricky to the extent that readers might easily consider that his claim is weak. On the other hand, should we consider a characteristic of all scientific knowledge, we would come to conclude that all of them hold their authority on the personal experience of the scientists. So how comes that Einstein's views on education are not scientific as they are derived from his own experience?

3. Einstein's ideas of education

Einstein's ideas are classified into 3 different areas: Instruction of the youth's spirit, subjects for the instruction, and teaching methodology.

3.1 Instruction of the spirit of the youths

To him, the youth's (students') spirit can and should be instructed. The followings are his suggestions for instructing the spirit of the youth.

3.1.1 School and its role

According to him, school is an important tool to transfer the cultural tradition of the community; school is also a tool to determine the society's 'health'. Either a particular society is healthy or unhealthy is dependent on school. School these days holds an important position in education rather than it used to be in the past. Educationally, in the past, such a tradition could be transferred by families. That happened due to no such impact of economic development. On the other hand, now (that time) family can no longer be the tool as it has been affected by the gradual development of economic life. Therefore, the role of the family in transferring cultural tradition is replaced by that of school, unavoidably.

The school holding a role to transfer cultural tradition is not simply as a tool to transfer whatever maximum knowledge quantitatively from the older generations to the younger. This idea is backed up with his assumption that knowledge is dead. When knowledge is dead, the school would be no longer required. In fact, school is to serve the living. To transfer, the term used by Einstein means to 'develop' in students the valuable qualities and capabilities to the requirements of society.

Einstein suggests, in order to develop such qualities and capabilities, students should be trained for freely acting and thinking that their service paid for the

community is their highest concern. It refers to training students to freely act and think about offering service to a community. However, Einstein warns that to train students to think that their service to the community is the highest concern is not to train them to be a mere 'tool' to the society (standardizing them to lack of originality like what happens with an ant and a bee). Any community which develops their students to be a mere tool of society is a poor community. According to Einstein, if we were to achieve the school's role practically, we should look at English schools of his time as the schools to him are the role model for the training.

Ideal training for achieving the goals can be done by (1) practicing and (2) motivating students. According to Einstein, activities for getting students' actual performance are practical. In fact, it should not be done through mere instruction by word of mouth. Such a practice of moralizing or serving them by lips should be neglected as it holds "empty sound" and can get the ideal to become worse. He suggests practical activities like (1) writing schools' academic essays (as if it is a university's doctoral thesis), (2) merely memorizing a poem, (3) interpreting and translating a text, (5) solving mathematic problems, as well as (6) practicing physical sports are considered as "the most important method in education" and of course are more powerful than the words of mouth.

3.1.2 Motivation

Motivation considered as "the greatest and most important value to education" and as a psychological foundation, is a key factor of every achievement. Meaning that without motivation, the 'ideal' training (to train students to freely act and be community service-minded) cannot be achieved. Motivation can be nourished and strengthened. The factors which are influential for such things are: (1) the administration of the school, and (2) the attitude of the teachers. Whether or not students are motivated depends on the schools and teachers. Einstein suggests students' motivation is observable. Either students are motivated or not can be noticed from that if they can accomplish the assigned tasks. So to speak, if the assigned task is accomplished by an individual student, that he or she is motivated. On the other hand, he argues that the students' accomplishment of the assigned tasks results from other factors, which are led to the occurrence of various types of motivation. It is to say that the classification of students' motivation is various. To this claim, a student who can have the assigned tasks accomplished is not merely considered as appropriately motivated as his or her motivation is driven by: (1) fear and compulsion / fear of hurt, (2) ambitious desire for authority and distinction / egoistic passion, and (3) desire for pleasure and satisfaction / or loving interest in the object and a desire for truth and understanding/ divine curiosity.

Fear and compulsion/fear of hurt is the worst motivation, as their emphasis is on motivating students by a cause of fear, through force and artificial authority. Teachers who use this kind of motivation are none but those who are pretending themselves to be powerful over students as submissive objects. A negative impact of this motivation is that it 'destroys' students' self-expression of personal views, sincerity, and self-confidence, causing the students to be passive. That time, several schools practiced motivating students by a cause of fear for instance works of literature the schools in Germany and Russia, the countries under military control. These schools were unlike that of democratic countries like the USA and Switzerland.

In order to prevent this kind of motivation, he suggests lowering the teacher's power of coercing (forcing/pressuring) as much as possible. Instead of merely submitting, students offer respect to teachers due to their being human and intellects, they deserve.

An ambitious desire for authority and distinction is a kind of motivation forcing an individual at aim and desire to be recognized, considered, seen, appreciated, and loved by others. It is a natural mental stimulus of being human. Without which, binding together individuals into society is incapable. However, holding an ambition can possibly bring a society into a state of injury. To this means, ambition itself holds double blades of a sword: *constructive* and *destructive*. Schools and teachers are to pay careful consideration for building an individual's ambition.

Ambition as a constructive force: refers to the ambition held by the students of being *merely* recognized and approval. An example of this is that to motivate students (to be successful in life) in such a similar way their success is for benefiting society as a whole. According to him, a truly successful man, who is merely recognized and approval, is him who receives a great deal from people, usually resulted from his service given to society. Therefore, the value of him is rather valued from what he gives to society than what he receives from which.

Ambition as a destructive force: is the force which creates in students a feeling of competition among human themselves, just to be acknowledged as being better, stronger, and more intelligent than others. It is a kind of force that creates an "egoistic passion" in students and can simply occur due to teachers' training students to be competitive. To him, training students to be competitive among each other is a destructive force. Often those teachers who admire training students to be competitive with each other back up their claim with Charles Darwin's theory. According to these teachers, nothing is wrong to train students to be competitive among them: holding a destructive force can encourage the spirit of competition in all aspects. That of the economy is no exception. As widely 'misunderstood' by them that, the theory itself

pays to emphasize competition as the key for existence and survival, including that competition to survive economically, with fake scientific proof taken for granted.

In contrast, to Einstein, the theory originates its limits of application just into the context struggling for existence and survival as like that of the battle of ants (fighting for living as a social animal). Unlike the battle which is motivated for economical competition leading to the occurrence of a "destructive force", such a battle of man and that of ants is not a big deal. Comparatively, therefore, such a defense of training students to be economically competitive among each other is invalid.

Desires for pleasure and satisfaction: refers to a kind of motivation that creates a feeling of loving interest in the object and desire for truth and understanding or in 'divine' curiosity. As to him, this kind of motivation is possessed by every healthy child (though rarely found these days), it can be considered as the best motivation. As a "productive power" or a "key motive", it can also be considered as "the most important" for students to work in school and in life. This motivation (pleasure) is a psychological foundation which brings happiness to the students who are seeking highest possession, knowledge, and skills, and can be classified into these following three different types: (1) pleasure in schoolwork; (2) pleasure in the results of (the) work to one own self; and (3) pleasure in knowing that the results of (the) work is valuable or beneficial to the community. All of which can be well awakened and strengthened by schools. To this end, awakening and strengthening such pleasures is the best motivation.

Pleasure in another sense is a motive and can be awakened and strengthened. Awakening and strengthening the motive is difficult than making students be ambitious. The reason to this is that: (1) to make students have ambition is about to develop their desire for being recognized and guide them to have society-based service-minded; while: (2) to awaken the pleasures (motives) of the students is to develop the nature of students, which is a person who enjoys playing. Both are functioned. To awaken or strengthen these pleasures is valuable (useful) than to make students have ambitions. In another sense, in order to make students have ambitions, it is important for us as educators first to awaken and strengthen these pleasures.

He further suggests the ways to awaken and strengthen the students' pleasures can be done by (1) developing the nature of children (students) for playing, (2) developing their desire for being recognized, and (3) guiding them in a manner that what it is for society. These ways, also considered as "desires for success and being acknowledged" and "gift" provided by the school, can form up our education, according to him. He added any schools which can proceed these ways of awakening and strengthening students' pleasures (along with developing the nature of children

(students) for playing, developing their desire for being recognized, and guiding their students in a manner that what it is for society) will be admired by their students. He himself knows many students who like school more than they do like a vacation. That is because their school can offer such a thing as they cannot find during their vacation.

3.1.3 Successful teachers for the successful school

Successful schools are the schools that can provide the "gifts" to their students, the school that is admired by their students, the school that can develop the desires of being successful and acknowledged for the sake of society. Such schools need successful teachers whose characteristics are like that of a well-known "artist" in their place, holding a spiritual value of artists. Einstein makes following suggestions, considered as "universal remedy" with conditions simply for keeping the students to remain well, for teachers to gain this kind of spirit: (1) Teachers should grow up in such schools (meaning that they should remain working in such a school over some extent of times). And, (2) teachers should be given "autonomy" in teaching methodology or materials they design (there shall be no single strict teaching method mentioned in the curriculum). Teachers should be pleasurable in shaping their own teaching methods (they are not pleasurable if they are forced or put pressures on), he added.

3.2 Subjects for the instruction

Regarding the subjects for instruction, he emphasizes two major subject matters: *language* or *science,* whether any one of which should be more emphasized.

To him*,* both language and science are considered "secondary". Neither one of these is considered more emphasized. What he thinks to be more emphasized than the two is "training of the mind". He metaphorically compares such training is like "the training of muscles or physical endurance" in gymnastics. Any individual who gets his mind trained is able to perform both language and science like the one who gets the muscles and physical endurance training is able to perform all physical works.

His quote of the ancient saying, which can be defined that education is something that remains in someone's mind after he has forgotten what he learned at school, is to advocate his audiences to consider bringing a school to meet its real purpose of education, which is the training of the mind. If we lay our emphasis on either language or science should be taught in school, which is in contrast to the real purpose of education, we are to be in line with the meaning of the quote that what has been learned at school (either science or language) would possibly be forgotten someday. But if we pay emphasis on training of the mind, we are likely to get far extended from the quote's meaning, that is our school meets its real purpose of education, and that what is trained (referred to science and language) would possibly remain in students mind.

3.3 Teaching methodology

As our life demands many more things than that is provided by such training to acquire only specialized knowledge, Einstein agrees to advocate teaching general knowledge. It is simply that if we provide only what is called specialized, our demands cannot be fulfilled. Another reason for his emphasis on teaching general knowledge is likely that to prevent the individuals from being a non-living creature ('dead tool'), training them for the context of being able to live a life with balancing all living activities (being flexible/flow/not being obsessive),and emphasizing on development of general ability for independent thinking and judgement. By this, he believes, students are to hold a harmonious personality. Such emphasis except that it is applicable to all kinds of school education including that of technical schools (even though whose roles are to bring about many specializations), it should be placed "foremost" as another "fundamental" role of the school prior to the acquisition of special knowledge. To him, once students master the general knowledge, then they will learn how to think independently, then will them automatically find their own specializations, and later on, be better in progressing and changing the specializations than those students who are trained to acquire the special knowledge at the beginning do.

Conclusions

In conclusion, beside its revelation of Einstein's ideas about education for instance *how to instruct the spirit of the youth, what should be more emphasized,* and *what knowledge should be taught*, resulted from analytical reading of a text entitled "On Education", the study also has shown that such a result has come to fruition after the attempt of reading the text with the applied method designed after our review of available works of literature (Kurland, 2000; Crusius & Channell, 2016; and Hayes, 2007).

One may argue that it holds no necessary for the application as he/she can deal with the text by simply browsing statements regarding the term 'education' available in the text and summarize the ideas. However, doing such a thing can bring about two main obstacles for the readers: no confirmation of understanding the text, and no availability for the basis of criticism activity required by the course. Furthermore, it will possibly reflect the readers' personal biases and limitations towards the text. What we demand to respond to such a requirement of analytical reading is the presence of understanding the text itself, to confirm how to make sure that we readers can make sense of the text. In another sense, there is a need to figure out a method of understanding the text (Hegelund & Kock, 2003). The applied method we used in the study is an example. To this means, it is fruitful from our reviews of the works of

literature.

      According to the method, prior to the occurrence of grasping Einstein's ideas about education in the text (Hayes, 2007) such as the role of the school, motivating students and its effective impacts for success, the importance of training of the mind, and the emphasis of general knowledge, we recalled and recognized rhetorical structure of the text as a whole (Crusius & Channell, 2016) with the help of critical reading's techniques of paraphrasing and discussing the text (Kurland, 2000). At the end of the application, the argument scheme proposes that to Einstein, all of his ideas about education are convincing and worth practicing for better education.

      It is also hoped that this study has brought some light for the academic challenges in reading difficult texts whose authors have something to say in the text with deep insights, intuitions, lofty aspirations, and ideals, like that of Einstein's On Education. With wishes, the study also can help teachers from drawing some approaches for discussing the text to evaluating readers' abilities in reading.

References

Baskin, W. (1966). *Classics in education*. New York: Philosophical Library.

Crusius, T. W., & Channell, C. E. (2016). *The aims of argument: A text and reader* (8th ed). New York: McGraw-Hill Education.

Einstein, A., Seelig, C., & Bargmann, S. (1973). *Ideas and Opinions by Albert Einstein: Based on Mein Weltbild*. London: Souvenir.

Hayes, D. (2007). What Einstein can teach us about education. *International Journal of Primary, Elementary and Early Years Education, 35*(2), 143-154. doi: 10.1080/03004270701311986

Hegelund, S., & Kock, C. (2003). A good paper makes a case: Teaching academic writing the Macro-Toulmin way. *Teaching Academic Writing in European Higher Education, 2*, 75-85.

Kurland, D. (2000). *Three ways to read and discuss texts*. Retrieved from http://www.criticalreading.com/ways_to_read.htm