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The Implementing Model of Empowering Eight for Information Literacy

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Information literacy is the awareness and skills to identify, locate, evaluate, organize, create, use and communicate information to solve or resolve problems. This article is the result of the research on the efforts to improve students' problem-solving skills in the "Research Methods" course through "Empowering Eight: Information Literacy Model" at the Indonesian Education Study Program. The method used in this study was the action research. The model of information literacy through "Empowering Eight" is a model of soft skills that can improve awareness and information literacy skills that are integrated into the "research methods" course. The results of this study reveal that, in the first cycle, students' problem-solving skills can be enhanced through "Empowering Eight" model of information literacy. In the second cycle, it is found that the model of information literacy through "Empowering Eight" is effective, if students have a positive attitude towards innovation and have a good sense of confidence. In the third cycle, the "Empowering Eight" model is effective in enhancing students' critical thinking skills, and it can improve the ability to solve problems better than ever. It can be concluded that students' attitudes towards innovation and self-confidence are influential in information literacy, and the model of information literacy through "Empowering Eight" gives the contribution to students' problem-solving skills.

Keywords: information literacy, ability to critically think, attitude towards innovation

Introduction

Literacy culture is something that is vital in nation building. Since 1978, the quality of life in a nation has been measured through three indicators, namely, infant mortality, life expectancy, and literacy. Morris (1979) also stated that there are three main indicators, namely, IMR (infant mortality rate), life expectancy, and literacy rate. In the current era of information, the indicator of literacy rates for some regions and countries cannot be an accurate indicator of the quality of life. Countries and regions have been developed in general at a very high literacy rate, or even all of the population has already had a high literacy.

The meaning of literacy in the beginning is the ability to read and understand a simple document. The definition of literacy develops very well. Today literacy is defined as the ability to use, understand, and create the discourse which is read and communicated flexibly in different situations. Readers can use a discourse that they read as a model to write or respond in writing what is read. In various English dictionaries, the term "literacy" is defined as "the ability to read and write". This word is then developed in accordance with the development of science. Lately, this word is often paired with the word "technology", because the technology is in charge of all the life. Thus, there is a phrase "technology literacy" which is defined as the ability to

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understand and use technology as a tool to facilitate achieving the objectives. Literacy can also be paired with another word that is defined as the awareness and skills (Bunz, 2002).

Civilization is the future that is an information society in which the information has become a major commodity in the interaction between humans. Information literacy has become a major focus of education, and this is one of the important components that should be owned by every citizen and contribute to achieving lifelong learning. The competency in information literacy is not just the knowledge in a formal classroom, but also makes yourself hands-on in their communities. Information literacy is also very necessary in every aspect of everyday human life and it lasts a lifetime. Information literacy is the foundation for lifelong learning and increases the competence of the community to evaluate, organize, and use information.

Literacy cannot be grown in a short time, because literacy is an inherent skill and becoming a habit. Vygotsky (2004) stated that the habit of doing things does not always guarantee that the man has behaved consciously (cognition). This applies to all disciplines, all learning environments, and all levels of education. Information literacy allows learners to master content and extend the capability of searching for information, become self-reliant and assume greater control over their own learning.

Anthony Comper, the president of Bank of Montreal, told the graduates at the University of Toronto that information literacy is important in performance in the world of work in this global era. The ability to work in the 21st century, the skills, and a good attitude and commitment are important, but a high level of information literacy becomes a priority. What is needed in the industry is someone who has literacy information and who knows how to absorb, analyze, integrate, create effectively, deliver information, and how to use the information. This is the value that should be owned by current graduates.

In Japan, Inoue, Naiti, and Koshizuka (1997) made some changes in curriculum through introducing information literacy in the curriculum. Japanese government emphasizes that information literacy should be positioned parallel to literacy as “reading, writing, and arithmetic”. This must be one of the fundamental changes and students engage in advanced information society. They also stressed the need to establish an information society in everyday life (Inoue, Naiti, & Koshizuka, 1997; Muir & Oppenheim, 2001, pp. 175-176). Japanese Ministry of Education defined information literacy consists of four elements:

(1) Ability in the assessment (evaluation), selection, organization, and information processing as well as the creation of information and communication;

(2) Understanding the characteristics of the information society and the effects of information through community and human;

(3) Recognition of the importance and responsibility for the information;

(4) Basic understanding of information science, learning the basic skills of the device operation information and information (especially computers). (Muir & Oppenheim, 2001, pp. 175-176)

Since 1993, New Zealand has had a national curriculum that includes explicit information skills. According to Moor, the inclusion of information literacy in the national education curriculum in New Zealand provides a solid foundation for the development of information literacy in the community. Based on the results of a survey, schools in New Zealand found that most of the teachers said that information literacy is a personal need for professional development, to meet the information skills demanded by the curriculum, so that information literacy is an obligation (Moore, 2000, p. 257).

According to Hepworth, Singapore government has also recognized the importance of information literacy to sustain Singapore’s economy. Singapore develops information literacy in primary and secondary schools

(Hepworth, 2000). According to Muir and Oppenheim (2001, p. 176), Department of Education in Singapore has developed some guidelines for information literacy by considering the ability to "seek, process, and apply knowledge" as one chain in Singaporean education system.

Center for Educational Technology and Distance Education in South Africa, a part of the Department of Education (NCETDE—National Commission on Libraries and Information Science), has issued a policy for school libraries. This policy clearly supports the integration of information literacy instruction in the curriculum for all subject areas and in all classes (Muir & Oppenheim, 2001, pp. 176-177).

Some countries have included information literacy in the curriculum in primary schools since 20 years ago. Thus, the growth of literacy generation that received the information at the time has now entered the world of work. This means that human resources are now entering the workforce that has had information literacy, so that the consciousness to find, process, and utilize information has been controlled since 20 years ago.

Through the Strategic Plan of Ministry of Education and Culture 2010-2014, Indonesian government requires students to recognize the information technology with the term "information technology literacy". The government holds a large-scale project with information technology programs in school. The program provides computer equipment to schools throughout Indonesia either in big cities or rural schools that still get problems with electricity. It is realized that information literacy requires technology skills, especially computer technology, but the ability of computer technology is just one stage to add value to information literacy. The main factor that supports information literacy is the ability of critical thinking and innovative attitude of the learners.

This study reveals the influence of the model of "Empowering Eight" information literacy viewed from critical thinking skills and attitudes to innovation on the ability to solve the problem in "Research Methods" course for students of Indonesian Education Study Program, State University of Jakarta.

Literacy Information

Literacy can be defined as an ability to read and write. Literacy in Indonesia is known as the ability to read, write, and count. UNESCO (United Nations Educational, Scientific and Cultural Organization) (2008) declared that literacy is the ability to make and communicate meaning by the use of a variety of socially contextual symbols. Within various levels of developmental ability, a literate person can derive and convey meaning, and use their knowledge to achieve a desired purpose or goal that requires the use of language skills, whether they are spoken or written. A literate person can mediate their world by deliberately and flexibly orchestrating meaning from one linguistic knowledge base and applying or connecting it to another knowledge base (Moll, 1994, p. 202). Literacy is the ability to identify, understand, interpret, create, communicate, and compute, using printed and written materials associated with varying contexts. Literacy involves a continuum of learning in enabling individuals to achieve his or her goals, develop his or her knowledge and potential, and participate fully in community and wider society (UNESCO, 2008, p. 21). In the present context, literacy is valued as social capital for human development and a human right. Literacy is neither decontextualised skills in reading and writing, neither numeracy nor its benefits are universal across diverse cultural groups and contexts. Human benefits are also situated and distributed in the broader social, cultural and political context and cannot be examined in isolation. However, the dominant tradition of research has narrowly focused on understanding literacy as a technical input to development. Now, literacy has a broad sense, so that literacy is no longer one meaning, but it contains a variety of meanings (multiple

literacies).

Developing lifelong learners is central to the mission of higher education institutions. By ensuring that individuals have the intellectual abilities of reasoning and critical thinking, and by helping them construct a framework for learning how to learn, colleges and universities provide the foundation for continued growth throughout their careers, as well as in their roles as informed citizens and members of communities. Information literacy is a key component, and contributor of lifelong learning. Information literacy forms the basis for lifelong learning. It is common to all disciplines, all learning environments, and all levels of education. It enables learners to master content and extend their investigations, become more self-directed, and ssume greater control over their own learning. An information-literate individual is able to: (1) determine the extent of information needed; (2) access the needed information effectively and efficiently; (3) evaluate information and its sources critically; (4) incorporate selected information into one's knowledge base; (5) use information effectively to accomplish a specific purpose; and (6) understand the economic, legal, and social issues surrounding the use of information, and access and use information ethically and legally (The Association of College and Research Libraries, 2000).

The concept of "information literacy" was first introduced by Paul Zurkowski, the president of Information Industry Association in his proposal to NCIS (National Commission on Libraries and Information Science) in the United States in 1974. Zurkowski (1974) recommended the commencement of a national program for the attainment of information literacy community in the future that has been predicted since that time. According to Zurkowski (1974), "People who are able and skillful to use information resources in the areas of their work can be regarded as information-literate society. They have learned how to skillfully use a number of information tools to solve their problems". Burchinal (2008) suggested a more complex definition, "To be a information-literate person requires the ability to master a number of new skills, such as the ability to locate and use information for solving problems and making decisions more effectively".

The current era is the "new generation" era which has a distinct identity with the "old generation". In the new generation, whose term is given by Tapscott (2000) to the babies still wearing diapers in the early 2000s, the evolution of e-literacy begins, since the introduction of computer technology at an early age. In Indonesia, especially in big cities, this phenomenon appears through the use of computer technology as a teaching tool (the computer as a tool to play and learn) that is used by kindergartens with one goal to stimulate and enhance the ability of multiple intelligence of students. Children begin to recognize other digital technology in the game. The digital system can be found in some consumer products, such as household appliances which are devices that can be taken anywhere (mobile digital devices). The children already have a computer literacy and digital literacy from the beginning, so it is not difficult for them to understand the Internet and how to use it. At the adolescent stage, where they have started to understand the importance of the meaning of information as one of the important factors of production and raw material knowledge (knowledge), the information-literacy skills will be formed by itself.

According to the ALA (American Library Association), information literacy is one important component that should be owned by every citizen and contribute to achieving lifelong learning. The general definition of information literacy is the understanding of information literacy. In the *Dictionary for Library and Information Science*, Reitz (2004) defined information literacy as follows:

> Information literacy is skill in finding the information one needs, including understanding of how libraries are

> organized. They provide familiarity with resources (including information formats and automated search tools), and knowledge of commonly used techniques. The concept also includes the skills required to critically evaluate information content and employ it affectively, as well as understanding of the technological infrastructure on which information transmission is based, including its social, political and cultural context and impact. (p. 356)

Muir and Oppenheim (2001, p. 172) stated that information literacy cannot be defined by one definition derived from some definitions offered by some experts on information literacy. In terms of language, an agreed definition of the term "information awareness" is needed to distinguish it from the "information skills" (CILIP, 2005). Some other terms are also used by different authors, such as information empowerment, information competence, information competency, information competencies, information literacy skills, information literacy and skills, information handling skills, problem-solving information, information problem-solving skills, information fluency and information mediacy, and event information is often used as a reference mastery of information literacy. Bill Nicene is the director of E-Strathclyde Institute/University of Glasgow. Since the First Conference on Information Technology and Information Literacy in Glasgow in 2002, Reijo Savolainen (2002) suggested that information literacy is defined as "competencies related to information" which includes information literacy, media competence, and skills of the library. Although many references emerge, since the 1990s, the term used is information literacy, which is the most common phrase and used to describe the concept (Bawden, 2001; Virkus, 2003).

Information literacy is needed in every aspect of human life, and it lasts a lifetime. Information literacy adds society's competency with evaluating, organizing, and using information. Therefore, the results of Doyle's (Doyle, 1992; Spitzer, 1998; Langford, 1998) research in early 1990 promoted the definition of information literacy as follows:

> Information literacy is the ability to access, evaluate, and use information from a variety of sources and defines information literacy in terms of attributes of a person: (1) recognizes accurate and complete information is the basis for intelligent decision-making; (2) recognizes the need for information; (3) formulates questions based on information needs; (4) identifies potential sources of information; (5) develops successful search strategies; (6) accesses sources of information including computer-based and other technologies; (7) evaluates information; (8) organizes information for practical application; (9) integrates new information into an existing body of knowledge; and (10) uses information in critical thinking and problem-solving.

Information literacy is not discourse mastery or information consciousness that stands alone, but it is formed by several components outside reading, writing, and arithmetic. They are: (1) visual literacy, which is defined as the ability to understand and use the images, also includes the ability to think, learn, and express picture, and visual literacy is divided into visual learning, visual thinking, and visual communication; (2) media literacy, the ability of citizens to access, analyze, and produce information for specific outcomes; (3) computer literacy, the ability to create and manipulate documents and data using word processing software, databases, and so on; (4) digital literacy, the skills associated with mastery of sources and digital devices; and (5) literacy network, which is to be able to access, locate, and use such information in the networked world, such as the internet, and the internet user must master this skill (CILIP, 2004).

According to UNESCO (2008), information literacy is the ability possessed by an individual or a person to interpret the information, as the information user and the producer of information for himself/herself. Information literacy can be defined as a set of skills to identify, locate, evaluate, organize, create, use, and communicate information with others to solve and find a solution to a problem.

Koper (2000) considered competence as the ability to act consciously and responsibly in a particular context. “Conscious” means the human ability to freely choose how to act and do so specifically. The choice depends on the assessment of the situation and the underlying motives, such as interests, values, or objectives to solve the problem. With the “responsible”, Koper (2000) referred to the ability of people to justify their choices and actions, and explain to others, neglecting to circumstances beyond their control or spontaneous behavior, but rather to their own. In using these terms, competence is seen as a combination of cognitive, conative and affective that collectively defined the behavior in certain situations (Koper, 2000, p. 38).

Form the above opinions, it can be concluded that most important thing about literacy is the awareness of one’s own, so when linked with information literacy, the consciousness that is established is awareness of information. Awareness of this information is needed in today’s global era. Patricia (2000) stated that, “Within today’s information society, the most important learning outcomes for all students are their being able to function as independent lifelong learners. The essential enabler to reach that goal is information literacy”. Information literacy helps grow the value of information. Information has very valuable roles in all levels of life.

To foster information literacy, the early step is raising awareness in their lives that requires information through the information atmosphere. Information atmosphere is the courage to find answers to prepare an essay (book), and so on. The individual will try to find a way to make wishes come true (commitment). At that time, the individual is in the process “finding” that is triggered by one or even both the atmosphere, then the individual will be confronted with a solution that puts the information as one of the deciding factors or components in achieving the aims or solving the problems. In a study in the universities, the creation of this atmosphere is the duty of lecturer to students in the form of tasks. The next step, after someone realizes the importance of the information, then when the person is aware and believes that the information is the answer to the request or issue, he/she will bend over backwards to get the required information. At this moment, the value of technology can be offered to him/her because of its ability to do such things: finding information more quickly and accurately, through the cross-country geographical boundaries, range of features, or facilities available to interact and transact easily and cheaply, to access quality information that is “infinite” number, and so forth. If you are concerned, in the end, you will get the evidence that indeed the information and use of information and communication technology have managed to contribute to the achievement of aims as well as problems-solving.

This activity grows the addiction to an entity called the technology and information, so that slowly but surely, the quality of their lives can be improved significantly. Growing addicted to technology and information society in Indonesia is a change in “mindset” in the pattern of life. In adopting the changes, intellectual ability of a society is needed. Intellectual ability is useful to decide to adopt the changes, because of adopting the changes, he/she should be able to pass through the stages to adopt new ideas in five stages: (1) stage of consciousness (awareness), at which he/she should start thinking of new ideas to receive information about new things; (2) stage of interest (interest), on which he/she is seeking more information about the new ideas, because he/she has started to determine the interest in these ideas; (3) stage of evaluation (evaluation), at which he/she has to think and consider trying a new idea; (4) stage of trying, at which the individual must be able to try to increase his/her estimate on a new idea; and (5) stage of adoption, at which the individual must decide to use a completely new idea that has been offered. Thus, the innovativeness of the society, especially students, must be improved so that information literacy can be well possessed.

There are several models of information literacy that is used to identify and measure a person's information literacy. They are: "the big six, the seven pillars" and "the Empowering Eight". The models are able to encourage students. For examples: (1) Students who have information literacy skills are capable of determining the type and nature of the information needed. The information needed can be done in a way that is: (a) to define and convey the information needs, (b) to identify the various types and forms of potential information sources, (c) to consider the costs and benefits of the information needed, and (d) to re-evaluate the nature and limits of the required information; (2) Students with information literacy skills are able to access information literacy needed effectively and efficiently, namely, (a) determine the technical and information retrieval systems most appropriate for accessing the information needed, (b) establish and implement an effective search strategy, (c) do retrieval system, or personal online using various methods, (d) improve the search strategy if necessary, and (e) quote, record, and process the information and resources; and (3) Students are able to evaluate information and the sources critically and make selected information as a knowledge base that is done by: (a) summarizing the main idea quoted from the collected information, (b) determining and applying initial criteria for evaluating information and resources, and (c) synthesizing main ideas to construct new concepts.

Based on the above basis, the paper reveals the phenomenon of information literacy in higher education and describes the implementation of the model of the "Empowering Eight" information literacy in the course of "Research Methods" in Indonesian Education Study Program.

Research Methods

Research on the implementation of "Empowering Eight: Information Literacy Model" in the "Research Methods" course was done in order to find out information literacy held by the students and the characteristics of students' information literacy viewed from "Empowering Eight: Information Literacy Model".

Students who became the subject of this study were students who had academic characteristics, such as having passed the courses: information technology, basic writing and writing ability development, basic reading and reading ability development, and philosophy of science. The courses provide much contribution to the information literacy.

This study used action research design. This study aims to find solutions and a thorough analysis of efforts to improve students' problem-solving skills in the "Research Methods" course at the Indonesian Education Study Program, Faculty of Languages and Arts, State University of Jakarta. The action model used was "Empowering Eight: Information Literacy Model". The study used three cycles. The first cycle is implementing the model of "Empowering Eight: Information Literacy", which has not yielded significant result. The critical thinking becomes the additional element in the second cycle. Similarly, the second cycle has not given satisfactory results on the ability to use information in problem-solving in the "Research Methods" course. Then, on the third cycle, the aspect of personality that is self-confidence and attitude towards innovation is included.

In accordance with the method used, that is action research, the techniques of data collection used are document analysis, observation and interviews, and direct involvement of the object under study.

Discussion of Findings

Measurement standards that can be used to determine the level of information literacy held by someone do

not exist yet, so we are not able to measure the level of information literacy with certainty. However, we can refer to the concept or theory—P-CMM (Personal Capability Maturity Model), which can describe the level of maturity of individual e-literacy. Quoting Indrajit's (2010) opinion, through P-CMM, each individual will have a pattern of maturation of his/her e-literacy and it also illustrates the maturity of information literacy. The level of one's e-literacy can be described as follows:

(1) Level 0—If an individual does not know or care about the importance of information and technology to everyday life;

(2) Level 1—If an individual has ever had the experience of one or two times where information is an essential component for achieving the desire and problem-solving and has involved information and communication technologies to look for;

(3) Level 2—If an individual has repeatedly used information and communication technologies to help their daily activities and has had a recurrence pattern in its use;

(4) Level 3—If an individual has to have standards mastery and understanding of information and technology needs, and consistently use these standards as a reference implementation of daily activities;

(5) Level 4—If an individual has been able to increase significantly (can be expressed quantitatively) performance of activities of daily life through the use of information and technology;

(6) Level 5—If an individual has considered some of the information and technology as an integral part of daily activities, and directly or indirectly, has colored his/her behavior and culture (part of the information society or information cultured human).

Based on data from this study, students understand the importance of information for daily life, especially in academic life. The information required in the academic world is the accurate information, which means the information is reliable and can be verified. Students also learn that the decision-making in various aspects needs to be supported by information. Such information is to be meaningful, if the information is used to follow the pattern of critical thinking. It can be concluded that the students have already had the information literacy Level 2. This ability is measured before the application of "Empowering Eight: Information Literacy Model" in "Research Methods" course. The application of "Empowering Eight: Information Literacy Model" in the "Research Methods" course is conducted with the following steps:

(1) Identify
  (a) Determine the topic or subject;
  (b) Determine and understand the audience;
  (c) Choose the relevant format for the finished product;
  (d) Identify key words;
  (e) Plan a search strategy;
  (f) Identify different types of resources in which information may be found.

(2) Investigate
  (a) Find the resources that match the selected topic;
  (b) Find the right information to the selected topic;
  (c) Do interviews, field trips or other outside researches.

(3) Choose
  (a) Select relevant information;

(b) Determine which sources are too easy, too hard, or average;
(c) Record relevant information through notes or create visual organizers such as charts, graphs, or line, etc.;
(d) Identify the stages in the process;
(e) Gather the appropriate citation.

(4) Set
(a) Sort the information;
(b) Distinguish between facts, and fiction opinions;
(c) Check for bias in sources;
(d) Sequence information in a logical order;
(e) Use visual organizers to compare or contrast information.

(5) Make
(a) Prepare information in one's own words in a meaningful way;
(b) Revise and edit on one's own or with a peer;
(c) Finalize format bibliographies.

(6) Attend
(a) Practice for presentation activity;
(b) Distribute information to the right audience;
(c) Display information in the appropriate format to suit the audience;
(d) Create and use equipment properly.

(7) Assess
(a) Receive feedback from other students;
(b) Self-assess an individual's performance in response to teachers' assessments of job;
(c) Reflect how well they have done;
(d) Determine whether the new skills are learned;
(e) Consider what can be done better next time.

(8) Apply
(a) Review the feedback and assessment provided;
(b) Use the feedback and assessment for subsequent learning activities/tasks;
(c) Try to use the acquired knowledge in new situations;
(d) Decide what is in other subjects of these skills that can be used;
(e) Add products to its portfolio of production. (Wijetunge & Alahakoon, 2005, p. 36)

During the implementation of the model, there is an increase in students' critical thinking skills. Critical thinking is an evaluative activity to produce a conclusion (Cabrera, 1992). Gerhard (1971) defined critical thinking as a complex process involving the reception and the data acquisition, data analysis and evaluation of data by considering the qualitative and quantitative aspects, and making decisions based on the selection or evaluation. Those aspects are obtained well after the students have information literacy. Critical thinking is required in order to solve a problem in order to obtain quick and precise decisions. Measurement of critical thinking activities can be done by looking at the appearance of some of the behavior during the process of critical thinking. Thinking basically includes human activities that are visible/observable (external) and cannot be seen/observed (internal). Broadly speaking, the above critical thinking behavior can be divided into several activities: (1) focus on question; (2) argument analysis; (3) asking and answering questions for clarification and/or challenge; and (4) evaluating the credibility of sources of information. The behavior of critical thinking of college students during the implementation of "Empowering Eight: Information Literacy Model" can be viewed from several aspects:

(1) Relevance: The relevance of the “statement”. This is seen in the statements of students in the argument;

(2) Importance: The importance of issues or basic ideas that are put forward. Students can filter the important information as the basis of reasoning;

(3) Novelty: The novelty of the contents of the mind, both in bringing ideas and new information or the acceptance of new ideas of other students;

(4) Outside material: Using his/her own experience or the materials received in the lecture/reference. Students actively seek an accurate source outside sources suggested by the lecturer;

(5) Ambiguity clarified: Seeking clarification or further information when there is ambiguity. Students are active in doing discussions to clarify the accurate information on many occasions;

(6) Linking ideas: Always connect the facts, ideas, or opinions and look for new data from which information is collected;

(7) Justification: Provide evidence, examples, or justification of a solution/conclusion, including providing an explanation of benefits (advantages) and losses (deficiency) of a situation or solution;

(8) Critical assessment: an evaluation of each contribution that comes from within oneself and from other students, as well as providing “prompts” to place a critical evaluation;

(9) Practical utility: New ideas that are put forward are always seen from the point of practicality (practicality) in the application;

(10) Width of understanding: A discussion which is always carried out to expand the content/subject.

To generate critical thinking, students also need to have some other skills that are in the affective dimension. These abilities are: (1) thinking independently; (2) exercising fair mindedness; (3) intellectual courage; (4) intellectual perseverance; (5) confidence in reason; and (6) intellectual curiosity.

Conclusions

Information literacy is a society change that involves the individual. These changes are more related to changes in cultural values held by individuals. A change is often an impact on the individual personality. Personality is not a concept that just wants to explain one’s behavior, but a functional part of individuals who play an active role in the behavior of individuals. Changes always demand the role of individual personality that is the attitude toward an innovation. Similarly, the process of information literacy requires the maturity of an individual. A change can be done depending on one’s inner motivation. Motivating oneself is the ability to manage one’s own emotions as a means to achieve the goals. The ability to hold the emotions (ability to resist impulses) and positive thinking skills and the ability to reach the stage of consciousness together with the action are very important.

A change in the community involves many other people in a common vision. Implementing vision people have to give respects to each other, and this can be done after we recognize other’s personality. Recognizing other people’s emotions is the social skills based on emotional self-awareness. Maintaining relationship is the ability to manage the emotions of others.

Development of science and technology and the rapid globalization that produce the information have an impact on someone who is in the modern era to reach the stability of a traditional society like a well-established and relatively unchanged one. This gives the implications for one’s willingness to open to new ideas and changes that occur in social groups. One characteristic of the modern individual is able to think far into the

future and optimistic that new inventions will be able to improve life.

A change can be accepted by the individual, if he/she feels confident that these changes bring a positive impact on his/her lives. This confidence can grow, if he/she has a high innovative attitude. The main factor that encourages information literacy is critical thinking. Factors related to critical thinking skills are important, because information literacy is essentially a change of view which is encouraged by the way of thinking. Information literacy is a process of social change from a traditional society to modern society. The characteristics of innovative society are the growth of science and the increase of human capacity to understand the secrets of nature and apply knowledge to a variety of human activities.

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