Information Packaging Process for Solving the Lack of Information Literacy in Coastal and Small Island Areas in Indonesia

Ira Maryati
Center for Scientific Documentation and Information Indonesian Institute of Sciences,
Jln. Gatot Subroto 10, Jakarta, iramaryati@gmail.com

Ambar Yoganingrum
Center for Scientific Documentation and Information Indonesian Institute of Sciences,
Jln. Gatot Subroto 10, Jakarta, ambaryoganingrum@yahoo.com

ABSTRACT
Information literacy skill requires other skills, such as skill of understanding the information, skill of reading and writing, communication skill and skill of using the information technology. Coastal communities and small islands communities in Indonesia have information needs and understand these particular needs. However, they do not possess reading and writing skills. Even though some of them are able to read and write, they have difficulty in understanding written information. This is because of their level of education. Most of them graduated from elementary schools and junior high schools. Packaging information needed to solve the problem in the provision of information for people with low level of information literacy skills. This paper proposes the process and type of information repackaging that is appropriate for coastal and small islands communities in Indonesia. We assumed that the appropriate information packaging overcome the problem in information provision for people with low level of information literacy skills in coastal and small islands communities in Indonesia. Information packaging process that has been developed focuses on the users' characteristics. We proposed three-dimensional animated video and information services machines that provide information in oral form. This paper improves the information packaging process for information disseminating, thus people who has low level of information literacy skills can understand and use any information.

Keywords: Information dissemination, Information literacy, Information packaging, Coastal communities, Small islands communities.

1. INTRODUCTION

UNESCO (2008) linked the level of information literacy skills to the level of education. They described that the development of information literacy (IL) skills are in line with the increasing of education. Pasadas (2007) in UNESCO (2008) argued that the writing, reading and numerical skills are requirements to have IL skills.

Coastal and small island communities in Indonesia generally have low level of education, for example people whom living in the district of Kepulauan Seribu Indonesia. The district consists of 110 small islands. The dwellers are concentrated in 11 islands only, since other islands do not have capacity and infrastructure for support life. They are vulnerable to the disaster, which come from the land, for example use of natural resources indiscriminately and a disproportionate number of the population by the land area, as well as the sea, for example high waves. They need information to improve their adaptation and mitigation to the disaster. However their low level of education hinder them to use the information provided due to their low level of IL skills.

We propose to conduct the packaging of information in the public information service for coastal and small-island in Indonesia. This paper improves the business processes to package information and creates new forms of packaging. The activity is a way to overcome the low level of information literacy of coastal and small island communities in Indonesia.

2. INFORMATION LITERACY

The definition of Information Literacy is varied (Lau, 2006). The most adopted is the definition from the American Library Association (ALA): "To be information literate, a person must be able to recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information" (Lau, 2006).

Basically IL is associated with a capacity to read and understand written material. In traditional society such people may be having a certain IL level within their oral tradition (UNESCO, 2008), although they cannot read or only has a little capacity in understanding written material. Oral societies are depending on others in getting the information. It means they need a certain information resources, which it is easily fulfilled in the digital era as today. However due to the limitation of appropriate information resources available for a person living within an oral tradition cause them having low level of IL.

UNESCO (2008) argued that people require a combination of cognitive and technical skills to access and use information, which is illustrated in Figure 1. A person develops the ability of IL at an early stage then continues through graduate study. For those who achieve only low level of education or do not have access to electricity or basic needs such as clean water, food and sanitation rely on sources of non-written information. However an information provider should develop a strategy in information dissemination program for three groups of community, whom live in oral tradition, has low level of education and/or be a part of marginalized groups. This strategy should be able to make these groups reached the highest skill in IL in the context of the information needed.
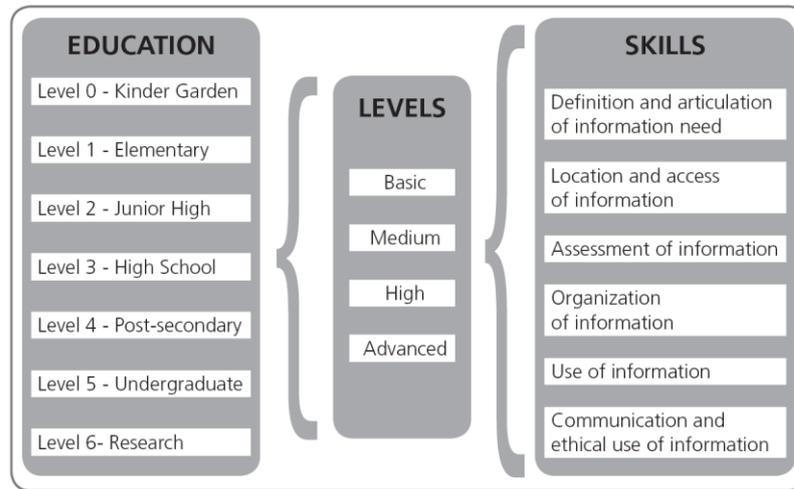
Figure 1: Information literacy continuum (Source: UNESCO, 2008)

3.   INFORMATION REPACKAGING

The term of packaging information (information repackaging) was first used by Saracevic and Woods in 1981, and Bunch in 1984 (Iwhiwhu, 2008). Information packaging process is a set of activities aimed to generate a new form of information. Bunch (1984) developed the process of information packaging then enhanced by Agada (1995). The comparison of information packaging process according Bunch (1984) dan Agada (1995) is shown in Figure 2.
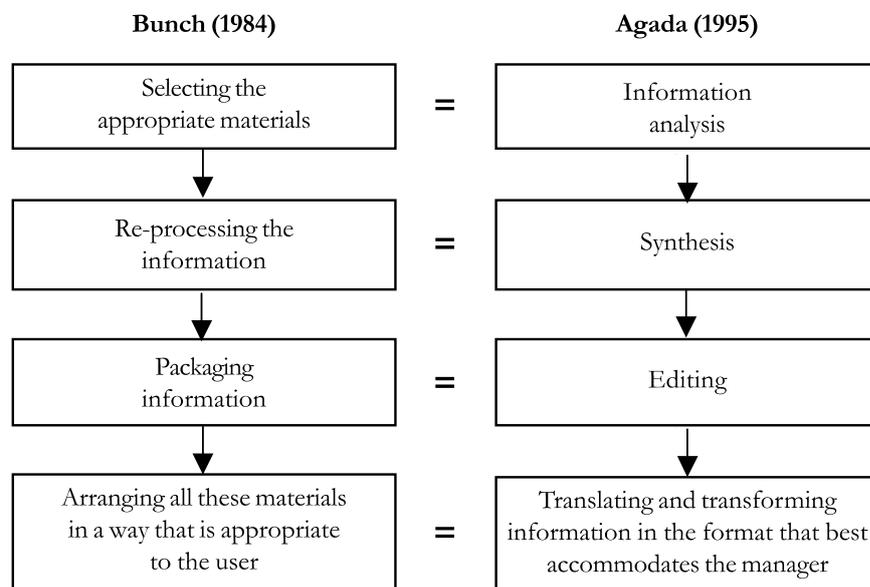

Figure 2. Comparison of information packaging process according Bunch (1984) dan Agada (1995) (Source: Abrigo and Manglal, 2009).

Both Bunch (1985) and Agada (1995) proposed the general process of information packaging, which begins from collecting the material until presenting in a new form. According to Abrigo and Manglal (2009) the development of the information packaging process tend to digitalize the information. The digital form of information ease the dissemination via Internet, which is assesed improving the information services. Rapid development of information technology also ease to package information, especially to develop information packaging in the basis of motion picture and sound such as in the form of animated film.

To package information requires greater effort, but provide long-term benefits in the scientific information dissemination (Iwhiwhu, 2008). To reach the right target and provide long-term benefits, in packing the scientific information should consider the characteristics of the user, which is as follows (Yoganingrum 2014):

1. User need. It is regard to content, packaging and communication channels.
2. User status. It is refer to living area (urban, village, coastal, small island etc.), profession (researcher, fisherman, entrepreneur, doctor etc.), subject matter (environment, business, technology etc.), age (children, adults, senior citizen), education level (uneducated, elementary, undergraduate etc.) and the amount of income.
3. User behavior. Commonly it is related to user status.

To produce the packaging of information in accordance with the target user, the certain activities should be carried out (Figure 3).
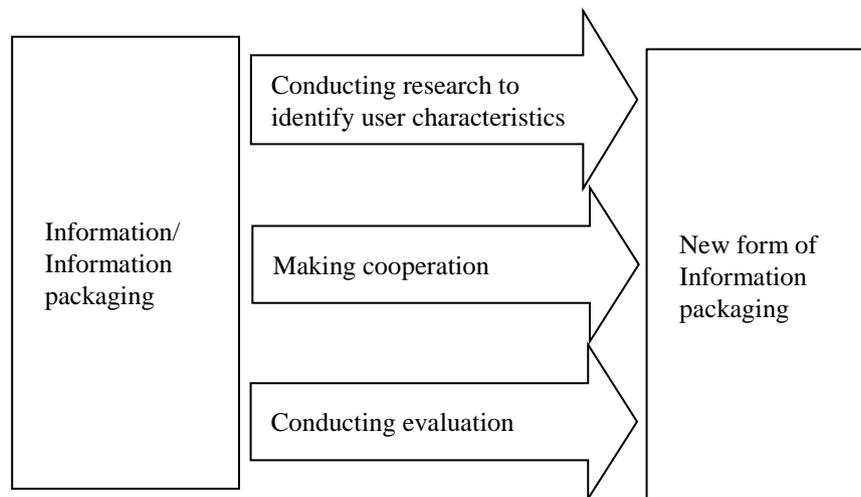

Figure 3. Activities in information packaging process (Source: Yoganingrum, 2014)

Research. To identify user characteristics can employ simple data collection such as observation or interview.
Cooperation. Cooperation generally is applied to develop information content and form of packaging. For example collaborating with certain researchers to develop information content or with an animator to produce animated film.
Evaluation. The purpose of conducting evaluation are to assess whether the information presented in accordance with the packaging and whether the form of

packaging can transfer information to the target user group. Data collecting by interview or questionnaire can be applied.

Based on the Figure 3, we propose the following process of information packaging (Figure 4).
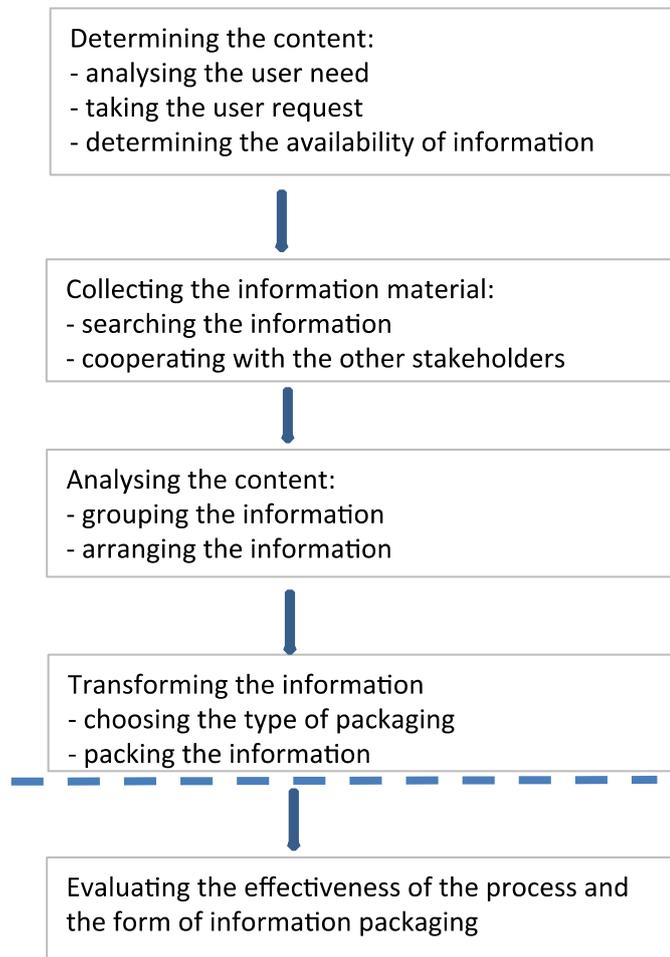
Determining the content:
- analysing the user need
- taking the user request
- determining the availability of information

Collecting the information material:
- searching the information
- cooperating with the other stakeholders

Analysing the content:
- grouping the information
- arranging the information

Transforming the information
- choosing the type of packaging
- packing the information

Evaluating the effectiveness of the process and the form of information packaging

Figure 4. Information packaging process

4. INFORMATION PACKAGING FOR PEOPLE WITH LOW INFORMATION LITERACY

Information packaging is able to overcome the problem in information dissemination in which low level of people information literacy. The process in information packaging substitutes the first four skills of IL (See Figure 1). People with low information literacy are able to use and apply information contained in new packaging of information. It is because Information is presented in easier form to be understood. Furthermore they can also disseminate the packaging.

Rapid development of technology information facilitates in producing information packaging on the basis of sound, picture and film, for example animated film and information services machine. Those information packaging are beneficial for three groups of community. Those who live in oral tradition, low level of education, not understand written information and/or marginalized.

Animated film as a medium of information is able to enrich the user experience and improve competence (Harrison and Hummel, 2010 in Rahmattullah, 2011), memorable (Vaughn at al, 2013), and easier to be understood (Abagyan, 2006 in Rahmattullah, 2011). Animated film is able to display an image that resembles the original form of the various phenomena and abstract information therefore information is presented more clearly (Hegarty, 2004 in Rahmattullah, 2011). Information machine categorized as an audiovisual instrument provides information, which presented in a simple way with the instructions in the form of sound and/or animation. Thus it eases the users with low reading level to follow the instruction. The operation of machine is simple by pushing the buttons or touch screen. The machine is located in a place, where the communities visit frequently.

5. INFORMATION PACKAGING FOR COMMUNITY LIVING IN COASTAL AND SMALL ISLAND IN INDONESIA

The community who living in coastal and small island in Indonesia generally is categorized as a group with low level of education. The information dissemination program for them should consider that they have low skills of IL. Therefore information repackaging process is conducted to overcome the absence of the first four skills of UNESCO (2008). We show a case study in information packaging for community who living in the district of Kepulauan Seribu Indonesia (Yoganingrum et al, 2012; Yoganingrum et al, 2015).

5.1. Definition and articulation of information need

The research showed that the communities in coastal and small-island need information about fresh water management. Therefore information about those topics is important to be delivered.

5.2. Location and access of information

The information provider collaborates with an expert from Research Centre for Geo-technology - Indonesian Institute of Sciences (P2Geoteknologi - LIPI) on information content. An expert from P2Geoteknologi - LIPI have conducted research on fresh water management for coastal and small island community since 2002.

5.3. Assessment of information

An expert from P2Geoteknologi - LIPI assisted in assessing appropriate information for community in the district of Kepulauan Seribu Indonesia.

5.4. Organization of information

Information provider created 3D animated film, which cooperate with animator from Center for Technology Information (BIT – LIPI). Information organization to produce 3D animated film is a result of collaboration between an expert from P2Geoteknologi – LIPI and an animator from BIT – LIPI.

5.5. Use of information

3D animated film is an information packaging on the basis of motion picture and sound. The packaging eases the user to understand the information presented. An information provider machines supports an easiness of use of the packaging. The machine has touch screen display, simple menu, and not require an Internet

connection. Therefore it is operated easily. Those information packaging are an option in supporting the increasing of the use of information.

5.6. Communication and ethical use of information

An appropriate information packaging will increase the use of information by user. It is starting point to make them to be an agent to disseminate information to their community. Furthermore they can increase communication and use of information ethically.

6.   Conclusion

Information dissemination program for community who has low skills of IL will find obstacles. This paper improves the information packaging process to overcome the problem in lacking of information literacy skill of coastal and small island communities in Indonesia. Information packaging with the basis of motion picture and sound such as 3D animated film, which conveyed with information services machine are suggested. Those packaging ease them to understand and use any information provided. The packaging is also appropriate for the community who lives in oral tradition, low level of education, not understand written information and/or marginalized. Further research should be conducted is to measure the effectiveness of the process and form of information packaging suggested.

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