BASIC LITERACY PROBLEMS IN DIGITAL AGE:
Problems in Transferring Local Knowledge for Empowering Community

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ABSTRACT
This article discusses about the problems of local knowledge transferring in developing basic literacy. This is a research based article conducted for six months in empowering community in Pariangan sponsored by Ministry of Education and Culture of Republic of Indonesia. Since the launching of “Gerakan Indonesia Membaca” by the President of Republic of Indonesia in 2016 many activities were designed to develop basic literacy. The activities must be supported by all stakeholders to reach rural area in order to increase Indonesian reading rate in the world. But there are many problems appeared in conducting this activity especially in a digital age and in a rural area. The problems are: first, lack of teaching literacy by using internet and multimedia in teaching process. Second, lack of teaching materials designed for computer based teaching. Third, the problem of the very limited access of internet especially in rural areas. Fourth, problems of sustainability development. Through this research it can be concluded that not all of the teaching activities in local knowledge transferring for empowering community run well. It must become an important note for national and local government in making policies for designing any teaching and learning activities in rural areas.

Key Words: Basic Literacy, Digital Age, Local Knowledge Transfer, Community

INTRODUCTION
The wise decision from Indonesian government about literacy for all Indonesian people has been declared around Indonesia in 2016. The instruction from the president is to begin basic literacy which covered the six basic literacy, namely; reading, writing, counting, economic, culture and knowledge transferring especially local knowledge transferring. By this instruction many institutions and Non-Govermental Organisations (NGO) in Indonesia have created their activities in this literacy movement. The government of Indonesia distributed many grants for making and implementing the literacy movement in order to increase the literacy rate of Indonesian people.

One of the NGOs which involved in this activity is Komunitas Nagari Tuo Pariangan under the supervision of Irwan Malin Basa. This NGO is responsible for creating and implementing the six basic literacy in Pariangan which has been widely known by The Most Beautiful Village in the World based on the survey of American Budget Travellers Magazine in 2012. The very challenging activities have been running about one year. Many problems faced by the all stakeholders; supervisor, manager, students, parents, local government and teachers in this activities.

Why is local knowledge important? Probably this is a very good question to answer. There are many people arguing on this term. To answer this let see the statement of FAO (2000) (one of the organizations under United Nation Organization) which declared that: ….Local knowledge is the human capital of both the urban and rural people. It is the main asset they invest in the struggle for survival, to produce food, provide for shelter or achieve control of their own lives. Significant contributions to global knowledge have originated with local people, for instance for human and veterinary medicine. Local knowledge is developed and adapted continuously to a gradually changing environment. It is passed down from generation to generation and closely interwoven with people’s cultural values.
Further more, FAO (2005) stated that in the emerging global knowledge economy, a country’s ability to build and mobilize knowledge capital is as essential to sustainable development as the availability of physical and financial capital. The basic component of any country’s knowledge system is its local knowledge. This encompasses the skills, experiences and insights of people, applied to maintain or improve their livelihood.

Today, many local knowledge systems are at risk of becoming extinct. This is because globally natural environments are rapidly changing, and there are fast-paced economic, political, and cultural changes. Practices vanish, when they are inappropriate, in the face of new challenges, or because they adapt too slowly. Accordingly, for the development process, local knowledge is of particular relevance to the following sectors and strategies:

- Agriculture, knowledge related to crop selection, intercropping, planting times.
- Animal husbandry and ethnic veterinary medicine, knowledge of breeding strategies, livestock characteristics and requirements, plant uses to treat common illnesses.
- Use and management of natural resources, knowledge of soil fertility management, sustainable management of wild species.
- Health care, knowledge of plant properties for medicinal purposes.
- Community development, common or shared knowledge provides links between community members and generations; and
- Poverty alleviation, knowledge of survival strategies based on local resources.

It can be concluded that local knowledge is relevant at three levels of the development process. First, it is most important to men and women, old and young, in the local community where the bearers of such knowledge live and produce. Second, Development agents (CBOs, NGOs, governments, donors, local leaders and private sector initiatives) need to recognize, value and appreciate local knowledge in their interaction with the local communities. They need to understand exactly what it is before it is incorporated in their approaches. They also need to critically validate it against the usefulness of their intended objectives. Third, local knowledge forms part of global knowledge. In this context, it has a value and relevance in itself. Local knowledge can be preserved, transferred, or adopted and adapted elsewhere.

To transfer local knowledge of a community needs more deep research about where, when and how to begin. The preparation should be as perfect as possible to avoid the total failure in the implementation later. Then, the supervisor prepared everything like materials, teachers, rooms, curriculum and supporting equipments to make this activity running well. If one of them is not put as well as possible there will be many problems emerging in the activities.

After the activities running for six months, I observed several problems emerged in managing the activities. The problems were coming from the students, teachers, parents and local government supporting. At the beginning of the activities, many students came to the class to follow all of learning sessions. They were very interested in this class because they can learn new things for their life. Let’s take an example of learning process about local knowledge transferring to the students. In this activity the teacher assigned the students to bring any kinds of leaves into the classroom. The purpose of the teacher was to introduce the function of each leaves. What is it for? What can we make from the leaves? And how can we process the leaves to be a meaningful things ar goods for our life.

The purpose of teaching this material is to make them understand about how to colour clothes naturally without any chemical materials. This technique had ever been introduced by the Minangkabau ancestors since hundred years ago. But it was ever missed for two generations and we do not know how to do it now. It is a dilemma for a community which ever lost its cultural heritage.

THEORIES AND RESEARCH METHOD

There is an interesting experience of a teacher in a rural school. He has about 94 kids in 6–12 school, and some of the challenges in a rural school are as follows: (cited from https://www.quora.com/What-are-the-problems-that-children-face-in-education-in-rural-area):
1. **Lack of reliable communication.** Many of our students don’t have internet access at home, or reliable cell phone service. As a result, it’s very difficult to give the students homework, as many of them don’t have the ability to look up resources at home, post their work, or get into contact to get help.

2. **Divided time.** Because many of our students live on farms, when they are not at school or in sports, many of them are doing chores around the house. This puts more strain on their time to do work outside of school.

3. **Lack of parental involvement:** This may be just specific to our area, but there is a decided lack of focus on education, as many older people have the opinion of “I was fine with little school”, or “you learn everything you need to know by working on the farm”, so there is very little assistance from parents with anything school related that isn’t sports. There is also a low rate of students going to college, as many of the parents discourage higher education. There are also days where a student will get pulled out of school to go help on the farm in the middle of the day.

4. **Lack of resources:** This is compounded by our state’s abysmal track record with education funding, but much of the resources of our school (books, supplies, etc) comes from the teachers. We can fill out a requisition form for many things, but more often than not it just sits in a stack and by the time it gets through it’s past when we needed whatever it was. It’s just easier to buy whatever ourselves.

5. **Religious restrictions:** This, fortunately, isn’t such a big issue in our area, due to the libertarian bent of most of the families, but in some rural areas parents take issue with lessons conflicting with their religious beliefs. This is particularly problematic in science (evolution, climate change, etc.), and English (books, content lessons, etc.).

6. **Racism and homophobia:** Rural areas tend to be dominated by white people, with some latino students, depending on the farm community, but racism is pretty endemic. Most of my kids have never had a conversation with anyone of color. As a result, there is usually some resistance to any unit dealing with diversity (teaching To Kill a Mockingbird was interesting). Don’t get me wrong, I’m not saying that everyone in a rural area is racist, but many of our students’ only knowledge of minorities is what they see on tv.

7. **Poverty:** This is probably the biggest obstacle. Some of our students live in homes with limited food, or only intermittent access to running water/ electricity. This comes with a whole host of challenges, not only in school work, but also in limited ability to participate in extra curricular activities. Every year I have to purchase clothes for my Forensics students to compete in, because many of them would simply be in jeans and a t shirt.

Based on the experience above we can write some notes to consider whether the same problems emerging in our community development or not. Then, the problem of racism was not emerging in Minangkabau community because we have no term of racism like white and black. Minangkabau people live in a heterogen community. Only six of the seven problems above emerged in local knowledge transferring in Minangkabau.

Then, there are three of the characteristics of the knowledge we should know and why it problematic in its transfer. 1) **Knowledge is Distributed:** In terms of the distribution of knowledge, the point here is that any given business process will usually involve multiple actors, each engaged in an aspect of the process (Gherardi and Nicolini, 2000). These different actors are likely to have knowledge about aspects of the process with which they are involved, and possibly with adjacent processes, but not other parts. As Cook and Brown (1999) observe, groups not individuals, possess the ‘body of knowledge’, and not everybody within a group possesses everything that is in this body of knowledge. Where there is no attempt to bring people together to create this more holistic understanding, each individual will know only about their part of the process and will remain unaware of the knowledge of others. One crucial outcome of this is simply that people are not aware that there are ideas available that could improve their practice, whether at the level of the individual, the team or the organizational unit. So in our case, nurses may not know that patients have knowledge that could allow them to self-diagnose, and consultant optometrists may not know that opticians have knowledge that could allow them to diagnose.
Knowledge is Ambiguous: The second characteristic of knowledge that makes its transfer difficult is that knowledge is ambiguous (Tsoukas, 1996). An easy illustration of this is provided by the concept of football. Anyone not from the USA 'knows' that football involves kicking the ball with your feet, hence FOOT ball. However, those from the US 'know' that football involves handling or throwing the ball to team mates - an illegal action in 'real' football. Carlile (2002), talks about the syntactic and semantic barriers to knowledge sharing, emphasizing that it is important to create some knowledge redundancy or common understanding (Nonaka, 1994) to enable knowledge transfer. Without this common understanding those receiving the transferred knowledge will not be able to understand it. Thus, in the cataract project, the project team had to spend considerable time learning about each others' knowledge so that they could reorganize the process around this shared understanding. In other places, where this shared understanding had not been achieved, the new practice was rejected as "unworkable". We each of us exist in what might be described as a cognitive cage - our thought worlds in Dougherty's (1992) terms - that restrict how we view the world and therefore what we consider to be valid knowledge. Transferring knowledge across different thought worlds is difficult, as exemplified in the cataract case. Similarly, Boland and Tenkasi (1995) talk about the importance of perspective taking - the need to get into the head/world of the other in order to be able to understand and use knowledge that they can provide. However, this is no trivial matter, and accepting the perspective of others can be very difficult, especially when it involves fundamentally-held beliefs.

Knowledge is Disruptive: Knowledge can also be disruptive (Christensen et al., 2000). As Carlile (2002) reminds us, we are invested in our knowledge - knowledge is a source of power and so changes in practice that undermine one's knowledge will be resisted. Another project we were researching involved a pharmaceutical company trying to market a new treatment for prostate cancer. The new treatment meant that prostate cancer would no longer be treated by surgeons removing the tumors but by radiologists burning the tumor from within using radioactive iodine capsules (Swan et al., 2002). The change was very difficult to introduce because surgeons resisted the new technology as it undermined their own knowledge and, more particularly their power base. Similarly, in the cataract case, consultants in other areas resisted the new diagnosis and treatment practice, at least in part, because it undermined their own knowledge - they had to give some of their knowledge away to the opticians and were not prepared to do this.

Beside that institutional readiness for teaching with technology should be a major consideration. Mackenzi in (https://opentextbc.ca/teachinginadigitalage/chapter/9-8-organizational-issues/) said one of the critical issues that will influence the selection of media by teachers and instructors is 1) the way the institution structures teaching activities, 2) the instructional and technology services already in place, and 3) the support for media and technology use that their institution provides.

Then, if an institution is organised around a set number of classroom periods every day, and the use of physical classrooms, the teachers are likely to focus mainly on classroom delivery. As Mackenzie (2007) quoted: ‘Teachers have always made the best of whatever they’ve got at hand, but it’s what we have to work with. Teachers make due.’ The reverse is equally true. If the school or university does not support a particular technology, teachers and instructors quite understandably won’t use it. Even if the technology is in place, such as a learning management system or a video production facility, if an instructor is not trained or oriented to its use and potential, then it will either be underused or not used at all.

Most institutions that have successfully introduced media and technology for teaching on a large scale have recognized the need for professional support for faculty, by providing instructional designers, media designers and IT support staff to support teaching and learning. Some institutions also provide funding for innovative teaching projects.

A major implication of using technology is the need to reorganise and restructure the teaching and technology support services in order to exploit and use the technology efficiently. Too often technology is merely added on to an existing structure and way of doing things. Reorganisation and restructuring is disruptive and costly in the short-term, but usually essential for successful implementation of technology-based teaching (see Bates and Sangrà, 2011, for a full discussion of
management strategies for supporting the use of technology for teaching in higher education, and Marshall, 2007, for a method to assess institutional readiness for e-learning).

Because of the inertia in institutions, there is often a bias towards those technologies that can be introduced with the minimum of organisational change, although these may not be the technologies that would have maximum impact on learning. These organisational challenges are extremely difficult, and are often major reasons for the slow implementation of new technology.

**FINDING AND DISCUSSION**

Based on the research conducted in Pariangan, there were several problems found in implementing local knowledge transferring for empowering community in digital age, they are as follows:

*First,* lack of teaching literacy by using internet and multimedia in teaching process. It means the process of teaching literacy in transferring local knowledge to empower people was still running manually because there was no digital media and facilities for the teaching around the community.

*Second,* lack of teaching materials designed for computer based teaching. There was no teaching media designed for teaching material. This problem was caused by the lack of intention of local knowledge transfer. It may be considered as unmarketable media to design. Not many teachers use it for teaching.

*Third,* the problem of the very limited access of internet especially in rural areas. *Fourth,* problems of sustainability development. Through this research it can be concluded that not all of the teaching activities in local knowledge transferring for empowering community run well. It must become an important note for national and local government in making policies for designing any teaching and learning activities in rural areas.

Theoretically, to overcome these problems there are several steps found by the former researcher to apply in empowering community development. These steps proposed by Turner and Kim (2014) as follows:

1. Building relationships among community members; to build this relationship we have to create as many as possible community projects and then make trust-building literacy events. Then, customized learning environment and instructional strategies.
2. Fostering a sense of collective responsibility; creating a good community atmosphere, community discourse and community problem solving.
3. Promoting ownership of literacy for all community members; providing multiple opportunities for successful reading, create many practical activities.
4. Reflecting on the communities learning; readers theatre and ongoing students assessment.

But the local government should also help the community to take over the problems appeared like in Pariangan. It is a must to facilitate all areas with internet access. Then the teachers should be trained as well as possible. The teachers should be able to use media and operating computer for teaching process. The government should allocate block grant program to make it running well.

**CONCLUSION**

Based on the research conducted in Pariangan, there were still many problems faced by teachers in digital age especially in transferring local knowledge for empowering community. Local government should be involved in overcoming these problems in order to make literacy program running well. If it is not overcome through serious planning the literacy will give no thing to community members.

Hundred millions of money have been distributed to empower the community for long time but the problems still emerged as long as the program running. When there is no wise decision from the government so that there is no success for teachers. Do not let teachers run in their environment alone.
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