

## Empower Math: Numeracy Literacy for Indonesian Migrant Workers in Kuala Lumpur, Malaysia

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**ABSTRACT** Numeracy literacy is much needed to support daily activities. Migrant workers can plan investments, manage finances, understand college contracts appropriately and solve daily problems. The activity was carried out with the aim of opening the insight of PMI regarding the importance of numeracy literacy to support their daily activities and work. The service began with observation, implementation and evaluation of 30 migrant workers assisted by the Indonesian Embassy in Malaysia. The evaluation results concluded that the numeracy literacy material is very hopeful and there is a need for further training that discusses numeracy literacy in more detail and implementation.

**Keywords:** Numeracy Literacy; Indonesian Migrant Workers

## 1. INTRODUCTION

Indonesian Migrant Workers (PMI) who decide to work abroad certainly have certain reasons for leaving their homeland to work. (Noerita 2016; Noveria 2017; Dewandaru, Rahmadi, and Sya'idah 2019) Some of the main factors that influence migrant workers' decisions include: (1) job opportunities with higher incomes than domestic jobs, (2) the lack of jobs in Indonesia that match the skills and education of Indonesian migrant workers, (3) the low chance of finding a job in Indonesia due to the high unemployment rate, (4) the desire to fulfil the financial needs of families in Indonesia,

(5) the desire to gain international experience by improving skills and expanding PMI's professional network.

Indonesia is actually a country rich in natural resources and human resources (Rusliani 2015; Aanisah et al. 2020). If these two resources can be managed properly, Indonesia can become a developed country with adequate employment opportunities for its citizens. However, this can of course be realised if the potential of the workforce is in accordance with the available jobs. On the other hand, a person's educational background affects the potential or ability possessed by a person.

Based on data released by Worldtop20.org, in 2023 Indonesia's education ranking will be 67th out of 203 countries in the world. The ranking is determined based on 5 aspects including early childhood school enrolment rates (68%), primary school completion rates (100%), secondary school completion rates (91.19%), high school graduation rates (78%), and college graduation rates (19%). Looking at these data, the college completion rate in Indonesia is still very low. This makes it difficult for working-age citizens to find jobs due to their low potential. As a result of this phenomenon, the unemployment rate in Indonesia is high.

According to (Suastrini, Rabbani, and Kurniawan 2023), the high unemployment rate in Indonesia has triggered many Indonesians to decide to become Indonesian Migrant Workers (PMI). This is because there are more opportunities to work abroad, do not require high educational status and only require skills. The government guarantees that prospective Indonesian Migrant Workers who register legally always receive guidance before being dispatched abroad.

In recent years, Indonesia has been actively campaigning for a national literacy movement. The Indonesian government is increasingly aware that a good literacy tradition and culture affects the progress and excellence of individuals, communities and nations. Literacy is basically understood as the ability to read and write. With the development of knowledge, literacy is widely developed not only as a tradition in the field of education but also by the general public. Lamada, Mustari. Rahman (2019) states that literacy is important to develop because it is the initial ability that a person must have to live in the present. The types of literacy that need to be developed include media literacy, technological literacy, basic literacy and visual literacy. One of the elements in basic literacy is mathematical literacy or numeracy literacy.

Numeracy literacy refers to the ability to understand, use, and apply mathematical concepts in a variety of everyday situations, (Umer, Zammad, and Talha 2018). It includes understanding numbers, calculation, measurement, statistics, and the use of numerical data. Numeracy literacy is not only the ability to perform complex mathematical calculations, but also the ability to apply basic mathematical knowledge in everyday life, such as in personal finance, measurement, budgeting, and other practical problem solving.

The importance of mathematical literacy lies in the fact that mathematics and number sense are important aspects in many aspects of modern life, (Rakhmawati and Mustadi 2022). People with good maths skills tend to be better at managing finances, making smart decisions, taking accurate measurements, and solving everyday problems, (Villagomez Amezcua and Everardo 2017; Kusumawati et al. 2021) . These skills are also important in the world of work, where many jobs require an understanding of basic mathematics and the use of numerical data. Indonesian migrant workers are no exception and should have basic numeracy literacy skills.

Seeing the background of the importance of numeracy literacy as a provision for migrant workers to work abroad, this community service activity is carried out to help migrant workers understand how numeracy literacy knowledge can improve their ability to manage personal finances, understand employment contracts, use the science of measurement and conversion, plan investments and develop basic mathematics skills.

## **2. METHOD**

Community service activities are carried out from September to December 2023 online and offline in collaboration with the Embassy of the Republic of Indonesia (KBRI) in Malaysia and various universities in Indonesia from various scientific backgrounds. The target of community service activities is Indonesian Migrant Workers (PMI) who are in Malaysia. In general, this service, among others, aims to (1) apply science, technology, art and culture to the community that can be applied in real terms to the community, (2) provide information, awareness and learning about the importance of sustainable development and mobilise the mass/community towards a better future, (3) improve the performance and capacity building of the community towards independence, civilisation and community welfare. In particular, the material in this service is specifically about Empower Math: Numeracy Literacy for Indonesian Migrant Workers aims to provide migrant workers with an understanding of the importance of numeracy literacy and how these skills can be implemented in daily activities or future investment planning.

The delivery of numeracy literacy material was delivered online through the zoom meeting application and attended by 30 migrant workers who were receiving guidance at the Indonesian Embassy in Malaysia. The stages of activities in this service include (1) observation, (2) confirmation of information implementation, (3) implementation of service activities, and evaluation of implementation through questionnaires.

## **3. RESULT AND DISCUSSION**

Most of the Indonesian Migrant Workers in Malaysia are women who have limited skills and education as well as difficult economic backgrounds. Getting a better life and a bigger income than in Indonesia is the main reason they migrate abroad. According to Izza Mafruhah et al. (2012), the majority of these women workers become domestic workers or caregivers due to their limited skills and educational background.

Based on observation data and observations from various sources, migrant workers need to gain additional knowledge about literacy. An understanding of numeracy literacy is important to provide to migrant workers to assist them in managing personal finances, understanding

employment contracts, measuring and converting, investment planning and basic maths skills such as basic arithmetic, social arithmetic, comparison, basic statistics, probability and basic geometry.

### 3.1 Personal Financial Management

Goejantoro et al. (2023) stated that numeracy is closely related to financial literacy. People who have good numeracy literacy tend to be better able to manage finances. With this service, Indonesian migrant workers are given insight into how numeracy literacy is needed to manage income and expenses, to calculate salaries according to contracts, compile financial plans, invest finances, analyse finances regularly and set financial goals or targets. This will be very helpful for Indonesian migrant workers because most of the goals of working abroad are to get a better financial life.

### 3.2 Understanding Employment Contracts

A work contract or work agreement between a migrant worker and an employer is a written agreement that contains the terms of employment, rights, and obligations of each party, as well as guarantees of security and safety during work in accordance with statutory provisions. Every migrant worker should abide by the work agreement that has been agreed upon. Therefore, before signing the contract, there are many things that Indonesian migrant workers need to pay attention to. Related to this, in the presentation of the service material, various things that need to be understood before making a work contract agreement are also presented in Table 1.

**Table 1.** Understanding of Employment Contracts

| Elements               | Things to note                                                                                                                                                                              |
|------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Nominal salary         | <ul style="list-style-type: none"> <li>• Regional Minimum Wage</li> <li>• Overtime pay</li> <li>• Guaranteed accommodation (transport and meals)</li> <li>• Bonus</li> </ul>                |
| Rights and obligations | <ul style="list-style-type: none"> <li>• Working hours</li> <li>• Leave and rest period entitlements</li> <li>• Employment insurance</li> <li>• Facilities</li> <li>• Income tax</li> </ul> |
| Contract term          | Estimate whether the salary amount is feasible for several years according to the contract period                                                                                           |
| <i>Job description</i> | The tasks that must be done are in accordance with the nominal salary and <i>skills</i> possessed                                                                                           |

### 3.3 Measurement and Conversion

Numeracy literacy can help Indonesian migrant workers understand the different

measurements that apply overseas. For example, in converting units of measurement such as currency, weight, volume, length, and others. A simple example is when Indonesian migrant workers are shopping, they must have the ability to convert rupiah to Malaysian ringgit or vice versa.

### 3.4 Investment Planning

In this service, numeracy literacy is also conveyed which helps Indonesian migrant workers in making calculations to make wiser decisions related to investment, how to calculate the potential profit and loss of the investment to be made. In addition, if Indonesian migrant workers chooses investment in the form of savings in the bank, the concept of calculating interest from bank deposits, loan interest also requires good numeracy literacy skills. This numeracy literacy skill needs to be implemented by PMI in calculating the future value of the investment, whether it provides a profit when viewed from the current value spent on investment.

### 3.5 Development of Basic Maths Skills

There are many basic skills in mathematics. However, by looking at the results of preliminary observations, there are some basic mathematics skills that need to be mastered by Indonesian migrant workers as shown in Table 3.2.

**Table 2:** Basic Maths Skills and Numeracy Literacy

| Basic Maths Skills          | Numeracy Literacy                                                           |
|-----------------------------|-----------------------------------------------------------------------------|
| Basic arithmetic operations | Use of addition, subtraction, multiplication and division concepts          |
| Social arithmetic           | Calculate profit, loss, discount, purchase price, sales price               |
| Comparison                  | Use of fractions, decimals, per cent, direct and unidirectional comparisons |
| Basic Statistics            | Calculation of mean, mode, and interpretation of statistical data           |
| Opportunities               | Draw conclusions based on the concept of probability of an event            |
| Basic Geometry              | Introduction to flat and spatial shapes                                     |

In addition, this service activity also explains how Indonesian migrant workers can improve numeracy literacy skills, including by starting to learn about basic mathematical concepts then applying these concepts in daily activities and if necessary enrich numeracy literacy insights from various sources such as *YouTube* or often participating in training activities.

The service activity which was carried out in a *hybrid manner* by inviting 30 migrant workers

at the Indonesian Embassy in Malaysia ran smoothly. The workers were enthusiastic about the material presented and hoped for more detailed and more implementable numeracy literacy skills training for their work (Figure 1). At the end of the service activity, migrant workers conveyed their responses regarding numeracy literacy and the results were used as material for evaluating this service activity.

Based on the evaluation results, it was concluded that 100% of migrant workers who attended the Indonesian Embassy in Malaysia were enthusiastic and stated that the numeracy literacy material was very useful for them both for their daily lives and for their future (Figure 2). The migrant workers are very hopeful to receive further materials that discuss in more detail about financial management, investment and also basic mathematical skills. The hope of the migrant workers is that numeracy literacy can lead them to a better life and can be useful for them as knowledge when they return to Indonesia.



Figure 1. Indonesian migrant workers enthusiasm in participating in the service (offline)

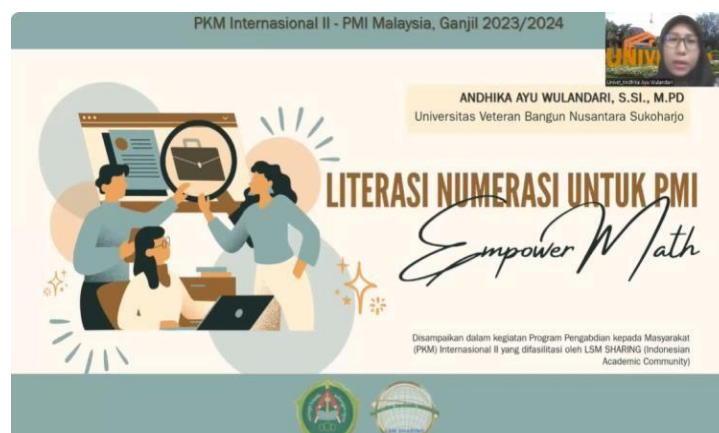


Figure 2. Delivery of Service Material (Online)

#### **4. CONCLUSION**

Looking at the results and discussions that have been described, it can be concluded that the service material is very useful for Indonesian migrant workers both for their future and to support their daily activities. Indonesian migrant workers hopes that there will be further activities from the service by discussing numeracy literacy in more detail and more implementatively.

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#### **CONFLICT OF INTERESTS**

All authors have agreed to publish this article to the International Journal of Community Care of Humanity (IJCCH). We guarantee that the writing in this article is our original scientific work not plagiarised and has never been published in other journals or in other publication activities. All authors agree that the author list is correct in its content and order and that no modification to the author list can be made without the formal approval of the Editor in Chief, and all authors accept that the Editor in Chief's decisions over acceptance or rejection or in the event of any breach of the Principles of Ethical Publishing in the Journal of Community Care of Humanity (IJCCH) being discovered of retraction are final.

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