

# A Framework of Risk Management Practice for Forest-friendly Pedagogy (Perimba) as a Guide for Indigenous School Teacher [Kerangka Amalan Pengurusan Risiko untuk Pedagogi Mesra Rimba (PeRIMBA) sebagai Panduan untuk Guru Sekolah Asli]

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## Abstract

Forest-friendly Pedagogy (PeRIMBA) offers opportunities for indigenous pupils to gain experience and knowledge through learning activities conducted in natural environment. However, the fear and concern in carrying out outdoor learning (ODL) among teachers has been an obstacle to the implementation of PeRIMBA. The purpose of this study is to develop a framework of risk management practice for PeRIMBA in indigenous school. Researchers tried to established the risk management elements that are suitable to PeRIMBA perspectives. Through the elements sought, the incorporating of risk management theories into PeRIMBA will be able to be developed. This risk management framework will be a value added for teachers especially for the teaching and learning (T&L) activities in indigenous school. To achieve this goal, this study is conducted qualitatively by examining theories, models and scholarly findings through systematic literature reviews. The results showed that the risk identification, risk evaluation and risk control contributing in risk management practice while learning approach, proposal site and consistency contributing as PeRIMBA elements. The risk management practice and PeRIMBA elements are the two key variables that ARE assumed to have a direct impact in T&L on the role of teachers as planner, guard, mentor, motivator and assessor. The proposed framework IS envisaged to be as a value added for indigenous school teacher to raise pupils' attainment through T&L.

## Keywords

Risk Management, Forest School, Forest-Friendly Pedagogy, Indigenous, Teaching and Learning

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## Introduction

In the year of 2006, Centre for Curriculum Development (BPK), Ministry of Education has executed Guidelines for the Implementation of Outdoor Learning (ODL) to help teachers conduct learning outside the classroom programs in a more orderly, structured and organized way. ODL is branded as the gold standard in pedagogy and has been recognized as one of the transformations plans for implementing teaching and learning in indigenous school. Forest-friendly pedagogy or Pedagogi Mesra Rimba (PeRIMBA) is an example of ODL that is carried out outside the classroom (BPSH, 2019). According to Harris, (2017) risks are clearly contributed by hazards during the implementation of PeRIMBA. According to him, the participation of participants in PeRIMBA activities causes participants to have the potential to get injuries and pains that lead to fear and anxiety. According to O'Brien & Murray, (2007), teachers should be responsible to pupils if any hazard arises and results in accidents and injuries while conducting ODL activities. Teachers' worries and fears of danger that can affect the safety of pupils is also considered as one form of risk. Therefore, teachers will face various forms of risk when planning and supervising pupils during ODL activities including PeRIMBA. The risks emerging from this hazard will put pressure on teachers thus provoking negative perceptions towards teachers and will be disadvantage for the implementation of PeRIMBA. According to (Nur Bahiyah, 2015), teachers' concerns about the safety of pupils who are exposed to various forms of risk while implementing outdoor learning has closed the space for teachers not to use this approach and continue to carry out traditional learning. Therefore, this study is aimed to develop a framework of risk management practice Forest-friendly pedagogy (PeRIMBA) at indigenous school.

## Background Of the Study

Ministry of Education (MOE) has been positively transforming the country's education system MOE as the leader of the education system in Malaysia is always proactive in ensuring that the curriculum delivery system in schools reaches the desired level. Through the Malaysian Education Development Plan (PPPM) 2013-2025, MOE has outlined strategies and initiatives that support the efforts of the national education transformation system as a whole. The implementation of PPPM 2013-2025 has led to changes in the national education policy, one of them is to ensure access to education is obtained by all pupils in urban and rural areas through the Teaching and Learning (T&L). Through the Malaysian Education Development Plan 2013-2025 under Initiative #57: Transformation of Indigenous Education which focuses on equality of access to education of indigenous pupils in line with mainstream education shows the seriousness and commitment of MOE to ensure access to education obtained by all pupils. This means that indigenous school teachers need to be flexible in determining the learning environment according to the suitability of the school environment. According to Nur Bahiyah, Maryati, Azman, & Mohd. Najib, (2013), stated that indigenous pupils need to be exposed with forest friendly elements using ODL.

One form of ODL that is gaining ground in Malaysia is forest-friendly pedagogy (PeRIMBA). PeRIMBA seems to be more synonymous with the living style of indigenous pupils (Nur Bahiyah et al., 2013) who adopt a rugged lifestyle and always move for survival (Nordin & Ahmad, 2015). PeRIMBA offers opportunities for indigenous pupils to gain experience and knowledge through activities carried out directly with forest and nature. In this regard, this task requires teachers to be prepared to change the practices of teachers T&L, particularly PeRIMBA. Thus, teachers need to be knowledgeable and skillful in ensuring a safe environment for PeRIMBA to be conducted and practiced. The failure to manage PeRIMBA due to lack of knowledge and skills in the field (Knight, 2010), large class sizes and lack of facilities and maintenance of infrastructure and equipment for teaching and learning processes (O'Brien, 2011), lack of training and experience (Stan & Humberstone, 2011) will cause negative impact on teacher. Some teachers are not familiar and they feel nervous to conduct teaching and learning processes outside the classroom

The various forms of risk inherent in the implementation of PeRIMBA are the responsibility of the teachers to manage. According to O'Brien & Murray, (2007) teachers need to take responsibility if any hazard arises and result in accidents and injuries to pupils when performing activities out of the classroom. Therefore, the input on risk management practice for Forest-friendly Pedagogy (PeRIMBA) will be a value added for teachers in the teaching and learning sessions. These reasons then lead to implementing PeRIMBA, in turn, influenced the Standard Kualiti Pendidikan Malaysia gelombang 2 (*Standard 4: Pembelajaran dan Pemudahcaraan (PdPc)*) known as SKPMg2 Standard 4. Apart from those previous studies have found that risk management only focuses on

sports, games and athletics in educational institutes. These studies do not examine in details the risk management framework or standards in indigenous schools.

## Methodology

This study has used the systematic literature reviews (SLR) method aimed to explore PerIMBA risk management constructs by critically identifying, evaluating and integrating the findings of scholars. The justification for the selection of SLR since it is very appropriate and relevant to systematically evaluate all studies related with research constructs. The reviewing session is taken into account on i) how the risks inherent the implementation of PerIMBA, ii) how the risk management is able to be implemented and iii) how the risk benefited T&L. The method of this study is from the literature review (LR) on journals, books and theses written by scholars. Reference rates taken are from 1998 to 2018. The documents referenced between 1998 to 2007 (Rarkin & Blades (1998), Maynard (2007) and O'Brien & Murray (2007)) ARE taken because these scholars are among leaders and pioneers in the field of outdoor education and Forest School. The literature reviews between 2011 to 2018 are more about the development of ODL implementation revolving the discussions of risk management, risk benefit, forest school and PerIMBA and these topics begin to be debated and studied in more depth as many benefits can be obtained and can be proven with the implementation of PerIMBA. In this study, the keywords of risk management of outdoor education and forest school are used to obtain the data. This study is assisted with the access to google databases, Researchgate, Mendeley and Academia. Based on the SLR, researchers are able to compile theories and models in the field of study, which are collected to develop this research framework.

## Findings and Discussions

The development of research framework comprises with identified variables as a result of a comprehensive literature review. The variables that involved in this study are risk management, PerIMBA elements and dependent variables is T&L standard based on SKPMg2 Standard 4 document.

### Risk Management Elements in Perimba

In the context of PerIMBA, Nur Bahiyah, (2015) STATES that the safety of location, movement of participants and source of teaching materials PerIMBA should take into account safety aspect because it gives confidence to participants that the activities carried out are safe. According to her, research on safety aspects may help teachers to protect the safety of pupils from the hazards posed by pupil activities, the environment and equipment. The unexpected hazards in the implementation of PerIMBA activities are the causes of accidents that pose physical risks (injuries) and psychosocial risks (emotional discomfort). Storli & Hansen Sandseter, (2019) highlight the need for primary schools to consider learning outside of the classroom as an effective pedagogy although it engages in risky activities. This also supports by Coates & Pimlott-Wilson, (2019) having an adult to manage the risk described the adults' role as 'help when it is needed'. It presents conferred confidence to children to engage in these risky activities with some independence without interfering with children's sense of autonomy in engaging with the activities

In this study, a review of documents and articles has been conducted to identify risk management elements. Based on the literature review, previous researchers have proven that the element of risk management is something that is often discussed in outdoor education. Parkin & Blades, (1998) in their study state that risk identification, risk assessment and risk control are elements in outdoor learning risk management. It is also supported by Zakaria, Harun, Salamuddin, & Taff, (2016) state that the elements of risk identification, risk assessment and risk control are essential in the implementation of sports and outdoor education activities.

### Risk Identification

Parkin & Blades, (1998) stated that risk identification involves the identification of hazards that can pose a risk to pupils participating in outdoor activities. According to him, there are 3 factors in identifying risks, namely humans, equipment and the environment. In the context of PerIMBA, the

implementation of activities in the environment outside the classroom using equipment from forest elements and the movement of pupils will expose pupils to the potential hazards due to accidents. This statement is supported by Connolly & Haughton, (2015) mentioned that PeRIMBA encourages pupils to engage in risky activities such as lighting fire, use of knives and tree climbing activities.

### Risk Evaluation

According to Parkin & Blades, (1998), the level of risk and probability of occurrence are related to risk assessment. To assess the level of risk in an outdoor education program requires an assessment of the amount of risk identified and the likelihood of an event or accident occurring (TOLC 1996). Risk evaluation is implemented based on the teacher's experience, knowledge of the activity proposal site, the activities to be selected, and the level of confidence and competence of the pupils (Parkin & Blades, 1998). Brussoni, Gray, Beate, Sandseter, & Bienenstock, (2015) state THAT risk assessment should be carried out systematically taking into account total losses and frequency of losses. Once the risk is analyzed and documented according to the risk criteria, the teacher will assess whether the risk is acceptable or unacceptable. This shows that risk-taking behavior will benefit pupils but teachers should make an assessment to balance the risks that exist to prevent any adverse incidents from happening to pupils.

### Risk Control

Parkin & Blades, (1998) state that the purpose of risk control is to implement a variety of strategies that will reduce risk to an acceptable level. The components involved in reducing risk for outdoor education are Safety Policy and Guidelines, types of risky activities, obtaining participant information and staff training. Maynard, (2007) states that to monitor the actions of pupils, teachers should always be with them and always monitor their movements in carrying out activities through mitigation control. Connolly & Haughton, (2015) and (Harris, 2017) state that to ensure the safety of pupils, teachers always ensure safety measures are complied with and need to ensure the selection of clothing and equipment appropriate to the activities carried out. Coates & Pimlott-Wilson, (2019b) on the other hand state that the ability to understand and adapt to new environments supported by preventive controls. Teacher monitoring helps to mitigate measures in reducing the risk of injury. Pupils need to be taught to take managed risks and gain an understanding of the meaning of risk.

Scholars have previously discussed many matters related to security concerns in the implementation of PeRIMBA. This proves that the elements of the psychosocial environment involving humans and the elements of the physical environment involve the environment and equipment are aspects that are often discussed by PeRIMBA practitioners. Brussoni et al. (2015) states that some risks are seen as acceptable because they offer benefits through play activities to children and safety elements are emphasized during the activity. Among the risky activities that are meant namely lighting a fire, using a knife and climbing trees. Table 4.1 shows the elements of risk managements in outdoor learning.

**Table 4.1 –**

Summary Of Literature Review of Risk Management Elements in Outdoor Learning

Scholars/Elements	Risk Identification	Risk Evaluation	Risk Control
Parkin & Blades (1998)	√	√	√
Maynard (2007)			√
Connolly & Haughton (2015)	√	√	√
Mariana Brussoni Casey et.al (2015)		√	
Harris (2017)	√	√	√
Coates & Pimlott-Wilson (2018)			√
Waite & Goodenough (2018)		√	

### Forest-Friendly Pedagogy (Perimba)

The uniqueness of Malaysia Forest School (MFS) is clearly portrayed when it gives new life to learning strategies outside the classroom. MSF offers a form of outdoor learning using a forest-

friendly pedagogical approach (PeRIMBA) tailored to the national curriculum (Nur Bahiyah, 2015). PeRIMBA is a key force that supports the Special Intervention Program for Indigenous Pupils. Through the Indigenous Pedagogical Handbook, it provides guidance to teachers to implement the concept of ODL using the PeRIMBA approach by encouraging the application of forest-friendly elements (BPSH, 2019). There are 3 main elements in PeRIMBA namely learning approach, learning environment and consistency (Maynard, (2007), Connolly & Haughton, (2015), Nur Bahiyah, (2015), Harris, (2017), Coates & Pimlott-Wilson, (2019b), Waite & Goodenough, (2018)). Table 4.2 shows the summary of literature review on forest-friendly pedagogical elements.

**Table 4.2 –**  
Summary of literature review of forest-friendly pedagogical elements

<b>Researcher/Construct</b>	<b>Learning approach</b>	<b>Proposal site</b>	<b>Consistency</b>
Maynard (2007)	√	√	√
Connolly & Haughton (2015)	√	√	√
Nur Bahiyah et.al (2015)	√	√	√
Harris (2017)	√	√	√
Coates & Pimlott-Wilson (2018)	√	√	√
Waite & Goodenough (2018)	√	√	√

### Teaching and Learning (T&L)

In this study the researchers focus on T&L aspects that need to be achieved based on Malaysia Education Quality Standard (Standard 4: T&L). Researchers will integrate SKPMg2 (Standard 4) according to the suitability of forest-friendly pedagogy (PeRIMBA) in indigenous school. Researcher will explore on how risk taking gives a return on risk benefits to teachers in terms of T&L. This is because the researchers identify SKPMg2 (Standard 4) is formulated by the Inspectorate and Quality Assurance based on the reference and benchmarking of existing educational standards in Malaysia and teacher education standards in several developed countries such as the United Kingdom and Australia. SKPMg2 (Standard 4) which emphasizes the role of teachers as planners, controllers, mentors, motivators, assessors and pupils as active learners has a relationship with the risk management practices of PeRIMBA.

SKPMg2 (Standard 4) is in line with the findings of several PeRIMBA researchers. Nur Bahiyah, (2015) STATES that PeRIMBA provides space and opportunities for teachers to be more creatively diversify approaches in the T&L process by encouraging pupils to learn directly with nature. According to Yilmaz (2016), the outdoor environment of the classroom should:

- i) provide many opportunities for children to take risks as long as it is acceptable, safe and well-supervised conditions;
- ii) offer challenging situations for children consistent with their level of development and interest;
- iii) have a variety of materials and space for children to use in all types of GAMES.

In the context of PeRIMBA, there are several studies that show risky activities contributing to the T&L as contained in SKPMg2 (Standard 4). It IS supported by O'Brien & Murray, (2007) which state that teachers are more confident in conducting PeRIMBA in terms of supervising and controlling pupils such as during PeRIMBA activities, using natural materials, recognizing pupil learning styles and diversifying forms of assessment of pupils. Waite & Goodenough, (2018) also state that teachers are more confident in conducting PeRIMBA in terms of planning the teaching process, diversifying the form of assessment, guiding pupils, controlling PUPILS behavior, building social relationships with pupils and controlling emotions that motivate pupils in performing activities for example by giving rewards to pupils. In the implementation of PeRIMBA according to Stan & Humberstone, (2011) teachers need to be more sensitive to existing laws and regulations related to PUPILS protection. This is supported by Storli & Hansen Sandseter, (2019) in their study shows that by doing risky activities teachers and pupils will learn how to identify risks, assess risks and how to adapt to risky situations and make decisions. Table 4.3 shows the summary of literature review on risk-benefit of outdoor learning to T&L.

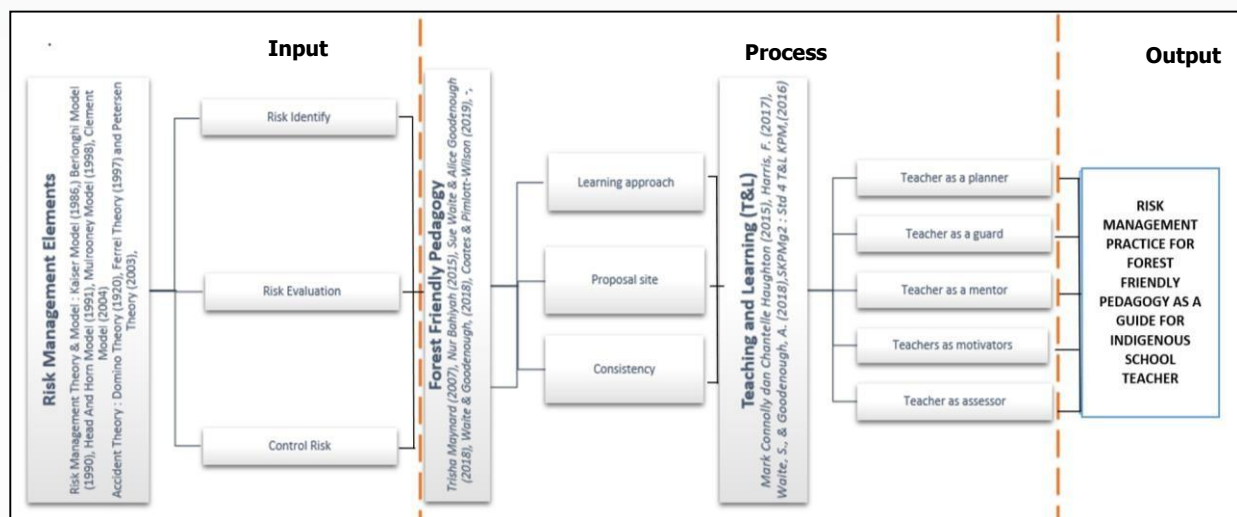
**Table 4.3 –**

Summary of literature review on risk-benefit of outdoor to T&amp;L

Researcher/Construct	Planner	Guard	Mentor	Motivator	Assessor
O'Brien, & Murray (2007)	✓	✓	✓	✓	✓
Stan & Humberstone (2011)	✓	✓	✓	✓	
Brussoni et.al (2015)	✓	✓	✓	✓	
Connolly & Haughton (2017)	✓	✓	✓	✓	✓
Harris (2017)	✓	✓	✓	✓	✓
Waite & Goodenough (2018)	✓	✓	✓	✓	✓
Coates & Pimlott -Wilson (2018)	✓	✓	✓	✓	✓

### Proposed Development of The Study Framework

This study uses the conceptual framework which is referred to several risk managements models and theories, PerIMBA and the risk benefits that have been produced by several researchers previously. In this study as well, the RESEARCHERS integrate more than one model and theory of the study related to risk management practices and PerIMBA which contribute to T&L in indigenous school as shown in Figure 5.1.



**Fig 5.0:** Conceptual framework of Risk Management Practice for PerIMBA as a guide for indigenous school teacher.

The integration of scholars' findings for PerIMBA has contributed in promoting 'risky' activities such as jumping, rolling and climbing trees. This proposed framework is a guide for teachers to adopt the PerIMBA approach by creating an appropriate learning environment so that the pupils will be able to experience learning experience and enhance existing knowledge through combination of outdoor activities, playing and learning methods. In order to ensure the safety of the pupils, the responsibility of teachers as in loco apprentices is important when conducting PerIMBA by assessing the risks inherent in high or low during activities so that pupils have the knowledge and experience of learning without facing any unwanted incident. The findings from the proposed framework do not only take into account the contribution of social constructivist playing pedagogy underlying PerIMBA but also emphasizes on the need of teachers to see how outdoor learning is a very effective pedagogy. Teachers concern over pupils' safety exposed to the risk has opened the rooms for them to implement PerIMBA and maintained the fun learning approach once they apply the input in this proposed framework.

## Conclusion

This study shows the overall process used in identifying elements of risk management practice for teaching and learning activities by using PerIMBA approach. A systematic literature review on risk management practices, PerIMBA and T&L leads researcher to integrate more than one model and theory to form the conceptual framework of the study. The consideration of incorporating risk management practice for PerIMBA is depending on the earlier discussion. Thus, the study has

proposed a framework of risk management practice for PeRIMBA as a guidance for indigenous teacher.

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