

# Development of a Pocket Book Based on Problem Based Learning for The Introduction of Sports Injury Relief and Treatment in the UNIMED PGSD Study Program

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**Abstract.** This research aims to produce a problem-based learning pocket book learning resource product in introducing sports injury relief and treatment for PGSD students at Medan State University. Data analysis with qualitative descriptive approach and percentage descriptive quantitative. The results of research and development of a pocket book based on Problem Based Learning with the subject matter (open wounds and closed wounds) are categorized as very valid with an validity level of 80% and in terms of media validity by 81%. Based on the small group trials, the feasibility of the pocket book includes the material aspect of 77%, the language readability aspect of 76%, the presentation aspect of the book is 75%, the appearance aspect of the book is 78%. Meanwhile, based on the large group trial, the feasibility of the pocket book included: 88% in terms of material, 87% in terms of language readability, 90% in terms of book presentation, and 91% in terms of book appearance.

**Keywords:** Out Development, Pocket Book Based on Problem Based Learning, Sports Injury Relief and Treatment

## 1. Introduction

In general, students have experienced injuries during physical education and health lessons at school. This disrupts the learning process for both teachers and students. Injuries can occur during sports, whether during learning, training or competing, in heavy daily activities and this incident is difficult to avoid (Cerika and Yustinus Sukarmin, 2006:94). Sports injuries that occur vary widely in the location of the human body, from the lightest level, namely pain, complaints of fatigue and prolonged lethargy, to the most serious, loss of movement function due to muscle injury or bone fracture. If this condition is not treated quickly, it can certainly

disrupt life activities and health in general (Ali Satia Graha and Bambang Priyonoadi, 2009:46).

Injuries can include wounds, heat, pain, swelling, or dysfunction of other parts of the body. In every accident or injury, there will be a situation of chaos and panic at the scene, involving victims who experience problems such as respiratory problems, bleeding, consciousness, infection and disability. A first aid practitioner must be able to deal with these things, so what must be done is to eliminate the chaos and plan the next aid action.

This research will discuss more about first aid for injuries that can cause infectious disorders, namely help and treatment of sports injuries with specific wound materials (open wounds and closed wounds). Primary school physical education lessons have a relatively greater risk of injury than other subjects. So that in physical education subjects a content of learning material about health education is developed. Apart from that, in accordance with the development of students at the Bachelor's level of education, injury relief and treatment is very important for prospective teachers, educators and students to learn as a form of first aid, but many educators and students who face someone experiencing an injury just scream for help and are afraid. If you see an accident involving someone, one of the things that often happens when students taking part in sports lessons or training on campus are injured, they are only taken to alternative and medical treatment without being given first aid and treatment when an injury or accident occurs.

Therefore, it is necessary to provide a pocket book that can help students in treating injuries. Ways to introduce injury aid and treatment. In accordance with the student's character, the appropriate one is chosen, namely a pocket book containing pictures and instructions for aid and treatment of injuries. Based on initial observations of the 2022 odd lectures at the PGSD Study Program, it turns out that there is no pocket book regarding the introduction of aid and treatment of injuries in particular, then the general observation is as follows: when students experience an injury or injury, first aid is carried out only according to the student's knowledge, knowledge about aid and treatment injuries and accidents are very less for Students.

During practical learning of elementary physical education and elementary sports courses at the Unimed PGSD Department, students often experience injuries during the learning process and some students even experience broken bones during practice. The course lecturer has given directions for stretching or warming up before carrying out practical lecture activities, however, injuries and even fainting often occur when carrying out these practical activities. We know that the majority of PGSD students are women and are not individuals who are trained in sports, even though in the Unimed PGSD curriculum there are 2 mandatory subjects, namely Elementary Sports and Elementary Physical Education. This pocket book is very necessary to accompany PGSD students for all course activities related to field practice, especially elementary physical education and elementary sports courses.

In this development, a pocket book will be developed based on problem based learning. The reason for choosing to apply the problem based learning model is because based on research that has been conducted previously it shows that L can have a good influence on students.

## **2. Method**

The research that will be carried out uses a 4D model (four-D model). According to Thiagarajan (1974: 07) the development of the four-D model consists of 4 (four) stages: 1). Definition (define), 2). Design, 3). Development (develop), and 4). Dissemination

(dissemination). This research only reached the development stage, namely stage 3 (three), while dissemination was not carried out, for reasons of time and cost limitations of course.

**Table 1.** Population and Sample Test.

Kelas	Populasi	Sampel (10%)
A	30 people	3 people
B	30 people	3 people
C	30 people	3 people
D	30 people	3 people
E	30 people	3 people
Total	150 people	15 people

This teaching material was developed using the four D (4-D) model, but in this research only three stages were carried out, namely definition, design and development, while the disseminate stage was not carried out because due to time and cost limitations. Analyzing the level of practicality of the module is based on a questionnaire given to students, then the questionnaire is arranged on a Likert Scale with positive statement categories:

**Table 2.** Assessment Categories

Achievement Score (Score)	Validity Category
81.00%-100.00%	Very Valid
61.00%-80.00%	Valid
41.00%-60.00%	Quite Valid
21.00%-40.00%	Less Valid
00.00%-20.00%	Very Invalid

### 3. Result

Research and development of a pocket book based on problem based learning for the introduction of sports injury assistance and treatment in elementary physical education learning was carried out in the class of 2022 PGSD FIP UNIMED which was carried out in line with the syntax of the Research and Development (R&D) method. Based on the results of the research and development that has been carried out, the researcher presents several results as follows:

Researchers developed/produced a product in the form of a pocket book based on problem based learning for the introduction of help and treatment of sports injuries by choosing the type of Research and Development (R&D) research. The development method carried out through the 4D development model is definition, design, development and implementation. The material is equipped with steps for making and using the product, so that it can be used in the learning process easily and reduces errors in making and using it.

The pocket book based on problem based learning for introducing help and treatment of sports injuries has been declared suitable for use, because the pocket book developed has been validated by an expert in teaching material design and technology, namely Mrs. Natalia S.Pd., M.Pd. and obtained a final percentage of 85.05% or included in the "very valid" category. Then validation by material expert Mr. Khairul Usman S.Si, M.Pd obtained validation results

with a final percentage of 87.61% or included in the "very valid" category. Based on the validation results, our problem-based learning pocket book for introducing help and treatment of sports injuries was declared suitable for use by students and lecturers in learning. Meanwhile, practicality testing of the Pocket Book material taught by the lecturer. Based on the results of data analysis on the practicality test questionnaire, an average percentage of 91.88% was obtained. This percentage shows that the problem-based learning pocket book for the introduction of help and treatment of sports injuries is "practical" for use with elementary school students.

#### 4. Discussion

The limited product test assessment was carried out on 2 (two) groups with a total of 15 people and obtained an average score of 67 and 68, the main product test was carried out with 4 (four) groups with a total of 120 people and obtained an average score of 73, 72, 73, and 74, and operational product tests were carried out with 6 (six) groups with a total of 150 people obtaining average scores of 94, 93, 93, 94, 91, and 91.

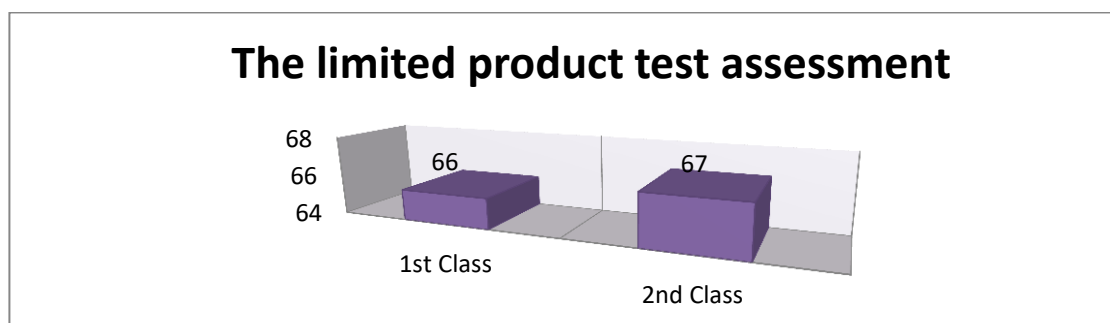


Fig. 1. Operational Trial

The limited product test assessment was carried out on 2 (two) groups with a total of 60 people and obtained an average score of 66 and 67.

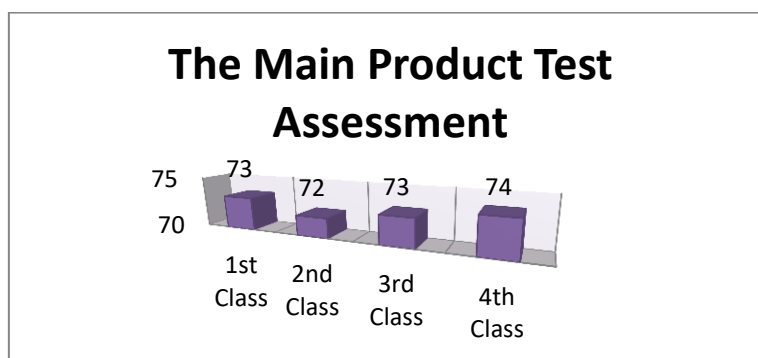


Fig. 2. Main Trial

The main product test assessment was carried out in 4 (four) groups with a total of 120 people and obtained an average score of 73, 72, 73, and 74. The 4th class assessment group.

The trial subjects for the development of a Pocket Book Based on Problem Based Learning for the Introduction to Relief and Treatment of Sports Injuries in the PGSD Department were students of the Even Semester Primary School Teacher Education Study Program, Faculty of Education, Medan State University. The criteria used to select the location and class for the trial were the student's condition according to the needs of the researcher, where the class had never used a pocket book based on Problem Based Learning for Introduction to Injury Relief and Treatment.

## 5. Conclusion

The pocket book based on problem based learning for introducing help and treatment of sports injuries has been declared suitable for use, because the pocket book developed has been validated by an expert in teaching material design and technology, namely Mrs. Natalia S.Pd., M.Pd. and obtained a final percentage of 85.05% or included in the "very feasible" category. Then validation by material expert Mr. Khairul Usman S.Si, M.Pd obtained validation results with a final percentage of 87.61% or included in the "very feasible" category. Based on the validation results, our problem-based learning pocket book for introducing help and treatment of sports injuries was declared suitable for use by students and lecturers in learning. Meanwhile, practicality testing of the Pocket Book material taught by the lecturer. Based on the results of data analysis on the practicality test questionnaire, an average percentage of 91.88% was obtained. This percentage shows that the problem-based learning pocket book for the introduction of help and treatment of sports injuries is "practical" for use with elementary school students.

## References

- [1] Alwi, Hasan, *et al.*: Kamus Besar Bahasa Indonesia. Balai Pustaka, Jakarta (2002).
- [2] Arikunto, Suharsimi.: Prosedural Penelitian Suatu Pendekatan Praktik Edisi Revisi. Rineka Cipta, Jakarta (1996).
- [3] A. Junaidi.; Panduan Penyusunan Kurikulum Pendidikan Tinggi. Kementerian Pendidikan dan Kebudayaan, Jakarta (2020).
- [4] Aritonang, K.T.: Journal of Penabur Education, Minat dan Motivasi dalam Meningkatkan Hasil Belajar Siswa, Vol 7(10),pp 11-12. (2008)
- [5] Hamalik, Oemar.: Manajemen Pengembangan Kurikulum. PT. Remaja Rosda Karya, Bandung (2007).
- [6] Hernawan, A. H., Permasih, H., & Dewi, L.: Pengembangan Bahan Ajar. Direktorat UPI, Bandung (2012)
- [7] Rusdi, Susilana dan Cepi Riyana.: Media Pembelajaran Hakikat Pengembangan, Pemanfaatan, dan Penilaian. Wacana Prima, Bandung (2007).
- [8] Sanjaya, Wina.: Strategi Pembelajaran Berorientasi Standar Proses Pendidikan. Jakarta (2012)