

**PROCEEDINGS**  
**4<sup>th</sup> International Conference on Technical  
and Vocational Education and Training (TVET)**

**Theme:**  
**Technical and Vocational Education and Training  
for Sustainable Societies**

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# **PROCEEDINGS**

## **4<sup>th</sup> International Conference on Technical and Vocational Education and Training (TVET)**

**Theme: Technical and Vocational Education and Training for Sustainable Societies**

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## FOREWORD

Welcome for all respected scholars, researchers, post graduate students and especially Keynote Speakers to the 4 ICTVET. The theme of the conference focus on Technical and Vocational Education and Training for sustainable societies and consist of six subthemes. i.e Development of learning model on TVET, Workplace Learning and entrepreneurship, Innovation on applied engineering and information technology, Management and Leadership on TVET, Vocational and Technical Teachers education, and Assessment and Evaluation on TVET.

Sustainable society should be followed by the improvement of various factors that have impacts to the quality of vocational and technical education and training, particularly to overcome the competitiveness of the world business. As we have already known the rapid change of technology as well as the change of demography, having a great effects to the life of peoples in this world, The competitiveness need a collaborativeness to survive the life of millions peoples who lost their jobs. Young peoples as a productive generation have to be creative and innovative to face the competitiveness. So this proceeding contents consist of various findings of research in the field of vocational and technical education as well as applied technology and mainly based on the subthemes of the conference.

Finally, we would like to thank a million for all participants of this conference and all parties who support the success of this conference. Hopefully the seminars and scientific work of this seminar can be a reference material for basic education and elementary school teacher education in Indonesia.

Padang, July 2, 2018

Tim Editor

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## NEEDS ANALYSIS ON INCREASING COMPETENCY TEST RESULTS STUDENTS IN S1 PROGRAM OF PUBLIC HEALTH SCIENCES STIKES HANG TUAH PEKANBARU

Emy Leonita<sup>1</sup>, Nopriadi<sup>2</sup>, Ahmad Satria Efendi<sup>3</sup>, and Nizwardi Jalinus<sup>4</sup>

<sup>1</sup>Doctoral Student Faculty of Engineering State of Padang, Indonesia

<sup>2</sup>Lecturer of Faculty of Public Health of Andalas University Padang, Indonesia

<sup>4</sup>Lecturer of Faculty of Engineering State University of Padang, Indonesia

<sup>1,3</sup>Lecturer of S1 Program of Public Health Sciences STIKes Hang Tuah Pekanbaru, Indonesia

**ABSTRACT:** The competence test of public health student has been applied three times since 2015, but the result obtained by STIKes Hang Tuah Pekanbaru students is less satisfactory, that is a passing score below 68%. This study aims to analyze the causes of problems and recommendations of the needs of the study program in order to improve the competency test results. This study aims to analyze the causes of problems and recommendations of the needs of the study program in order to improve the competency test results. This research uses explorative qualitative research type with the method of need assessment of data review, focus group management, in-depth interview and using USG matrix in determining a recommendation. Informants in this study were 15 students, 10 lecturers and 4 study program managers including the head of the study program. The research shows that the cause of the low score of student competency test is the lack of student exposure to the exam questions, the method of learning to memorize, the low ability of lecturer in making the national scale to exam questions, and the lack of tryout facility and the practice of labor/field practice. The recommendations of the problems are the implementation of a tryout for the students before the implementation of competency test, training on competency test (item review for lecturers), curriculum workshop and improving MoU with government and private institution in field practice.

*Keywords: Competency Test, Public Health*

### 1. INTRODUCTION

In general, the public health student competence test which is packaged as exit exam is an effort to meet the need for good health services and strengthen the recognition to public health as health

worker which has been regulated in health manpower law. The competency test of public health degree (UKSKMI) has been applied three times since 2015. The results achieved nationally and on STIKes Hang Tuah Pekanbaru students can be seen as follows:

Table 1  
Comparative Analysis of UKSKMI Outcomes for Periods 1,2 and 3 between Participants  
STIKes Hang Tuah Pekanbaru with Participants all over Indonesia

Priode	Average Value		Standard Deviation		The highest score		Lowest Value	
	Stikes	National	Stikes	National	Stikes	National	Stikes	National
UKSKMI I	36,23	36,23	7,48	9,95	57,78	66,67	18,33	8,89
UKSKMI II	41,00	44,69	8,92	12,36	65,00	81,11	18,89	11,67
UKSKMI III	36,21	40,16	7,36	11,71	58,33	80,00	23,89	6,11

Source: UKSKMI Trainee 2015, 2016, 2017

- The average score indicates the ability of participants of STIKes Hang Tuah is lower than the national average
- Standard deviation indicates the value of the deviation of the national or institutional answer participants. STIKes deviation value is far from national value. The greater the standard deviation of the institutional participants is not good which means that STIKes Hang Tuah has not been able to

- improve the ability of students evenly even less obtained under the national average
- The highest score indicates the true responsibility of the constitution. When you see the highest value results are held by other institutions, and this needs attention

As one of the public health colleges in Riau, it is, of course, an important concern for managers to prepare students in following the competency test. For that researchers try to identify what are the

problems in preparation of UKSKMI, the cause of the problem and the recommendation of the requirement of Prodi S1 IKM STIKes Hang Tuah in increasing result of competency test

## 2. Method

This research uses explorative qualitative research type with the method of need assessment of data review, focus group

management, in-depth interview and using USG matrix in determining a recommendation. Informants in this study were 15 students, 10 lecturers and 4 study program managers including the head of the study program. The method of implementation at each stage of activity can be seen in table 2 below:

Table 2  
Use of Need Assessment Methods on Activities  
Needs Analysis on Increasing Graduation Results of Competency Test  
Bachelor of Public Health at Undergraduate Program Students  
STIKes Hang Tuah Pekanbaru

No	Activity / Stage	Need Assesment Methode	Need Assesment tool	Source
1	Analyzing the condition of graduation of UKSKMI participants who come from S1 IKM STIKes Hang Tuah Pekanbaru on the implementation of UKSKMI 1 until UKSKMI 3	Quantitative / secondary data	Document / data review	Report of UKSKMI Committee
2	Analyzing the problem at the preparation of UKSKMI S1 IKM STIKes Hang Tuah Pekanbaru	Qualitative/primary data	<i>Manajemen Focus Group</i>	<ul style="list-style-type: none"> <li>• Chairman</li> <li>• Student Group</li> <li>• Group of lecturers</li> </ul>
3	Analyze the cause of the problem on the preparation of UKSKMI S1 STIKes Hang Tuah Pekanbaru	Qualitative/primary data	Discussion, fishbone	Managers study program
4	Determining the recommendation of the requirement of S1 Study Program of STIKes Hang Tuah Pekanbaru in order to increase the result of UKSKMI after March 2017	Quantitative/primary data	USG Matrik	-

## 3. Results and Discussion

A. The analysis of graduation condition of UKSKMI participants from S1 STIKes Hang Tuah Pekanbaru on the implementation of UKSKMI 1 to UKSKMI 3 (pre-March 2017 period) as table 1, the following analysis is obtained:

- 1) The ability of STIKes Hang Tuah Pekanbaru is not good in the management of learning process because the average value is below national value
- 2) Likewise in the ability of participants to answer correctly of all questions provided reflects the ability of participants as well as institutions in translating the learning process so that learners have the ability to answer according to the desired aspect.
- 3) The lower the ability of the participants to answer every aspect of the review, the lower the institution's ability to run the curriculum, human resources, process and evaluation effort

B. Problem analysis on the preparation of UKSKMI S1 STIKes Hang Tuah Pekanbaru

1. Focus Group Discussion (FGD) on the students  
Before conducting FGD, students were simulated to do a test of competency tryout and after completing the question, FGD participants were asked to comment on the questions (the questions are attached) and obtained the following information:
  - a) All members of the discussion group cannot name 8 public health competencies as a whole.
  - b) All members of the group expressed difficulties in answering the question of competency test
  - c) All participants assume that the problem is more highlighting aspects of "Clinical reasoning" / understanding than aspects of memorization
  - d) All the participants stated that it would be difficult to do the test if the learning process using memorable technique rather than understanding

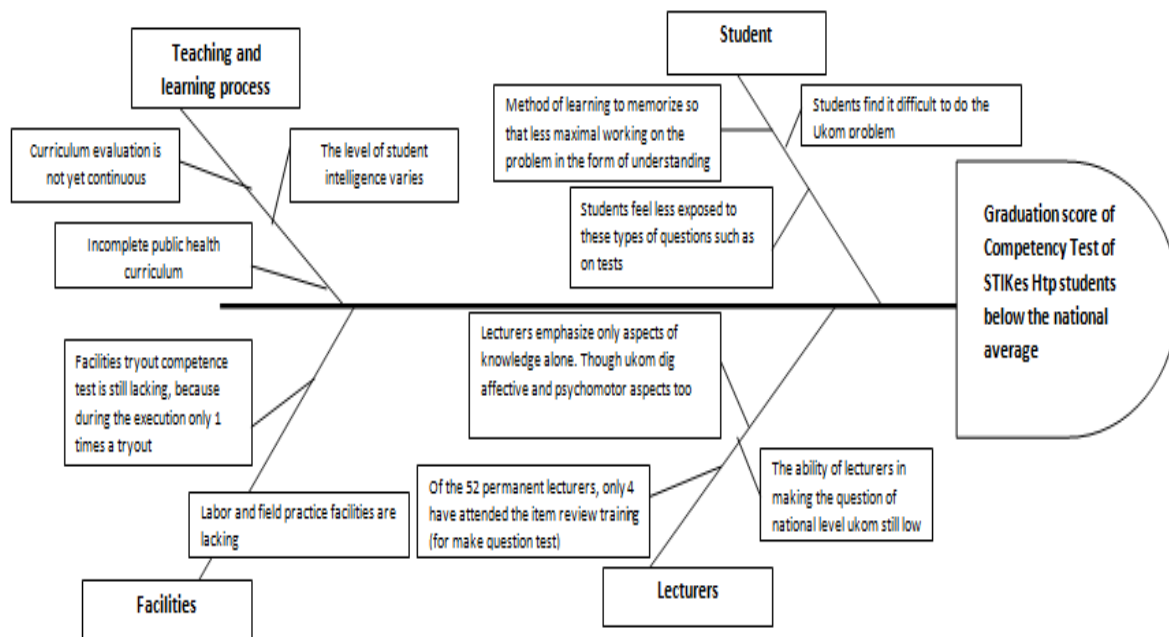


- e) Discussion participants expressed less familiar / less exposed to the form of test questions competence
  - f) Participants also stated that in the process of learning the proportion of field practice felt less than getting a class theory, making it difficult to do practice questions.
2. Based on the results of FGDs with lecturers obtained the following information:
- a) Lecturers assume that they have no difficulty in making competency test questions. However, in reality, the results of the analysis of the national committee, that none of the question test sent by lecturers stikes hang tuah to the central committee that entered the national selection
  - b) At the time of learning process and giving exam questions mid-semester process and semester end, lecturer still use the method of memorizing to evaluate student ability because lecturer still focus on the syllabus that not yet renewable so that less exploring ability of the student to a problem that test aspect of field competence or psychomotor
  - c) Understanding of lecturers to the competence of public health students is good, but the reality is not applied to the habitually measuring student

learning outcomes through a matter of competency test

- 3. Based on the results of the document of the results of student competency test in the 3 years behind, interviews with the head of IKM study program, managers, lecturers and students can be concluded the problems include:
    - a) The average score of students in following the competency test is still below the national average
    - b) The ability of students in working on competency test questions is still low
    - c) The low participation of lecturers to prepare questions of competency test at the national level
    - d) Implementation of evaluation of teaching and learning process that leads to 8 community health competence is still minimal
    - e) The process of teaching and learning in the majority class with the method memorize so that field application is still minimal
- C. Problem Cause Analysis Based on the results of interviews, group discussions to groups of students, lecturers and managers of the study program, the cause of the problems can be seen in the following fishbone diagram:

Figure 1 Fishbone Diagram  
Analysis of Causes Problems Preparation of Competency Test Bachelor of Public Health  
S1 STIKes Hang Tuah Pekanbaru students



D. Alternative Problem Solving

Based on the problems listed in the fishbone diagram above, the researcher tries to make an alternative problem-solving in the following table:

Problem Cause	Alternative Problem Solving
<b>Student Factor:</b>	
1. Students find difficulties in working on competency test questions	Implementation Tryout before the implementation of competency test, so that students can prepare better
2. Method of learning to memorize so that less maximal working on the question in the form of understanding	
3. Students feel less exposed to the type of question as in the test	
4. The level of student intelligence varies	
<b>Dosen :</b>	
5. The ability of the lecturer in question making competence of national level still low	Training of competency test questionnaire (item review) for a lecturer at the national level, so that in lecturer's learning evaluation able to design mid-semester and end semester questions such as question on competence test
6. Lecturers only emphasize the knowledge aspect. Whereas in the competence test questioned the affective and psychomotor aspects as well	
7. Of the 52 lecturers, only 4 people have attended the item review training (make a question)	
<b>Teaching and learning process</b>	
8. Implementation of a public health curriculum that has not been comprehensive	Workshop curriculum
9. Evaluate the curriculum that has not been continuous	
<b>Facilities</b>	
10. Facilities tryout competency test is still lacking, because during the execution only 1 times a tryout	Make planning and submission to the chairman of STIKes for fund allocation complete laboratory facilities,
11. Laboratory and field practice facilities are lacking	Increase the number of MoUs with government / private institutions in student field practice

E. Recommendation Requirement

Some problem-solving alternatives have been tried by stack researchers. The next step is to set recommendations. In choosing the priority of recommendation, the researcher discussed with the head of the study program and the manager. Techniques used scoring techniques where scoring is determined together. The method used is using a USG matrix.

- 1) USG Method (Urgency, Seriousness, Growth)
  - a) Urgency: level of emergency, if the problem is not addressed will be more serious
  - b) Seriousness: seriousness, if the problem is not resolved can have serious repercussions on other issues

- c) Growth : large / extent of problem
- 2) Determining the priority order of the problem is done by using the scores on the parameters/criteria
  - U = Level of Urgency
  - S = Level of seriousness
  - G = Level of development
- 3) Scoring scores from 1-5, the greater the value is given if the level of urgency is very large or the development making concern if not addressed immediately
- 4) furthermore each problem is assessed through
- 5) multiplication between  $U \times S \times G$

Table 3. USG Matrix  
Determination of Priority Recommendations on Problems  
Preparation of Competency Test Bachelor of Public Health at Student  
S1 IKM STIKes Hang Tuah Pekanbaru

Parameter	Workshop curriculum	Tryout for student	Item review for lecturer	Increase MoU
Level of Urgency (U)	4	5	5	4
Level of Seriousness (S)	5	5	5	4
Level of Growth (G)	4	5	4	4
UxSxG	80	125	100	64
Rank/priority	III	I	II	IV

Based on the above matrix calculation, the priority of recommendation that can be implemented by IKM S1 study program is rank I and II that is: to conduct tryout competency test before the implementation of competency test and training of competency test material for lecturer STIKes Hang Tuah Pekanbaru.

#### 4. CONCLUSION

##### 5.

Based on the results of the analysis in this study it can be concluded: The average value of students in following the competency test is still below the national average, the ability of students in doing competency test questions is still low, the low participation of lecturers to prepare questions of competency test at the national level, evaluation of teaching and learning process that leads to 8 community health competence is still minimal, the process of teaching and learning in majority class with the method memorize so that field application is still minimal. Several recommendations that are tailored to the conditions of the IKM S1 STIKes Hang Tuah Pekanbaru study programs include conducting competence test tryouts, training on competency test materials for lecturers, curriculum workshops, and increasing the number of MoUs with government / private institutions in student field practice.

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#### 7. REFERENCES

- [1] Panitia UKSKMI (2015), Hasil Uji Kompetensi Sarjana Kesehatan Masyarakat Indonesia Periode 5 Desember 2015, Depok
- [2] Panitia UKSKMI (2016), Hasil Uji Kompetensi Sarjana Kesehatan Masyarakat Indonesia Periode 6 Agustus 2016, Depok
- [3] Panitia UKSKMI (2017), Hasil Uji Kompetensi Sarjana Kesehatan Masyarakat Indonesia Periode 11 Maret 2017, Depok
- [4] John, Heywood (2005), Engineering Education Research and Development in Curriculum and Instruction, Wiley, IEEE Press
- [5] Watkins, Ryan (2012), A Guide to Assessing Need: Essential Tool for Collecting Information, Making Decision and Achieving Development Results, The Word Bank, Washington DC
- [6] Sulistiono (2014), Kebijakan STR tenaga Kesehatan Masyarakat oleh MTKI. Sekretariat MTKI.Ymail.com. diakses 2 September 2017
- [7] MTKI (2016) Implementasi Uji Kompetensi Nasional Bidang Kesehatan sebagai Langkah Konkrit Penjaminan Mutu Pendidikan Tinggi Kesehatan. <http://www.dikti.go.id> diakses 10 September 2017
- [8] MTKI (2014) Peningkatan Kompetensi Lulusan Pendidikan Kesehatan Melalui Uji Kompetensi. <http://www.obseratorisdmskindonesia.org> diakses pada tanggal 10 Oktober 2017
- [9] Badan Pengembangan dan Pemberdayaan SDM Kesehatan RI (2008), Meningkatkan Profesionalisme PNS Kesehatan melalui Diklat berbasis Kompetensi.: melalui <http://www.bppsdmk.depkes.go.id> akses pada 2 September 2017



- [10] Undang-Undang No.36 tahun 2014 Tentang Tenaga Kesehatan
- [11] Peraturan Bersama Menteri Kesehatan RI dan Menteri Pendidikan dan Kebudayaan RI no 36 tahun 2003 dan No. 1/IV/PB/2013 tentang Uji Kompetensi Mahasiswa Perguruan Tinggi Bidang Kesehatan
- [12] Abdillah (2016) Analisis Faktofaktor yang Mempengaruhi Kelulusan Uji Kompetensi Ners Indonesia, Jurnal Penelitian Administrasi Publik. Vol.2 No.2, Hal: 379-380

## 8. AUTHOR'S BIOGRAPHY

Emy Leonita is a Doctoral Student Faculty of Engineering State of Padang, Indonesia and she accomplishes her Master in Gadjah Mada University Yogyakarta. She is a lecturer of S1 Program of Public Health Sciences STIKes Hang Tuah Pekanbaru, Indonesia. She has made a lot of research about public health behavior. Her email is [leonitemy@yahoo.com](mailto:leonitemy@yahoo.com)