

THE ACCEPTABILITY OF THE WE PASS WITH A AS COMPREHENSIVE APPROACH IN IMPLEMENTING COMPETENCY-BASED ASSESSMENT: A PRELIMINARY STUDY ON TEACHERS' PERCEPTION

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ABSTRACT

Background: A practical approach to assist teachers of medical and health profession education in designing and implementing competency-based assessment (CBA) is needed. This study aimed to investigate the acceptability of the method we developed, namely WE PASS with A as a comprehensive approach in designing and implementing CBA system.

Methods: We invited medical and health profession teachers from various institutions in Indonesia who voluntarily join 4 times national workshops of the WE PASS with A. Workshop was conducted in two days (14 hours). Eighty-three teachers have participated in this study. Six closed questions using 5 Likert scales and 2 open questions was given at the end of each workshop.

Results: Most teachers agreed that WE PASS with A approach covers all necessary principles for designing comprehensive assessment, helps them to understand better step by step, provides clear guideline, and can be learnt easily. However, most of them were doubt that their institutions have applied all steps in the WE PASS with A approach and can apply this approach. Teachers like the WE PASS with A approach because the approach is comprehensive, systematic, applicable, structured, simple, understood and remembered, measurable, ideal and accountable. Giving more examples, longer time to explain, more practice, socialization, and investigating the implementation were believed can improve the approach.

Conclusion: The WE PASS with A can be accepted by the teachers of medical and health profession education in Indonesia. Future study needed to investigate the feasibility, acceptability, and impact of this approach.

Keywords: competency-based, assessment, medical and health profession education

ABSTRAK

Latar belakang: Diperlukan suatu pendekatan untuk membantu dosen kedokteran dan pendidikan profesi kesehatan dalam merancang dan menerapkan sistem penilaian berbasis kompetensi. Penelitian ini bertujuan untuk mengetahui penerimaan para dosen terhadap metode WE PASS with A sebagai pendekatan komprehensif dalam merancang dan menerapkan sistem penilaian berbasis kompetensi.

Metode: Kami mengundang dosen dari berbagai institusi pendidikan kedokteran dan profesi kesehatan di Indonesia yang secara sukarela mengikuti 4 kali pelatihan nasional WE PASS with A. Pelatihan dilakukan selama dua hari (14 jam). Delapan puluh tiga dosen dari 111 peserta pelatihan (rerata respon 75%) berpartisipasi. Kuesioner berisi 6 pertanyaan tertutup dengan menggunakan 5 skala Likert dan 2 pertanyaan terbuka diberikan di akhir pelatihan.

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Hasil: Sebagian besar dosen setuju pendekatan WE PASS with A mencakup semua prinsip untuk merancang penilaian komprehensif, membantu memahami langkah merancang penilaian yang komprehensif, memberikan pedoman yang jelas, telah menerapkan semua langkah WE PASS with A, dan dapat menerapkan pendekatan ini dengan mudah. Dari komentar tertulis, dosen menyukai WE PASS with A karena pendekatannya komprehensif, sistematis, aplikatif, terstruktur, jelas, mudah dipahami dan diingat, terukur, ideal dan dapat dipertanggungjawabkan. Memberi lebih banyak latihan, lebih banyak waktu untuk menjelaskan, lebih banyak contoh, dan lebih banyak sosialisasi, menyediakan panduan, serta meneliti implementasi diyakini dapat memperbaiki pendekatan WE PASS with A ini.

Kesimpulan: WE PASS with A dapat diterima oleh dosen kedokteran dan pendidikan profesi kesehatan di Indonesia sebagai pendekatan komprehensif dalam melaksanakan penilaian berbasis kompetensi. Penelitian kedepan diperlukan untuk mengkaji kelayakan, penerimaan dan dampak dari implementasi pendekatan ini

Kata kunci : berbasis kompetensi, penilaian, pendidikan kedokteran dan profesi kesehatan

PRACTICE POINTS

- WE PASS with A offers a systematic approach to design, implement and evaluate step by step of student assessment
- Teachers accept the concept of WE PASS with A

INTRODUCTION

The role of assessment in driving student learning has been acknowledged.¹ There are principles, criteria, methods, models and guidance for developing good assessment in competency-based education.¹⁻¹⁶ However, it has been a challenge to implement all of these recommendations in practice. Furthermore, there are not many studies explained how to implement those in serial steps and described comprehensively and systematically in real practice, which one should be done first and which one the last.^{5-7,9,14} Therefore, we proposed an approach as the guidance of the implementation of competency-based assessment for the teacher and educational institution of medical and health profession education. We did this preliminary study to assess the acceptability of our approach based on teacher perception.

In designing and implementing assessment system, teachers have critical roles.⁴ For teachers who only involve in teaching process, they should design their assessment to optimize students' learning by providing feedback based on the results of assessment. For teachers who become policy maker in their

educational institution, they should develop faculty development program in students' assessment, provide resources for conducting assessment process, evaluate the assessment quality as part of education quality assurance process, and assure the match between the curriculum and the assessment system. A comprehensive approach that can explain detail steps of assessment development systematically in easy way to be understood and applied may optimize teachers in conducting all these roles.

During the last decade, there have been several publications of important recommendations on assessment principles. To optimize student learning and make valid decision about student's learning progress based on assessment results, Van der Vlueten et al.,^{6,9} developed a programmatic assessment model. In this model, an assessment system should be able to optimally facilitate learning (assessment for learning), strengthen the credibility of high-stake decisions, and provide as complete as possible data for improving teaching learning process and the curriculum. In the trend of outcome or competency-based education, Lockyer et al.,¹² suggested assessment should: provide

feedback for and of learning; use several methods with several examiners, train and select examiners, revitalize the use of psychometrics analysis, ensure accountable process for accountable decision making; and use technology to describe the achievement of competencies and the process of achieving them, as well as ensuring transparency and accountability of the assessment.¹² In improving previous recommendations,⁴ Norcini et al.,¹³ provided the framework of good assessment for single assessment and system of assessment. For single assessment, good assessment should fulfill: (1) validity or coherence, (2) reproducibility or consistency, (3) equivalence, (4) feasibility, (5) educational effect, (6) catalytic effect, and (7) acceptability. For assessment of assessment, good assessment should fulfill: (1) coherent, (2) continuous, (3) comprehensive, (4) feasible, (5) purposes driven, (6) acceptable, and (7) transparent and free from bias. Programmatic assessment, feedback, validity standard, and examiner capability are key trends of assessment development that underpin Boursicot et al.,¹⁶ in reviewing their previous recommendation on performance assessments.³ All these assessment principles should be taken into account by teachers in designing and implementing students' assessment system. Furthermore, teachers need practical guideline to bring all these recommended principles into practice.

Through national workshops, we introduced an approach in implementing competency-based assessment as a practical guideline for the teachers of medical and health profession education, and we trained them how to use this approach. The raised questions are do the teachers accept this approach? What are their suggestions to improve this approach? This preliminary study was conducted to answer those questions.

METHODS

Context and Participants

The study was conducted in Yogyakarta, Indonesia, between 2015 and 2019. It was facilitated by Department of Medical Education and Bioethics, Faculty of Medicine, Public Health and Nursing, Universitas Gadjah Mada. We invited teachers of medical and health profession education from

different higher educational institutions in Indonesia to join national workshop of the WE PASS with A as comprehensive approach in implementing competency-based assessment.

The Development of WE PASS with A Approach

To meet the criteria and principles of good assessment that recommended by recent literature in medical and health profession education especially in last decade,¹⁻¹⁶ we offer seven steps in designing and implementing competency-based assessment system that we named it as WE PASS with A approach (Figure 1). Our approach improves and completes the assessment cycle from Tillema et al.,¹⁷ who explain that in managing and making decision of assessment, teachers should follow steps started from determining the objective of the assessment, selecting assessment method, setting assessment criteria, conducting the assessment process, appraisal or "grading of assessment", and providing feedback and further activities to improve students learning.¹⁷

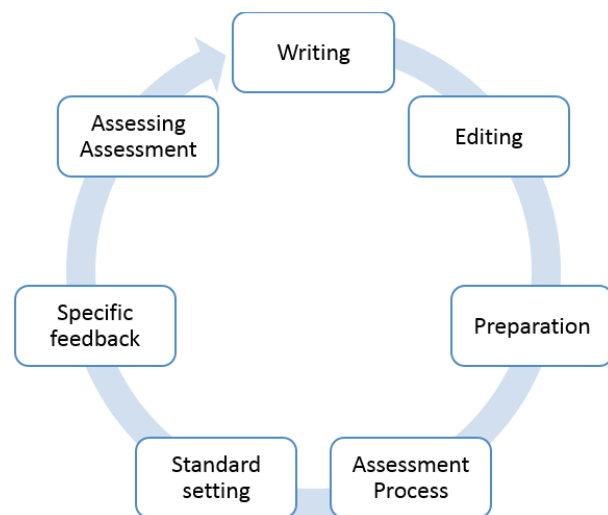


Figure 1. The WE PASS with A Approach

WE PASS with A consisted of two parts, "WE PASS" and "with A". WE PASS is six main steps and basic requirements for good assessment system:

1. Writing includes the writing of blueprint and item (questions, task or assessment/ observation tools).

- a. Blueprint of assessment explain what method and how this method will be used to assess student learning.^{9,15,17} Blueprint is generally made as a matrix that describes the relationship between the learning objectives to be assessed, the exam method chosen, and the weight of the importance of each learning objective. Blueprint can be developed for single method (i.e. Objective Structured Clinical Examination/ OSCE)^{18,19} or for assessment program (i.e. assessment program for clerkship)²⁰.
 - b. Writing item should be conducted in general approach first then in specific approach. However, for teachers who already mastery in writing item, they can directly to specific approach. In general approach, writing item include topic, objective, question, answer, and reference. In specific approach, writing item follows the template of each assessment method, i.e. for multiple choice question (MCQ)^{21,22} writing item should include topic, objective, level of knowledge (e.g. Bloom classification), question, key answer, distractors, and reference. The result of writing item will be saved in item bank.²³
2. Editing is the review process of blueprint and or items. Editing blueprint is conducted to make sure that blueprint has covered all learning objectives.¹⁵ Editing items consists of content and technical review.^{19,21,22} In content review we make sure that the item congruence with purpose, relevance, the difficulty level is appropriate, and the time is adequate. In technical review, we expect the item is easy to understand, has clear instructions, unambiguous language, and avoid various kinds of technical flaws.
 3. Preparation is all steps in preparing some aspects of assessment process: technology (i.e. computer or paper based test), human resources (i.e. coordinator, examiner, SPs, SPs trainers, administrator, IT experts), infrastructure (i.e. room, internet, electricity, computer), equipments (i.e. manikins, medical equipment, assessment form), and cost (budgeting).^{17-19,23}
 4. Assessment Process is step by step applying an assessment method to assess a student' competencies.^{17-19,23} As an example, assessment process includes evaluating the readiness, briefing to the students (for some methods to examiner and committee), assessing student, and debriefing.
 5. Standard Setting is the implementation of a standard setting method to decide a student is pass or fail in which can use norm-referenced method or criterion-referenced method.^{24,25}
 6. Specific Feedback is a process to provide constructive feedback to the students (what was done well? what should be improve? what should be done to improve/plan of action?) and stakeholders (how many students pass? how many students fail? how many not achieve minimal competencies? what competencies should be improved?) based on the assessment result.^{4,6,9,12,13,16,26}
 7. With A –assessing assessment– is added for quality assurance and improvement of assessment system.^{17,27,28} Several aspects of assessment that should be assessed. For single assessment, we should assess: (1) validity or coherence, (2) reproducibility or consistency, (3) equivalence, (4) feasibility, (5) educational effect, (6) catalytic effect, and (7) acceptability.^{4,13} For assessment of assessment, we should assess: (1) coherent, (2) continuous, (3) comprehensive, (4) feasible, (5) purposes driven, (6) acceptable, and (7) transparent and free from bias.¹³

The National Workshop of the WE PASS with A

Workshops were conducted in two days, seven hours a day. Workshop covered all steps of WE PASS with A in detail with interactive approach. Step by steps, all participants learn conceptual framework and procedures how to implement WE PASS with A in their institution. Participants can ask any questions or clarification regarding the steps of WE PASS with A.

Participant and Instrument

Among 111 participants of national workshop, 83 teachers participated in this study, (respond rate 75%),

46 were from medical schools, 6 were from dentistry, 9 were from nursing, 2 were from pharmacy, 2 were from midwifery, 2 were from health prosthetics and orthotics, and 16 were unknown (not mention their profession). To evaluate workshop, we used Kirkpatrick's four-level evaluation model.^{29,30} In this study, we evaluate participants satisfaction or reaction to the program as first level of the Kirkpatrick's model. At the end of each workshop, we evaluate teachers' perception quantitatively and qualitatively. We gave questionnaire that consisted of 6 closed questions by using 5 Likert scale (1=strongly disagree, 5=strongly agree) and 2 open questions to be completed anonymously. We explained the goal, the risks, and the benefit of evaluation to the participants. We asked participants to join this evaluation voluntary and anonymously. For data analysis, we do the descriptive analysis for the quantitative data, and thematic analysis for the qualitative data.

RESULTS AND DISCUSSION

Most teachers agreed that the WE PASS with A approach covers all necessary principles for designing comprehensive assessment (100%), helps them to understand better step by step in designing comprehensive assessment (100%), provides them clear guideline in designing comprehensive

assessment (99%), and can be learnt easily (76%) (Figure 2). However, mostly they were doubt and disagree that their institution has applied all steps in the WE PASS with A approach (75%), and can apply this approach easily (55%).

From the written comments, teachers like the WE PASS with A approach for reasons. Participants wrote that WE PASS with A approach is "comprehensive" (n=11), "applicable" (n=8), "systematic" (n=7), "easy to be understood" (n=3), "structured" (n=3), "clear" (n=2), "easy to be learnt" (n=2), "easy to be remembered" (n=2), "measurable" (n=1), "ideal" (n=1) and "accountable" (n=1). To improve the implementation of WE PASS with A approach, they wrote some recommendations for training such as: "giving more practice" (n=13), "more time to explain" (n=8), "more example" (n=2), and for the approach such as: "more socialization" (n=3), "guidance or book" (n=3), and "investigating the implementation" (n=2).

The aim of this preliminary study was to investigate teacher perception to the acceptability of the WE PASS with A approach. The result show that the approach is acceptable for the teachers, however, they are not uncertain if their institutions have applied all steps. Some characteristics were identified as factor

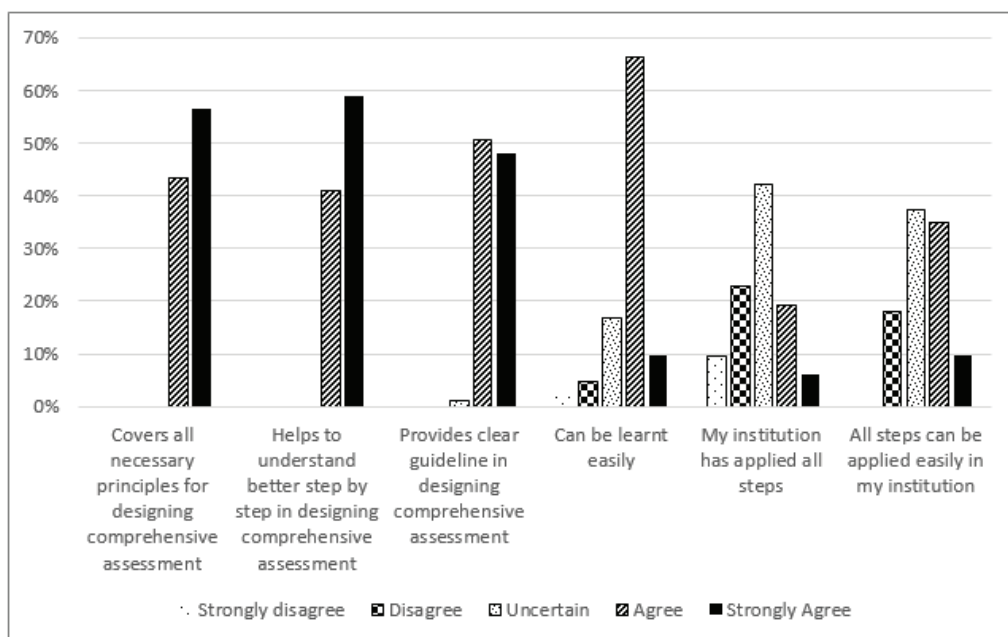


Figure 2. Teachers' Perception on the WE PASS with A Approach

that caused the approach can be accepted. Some suggestions that should be followed up were given to improve the approach.

Study result showed that the quantitative data of teachers' perception were strengthened by qualitative data. The perception that the WE PASS with A approach covers all necessary principles and helps teacher to understand step by step in designing assessment were confirmed by the reason of teachers like our approach that it was comprehensive, ideal, accountable, systematic, and structured. Teachers' perception that the approach provides teachers clear guideline in designing comprehensive assessment and can be learnt easily were in line with the answer that this approach is applicable, measurable, and easy to be understood, remembered, and learnt. All data highlighted the strength of WE PASS with A approach. The fact that it was agreed by teacher who have critical role in assessment place our finding more valuable. Literature explained that one critical aspect in implementing assessment system is the support from the teacher.⁴ Together with the agreement from the teachers, the establishment of benefit and the finding of power to act that we got from their acceptability and support to this approach are important aspects to implement it as an innovation in medical education.³¹

We got several recommendations to improve this approach. More practice, time for explanation, socialization, and example, and provide guidance or book are steps that teachers suggested to us. These suggestions are in line with the suggestion from the literature that explained how to implement innovation in medical education. Faculty development program that is an imperative for every medical school is main method that usually be used to conduct these recommendations.³² Teachers also suggested an investigation to improve the approach. In line with it, literature explained that investigation is critical steps to evaluate the outcome in an innovation³¹ and assessment program.⁹ Therefore, future study that investigate the feasibility, acceptability and impact from institutions that have applied WE PASS with A approach is needed. What challenges

in implementing it, what principles that should be added, and which step that important for teacher as faculty and policy maker are example of questions that should be answer in the future study.

The main strength of this study is the involvement of teachers from various medical and health profession education. Besides, the two days (14-hour) workshop provides sufficient time to explain step by step the WE PASS with A. For the limitation, we did not search for a factor structure in our questionnaire. However, the internal structure or the construct validity of the instrument is not the main factor determined the value of evaluation questionnaire. As long as the individual items and each item in the evaluation questionnaire are relevance, the evaluation questionnaire will be considered valuable.³³ Therefore, we ensured that all items in our evaluation questionnaire are relevant with our objective and cover the acceptability of WE PASS with A approach.

CONCLUSION

As the conclusion, the WE PASS with A approach can be accepted medical and health profession teachers in Indonesia, as a comprehensive approach to implement competency-based assessment. It gives confidence for the feasibility and good educational impact of this approach.

RECOMMENDATIONS

Teachers can follow step by step of WE PASS with A approach in their routine assessment practices, so that WE PASS with A is becoming an incorporated educational habit. Future study can focus on investigating the feasibility, acceptability and impact of this approach in real application.

LIST OF ABBREVIATIONS

WE PASS with A: Writing, Editing, Preparation, Assessment process, Standard Setting, Specific feedback, with Assessing the assessment

COMPETING INTERESTS

The authors declare that they have no competing interests related to this study.

AUTHORS' CONTRIBUTIONS

Yoyo Suhoyo – was responsible for the concept and design of the study, data collection and analysis and the first draft of the paper and further manuscript

Gandes Retno Rahayu – was responsible for concept and design of the study, the data analysis and interpretation, and writing of the paper. All authors read and approved the final manuscript for publication

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