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Feedback during clerkships: the role of culture

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Document Version

Publisher's PDF, also known as Version of record

Publication date:

2018

[Link to publication in University of Groningen/UMCG research database](#)

Citation for published version (APA):

Suhoyo, Y. (2018). *Feedback during clerkships: the role of culture*. [Thesis fully internal (DIV), University of Groningen]. University of Groningen.

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Chapter 5

How students and specialists appreciate the Mini-Clinical Evaluation Exercise (Mini-CEX) in Indonesian clerkships

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Submitted

ABSTRACT

Background: Cultural differences might challenge the acceptance of the implementation of assessment formats that are developed in other countries. Acceptance of assessment formats is essential for its effectiveness; therefore, we explored the views of students and specialists on the practicability and impact on learning of these formats.

Aims: To explore Indonesian students' and specialists' appreciation of the implementation of the Mini-Clinical Evaluation Exercise (Mini-CEX) in Indonesian clerkships.

Methods: This study was conducted at the Universitas Gadjah Mada, Indonesia. Participants were 52 students and 21 specialists in neurology and 78 students and 50 specialists in internal medicine. They were asked to complete a 19-item questionnaire that covered the characteristics of the mini-CEX such as observation and feedback, its practicability, and the impact on learning and professional development. We used a Mann-Whitney U test to analyse the data.

Results: In total, 124 students (46 from neurology and 78 from internal medicine) and 38 specialists (13 from neurology and 25 from internal medicine) participated in this study.

Students and specialists were positive about the practicability of the mini-CEX and the impact of this assessment format on learning and on professional development. The Mann-Whitney U test showed that there were no significant differences between students' and specialists' opinions on the mini-CEX, except for 2 items: the appreciation for direct observation from specialists (mean rank=93.16) were statistically significantly higher than students (mean rank=77.93), $z=2.065$, $p<0.05$, but the appreciation to the item that students' past mini-CEX results affected their recent mini-CEX outcomes from students (mean rank=85.29) were statistically significantly higher than specialists (mean rank=69.12), $z=2.140$, $p<0.05$.

Conclusion: Students and specialists were positive about the mini-CEX in Indonesian clerkships, although it was developed and validated in another culture. We found only small differences between their appreciations, which could be explained by the patterns of specialist-student interaction in Indonesian culture as large power distance and low individualism country.

Keywords: mini-CEX, acceptability, cultural differences, undergraduate clerkship

Introduction

Most medical schools intend to meet the international quality standards for medical education.¹ Meeting these quality standards often means implementing teaching and/or assessments formats that are published and recommended in international journals or conferences. An example of such an assessment format is the Mini Clinical Evaluation Exercise (mini-CEX), which was originally developed in the USA and is now being implemented all over the world. The implementation of assessment formats from other countries is a challenge because of the differences in culture. Cultural differences may inhibit the acceptance of new assessment formats by important stakeholder groups.² Acceptance of assessment formats is essential for its effectiveness^{3,4} so cultural differences in this context should be recognized.^{2,5}

To gain insight in the acceptance of new assessment formats, it is important to explore the views of stakeholders – for instance, students and specialists who function as teachers in clinical setting – on the practicability and impact on learning of these formats.^{6,7} In this study, we explored Indonesian students' and specialists' appreciation of the implementation of the mini-CEX in Indonesian clerkships.

The mini-CEX is widely used as a valid and reliable assessment method to assess clinical skills.^{8,9,10,11,12} It was designed to evaluate the trainee's performance with a real patient using a structured form.⁸ Direct observation and structured feedback based on this observation are needed to facilitate learning during training.^{8,9,10,13,14} When used regularly in the real clinical setting,⁸ the mini-CEX will stimulate students' development of clinical skills.^{2,15} Any undesirable behaviour that may occur during student-patient interaction can be detected early through observing the students. The provision of feedback shortly after the interaction enables immediate correction.^{16,17}

The mini-CEX has been acknowledged as a practical and very useful assessment instrument.^{18,19,20,21,22,23} Furthermore, it is regarded as a valuable tool to document direct supervision of clinical skills,^{9,21,22,23,24,25} improve specialist-student relationships,^{21,23} facilitate effective feedback,^{9,18,20,21,22,23,26} and improve learning.^{9,18,21,23,26,27} The mini-CEX was also acknowledged as a valuable tool for improving professional development.^{9,19,23}

It is important to investigate the acceptance of the mini-CEX in Indonesia since the views and values of teachers and students about teaching, learning and assessment processes have been found to differ between cultures.^{5,28,29}

The mini-CEX has been positively evaluated with high acceptance in countries with a culture similar to the culture in which the mini-CEX was developed. These countries are classified high on individualism and low on power distance. Indonesia, however, is classified low on individualism and high on power distance.³⁰ It is the question, therefore, whether the mini-CEX does also fit in this different culture.

From literature, we know that differences between countries on the cultural dimensions of individualism and power distance can be related to differences in student-teacher interactions.^{31,32} The implementation of the mini-CEX in Indonesia, therefore, was a real challenge. In the first place, the mini-CEX focuses on *individual* feedback instead of on group feedback, which is more common in countries classified low on individualism.² In the second place, this individual feedback is expected to be given by *specialists*, whereas - traditionally - residents provide most feedback in the clinical learning place since residents are closer to students in terms of power distance than specialists are.³³ If the set-up of a new assessment format like the mini-CEX is not compatible with the culture, the risk of non-acceptance will be high, which may negatively affect the use and effectiveness of the mini-CEX.^{3,4,5, 34} Therefore, in this study, we investigated the appreciation of the mini-CEX by students and specialists after a careful implementation process.

Methods

Context

This study was conducted at the Faculty of Medicine, Universitas Gadjah Mada, Indonesia. The duration of the medical curriculum is 5.5 years. The clinical phase consists of two years of department-based clerkships. The clerkship program takes place in two main teaching hospitals and several affiliated hospitals. The mini-CEX was carefully implemented in 2009 involving all stakeholders in the process.²

The implementation of the mini-CEX

During the 11-week clerkships, students were required to schedule at least 4 mini-CEX encounters, and during 4-week clerkships at least 2 mini-CEX encounters. Based on consensus between the Clinical Rotation Team (Clerkships Committee), the Education Coordinator and the Assessment Committee, students were assessed on eight clinical competencies: history taking, physical examination, diagnosis, patient management, communication/counselling, professionalism, organization/efficiency, and overall clinical care. A 4-point scale was used for scoring (1 = below expectations, 2 = meeting expectations, 3 = above expectations, and 4 = outstanding). Each student received a logbook with guidelines about the assessment process and assessment forms. All students had to bring their logbooks along during clerkships in all departments. The guidelines for the assessment process prescribe that the student asks a specialist to conduct a mini-CEX and to provide individual feedback immediately after observation. Specialist must select the patient for the mini-CEX. The specialists have been introduced to and trained in the basic concepts of the mini-CEX (criteria and assessment procedure) and trained in providing constructive feedback. Performances on the mini-CEX were part of the final clerkship grade.

Questionnaire

We developed a questionnaire based on existing studies that investigated trainees and specialists' views of the mini-CEX.^{18,19,26} This resulted in a 19-item questionnaire that covered the characteristics of the mini-CEX such as observation and feedback, its practicability, and the impact on learning and professional development. The items had to be answered on a 5-point Likert scale (1= strongly disagree, 5= strongly agree).

Participants and procedure

We distributed the questionnaires to students and specialists to measure their experiences with the mini-CEX. We handed out questionnaires to 130 students: 52 students in Neurology and 78 in Internal Medicine. In addition, we handed out questionnaires to 71 specialists: 21 specialists working at the Neurology department and 50 working at the Internal Medicine department.

We obtained ethical approval for the study from the Medical and Health Research Ethics Committee (MHREC) at Gadjah Mada University.

Data analysis

We compared students' and specialists' perceptions using the Mann-Whitney U test to explore whether differences in responses existed between students and specialists.

Results

In total, 124 students (response rate = 95%) students participated in this study. Of these 124 students, 46 came from Neurology and 78 from Internal Medicine. From the 71 specialists invited, 38 specialists participated (response rate = 54%). Of these 38 specialists, 13 came from Neurology and 25 from Internal Medicine. We found no significant differences between both departments.

In general, students and specialist were positive to very positive about the practicability of the mini-CEX and about the impact of this assessment format on learning and on professional development. The Mann-Whitney U test showed that there were no significant differences between students' and specialists' opinions on the mini-CEX, except for 2 items. Specialist felt direct observation more important for judging student's skills than students did themselves ($p=0.039$). On the other hand, students felt that outcomes from previous mini-CEXs influenced their current results than teachers did (Table 1).

Table 1. Students and specialists perception on the implementation of the mini-CEX

No	What is your opinion on the Mini-CEX?	-----Students (n=124)-----					-----Specialists (n=38)-----					Students – Specialists' comparison			
		A (%)	N (%)	A (%)	SA (%)	SD (%)	A (%)	N (%)	A (%)	SA (%)	SD (%)	Median of Students (IR)	Median of Specialists (IR)	Z	Sig.
A Assessment tool															
1	The Mini-CEX is a practical assessment tool	0	5	11	69	15	3	0	11	74	13	4.00 (4.00-4.00)	4.00 (4.00-4.00)	-0.172	0.863
2	The Mini-CEX is easy to use for examiners in observing students' performance	0	2	14	65	20	3	8	8	68	13	4.00 (4.00-4.00)	4.00 (4.00-4.00)	-1.078	0.281
3	When assessing clinical skills, direct observation is important	0	2	5	66	27	3	0	0	53	45	4.00 (4.00-5.00)	4.00 (4.00-5.00)	-2.065	0.039*
4	The Mini-CEX forms are clear	2	3	18	65	12	0	3	24	58	16	4.00 (4.00-4.00)	4.00 (3.00-4.00)	-0.032	0.974
5	The Mini-CEX forms offer sufficient space for feedback	0	4	19	65	13	0	3	16	71	11	4.00 (4.00-4.00)	4.00 (4.00-4.00)	-0.214	0.830
B Educational tool															
1	The Mini-CEX stimulates clinical teachers to observe student' interactions with patients	1	0	5	80	15	3	0	8	58	32	4.00 (4.00-4.00)	4.00 (4.00-5.00)	-1.455	0.146
2	Direct observation is a strength of the Mini-CEX	1	0	6	68	26	3	3	3	58	34	4.00 (4.00-5.00)	4.00 (4.00-5.00)	-0.728	0.466
3	The Mini-CEX has a positive effect on the student-teacher relationship	1	1	14	68	17	3	3	21	55	18	4.00 (4.00-4.00)	4.00 (3.00-4.00)	-0.907	0.365
4	The Mini-CEX has impact to students' learning process	1	1	8	67	23	3	3	13	68	13	4.00 (4.00-4.00)	4.00 (4.00-4.00)	-1.817	0.069
5	The Mini-CEX helps student prepare for the assessment in the final week of a clerkship	1	0	8	65	26	5	5	8	53	29	4.00 (4.00-5.00)	4.00 (4.00-5.00)	-0.538	0.590
6	The assessors feedback helps student to improve his/her weaknesses	1	1	7	62	29	0	5	11	63	21	4.00 (4.00-5.00)	4.00 (4.00-4.00)	-1.340	0.180
7	The assessor's feedback is helpful in daily clinical practice	2	1	10	60	27	0	5	16	61	18	4.00 (4.00-5.00)	4.00 (4.00-4.00)	-1.408	0.159
8	Feedback is a strength of the mini-CEX	1	0	10	54	35	0	5	16	53	26	4.00 (4.00-5.00)	4.00 (4.00-5.00)	-1.593	0.111
9	The Mini-CEX has impact to student self-directed learning	1	1	11	65	22	3	8	11	58	21	4.00 (4.00-4.00)	4.00 (4.00-4.00)	-0.869	0.385
10	Student's past Mini-CEX result affected his/her recent Mini-CEX outcomes	1	2	13	65	19	3	5	26	53	13	4.00 (4.00-4.00)	4.00 (3.00-4.00)	-2.140	0.032*
11	Experiences student gained from Mini-CEX assessments are applicable to daily clinical practice	1	1	8	68	23	0	5	8	63	24	4.00 (4.00-4.00)	4.00 (4.00-4.25)	-0.219	0.827
C Professional development															
1	The Mini-CEX has influenced student' professional development as a doctor	1	0	7	73	19	3	3	11	66	18	4.00 (4.00-4.00)	4.00 (4.00-4.00)	-0.861	0.389
2	The Mini-CEX has influenced student' perspective on patient care	1	0	11	69	19	3	3	13	63	18	4.00 (4.00-4.00)	4.00 (4.00-4.00)	-0.718	0.473
3	The Mini-CEX has influenced student' interactions with patients and their families	1	2	15	64	18	3	3	18	55	21	4.00 (4.00-4.00)	4.00 (3.75-4.00)	-0.191	0.848

Note: SD = Strongly Disagree; D = Disagree; N = Neither agree or disagree; A = Agree; SA = Strongly Agree; IR = Interquartile Range; *p < .05

Discussion

The aim of our study was to investigate how students and specialists as clinical teachers appreciate the mini-CEX in Indonesian clerkships, and whether there are differences between them. In general, students and specialists appreciated the practicability and were positive about the general impact of the mini-CEX on learning and about its impact on professional development. We found no significant differences between students' and specialists' appreciation, except that specialists were significantly more positive about the topic 'direct observation' and students were more convinced that 'past Mini-CEX results affected recent mini-CEX outcomes'.

The positive evaluation of the mini-CEX showed that students and specialists accepted the mini-CEX even though the educational concept of the mini-CEX did not directly fit in the Indonesian culture. This finding strengthened the result of our previous study that managing the implementation process carefully and taking culture and local context into account can facilitate the acceptance of the mini-CEX.² The careful implementation of the mini-CEX in an existing program may have positively influenced the appreciation for its practicality. The positive appreciation of the mini-CEX may also have been influenced by the fact that in the Internal Medicine Department, the students who were assessed with the mini-CEX showed significantly more improvement between the first end subsequent assessments than the students who completed the clerkships before the implementation of the mini-CEX.²

We found a significant difference between students and specialists in their appreciation of 'observation' with specialists being even more convinced of its importance than students were. This outcome may be related to the fact that Indonesia is a country classified low on the dimension of individualism.^{30,31} In collectivist cultures, specialists, as clinical teachers, need frequent observation to identify students' deviations from the group standards to maintain harmony and integration in the group. However, because in this culture specialists will deal with students as a group, observing students is usually done in front of other students. So, for students, being observed may be a straining experience because they are afraid of failing and losing face. Although in the mini-CEX students were observed individually, they might still feel insecure and need time to get

used to being observed individually by specialists. It might be the reason why students— compared to specialists – appreciate observation as less important for assessing clinical skills.

We also found that students rated the effect of ‘students’ past mini-CEX results on their recent mini-CEX outcomes’ significantly higher than specialists did. A possible explanation for this outcome is that the specialist does not know the results of students on former tests. Therefore, the specialist might interpret this question from a general opinion. Students, on the other side, might reflect on former results and feel stimulated to perform better at the next mini-CEX. They will interpret this question from an individual context. In the mini-CEX, students get individual feedback from specialists instead of the usual group feedback. Because of this individual encounter they don’t have to be afraid for ‘losing their face’ in front of other students^{2,30} and might be more focused on the feedback that was provided by specialists. As a result, students felt the past mini-CEX experience affect their recent mini-CEX experience.

This study has some limitations. First, our study was limited to only one medical school in Indonesia. Therefore, we were not able to identify differences attributable to cultural climate within organisations and differences between regions within a country.³⁵ However, cultural differences between countries are in general larger than those between subcultures within countries.³⁶ Therefore, our findings may be generalizable to other Indonesian medical schools. To strengthen our study, we suggest a replication study in other medical schools. Second, we limited our study to the appreciation of the mini-CEX in Internal Medicine and Neurology because the mini-CEX was implemented only in these two departments.²

In conclusion, students and specialists highly appreciated the mini-CEX in Indonesian clerkships even though the concept was developed and validated in another culture. We found only small differences between students and specialists, which could be explained by Indonesian culture. We invite medical schools from other cultures to evaluate their students’ and specialists’ appreciation of educational concepts such as the mini-CEX that were developed in a different culture, to get a better understanding of the influence of culture on globally implemented educational concepts.

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