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Feedback during clerkships: the role of culture

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Chapter 2
Exploring cultural differences in feedback
processes and perceived instructiveness
during clerkships: replicating a Dutch study in
Indonesia

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ABSTRACT

Context: Cultural differences between countries may entail differences in feedback processes.

Aims: By replicating a Dutch study in Indonesia, we Analyzed whether differences in processes influenced the perceived instructiveness of feedback.

Methods: Over a two-week period, Indonesian students (n=215) recorded feedback moments during clerkships, noting who provided the feedback, whether the feedback was based on observations, who initiated the feedback, and its perceived instructiveness. Data were compared with the earlier Dutch study and Analyzed with chi-square tests, t-tests and multilevel techniques. Cultural differences were explored using Hofstede's Model, with Indonesia and the Netherlands differing on 'power distance' and 'individualism'.

Results: Perceived instructiveness of feedback did not differ significantly between both countries. However, significant differences were found in feedback provider, observation and initiative. Indonesian students perceived feedback as more instructive if provided by specialists and initiated jointly by the supervisor and student ($\beta_{residents} = -.201, p < .001$ and $\beta_{joint} = .193, p = .001$). Dutch students appreciated feedback more when it was based on observation.

Conclusions: We obtained empirical evidence that one model of feedback does not necessarily translate to another culture. Further research is necessary to unravel other possible influences of culture in implementing feedback procedures in different countries.

Introduction

As a result of growing globalization and internationalization, the influence of culture is becoming increasingly relevant in medical education.¹⁻⁷ Current concepts concerning teaching and learning have spread widely throughout the world and have been adopted in curriculum innovations by medical schools in many countries.⁸ Feedback to students is an example of an educational concept which is being implemented in medical curricula all over the world. Instructive feedback facilitates learning during clerkships. Providing feedback to students occurs in an interactive process. How teachers and students interact is rooted in the culture of a society and it can be questioned whether the implementation of feedback processes should be the same in each country.⁹ Indeed, several authors suggest that educational concepts, for example feedback, cannot readily be transferred from one culture to another.¹⁰⁻¹² However, empirical evidence about how feedback processes relate to differences in culture and what this means for the instructiveness of feedback is lacking. By replicating a Dutch study in Indonesia, we examined differences in Indonesian and Dutch feedback processes during clerkships, Analyzed the influence of the process on the perceived instructiveness of feedback and addressed the question of whether possible differences could be related to differences in culture.

In medical education, the Hofstede Model has been used to explain cultural differences between countries.^{1,3} In this model, culture is defined as ‘the collective programming of the mind that distinguishes the members of one group or category of people from another’.^{9,13} Based on cultural data collected from more than 50 countries, Hofstede classified cultural differences between countries into five dimensions:

- *Power Distance*, which refers to the degree of human inequality that underlies the functioning of a particular society;
- *Individualism*, which refers to the degree to which individuals are supposed to look after themselves or remain integrated in groups;
- *Uncertainty Avoidance*, which refers to the degree to which a society attempts to control unpredictable, unclear or unstructured situations;
- *Masculinity*, which refers to gender role division within a society;
- *Long-Term Orientation*, which refers to the focus of people’s efforts: the future or the present.

Based on the scores on each dimension, countries may have a large or small power distance, high or low individualism, high or low uncertainty avoidance, high or low masculinity, and long-term or short-term orientation. The individualism dimension was most widely studied,¹⁴ and has a strong relationship with the dimension of power distance.^{13,14} Large power distance countries usually have low individualism (collectivism), and small power distance countries usually have high individualism. To obtain a good understanding of cultural differences between countries, it is important to explore the consequences of both dimensions. In our study, we included two countries: a country characterized by large power distance and low individualism (Indonesia) and a country characterized by small power distance and high individualism (the Netherlands).^{9,13} Both countries are similar on the dimensions uncertainty avoidance (low), masculinity (low) and a long-term orientation. In this study, we will focus on the cultural dimensions on which the two countries differ: individualism and power distance.

On national level, based on Hofstede's Model, different patterns of interaction in the context of teaching and learning at school are described (Table 1).^{9,13} In countries with large power distance and low individualism, students tend to depend on their teacher's input and the teacher is expected to outline paths which have to be followed by students. Most interactions between the students and their teacher will be initiated by the latter. Students use the group as their frame of reference, and within that group, saving face and maintaining harmony is of great importance. *In countries with small power distance and high individualism, teachers and students treat each other more as equals. The students are expected to create their own way of learning and to take the initiative in communicating with teachers and solving problems.*

Table 1. Hofstede’s model of cultural dimensions: the Power Distance and Individualism dimensions in educational contexts

<p>Large Power Distance</p> <ul style="list-style-type: none"> • Students expect teachers to outline paths to follow • Quality of learning depends on excellence of teachers • Teachers initiate all communication in class 	<p>Small Power Distance</p> <ul style="list-style-type: none"> • Teachers expect students to find their own paths • Quality of learning depends on two-way communication and excellence of students • Students initiate some communication in class
<p>Low Individualism (collectivism)</p> <ul style="list-style-type: none"> • Harmony, saving face and shaming in class • Students will not speak up in class or large groups • Teachers deal with students as a group 	<p>High Individualism</p> <ul style="list-style-type: none"> • Students’ selves to be respected • Students expected to speak up in class or large groups • Teachers deal with individual students

In clerkships, feedback is an important factor for learning.¹⁵⁻¹⁹ It can enhance students’ behaviour and level of competence and, therefore, improve their performance.²⁰⁻²⁵ Feedback is considered to be most effective when it is systematically delivered from credible sources, discussed face-to-face in a safe environment, related to a specific standard and when it contains highly specific information.^{15,20,21,25} There are a few studies in which cultural differences in feedback have been explored. We found two studies outside the field of medical education. Faculty and students from Hong Kong hold the opinion that the purpose of feedback is to identify the weaknesses or errors while teachers from expatriate Western countries (such as the United States or Britain) stated that a balance between criticism and praise has to be achieved.²⁶ Comparing post-graduate students in Hong Kong and the United States, Morrison et al found that individuals high on self-assertiveness and low on power distance more frequently sought feedback than those low on self-assertiveness and high on power distance.²⁷ Within the field of medical education, faculty of an anaesthesia residency training program in Thailand stated that the purpose of feedback

is to correct behaviour, while faculty from Canada considered the emotional consequences and showed their reluctance to give negative feedback.⁶ Based on the results of these studies, we can conclude that cultural differences seem to influence opinions about feedback. However, to our knowledge, there are no studies yet on how cultural differences might influence the process and the perceived instructiveness of feedback.

In literature, it is suggested that the instructiveness of feedback is influenced by the status of the supervisor,^{28,29} observation of behaviour,^{15,30} and active participation of the student.^{15,20,21} In our Dutch study, we searched for empirical evidence for these expectations.³¹ Our study revealed that students perceived feedback provided by specialists and residents as more instructive than feedback from nursing and paramedical staff. No significant differences were found in perceptions of the instructiveness of feedback from specialists and residents. The feedback was considered more instructive if students were observed and when the feedback was initiated by them or based on a joint initiative rather than the supervisor's initiative. *The outcomes of our study did not support all expectations about feedback found in literature. We wondered whether these outcomes are influenced by the Dutch culture (small power distance and high individualism).* Therefore, we investigated students' perceptions of the instructiveness of feedback during clerkships in Indonesia, characterized by large power distance and low individualism. To enable the best comparison of students' perceptions on the instructiveness of feedback, we replicated the Dutch study of Van Hell et al (2009).³¹ We investigated: (1) the feedback processes by analysing how often Indonesian students received feedback, who provided the feedback, whether it was based on direct observation of performance and the degree of student initiative in requesting feedback; (2) how the factors associated with the feedback provider, observation of performance and student initiative influenced the perceived instructiveness of feedback; and (3) differences between the results from the Indonesian and the Dutch study. Differences in feedback processes and perceived instructiveness of feedback between Indonesia and the Netherlands were then considered from the perspective of cultural differences on the dimensions power distance and individualism.

Methods

Context

This replication study was conducted at the Gadjah Mada University (GMU), Yogyakarta, Indonesia. The context of the Indonesian study is comparable to that of the Dutch study by Van Hell et al. (2009).³¹ In both universities, the curricula were problem-based and patient-centered, which means that the patient's problem is the central issue of the curricular modules and their educational elements. The duration of the Gadjah Mada University medical curriculum was five years (compared to six years in the Dutch study), with students participating the last 1.5 years in clerkships (compared with 2 years of clerkships in the Dutch study). The GMU clinical phase implied rotating through twelve clinical departments (surgery, internal medicine, paediatric, obstetrics and gynaecology, neurology, ophthalmology, psychiatric, dermatology, otorhinolaryngology, radiology, medical forensic, and anaesthesiology) at the main teaching hospital or one of the eleven affiliated hospitals. The Dutch clerkships took place at the University Medical Center or one of seven affiliated hospitals. In both universities, students are averagely 8 hours per day in the hospital.

Participants and procedure

The students (n= 286) from all clinical departments were asked to record for two weeks, on a daily basis, all moments they received individual feedback on their performance. In this replication study, we used the form that was developed for the Dutch study, and translated it into Bahasa Indonesia, the national language of Indonesia. After a back-translation check, the Indonesian version appeared to represent the Dutch version as accurate as possible. A pilot study (n = 19) showed that the form was applicable in the Indonesian context. Each form was accompanied by a letter explaining the purpose of the research. All participants received IDR 50,000 (approx. USD 7) as a reward for their participation. We obtained ethical approval for this study from the Medical and Health Research Ethics Committee (MHREC) at Gadjah Mada University.

Measures

Feedback was defined as comments/remarks on an individual student's work or behaviour. The students were asked to record all individual feedback moments and note:

- Who provided the feedback: a specialist, a resident, a nurse or another member of the paramedical staff (variable "supervisor").
- Whether the feedback was based on direct observation of performance. Feedback that is not based on direct observation is often based on information from others or from the students themselves (variable "observation").
- Who initiated the feedback moment: the student, the feedback provider or both. The latter refers to a joint initiative of both student and supervisor (variable "initiative").
- The instructiveness of each feedback moment as perceived by the student, using a 5-point Likert scale ranging from 0 = not instructive to 4 = very instructive. By 'instructiveness' we mean the perceived learning value of the feedback.

As the perceived instructiveness of feedback might also be influenced by the student's gender, we also included the variable 'gender'.

Statistical analysis

Descriptive figures were used to show the number of feedback moments the Indonesian students received. To analyse differences between the Indonesian and the Dutch data, we gained full access to the Dutch dataset. Differences in the percentage of feedback moments between Indonesia and the Netherlands were Analyzed with chi-square tests. Differences in perceived instructiveness of feedback between both countries were Analyzed with a t-test. Each student reported several feedback moments. Therefore, the perceived instructiveness of feedback could not be Analyzed independently. Because of the hierarchical structure of the data, where feedback moments were nested within students, we conducted a multilevel analysis in three stages. First, we estimated the empty model, describing the variation in perceived instructiveness associated with feedback moments and students (intraclass correlation). Second, the influence of the independent variables 'supervisor', 'observation', 'initiative' and 'gender' on perceived instructiveness was calculated using a main effects model. Third, all of the main effects and their interactions were estimated in a stepwise procedure.

The accuracy of a model is shown by the reduced difference in deviance between the model and the actual data. Significant differences were tested with a chi-square test, with the number of degrees of freedom equal to the number of added parameters. Because adding the interaction effects did not significantly improve the model, the final model presented in the Results section only contains the main effects. T-tests were used to determine the significance of the contribution of each independent variable. Data were Analyzed with the multilevel computer program MLwiN (version 2.01).

Results

Study in Indonesia

In total, 215 (response rate= 75,17%) Indonesian students, of whom 54% were women, reported 1654 feedback moments. On average, the students reported 3.9 individual feedback moments per week. They predominantly received feedback from residents, with their performance being observed in 82.3% of the feedback moments (Table 2). These feedback moments were mostly initiated by the supervisors (48.3%).

Table 2. Comparison of feedback processes between Indonesia and the Netherlands

	Indonesia %	The Netherlands* %	χ^2 (p)
Supervisor			
Specialists	31.1	68.3	415.8
Residents	61.7	22.5	(0.000)
Nursing and paramedical staff	7.2	9.1	
Observation			
Observed	82.3	38.5	544.9
Not observed	17.7	61.5	(0.000)
Initiator			
Student	37.5	22.3	429.2
Supervisor	48.3	26.5	(0.000)
Joint	14.2	51.2	

* Data retrieved from the previously published Dutch study

The multilevel analysis showed that in the empty model, 49.3% of the variance was at student level and the other 50.6% was associated with the feedback moments. When the main effects were entered, the model improved ($\chi^2 = 66.762$, $df = 6$, $p < 0.001$) (Table 3). Adding interactions did not significantly improve the fit of the model. The main effects model shows that Indonesian students perceived feedback from specialists and residents as more instructive than feedback from nursing and paramedical staff ($\beta_{specialists} = 0.423$, $p = 0.001$; $\beta_{residents} = 0.207$, $p = 0.01$). Feedback from specialists was perceived as more instructive than feedback from residents (specialist as reference category, $\beta_{residents} = -0.201$, $p < 0.001$). We found no significant difference in perceived instructiveness of feedback based on observed or non-observed behaviour. The students perceived feedback to be more instructive when the feedback moment was initiated by themselves or jointly by themselves and the supervisor, than when it was initiated by the supervisor ($\beta_{student} = 0.099$, $p < 0.01$; $\beta_{joint} = 0.292$, $p < 0.01$). In addition, students perceived feedback to be more instructive when the feedback moment was jointly initiated by the themselves and the supervisor, than when it was solely initiated by themselves (student initiative as reference category, $\beta_{joint} = 0.193$, $p = 0.001$). We found no significant difference in perceptions about the instructiveness of feedback between male and female students.

Table 3. Multilevel analysis for perceived instructiveness of feedback in Indonesia

Variables	Empty model		Main effects model	
	Coeff.	(SE)	Coeff.	(SE)
Intercept	2.932***	(0.051)	2.522***	(0.109)
Supervisor (ref #: nursing and paramedical staff)				
Specialists			0.423***	(0.075)
Residents			0.207**	(0.070)
Observation (ref #: not observed)				
Observed			0.056	(0.050)
Initiator (ref #: supervisor)				
Student			0.099**	(0.041)
Joint			0.292***	(0.056)
Gender (ref #: men)				
Women			0.045	(0.102)
Variance				
Between students	0.407	(.050)	0.407	(0.050)
Within students	0.418	(.015)	0.399	(0.015)
Deviance	3623.823		3557.061***	

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$; SE = standard error; # ref: reference group

Indonesia versus the Netherlands

Indonesian students reported an average of 3.9 individual feedback moments per student per week, which did not differ significantly from the average of 4.4 moments in the Dutch study ($p = 0.203$). The Indonesian students received less feedback from specialists and more feedback from residents than their Dutch counterparts ($\chi^2 = 415.8$, $df = 2$, $p < 0.001$) and the feedback was more frequently based on directly observed performance ($\chi^2 = 544.9$, $df = 1$, $p < 0.001$), (Table 2). In Indonesia, most feedback moments were initiated by the supervisor, while in the Netherlands, most feedback moments were jointly initiated by the student and the supervisor ($\chi^2 = 429.2$, $df = 2$, $p < 0.001$).

In Indonesia, the overall mean of ‘perceived instructiveness’ was 2.93 (SE = 0.88), which did not differ significantly from that in the Dutch study (2.92, SE = 0.87). The Indonesian study revealed that feedback from specialists was perceived as more instructive than feedback from residents, while in the Dutch study no significant difference in perceptions of the instructiveness of feedback from specialists and residents was found. In Indonesia, we found no significant difference in perceptions of the instructiveness of feedback based on observed and non-observed behaviour, whereas in the Netherlands, feedback based on direct observation was perceived as more instructive. In Indonesia, feedback was perceived as more instructive when the feedback moment was jointly initiated by the student and the supervisor than when it was solely initiated by the student. The Dutch study, however, showed no significant difference in perceptions about the instructiveness of feedback resulting from student or joint initiative. Whereas Dutch female students perceived the instructiveness of feedback to be higher than their male peers, we did not find such a gender difference among the Indonesian students.

Discussion

To examine cultural differences in feedback processes during clerkships, we replicated a Dutch study in the Indonesian context. Data analysis showed no statistically significant differences between the countries in perceived instructiveness of feedback. However, we did find differences in feedback processes, as well as in the influence of the variables ‘supervisor’, ‘observation’, and ‘initiative’ on the perceived instructiveness of feedback. We used Hofstede’s model of cultural differences to explain the findings, using the concepts of power distance and individualism.

During clerkships, Indonesian students mostly received feedback from residents, while the Dutch students more often received feedback from specialists. The Indonesian students perceived feedback from specialists as more instructive, while the Dutch students experienced feedback from residents and specialists as equally instructive. In both countries, specialists are higher in the hierarchy in the clinical setting than residents are, and residents are higher than students. However, in cultures larger on power distance, this hierarchy influences relationship patterns more, because superiors tend to maintain distance

between themselves and their subordinates.^{9,13} This might explain why students in the Indonesian situation receive most feedback from superiors close to them, such as residents. At the same time, they perceived feedback from specialists as more instructive than feedback from residents, probably because they consider specialists as experts in the field.^{13,26} In small-power-distance countries, such as the Netherlands, hierarchy is more dependent on roles and responsibilities. Outside their roles and responsibilities, supervisors and trainees will treat each other more as equals.^{9,13} In the Netherlands, part of the specialists' role is to provide trainees, residents and students with feedback. This explains why the Dutch students received more feedback from specialists than residents. Furthermore, countries with smaller power distance are characterized by two-way communication between supervisor and trainee. This might explain why Dutch students value the feedback from residents and specialists equally. Besides the aforementioned, in both countries, students received the least amount of feedback from nursing and paramedical staff and perceived this kind of feedback as least instructive. The explanation for this finding, however, may be different for both sites. In Indonesia, it may be because nursing and paramedical staff have expertise in another field and, therefore, are not superior to the students (i.e. have less power). In large-power-distance countries, authority within the field implies expertise in the field and, therefore, is necessary for the instructiveness of feedback.^{13,26} In the Netherlands on the other hand, students may perceive feedback from nursing and paramedical staff mainly as least instructive because they are from another field (different educational background), which may affect the credibility of the feedback.²⁰

Indonesian students reported that their performance had been directly observed more frequently than their Dutch counterparts. While the Dutch students perceived feedback based on direct observation as being more instructive, Indonesian students valued feedback based on observed and non-observed performance equally. These differences in results may be explained by differences in individualism and power distance. In collectivist cultures, the workplace in itself is an 'in-group'. Frequent observation is needed for supervisors to identify students' deviations from the group standards. By focusing on such deviation, supervisors encourage students to adapt to the in-group. However, as a consequence of teachers dealing with individuals as a group, they usually observe individual students in front of the group, which makes students afraid

of failing and losing face. Therefore, Indonesian students may not experience feedback based on these observations as more instructive. Besides, in a large-power-distance country like Indonesia, students need to follow the outlines from the teacher.^{9,13} As a result, it might be that students appreciate any feedback, irrespective of whether the feedback was provided on observed action or not. In individualistic cultures, the student's unique identity is important and, as a consequence, they are encouraged to operate more independently. Consequently, they are less frequently observed. The wish to be more independent and to express themselves freely, results in Dutch students using their own initiative to learn new things.^{9,13,32} However, they need to be observed in order to gain an impression of their abilities. This might explain why Dutch students value feedback based on observed behaviour more than feedback based on behaviour that was not directly observed.

In Indonesia, most feedback moments were initiated by the supervisors, whereas in the Netherlands, most feedback was based on a joint initiative of the student and the supervisor.

Furthermore, the Indonesian students perceived feedback arising from a joint initiative as most instructive. The Dutch students perceived feedback initiated by the student or arising from joint initiative as more instructive. This difference in results may be explained by power distance and individualism. In large-power-distance cultures, supervisors are perceived as more difficult to approach than in small-power-distance cultures. Even though students need feedback from their supervisor as an outline to be followed, they feel less comfortable asking for feedback. Furthermore, in collectivist cultures, students are more reluctant to speak up as they want to avoid losing face by making a mistake. They will generally strive to fit into the group, adjust their behaviour to achieve this, try to maintain group harmony and focus on the priorities of the group rather than on their own desires. In an individualistic culture, on the other hand, students will identify themselves as separate, independent people and will generally look after themselves, strive to be unique, express themselves freely and make their own decisions.^{13,32} Students are expected to initiate their own learning process and therefore, ask for feedback.^{9,13} In combination with small power distance, frequent feedback based on a joint initiative, which students highly value, is a logical result.

In literature, it is suggested that the quality of feedback is positively influenced by the seniority of the person providing it,^{28,29} observation of students' performance,^{15,30} and the initiative of students.^{15,20,21} This means that feedback is expected to be most instructive if it is provided by specialists, based on observation and initiated by the student. Such an 'ideal' situation was not found in either country. In Indonesia, the country with large power distance and low individualism, students received most feedback from residents, they were often directly observed and most feedback moments were initiated by the supervisor. In the Netherlands, the country with small power distance and high individualism, students received most feedback from specialists, were less observed and about half of the feedback moments were based on a joint initiative. We found comparable differences when analysing the influence of these variables on the perceived instructiveness of feedback. Remarkably, the differences in feedback processes did not lead to differences in general appreciation of the instructiveness of feedback. Our outcomes suggest that it might be important to take cultural differences into account when implementing feedback processes. Cultural adaptations of feedback processes might be necessary to guarantee instructiveness. However, much more research is needed to support this idea.

One strength of our study is that we replicated the design of the original Dutch study and, thus, were able to compare two countries with different cultures on their feedback processes in clerkships. The countries are similarly classified on the dimensions of 'uncertainty avoidance', 'masculinity' and 'long-term orientation', but they differ on the dimensions of 'power distance' and 'individualism', as defined in Hofstede's model.^{9,13} By replicating a Dutch study in Indonesia, we created a design in which cultural differences on a national level can be studied in the best manner possible.³³

We limited our study to a replication study to find out whether differences in feedback processes during clerkships could be explained from the perspective of cultural differences on the dimensions power distance and individualism as described by Hofstede's framework. This implies that we did not investigate additional aspects of the feedback provided, such as the content of feedback. Further research might investigate the content of feedback and its relation with the perceived instructiveness of feedback. A second limitation of our study is that we used students' perceptions of instructiveness as the outcome measurement. Students recorded feedback moments over a period of two weeks and indicated

how instructive the moments were. We do not know their actual learning output. However, since positive perceptions are conducive to learning,³⁴ student satisfaction with the learning value of feedback may improve their learning outcomes. A third limitation is that cultural differences between the two student populations may affect the interpretation of instructions in the questionnaires. By replicating the Dutch study, we tried to control for ‘noise’ in our research design as much as possible. Further qualitative research might shed more light on such cultural differences. A fourth limitation is that we only compared one medical school in each country. Considering that cultural dimensions may be a simplification of reality³⁵ and that cultural climates can differ between regions of a country,³⁶ we realize that we need to be cautious in our interpretations. However, research also showed that national culture is reflected in the subcultures embedded in it.³⁵ This is also true for our setting: we observed clear differences between the Indonesian and the Dutch setting that were in line with Hofstede’s theory: the Indonesian setting was higher on Power Distance and lower on Individualism than the Dutch setting. Therefore, Hofstede’s model was appropriate to explain cultural differences.^{1,3}

In conclusion, we found evidence that cultural aspects may influence how feedback is perceived. Although feedback during clerkships was perceived as equally instructive by the Indonesian and the Dutch students, we found significant differences in feedback processes and in underlying factors influencing the perceived instructiveness of feedback. These differences correspond to cultural characteristics of each country and can be explained by the Power Distance and Individualism dimensions of Hofstede’s model. Thus, we obtained empirical evidence that one model of feedback does not necessarily translate to another culture at a time when homogenous, global models of education are being promoted. We recommend educationalists who implement educational concepts from other cultures to be aware of cultural differences, consider possible influences on the learning processes of students, and take the local culture into account while not changing the underlying concept. Further research is necessary to unravel possible positive or negative influences of culture in implementing feedback processes in different countries.

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