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# Exploring Papuan medical students' learning experiences whilst studying in Indonesia

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**Research Article**

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## Abstract

The objective of this paper is to explore the learning challenges of a group of first-year Papuan medical students. Perspectives were obtained from a group of Papuan medical students (attaining high and low grades) and Faculty staff (Papuan and Non-Papuan) at the University of Cenderawasih, Indonesia. This qualitative case study research employed semi-structured interviews conducted online via Skype. Data were analysed using a general inductive method and classified into themes to reflect Papuan students' learning challenges. We identified three main themes, namely the *individual*, the *university* and the *outside environment*. We found that these Papuan students were affected by their individual challenges, such as self-perception and the level of their learning and social skills. At the university level, students faced difficulties in adjusting their learning and felt that they were lacking a quiet supportive learning environment. They were also influenced by outside environment factors, such as family and financial concern. Given the wide range of challenges faced by Papuan medical students, Faculty development initiatives incorporating cultural responsiveness into the curriculum and wider government support are crucial for the successful educational advancement of Papuan medical students, which ultimately leads to better health outcomes for the Indigenous people of Papua.

## Introduction

This paper explores the experiences and views of Papuan medical students and Faculty within an Indonesian medical programme. This Papua medical programme, established in 2002, aimed to address equity issues amongst Papuan students to increase their access to medical education. This initiative was specifically designed to increase the number of health workers in the Papua region, particularly in remote areas, and to improve health outcomes for Papuan people.

Despite these good intentions, in early 2010, a group of Papuan medical students began a movement—*Gerakan Mahasiswa Kesehatan Peduli Kampus—Orang Asli Papua (GMPK-OAP)* (In English—The Movement of Indigenous Papuan Health Students) to highlight the institutional and educational challenges they faced. They suggested that the existing teaching and learning models used in the medical programme led to a higher proportion of Papuan students failing the programme compared with non-Papuan students. These students urged decision-makers in the medical programme to reform certain curriculum components to address the needs of Papuan medical students.

As a response to the challenges cited above, the Faculty has, since 2014, implemented several education initiatives, such as those linked with Faculty management, recruitment, curriculum redesign, improved IT infrastructure and resource development. However, internal reports from Fakultas Kedokteran Universitas Cenderawasih (2017) suggested that there are ongoing academic attainment problems among Papuan medical students.

## Background

Garvey *et al.* (2009) reported that several factors impact indigenous medical student learning, such as programme content and learning processes, support systems, personal qualities, cultural issues and discrimination. Morgan (2001) also proposed similar factors, including cultural and social isolation, family and financial concerns, and transitioning issues. In addition, Dyrbye *et al.* (2007) reported that minority students considered their ethnicity adversely affected their medical school experiences, due to racial prejudice, feelings of isolation and differing cultural expectations. They also found that such experiences were more likely to engender instances of burnout, depression and reduced psychological quality of life. These and other studies have also raised concerns regarding student well-being in reference to indigenous education (Morgan, 2001; Dyrbye *et al.*, 2007; Barney, 2016)

In the case of Papuan students, previous research (Novirianto, 2013; Rumondor *et al.*, 2014; Garini, 2017; Mayora *et al.*, 2016; Wijanarko and Syafiq, 2017) indicated that they are likely to

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experience educational hardship when adapting to unfamiliar educational standards. For instance, Mayora *et al.* (2016) reported that, among the total Papuan students who were studying at Syiah Kuala Aceh (Western Indonesia), 64.3% were academically categorised as a 'low performing group' due to difficulties adapting to the local cultural demands. Similarly, Novirianto (2013) stated that Papuan students experienced cultural shock when first exposed to campus life in Java, as they experienced language barriers and a fear of new settings. Wijanarko and Syafiq (2017) further claimed that maladaptation to the local context could adversely impact Papuan students at personal (e.g., feelings of inferiority and sensitivity) and societal levels (e.g., withdrawal and isolation).

Consistent with these findings, stereotyping and social economic status have an impact on Papuan students. For example, Rumondor *et al.* (2014) observed that 80% of *Minahasa* people in northern Sulawesi labelled Papuan people as slow and inflexible. However, they also stated that Papuans have a strong sense of unity within their own group. Moreover, Garini (2017) reported that access to economic resources had an impact on Papuan students' adaptation skills within the academic and social environments in Lampung (Southern Sumatra).

Internal reports from Fakultas Kedokteran Universitas Cenderawasih (2017) suggest that Papuan students are potentially more at-risk of failing their study than other Indonesian students, even though this medical programme implemented an affirmation policy to increase Papuan medical student numbers. The current study explores the experiences of a group of these Papuan medical students and their Faculty studying and working in a medical education programme. Our aim is to raise cultural responsiveness in medical education, and to suggest interventions that could facilitate indigenous students' academic success.

The overarching research question is, 'what are the learning experiences of the Papuan medical students within a Faculty of Medicine in an Indonesian university?'

## Method

### Research design

A case study methodology was employed and analysis was conducted utilising the general inductive technique (Thomas, 2006). Yin (2014) suggested that case study is a suitable methodological choice if the research aims to explain a specific phenomenon, event, individual, group or community.

Regarding the researchers, the first author (RS) is a non-Papuan who grew up and lived closely with the Papuan community and married a Papuan academic. She is also an alumnus of the medical programme, but not working at the time of the research. She has had more than 5 years of teaching experience, and whilst working in Papua, she interacted with indigenous medical students and witnessed the academic struggle of indigenous students. The second and third authors (YC and MAH) are academic psychologists and educationalists working in a medical education centre at a University in New Zealand. Both of these academics have an interest in exploring and further understanding the experiences of indigenous students. All data were collected by RS and then analysed and interpreted by all authors.

### Sampling

Participants for this study were recruited from the medical school of the University of Cenderawasih in Papua, Indonesia. Currently, there are 42 Papuan students (out of 52 students) enrolled in the first year of Bachelor of Medicine programme and 17 lecturers teaching in the medical programme (Fakultas Kedokteran Universitas Cenderawasih, 2017). Papuan students were identified by their surnames. According to Indonesian law, the indigenous people of Papua are defined by the Law of Special Autonomy in Papua (Law 21 in 2001, chapter 1), section (p). That is, as Papuans living in the region and bound and subject to certain customs resulting in a strong sense of solidarity. Section (t) describes indigenous Papuans as *orang asli Papua* or people belonging to the Melanesian racial group that consists of indigenous tribes in Papua and are recognised and accepted as indigenous Papuans by other indigenous Papuans.

We used a purposive sampling method and the inclusion criteria included:

(1) Students must be Papuan by ethnicity,
(2) Registered as a first-year student or teacher in the undergraduate medical programme,
(3) Enrolled or taught in the same semester,
(4) Students were taught in the same class by the same teacher,
(5) Students had completed at least one final semester exam,
(6) Faculty (Papuan and non-Papuan) who were actively involved in teaching first-year medical students.

Furthermore, to have a variation of perspectives and experiences, Papuan students with different levels of academic attainment were recruited.

### Procedure

Semi-structured interviews were carried out using Skype video calls from Auckland, New Zealand to Papua, Indonesia. The first author (interviewer) was completing a Master in Clinical Education at the time and was unable to travel to Papua and conduct face-to-face interviews due to budget and time constraints. We considered the economic, political and cultural differences of the research contexts. In addition, we considered the implication of using Skype and its potential to escalate a sense of cultural imperialism (Roach, 1997). Nevertheless, we also considered the pragmatic value of using this technology and its availability, and thus the first author cultivated an empathetic relationship based on equivalence. This interviewer was very familiar with the Papuan culture and had worked in this region.

Each individual interview lasted between 40 and 60 min. Skype interviews took place in a private room where only the interviewer and the interviewee faced each other through the computer screen. Using this method, participants could freely express their opinions and thoughts, and share their stories and experiences without the feeling of being judged by others. The interviewer allowed all participants to answer and explore all questions.

All interviews were audiotaped and transcribed verbatim. Five probe questions were posed to the Papuan students and four to the Faculty staff. Follow-up questions were given if the probe question generated the need for further questioning. In addition to interviewing the students' views on their learning experiences, Faculty were also interviewed to explore students' learning activities and learning experiences from the perspectives of the educational service provider. Additional information gathered from the Faculty administrator included students' grade reports, teaching staff data and the Faculty curriculum design of the University of Cenderawasih, Papua, Indonesia (not included in this paper).

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Pilot interviews were conducted to refine the interview questions and techniques.

To ensure participants' confidentiality in this study, no identifying material was used. Each participant was labelled with a unique ID number to maintain confidentiality. Ethics approval was obtained from the University of Auckland Human Participants Ethics Committee (# 020560).

### Data analysis

This study employed a general inductive approach, which consists of close reading of interview transcripts, highlighting text segments for coding, creating themes and checking for overlapping codes, and continuing refinement of the thematic system (Thomas, 2006). The interviews and transcripts were in Bahasa—the native language of the first author and interviewees. Initial coding was conducted in Bahasa to reduce the risk of losing the meaning caused by the translation process. The final results were translated into English by a certified translator to allow for in-depth scrutiny of the results by all authors (Van Nes *et al.*, 2010).

Next, participants' answers that contained important information relevant to the research question were identified. Discussions within the research team were carried out to scrutinise each statement to clarify meaning and reduce bias. These statements were grouped into themes and discussed consensually to avoid the risk of skipping important findings and to guarantee the accuracy of categorisation (Thomas, 2006; Hancock, 2011).

### Rigour

To ensure trustworthiness, the interview recordings and transcription were reviewed several times. The final transcription and a summary of the main findings were sent to participants to ensure the authenticity of the data. To reduce the bias of the data analysis and interpretation, the first author collaborated with an independent person at the University regarding the transcription and inductive coding process.

## Findings

### The participants

Five undergraduate Papuan medical students completing their second semester of 2017 participated in the research. This group was represented by students attaining academic grades of A through to D. The age range of study participant group was 17–19 years, 80% of students came from the highland areas of Papua and one from the coast. In addition, three Faculty (Papuan and non-Papuan lecturers) participated and all had worked with the student participants.

### The emerging themes from the general inductive analysis

Three main themes and respective underlying sub-themes were identified. We discussed each theme and respective sub-themes from both student and Faculty perspectives

### Theme 1: individual

This theme has four sub-themes focusing on determinants affecting self-learning and academic achievement.

#### Sub-theme 1: self-perception (who am I)

In this subtheme, we explored how Papuan students perceived themselves and how they responded to their surroundings with respect to learning on campus, at home and/or by themselves. Papuan students' negative self-perceptions emerged when believing that they were 'less-smart' than non-Papuan peers and feeling less focussed. For example,

> '*Most of us, Papuan, we feel timid with the non-Papuan students, they are smarter than us…we cannot be like them.*' *(A-grade student)*
>
> '*…It is me, I myself cannot focus…*' *(D-grade student)*

One consequence noted by a Faculty member was the development of physical distance between the Papuan and non-Papuan groups. For example,

> '*…tendency to be in group…they tend to sit with their Papuan peers. Papuans and non-Papuans also sit with their own group…*' *(Faculty)*

In addition, self-perception appeared to be moderated by academic achievement. When the interviewer asked students about why they failed exams, they tended to blame themselves. For example,

> '*It is me, I myself cannot focus.*' *(D-grade student)*
>
> '*We Papuan are reluctant, do not have courage to lead…*' *(C-grade student)*
>
> '*Lecturers have explained everything, it is just my lack…*' *(D-grade student)*

Another group of students said that when learning in class or engaging in group discussions, Papuans faced emotional challenges:

> '*In my opinion, factors that hindered us, first we feel afraid, afraid to be wrong; shy and no confidence…*' *(C-grade student)*

#### Sub-theme 2: learning and motivational skills

This sub-theme refers to those skills gained by students from their previous and current education. These skills included learning engagement, academic achievement and adjustment at university. Papuan students developed ways to learn but also considered other responsibilities. Papuan students with higher grades appeared to have developed ways to learn and were able to balance with other activities and become familiar with using Internet technology for learning. For example,

> '*…Looking for literature is not difficult, because I already know how to use internet…*' *(B-grade student)*
>
> '*…What I have done is set the right time, like in the morning, I study a little…work, if I have spare time, I study again…*' *(A-grade Student)*

Meanwhile, students achieving lower grades did not refer to Internet use when learning but mentioned discussions as learning tools but when asked whether they discussed with their peers in learning, one student said that they rarely do it.

> '*For the learning process…I mostly engage with discussion…*' *(D-grade student)*
>
> '*…discuss with friends as well, but rarely…*' *(D-grade student)*
>
> '*For the learning process…I mostly engage with discussion…*' *(D-grade student)*
>
> '*…I feel more interested when we discuss…*' *(D-grade student)*

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Students were extrinsically motivated by the need to support their community although one student expressed that their motivation was linked to early life experiences. For example,

'…*because my parents often sick and in our village there in no doctors…*' *(D-grade student)*

'*It is my desire to be a doctor since I was a little boy, so I have a commitment to be a doctor…*' *(D-grade student)*

In contrast, Faculty tended to express the need for students to develop intrinsic motivation and to ensure material was relevant. Furthermore, one Faculty member suggested that the skills attained prior to enrolment were lower than expected thus disadvantaging them in their current study.

'…*They do not have good enough skills to enter university life.*' *(Faculty)*

Papuan students were often extrinsically motivated by the need to support their family and community.

'*My motivation come from my parents and environment.*' *(A-grade student)*

'*My motivation is honestly my own people…*' *(D-grade Student)*

In contrast, Faculty tended to express the need for students to develop intrinsic motivation and to link this with a sense of relevance.

'…*their internal challenges…in my opinion, …perhaps, they lack motivation, they perceive the subject as not important to be learned…*' *(Faculty)*

'…*First-year students need matriculation…continuously motivate them, motivation and support…However, it must be also come from themselves…their internal motivation must be strong…as lecturer…give them opportunity to speak up, give their opinion in class…they need to be forced…*' *(Faculty)*

### *Sub-theme 3: interpersonal skills*

Social skills or perceptions regarding how students interact differed between students and Faculty. As seen below, students felt that their social skills were fluid.

'…*well, I have good experience in campus as I communicate with friends and cooperate with the staff…*' *(D-grade student)*

However, Faculty tended to comment on socially enforced segregation between the Papuan and non-Papuan groups.

'*Papuan students, their first challenge is adaptation…difficulty in socializing with their fellow Papuan and non-Papuan…*' *(Faculty)*

### *Sub-theme 4: outcome*

This sub-theme focused on negative and positive learning accomplishments.

When asked about their learning accomplishments, even when the grade was a fail, the attribution for failure was often centred on self rather than consideration of the wider cultural, institutional and societal factors.

'…*In my opinion* [*learning accomplishment*] *is good……lecturers have taught us all, I just me who not studying…*' *(D-grade student)*

From the Faculty's perspective, engagement needs to be ongoing and if students are not followed up regularly, they may not gain good achievement.

'…*If we do not follow up, the next day they are withdrawn again.*' *(Faculty)*

## *Theme 2: the university*

This theme has four sub-themes or challenges.

### *Sub-theme 1: learning environment and community of learning*

This sub-theme relates to where students learn and practice medicine whilst using learning resources provided by the institution. It is also related to how students work together within this space. The findings suggested that some students prefer to study alone in a quiet learning environment. For example,

'…*in campus, I find quiet place, so I can learn…*' *(D-grade student)*

In contrast, Faculty suggested that developing a community of learning that is inclusive of all groups is essential to influencing and motivating students to learn.

'…*external factors…first, is their environment. Their friends…if their friends are smart or like reading books, it will influence and motivate them…they will follow the example*' *(Faculty)*

'*We must instigate this, so they should mingle with the non-Papuans as well but before that we should change their mindset; that we are all the same, there is no difference.*' *(Faculty)*

### *Sub-theme 2: development of learning skills*

Ways in which students can improve their skills provide clues as to how students could be assisted in their learning. Both students and Faculty recognised the value of engagement and using practice sessions to heighten understanding and relevance. Some examples from the interviews included:

'…*in my opinion, this learning activity* [*practicing presentation skills*] *has helped us who are afraid and feel not confident to lead, even though, not as good as we expected…*' *(C-grade student)*

'…*Much better if the lecturer shows more attention, more serious to us…*' *(C-grade student)*

'…*consistence in showing attention…the point is to make them feel comfortable…explain repeatedly about the cost and benefit of their actions…*' *(Faculty)*

'…*more involving them…personal approach to improve their motivation and confidence…must be stimulated more…more effective if it is personal approach…*' *(Faculty)*

### *Sub-theme 3: curriculum design and evaluation*

From a university perspective, it is important to support indigenous medical students, such as evaluating curriculum effectiveness. One curricular system that appeared to work well for Papuan students was the block system, in which a subject area is the central focus for a set time, e.g., biochemistry for 4 weeks. Nonetheless, some courses (e.g., biomedicine) were mentioned for their inherent difficulty. For example,

'[*the block system is*] *more organized*' *(D-grade student)*

'*The learning method is different; we are using block system. It is different from our seniors…*' *(B-grade student)*

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Most Faculty were focussed on the evaluation of the courses using questionnaires, showing a willingness to gain feedback. For example,

'*…perhaps, learning evaluation…we give questionnaire…they have suggestions…*' *(Faculty)*

'*Yes, perhaps learning evaluation…we give questionnaires for students to be filled in and they could inform us of their suggestions. So far we have done that …*' *(Faculty)*

### *Sub-theme 4: student needs*

From a student-centred perspective, it is important to consider how the university could support Papuan students. Dormitory accommodation was seen as both positive (developing student camaraderie and mentorship) and negative (being distractive from the study). The notion of support was also seen as the responsibility of students, the University and wider community, with an opportunity for the university to mediate the synthesis of these different sources of support. For example,

'*…I need quiet place…. the dormitory is not well-managed, so I must stay outside…*' *(D-grade student)*

'*…their mind-set should be changed…and the most dominant effect is the environment factor. For instance, house environment, ideally, they should be housed in the dormitory, so they can be supervised every day, get enough study…even their nutrition intake, we should support that…*' *(Faculty)*

'*…need of support system, not only from the policy makers but also from us and family…*' *(Faculty)*

## *Theme 3: outside environment*

This theme can be broken down into two sub-themes referring to the social and resource systems outside the medical learning environment.

### *Sub-theme 1: family*

Family systems include both immediate and extended family networks. Within those networks, family members have assigned responsibilities and roles. Students expressed how family can be an interruption along with their expectation to conform to familial values and expectations. Faculty also recognised students' family roles, especially when someone in the family gets sick, but they also acknowledged that family can be a good source of support. For example,

'*….my house environment, if I want to study, they asked me to work, if I want to study, they interrupted me, make noise…*' *(D-grade student)*

'*My parents asked me to do house chores…*' *(A-grade student)*

'*…need of support system, not only from the policy makers but us and also family…*' *(Faculty)*

'*…there is family issue, family get sick and they can't be reached…*' *(Faculty)*

### *Sub-theme 2: Finance and other resources*

Financial factors affect Papuan students' life and learning. Two students indicated problems with financing their transportation and foundational needs. One Faculty suggested there should be more assistance from the Government. For example,

'*…There are some issues, first is transportation cost to go to campus….*' *(D-grade student)*

'*Yes, the challenge is like this, even though I live in the dormitory, every day I must provide my own food. So, after school I work first….*' *(D-grade student)*

'*There should be specific support from government and university…*' *(Faculty)*

## Discussion

The aim of this study was to explore the learning challenges of Papuan medical students studying in an Indonesian public university. When we first reviewed all the comments made by both students and Faculty, we started to group the comments and were struck by how the comments tended to be about individual experiences, and how these individual experiences were influenced by the educational institution and further afield by family and the wider community. This enabled us to develop three themes, namely the individual, university and outside environment. These themes are consistent with ecological models of education that suggest human behaviour is embedded within the culture and the wider community (Smith and Williams, 1999).

## *The individual*

Four challenges were identified within this theme as sub-themes.

### *Self-perception (who am I)*

Students' commentaries suggested that they perceived themselves dependent upon their academic achievement, which is a similar finding to other studies in this area concerned with mainstream academic achievement (Purkey, 1970; Sonn *et al.*, 2000). Whitley (2014) argued that ethnic identity of indigenous students influences academic success. The Papuan students' self-perception of being less smart than their non-Papuan peers and their tendency to self-blame were reflected in how they attributed failure in exams. For example, they perceived themselves as lacking the capability to understand and inability to focus, which is contrasted by their sense that the institution had provided them with everything they need.

This suggests that they felt they were the 'problem' and that blame was internalised and self-directed rather than reflecting on the bigger picture. This sense of self-blame could adversely affect the development of potential solutions, i.e., segregation from non-Papuan medical students may create marginalisation. This suggests that some students may utilise evasion behaviour to cope with their academic challenges and sense of difference which is likely linked to emotional avoidance and self-blame (Mortenson, 2006). Nonetheless, those Papuan students who did well academically expressed that they were less withdrawn, suggesting a close link between positive perceptions of one's academic ability and social interactions (Morgan, 2001).

The discrepancies between high-achieving Papuan students and those who are struggling suggest that the sense of 'who am I' is likely more blurred for those students who are struggling with their studies. Hence, they may be feeling more marginalised which can develop into feelings of avoidance or even imposter syndrome. Imposter syndrome is an issue that has been identified and researched in the medical education literature (e.g., Villwock *et al.*, 2016). This syndrome is related to self-doubt and the fear of being discovered, which leads to a spiralling notion of feeling less competent and less intelligent and may have implications for well-being (Dyrbye *et al.*, 2007).

In this qualitative study, we cannot easily connect all the dots between historical issues associated with colonisation and present

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feelings of low self-esteem. Nonetheless, for whatever reason, the students in our study showed clear signs of self-doubt ('it is just my lack') which they feel is linked to them being shy and not confident. For other students this impacted on their learning in that they were unable to focus and felt fearful about the learning process, i.e., 'we feel afraid, afraid to be wrong'. These quotes appear to suggest that students who we interviewed and who are struggling are likely experiencing a myriad of emotions (and one being fear). One way to approach this is to give them the opportunity to share their personal narrative to develop their innate capacity of resilience, which is undoubtedly linked to their sociocultural origins and values (McCalman *et al.*, 2012).

### Learning and motivational skills

Papuan students had different perceptions regarding their learning skills and motivation. Students appeared to have acquired some learning strategies, such as allocating a set time for study, but there is also a hint that time management might be a challenge. Higher levels of self-regulation are often positively correlated with academic success (Tilfarlioglu and Delbesoglugil, 2014) and these skills should have been acquired by students prior to entry to the medical school as suggested by some Faculty. Developing self-regulation skills may be an area to address in developing a 'level playing field' for Papuan students in relation to their non-Papuan peers.

Motivation amongst Papuan students appeared to be extrinsically based, such as linking the study of medicine with familial influences. In contrast, Faculty tended to promote intrinsic motivation ('must come from themselves'), which may create a conflict of understanding between students and Faculty. According to Social Determination Theory, students move between intrinsic and extrinsic motivation depending on the activity they engage with (Adams *et al.*, 2017). Hence, it is crucial that a range of teaching and learning activities are incorporated into the curriculum to engender student motivation.

### Interpersonal skills

Interpersonal skills in this context referred to the way Papuan students socialised with their Papuan and non-Papuan peers, and Faculty. The findings suggest that Papuan students enjoyed working with fellow students and this interaction was perceived as helpful. However, based on the interviews, Papuan students gave the impression that they need to be invited first into the discussions and also preferred to discuss issues with their Papuan seniors. Faculty tended to perceive problems associated with social adaptation and in particular integrative communication among Papuan and non-Papuan peers.

Several studies have reported that Papuan students experienced difficulties in socialisation and adaptation, especially when moving to new regional areas. The reasons for this included fear of new experiences and feeling that they are viewed negatively by the local community (Rumondor *et al.*, 2014; Mayora *et al.*, 2016; Wijanarko and Syafiq, 2017).

### Outcome

The current findings centred on academic accomplishment, satisfaction with teaching and overcoming the need to withdraw. The Papuan students in this study did recognise the value of teaching, which is often experienced by students especially in their early years of study (Gale *et al.*, 2015). However, we noted that one student who struggled still focussed on their own inability to learn and felt that the lecturers were functioning optimally. Hence, to fully understand this dissonance is to investigate the underlying factors affecting each student's ability to learn.

Consistent with findings from other research on Papuan students (e.g., Wijanarko and Syafiq, 2017), one Faculty member felt that the stress of studying and the need for academic achievement may cause student disengagement and avoidant behaviour. Therefore, interventions aimed at reducing student stress and increasing social connectedness might be useful at elevating Papuan students' academic achievement. There is clearly scope for further research in this area.

## The university

This second theme encompasses factors affecting Papuan students' learning emanating from university and specifically the medical programme.

### Learning environment and community of learning

A learning environment is any place on campus where students engage with learning material and interact with others. Group learning, a quiet place to study and learning by oneself were considered helpful study strategies. Papuan students' interaction with peer-students and staff influenced their learning behaviour. Genn (2001) noted that the learning environment determines learning behaviour and is related to students' achievements, satisfaction and success. We could conclude that the Papuan students in this study, especially those risking failure, needed a learning environment in which they could perform individual study as well as having access to constructive discussion groups.

Faculty asserted that a learning community could become a place where students exchange information and exercise critical thinking. Creating a learning community for Papuan students could develop the nexus between the high- and low-achieving students, promote activities to stimulate student discussions, and engender collaborative and self-directed learning (Wood, 2003).

### Development of learning skills

Papuan students and Faculty consistently expressed that lecturers' teaching methods affect learning. The successful Papuan students mentioned that they easily comprehended learning materials if the lecturers used accessible words instead of insisting on textbook terminology. In contrast, at-risk students expected teachers to be more attentive to them and to be patient by listening to their thoughts in classes, as well as providing role modelling.

Faculty suggested that it is better to engage Papuan students as equals rather than promoting a hierarchy. For example, Papuan students disengage from learning if teachers push them too hard or embarrass them in front of their peers. In regard to teaching methods, Faculty acknowledged that they should be creative when engaging Papua students' attention during class. Therefore, they tried to create material that is attractive to all students, for example, using prior knowledge as the platform to develop lesson material, using 3D images and assisting them through the learning process.

One of the key ideas related to the development of learning is about developing an environment where both students and teachers feel safe. Indonesia has a history associated with cultural imperialism, which often likely develops 'resistance' to learning (Roach, 1997). The full impact of cultural imperialism is often seen in the expected adherence to the language used by the dominant group (Ztf, 2017). It is important to consider the history of cultural imperialism and its impact on this study's students' voice and that of their Faculty. The language used in the interviews and

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the medical education setting will inevitably influence identity formation and students' capacity for learning (Ztf, 2017).

With this in mind, we needed to consider the overt and subtle elements of cultural imperialism at play here that may affect those students who are struggling with their studies. It is of no surprise that cultural safety issues have not been directly raised by students; however, implicitly we do recognise that students will likely respond to a more equity-based approach that cultivates a sense of collaboration thus removing 'resistance' to learning. The ideas of cultural imperialism and resistance go beyond the case of Indonesia (Roach, 1997), but are particularly relevant to understanding why Indigenous groups may find it difficult to learn.

In our study, we noted that students and Faculty state that students respond to systems of learning when students feel valued (e.g., 'shows more attention') and when Faculty create proactive personalised approaches to learning (e.g., 'personal approach to improve their motivation and confidence', and 'make them feel comfortable'), which creates a more culturally safe environment for learning. This is consistent with other studies (e.g., Qayim *et al*., 2014), who reported that several effective strategies elevated academic attainment of Papuan students in Bali, such as developing pre-university programmes, tutorials and peer-tutorials; ensuring safe dormitory living; and utilising counselling and academic support services.

### *Curriculum design and evaluation*

A favoured component, by students, used in this medical programme is the block case-based system. For example, for the biomedicine course, a certain topic is taught for 2–4 weeks. For each blocked time, all lesson materials focus on the same topic, e.g., the human cardiovascular or respiratory systems. Next, students are given tasks to engage in several discussions about a case scenario. Faculty designed this curriculum strategy to help students learn and develop their knowledge and skills.

Harden *et al*. (1997) argued that the body-system-based approach provides students with a focus on learning and that problem-based learning develops students' responsibility in regulating their own learning. Papuan students agreed that the block system is consistent with their learning needs. However, they commented that the biomedicine course, integrated into four subjects (Anatomy, Physiology, Biochemistry and Histology), was the hardest course to learn. Faculty identified students' learning needs in terms of comprehending text-book terminology, being attentive to presentations and working within tight time limits. These comments can be informative when designing lesson materials and learning activities, such as heightening attention by using relevant Papuan health-based cases. Faculty could also involve successful senior Papuan students as mentors to assist unsuccessful or at-risk students.

### *Student needs*

According to our findings, students' needs were often voiced by Faculty. Although we do note that one struggling student asserted that they were adversely influenced by problems associated with living in a tertiary institutional environment, thus voicing the need for a 'quiet place' and a living space that is well managed. Hence, higher order learning strategies are likely not effective if these essential living needs are not solved.

Once these essential services are remedied, then higher levels of learning support will likely be more effective. For example, matriculation programmes were identified as a way to help Papuan students transition from senior high school to university life and minimise the knowledge disparity between students from urban and rural schools or between Papuans and non-Papuans. Mentoring programmes were used to improve learning skills and provide pastoral care whilst forming a community of learning. The findings suggest that Papuan Faculty were aware of Papuan students' learning and personal needs. They mentioned that a different strategy was required to approach Papuan students to encourage more involvement in their learning and to provide a consistent motivational and personalised approach.

One student asserted that as Papuan students, they should appreciate the status of being medical students which requires diligence and hard work. Hence, they should not waste this opportunity by skipping classes. In addition, equity issues in Papua were one of the main reasons for the establishment of the Papuan medical school to reduce chronic health disparity in the region (Fakultas Kedokteran Unviersitas Cenderawasih, 2015). The alignment between this Papuan student's reflection and the vision of this Papuan medical school could inspire student learning. This could provide incentives for Faculty to improve the curriculum by inserting more examples relevant to the Papuan community health needs.

## *Outside environment*

The third theme summarised two factors that come from the wider environmental level which influence the individual and the university.

### *Family*

Generally, Faculty and Papuan students perceived family as a key factor influencing Papuan students' learning performance. Faculty unveiled that most Papuan students depended on and were close to their family for emotional support. This strong bond can be an advantage but also detrimental to student learning. According to Faculty, some students relied on their family as a source of encouragement and a reminder for them to keep studying. Fajarini (2014) reported that Wamena people (a Papuan highland tribe) hold the strong value of *Weak Hano Lapukogo* and *Ninetaiken O'Pakeat* which means unity and solidarity in their relationships and togetherness with family members and people. Barney (2016) also argued that indigenous students' motivation for academic success is largely determined by family support.

It was also important for Papuan students to know that their family were in good health. Not being able to reach their family could be detrimental to Papuan students' mental health and motivation to learn. The high-achieving Papuan students in this study said that they managed to balance family obligations and the demands of study. At the same time, the low-achieving students said that they were not able to manage familial distractions and obligations, especially if they could not reach or contact their family members.

### *Finance and other resources*

Financial issues appear to be a problem for low-achieving Papuan students, which affects basic living requirements. Hence, again the need to address basic living needs before higher order learning needs is highlighted. These financial problems impacted their non-attendance due to a lack of funds for transportation and other daily needs. Even though some of these students were supported by scholarships, it was still not enough to pay all their living costs. In their study, Slatyer *et al*. (2016, p. 18) reported that 75% of students suggested that common barriers to completion amongst

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aboriginal students studying in an Australian institution were 'academic difficulty, financial problems, travel, and absence from family'.

In parallel, Faculty felt that financial conditions affected Papuan students' life and learning and suggested that institutions should lobby the regional or provincial governments to support Papuan students, especially those who were struggling with financial hardship. Besides that, funding from the government could improve infrastructure for learning support, such as building more dormitories and establishing more matriculation programmes for the Papuan students.

## Conclusions

The study findings suggested that the Papuan students, we interviewed, experienced challenges on three distinctive levels: individual, university and outside environment. Nevertheless, the identification of challenges creates opportunities for solutions. At the individual level, solutions could focus on enhancing students' self-perceptions to promote learning and motivational skills. At the university level, solutions can be targeted at promoting a community of learning and ensuring alignment between the curriculum and students' learning needs. With regard to the outside environment, there should be a strong emphasis on supporting Papuan students' cultural and familial obligations and their financial needs.

It is important not to oversell the findings and infer that challenges could stem back to cultural imperialism, although it is likely that historical effects will influence the performance of those Indigenous students living within a dominant culture that is different to their own. These issues likely affect some of the limitations that we noted when conducting this study. We noticed that participants were hesitant to fully disclose their opinions. In addition, to further hinder the communication process, we encountered sometimes technical issues associate with information technology. We also noted that the findings only represented perspectives from a small number of Papuan students and their Faculty, therefore cannot be generalised to all Papuan medical students. Nevertheless, these commentaries shed light on the issues students face and offer some solutions for the medical programme to consider.

The academic challenges faced by Indigenous students have been widely investigated and the results have become major contributions in the enhancement of Indigenous student learning (Pewewardy and Hammer, 2003; Barney, 2016). In Indonesia, research regarding Papuan Indigenous students was mostly conducted at universities outside the Papuan region and focused on investigating adaptation and interaction difficulties with the local culture. This research creates a change in that trajectory and aims to further add to the body of knowledge regarding the challenges and potential solutions for engaging Indigenous medical students within Papua.

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