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ORIGINAL RESEARCH

Understanding the Impact of Generation Gap on Teaching and Learning in Medical Education: A Phenomenological Study

Jodie Josephine[1], Linda Jones[2]

[1]Medical and Health Professions Education Unit, Universitas Kristen Krida Wacana, Jakarta, Indonesia; [2]Centre for Medical Education, University of Dundee, Dundee, Scotland

Correspondence: Jodie Josephine, Apartemen Maple Park Tower A Unit 25T. Jalan HBR Motik, DKI, Jakarta, 14350, Indonesia, Tel +628111307135, Email jodie.josepihne@ukrida.ac.id

Purpose: This study contributes to discourses and dilemmas where students/teachers experience intergenerational learning environments. It explores the underarticulated differences between post-millennials and baby boomers sharing accounts of the lived experiences of learners and educators on either side of such divides shedding a light on generation gaps hoping to inform faculty development.

Methods: Interpretative phenomenology was chosen to articulate "whatness" and extract meaningful understandings. Purposive sampling identified three teachers and three third-year students from an Indonesian medical school. Online semi-structured interviews were conducted and transcriptions analyzed using interpretative phenomenological analysis (IPA). Emerging themes were connected and re-presented in the form of a metaphorical story to showcase the entirety of data while maintaining idiosyncratic focus.

Findings: Themes from the teachers' subset were changing characteristics of medical students, changing paradigms surrounding the role of a teacher, relationship with students, and relationship with other teachers. Themes from the students' subset were hierarchical educational environment, relationship with teachers, and emotional response towards learning experiences. Themes were integrated into three existing theories, community of practice, self-concept, and control-value theory of achievement emotions. Findings revealed power dynamics between stakeholders in an unrecognized community of practice hence failing to shape the legitimacy of peripheral participation. Consequently, the rigidity of the hierarchical educational environment left little room for meaning construction and might hinder development of positive self-concept. Unawareness of students' achievement emotions led to low perception of control and value, affecting their behavior and motivation towards learning.

Conclusion: Medical educators could benefit from faculty development targeted to facilitate changing roles of teachers in facing the more recent generation of students. Curricula could be designed to foster collaborative educational environments which promote legitimate participation, authentic expression of emotions, and positive self-concept.

Keywords: phenomenology, curriculum, faculty development, community of practice, self-concept, control-value theory

Introduction

The undergraduate medical education (UGME) learning environment comprises a blend of teachers and students from different generation groups. The Strauss-Howe generational theory was introduced as a way to recognize and explain common characteristics and worldview of people born within a span of 20 years due to the shared historical experiences and societal changes.[1,2] The difference in thinking frameworks, beliefs, and values across generations is perceived as generation gap.[3] Whilst studies on generation gaps have been able to enhance effectiveness of residency programs in postgraduate contexts[4–6] no such research has considered the phenomenon in the context of UGME. With the increasing population of post-millennials entering medical school, our study addresses this gap.

Existing published work on intergenerational learning in medical education has reported changes in course content, teaching methods, and examinations.[7,8] The awareness of the changing students' characteristics and learning styles

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underpins curriculum reform. Medical schools are currently developing their curriculum to promote a technology-enriched environment and learner-centred approaches with the use of blended learning, case, studies, and group exercise to cater to a new generation of medical students.[4,7,9] Understanding their more social and active learning styles such as the use of feedback and technology-enhanced learning by millennials[4,10] might enable us to enhance and improve the effectiveness of continuous curriculum and faculty development strategies in UGME.

This small-scale study, conducted as a part of a master's in medical education that aims to contribute to the discourses of faculty and curriculum development in UGME by using professional conversation informed by phenomenology to theorize the lived experience of teachers and students across the generation gap. Three research questions were developed to help address the issues which are: 1. What is the lived experience of undergraduate medical education for teachers and students? 2. What are the similarities and differences in perceptions of undergraduate medical education of stakeholders? 3. What does this suggest for future faculty development purposes?

Methodology and Methods

Qualitative Research Methodology

Aligned to the research purpose of understanding the phenomenon of generation gap perceived by those involved in an intergenerational learning environment, interpretive phenomenology allowed data of their perception and experience to be gathered.[11]

This approach required an iterative literature search, which in turn provided an evidence base for meaning making and faculty and curriculum development recommendations.[12] JJ, the principal investigator was not involved in any core activity of both stakeholder groups but was an insider researcher.[13] She brought awareness of Universitas Kristen Krida Wacana (Ukrida) culture, ability to relate to participants' lived experiences,[14] thus making interpretative phenomenological inferences[15] and recognize implications of the study. To overcome the challenges of being an insider researcher, she employed introspective continuous self-reflection[16] and sought verification from an outsider, in this case LJ, the study's supervisor.[17]

Methods

Participants and Sample Size

Ethical approval was obtained from both University of Dundee and Ukrida. The study was conducted specifically in the context of undergraduate medical education program in Ukrida Phenomenology focuses on in-depth interviews of a small number of participants so a sample of 6 participants was deemed sufficient.[18] Furthermore, a phenomenological approach is less concerned with data saturation as it is focused on individual accounts.[19] Non-probability sampling strategy was applied to all who met the qualifying criteria (full-time and involved in learning and teaching activities or faculty development). To minimize selection bias, the first three teachers and three third-year students who volunteered and consented were selected. Teachers and student were assigned to group A and B, respectively. Each participant was then numbered according to the order of the interview. Since there were three participants in each group, the participants are referred to as A1-3 and B1-3. Interviews were held after participants provided informed consent that included publication of anonymized responses and possible further research.

Data Collection – Interview

Online individual semi-structured interviews were conducted by JJ. An interview guide of prompts and probes was used to encourage focus and in-depth exploration of lived experiences of the phenomenon of interest along with concepts, thoughts, or ideas, important for meaning-making not explicitly obvious (see Appendix 1 for full interview guide).[12,20] The duration of each interview was varied with two follow-up interviews (to dig deeper into a specific concept which emerged from 2 student participants). Interviews were audio recorded and transcribed verbatim.

Data Analysis – IPA

Interpretative phenomenological analysis (IPA) draws on reflective inquiry. While similar to thematic analysis (TA), using coding and thematic development to interpret data, IPA allowed us to stay close to the data and notice the unique

individual accounts of each participant rather than across the entire data-set.[21] IPA is fitting to maintain an idiosyncratic focus, meaning that every participant has distinct consciousness of an experience that cannot be generalized with other participants.[22] This was achieved by making analytical notes, developing emergent themes, and isolating them for A1 transcript, then repeating for A2 before identifying themes across participants while giving attention to the distinct difference between accounts. Theme development was done with teachers (A1, A2, A3) and students (B1, B2, B3) separately. These themes became the focus of the secondary literature search and informed the discussion offered below.

Finally, we displayed the meaning of participants' experience by creating a metaphor. Metaphors commonly used in phenomenology bring light to the meaning of the participants' experiences.[20] Metaphorical language offers a new way to describe an experience, restructure concepts, and discover similarities between participants and domains of experience while comparing different events.[23]

Findings

Applying Peat, Rodriguez and Smith[20] steps of IPA, the analysis process was done in three stages, theme development, integrating them into existing theories, and creating a metaphorical story to deepen our interpretation of the participants' lived experience in an intergenerational learning environment.

Stage 1. Theme Development

Three main themes from the teachers' subset were:

1. Changing characteristics of medical students

> I see a difference because now everything is easy for them, like instant, what they want, they only need to click on the internet and everything is available, all the sources of information. Not like us that has to go through more effort and that for sure shape a difference in their values. I think they struggle less. (A1)

It seems newer generation students prefer straightforward approaches towards learning resulting from increased use of technology and speedy access to knowledge. Although potentially a positive element, such "lack of struggle" seems to be perceived negatively suggesting that a degree of struggle was deemed necessary for students to progress successfully in their studies.

1. Changing paradigm surrounding the role of a teacher

> … generation gap, it refers to people from old generation where teachers have that paradigm, they are the source of knowledge, the only one source, so they feel they are the ones who have to give information. You have to accept everything I deliver to you, have to say yes. If their paradigm… is a one-way process, and students will stay quiet, we do not learn as a lecturer. (A1)

This notion that "…teacher knows best, …always right" (A2) is being challenged and a paradigm shift is required by younger generations. Acceptance by teachers of the collaborative nature of learning together, openly admit not knowing or mistakes made and where learners are regarded almost peers was recognised as an important but tricky change in thinking and practice. Faculty development might need sensitive strategies to achieve necessary paradigm shift.

1. Relationship with students and other teachers

A1 and A2 shared a belief that creating learner, goal-centred atmospheres require less formal relationships. For them, generation gap was a neutral concept where differences did not necessarily mean opposition and depended on how experiences are communicated and utilized to motivate learning. They acknowledged their position, as millennial academics, within hierarchical university systems, struggling to convince older generations of teachers to align professional practices in response to current generation of students.

Older generation teachers' assumed codes of conduct may be creating tensions around types of interactions valued, recognised, and encouraged in the educational environment. Student behaviours perceived as disrespectful may impact upon teachers' self-validation and processes of relationship building. For instance, A3 suggested

> …generation gap; sometimes I feel like I am too old. I cannot be just their friends…we have to be polite, some rules, unwritten rules, [the student] needs to know and obey.

Faculty members who favour rule-bound interaction, and preferring behavioural guidelines and certainty may need support to consider the benefits of empowering students to participate in constructive argument and become more align with younger generation of students.

Three main themes from the students' subset were:

1. Hierarchical educational environment

Thematic analysis illuminated a sense of a generation gap battle, in UGME between teachers and students where the latter's weapon is their age and experience, whereas the student's weapon is new information.

> …the older generation, I think, their main weapon is their experience. (B1)

> …things like when we are presenting something new to them are they taking it as an attack. (B1)

We sensed a feeling of oppression in their accounts of hierarchical educational environments where teachers seemed to have authority over students and talking back to a teacher was considered an act of bravery and demonstrated learner power.

1. Relationship with teachers

Although broadly described as a weapon, students articulated how, when experience was drawn upon as a contribution rather than a source of power it could aid feedback and offer insight into students' problems. Otherwise, teachers' who empower themselves with reference to experience created a feeling of inferiority and a gap in teacher–student relationship, which consequently led to students' fearing being wrong and having lower self-esteem, and thus it was "safer" for them stay silent.

> When I approach the lecturer with a very big age gap, it feels [they are] unapproachable and we get nervous. We do not really ask much to them because sometimes I feel scared they are going to judge me like I am not smart enough to be asking this question…feel inferior a lot of the time (B2)

Additionally, B2's judgement of themself seemed to indicate low self-efficacy (personal judgement of own ability to deal with a situation) and led to lack of motivation or passivity in her learning.

> I stopped being curious… it does not occur to me that I have to ask anymore. I just take everything. I do not try to dig more. (B2)

1. Emotional response towards learning experiences

Conversations with students suggested inner safety processes in order to display behaviours acceptable by teachers. There seemed to be a lack of attention given towards their emotions about that process as it was deeply ingrained in them to a degree where it was almost like procedural memory that is formed through the repetition of habit reduces learner ability to be authentic.

> …that I am polite and modest and there are sides of me I [do not'] want to show… Maybe there are times when the older teachers will not like what I will do (B2)

B1's statement below encapsulates barriers to dialogue and experiences of how generation gap can disempower younger generation of students

> If I argue a little more and I prefer not to shut up, I think it's just me, it's my personality not my way of thinking like I have to shut up. (B2)

Stage 2. Developing a Conceptual Map to Integrate Educational Theories and Emerging Themes

Concept mapping is a tool that has been used in qualitative research to elicit key findings from interviews and aid in highlighting relationships and patterns within the data.[24] The process begins by linking directly key ideas or "spokes" together into linear sequence called "chains" and subsequently into "nets" which are understood as multiple links between concepts.[24] Hence, the development of the conceptual map in Figure 1 shows how the relation between themes from each group interpreted as spokes and chains contributed to identification of three existing theories that might deepen interpretation of the generation gap. The existing theories are community of practice (CoP), self-concept, and control-value theory of achievement emotions (CVT) creating a net of knowledge.

Here, CoP is a group of individuals who share and develop knowledge, beliefs, values, and experience based on a common practice.[25] The findings illuminate how power, related to influencing beliefs and attitudes,[26] may sometimes be dependent on the guidance of senior members[27,28] creating a hierarchy between teachers and students where the former hold power and authority and fail to shape the peripheral participation of learners.[28]

If the self-concept (sense of identity developed from personal reflexive and social activities that influences social behaviour),[29] arises from the social influences on both the teachers' and students' behaviour in the educational environment, then unaddressed issue of generation gap may limit development of students' professional identity.

Through the CVT lens, an integrative framework analysing the cause and effects of emotions resulting from achievements in academic environment,[30] it seems students' emotional responses and insights may be underutilised for learning due to hierarchical relationships where younger generations must suppress their authentic emotional responses to maintain traditional expectations.

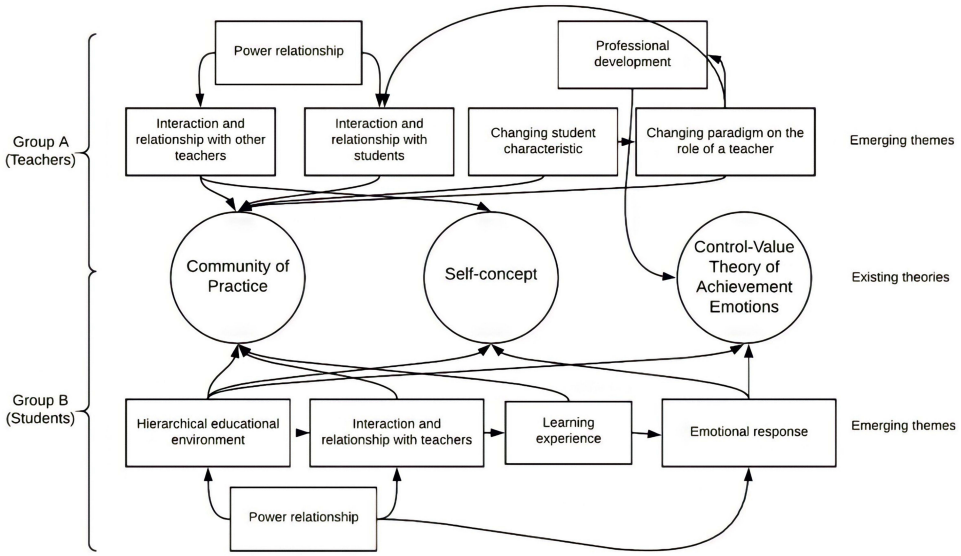

Figure 1 Conceptual map integrating educational theories and emerging themes.

Stage 3. The Metaphor

We wrote a metaphorical story to showcase our findings that allowed phenomenological capture of findings and "see the bigger picture" while maintaining focus on individual accounts. Metaphorical language serves as a new way to describe experiences and restructure concepts.[23] Theodoru[23] also noted that metaphor offered a way to discover similarities between participants and domains of experience while comparing different event. The following metaphor was designed to incorporate the key findings into one single event. The characters, conversation and plot of the story were inspired by J.K. Rowling's Harry Potter Novel Series, created to re-present the participants lived experience and their shared environment as displayed in this chapter.

The Island That Shaped Its People

Three travellers were stranded on an unknown island of unclear inhabitants. Let us name them Harry, Ron, and Hermione. They soon realised that they were not the first ones there because they could see signs of human activity. Sticks, stones and what seems to be the remains of a fire on the sand.

They agreed to split up to find someone for help. "I found something!" shouted Ron. Harry and Hermione rushed towards Ron, and they saw him in front of a path leading into a forest. Somebody had carved an arrow and written "this way" on a tree. Ron was sure that if they follow the path laid out for them, they would find someone or something at the other end that would help make sense of the whole situation.

The path was not easy to walk on, and they would get hurt now and again, but what choice did they have but to continue walking. Along the way, Harry saw a river, and he suggested it might be logical to follow the freshwater as it would surely lead them to a potential civilisation, if there is any. Hermione, always the careful one, was scared to stray off the path. "Let's just stay here. We don't want to get lost, do we?" she said.

Before they finished figuring out which road to take next, two people came down the path they were on.

"Hi, I'm Luna, I'm here to guide you, there is a town up ahead filled with everyone that had come to this island before you. You must be so confused; I know how you feel, so let me help you."

"I'm Professor Umbridge; I arrived here before Luna. Please follow the path carefully if you want to stay safe."

On their way up the hill, they got thirsty. Harry grumbled and whispered to Hermione "I told you we should have walked alongside the river instead." Luna overheard them and said that it was actually a good idea, but the elders of the town who paved the way had decided that this path is the best chance to get there. "Shush, you do not know enough about the forest to go wandering about", said Professor Umbridge.

Luna whispered to Harry "We will talk about this later okay, just stay quiet for now.". "But…Okay", Harry said apprehensively as he continued walking.

Along the way, Professor Umbridge and Luna told stories about the island and the elders who had created the path from the beach to a clearing at the centre of the forest where they had built the town. The message seemed to be that the elders have been here the longest and so they know everything there is to know about the island. All three newcomers just nodded and nodded, but Harry was looking around and kept talking.

"I think that can be a…"

"Shush, you know nothing", said Professor Umbridge

"I think that is a…"

"Shush, you know nothing", she repeated.

"Harry, just keep your head down and look at the path", said Hermione.

Upon arrival, they were welcomed by one of the elders called Professor McGonagall. "How was the way up? I hope it was not too bad." Harry, Ron, and Hermione stayed quiet. Luna tapped Harry's shoulder and said: "I thought you wanted to say something?" "I know nothing", said Harry. "They will learn how we do things around here; just follow the rules", Professor Umbridge said as she leads them to their assigned house.

Luna and Professional McGonagall looked at each other with regret in their eyes. They were hoping that these newcomers would bring something fresh from the outside. "Harry, Ron, and Hermione were just like you when you first came here, Luna", said McGonagall. "I was hoping for something new. I have not been down there in a while. The elders

that created that path are not even here anymore. They laid the rules, and the rules were good. The town is thriving, but I do not want to die seeing it be the same old town as when I arrived to."

Luna looked at the town and turned to Professor McGonagall "If we don't get them to talk, here is exactly where we will be."

Discussion

Our findings changed our initial understanding of generation gaps. Rethinking the medical school as a CoP allowed us to see the wider implication of dynamic relationships between stakeholders constituting educational environments. By integrating CoP, self-concepts, and CVT theories with findings, this discussion focuses on faculty and curriculum development strategies.

In order to maximise learner engagement and recognise legitimate participation of younger generation, equalisation of learner-teacher role is ideal.[31] This equalisation requires teachers' concept of their role change from experts imparting knowledge to facilitators or even close peers to students. This shift in authority/control differentials might encourage and support both informal and formal interactions that emphasise learning.[31,32]

Academic self-concept refers to perceptions and evaluation of demonstrations of competence in the past whereas self-efficacy and beliefs of personal ability to accomplish certain tasks[33] is future oriented. Strategies to address dilemmas identified in this study would need to enhance sense of control, motivation, and agency perceived by all stakeholders to optimise the achievement of intended outcomes.[29]

Ommundsen, Haugen and Lund[34] suggest low self-efficacy and academic self-concept may result in students feeling threatened by negative external judgements and hence unable to trust their ability or gain control over their intended outcome. For instance, fear of being judged stupid by teachers may lead students to become passive less able to progress in their learning. This suggests that external forces and environments may shape learners' self-concepts. Drawing on the metaphor, Harry was a curious person before meeting Professor Umbridge and it can be assumed that maybe his response to Professor McGonagall would be different if he interacted with an encouraging and open teacher. One educator strategy might be to encourage positive self-concepts and activating emotions such as curiosity and excitement.[35] This relationship of emotions and self-concept and be seen in CVT.

The CVT integrative framework allows analysis of causes and effects of emotions resulting from achievements in academic environments.[36] CVT suggests emotions are triggered by cognitive appraisals of control, students' ability to successfully achieve intended outcomes, and the value placed on achievements and outcomes. CVT may offer two faculty development recommendations. First, recognise and encourage authentic expression of emotions from students by creating safe environments that foster self-regulation of emotions.[30] Second, strategies that balance autonomy and guidance to promote personal agency and self-efficacy.[37]

Limitations

It is important to note that this study was done in a single institution and draws on subjective reflexivity,[20] hence, there is no intention of generalizability. Authors hope in the spirit of phenomenological study and its outcomes resonate with higher and professional educational communities to generate what is referred to as the phenomenological nod which occurs when readers simply nod in agreement.[38]

Conclusion – Answering the Research Questions

So, what is the lived experience of UGME for stakeholders? It seems phenomenologically these individuals experience a malfunctioning CoP where over-valuation of time served has created more rigid and strictly governed transactional rules. Newer members struggle to move towards the core of the CoP and gain legitimate participation which risks the potential innovation offered by more recent generations.

Analysis of the data suggested that lived experiences continue to be constructed and challenged by some UGME teacher and student stakeholders and thus answering "what are the similarities and differences in perceptions" proved quite difficult and might be considered a limitation of the study design. It seemed that students felt less control over predetermined rules of engagement whilst perhaps faculty might be able to influence change. The more evident

similarities were between students and a millennial faculty member who advocated greater informality, expression of self (as conveyed through thoughts, beliefs, values, and emotions) to allow co-construction of new knowledge.

Student participants and the millennial educator suggested removal of the constraints of a traditional CoP model might aid faculty development strategies targeted to shape a new environment more informed by learning theories rather than old norms or paradigms. So that strategies to

1. Raise awareness of CoP's principle of intentionality where contributions offered by stakeholders from across the generational continuum and collaborative social learning environments are fostered and made explicit.[25] Consequently, UGME curricula might become characterised by more equal power relationships.
2. Educators from all generations could be encourage to integrate CVT through autonomy-supporting behaviours which empower students to express negative emotions towards tasks experienced as boring and uninteresting.[37] By doing so, learners' positive academic self-concept and self-efficacy may be developed and older generations of educators feel more comfortable with emerging intergenerational norms.

Whilst this phenomenological study cannot claim to offer more than insights into individual experiences of the generation gap, it does lay the grounds for further studies in how to support and enhance intergenerational respect and collaboration. The method does, however, provide a valuable lens to learn from and adapt to a fast-changing medical education context.

Disclosure

The authors report no conflicts of interest in this work.

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