

IN FOCUS



Gen Zs - Understanding the Next Generation of Healthcare Professionals

FACE-TO-FACE



Laying Everything on the 'Table Top'

HIGHLIGHT



Know Thyself

HAPPEN IN NHGS



NHG Education Learning Series - 'Artificial Intelligence (AI) In My Practice! Real or Not?' with Dr Vaikunthan Rajaratnam



NHGEducation

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Gen Zs

Understanding the Next Generation of Healthcare Professionals



With more and more Generation Zs (Gen Zs or Zer) entering the workforce, it is inevitable that there will be misunderstandings and mismatch of expectations between these newly-minted employees and their more senior colleagues.

At the 2023 Singapore Health and Biomedical Congress (SHBC), education experts from Nanyang Technological University (NTU) (Ms Malar Palaiyan and Dr Preman Rajalingam) and NHG Education (Dr Winnie Teo and Associate Professor Wong Teck Yee), shared their insights of their interactions with Gen Zs.

This first of a two-part series summarises the speakers' observations, and suggestions for senior colleagues on how they can better understand what the Gen Zs' viewpoints, concerns, and anxieties are.

A Worldview Challenged

Baffled by the thought of finding jobs via LinkedIn? Or by the expectation that to retain your job, all you have to do is to ensure that a minimum of three to four days is clocked in at work? Or that you should receive a thank you message and small gift from your supervisor upon completion of your job tasks?

You are not alone; and most probably, you are not a Gen Zer.

The above examples were shared by Associate Professor Wong Teck Yee, NHG Cluster Education Director (Pre-Professional Education), from his conversation with his 20-year-old son. And this shift in recruitment practices and workplace culture challenged his own worldview of what "work and life" is, as more Gen Zs (like his son) join the workforce.

Together with a panel of experts at SHBC 2023, talk moderator A/Prof Wong urged the senior professionals in the audience to adopt an open mindset, and reflect on the stereotypes and perceptions of Gen Zs, especially those challenging the current workplace cultures and attitudes.

'Defining' Gen Zs

Panel speaker, Dr Winnie Teo, Deputy Director (NHG Education), defined Gen Zs as anyone born between the late 1990s to early 2010s; or between 1997 to 2012 as according to AsiaOne and Channel NewsAsia.

And like generations before them, they are not spared from the labels or barbs of their generation's shortfalls.

It is quite common to hear generalised perceptions of Gen Zs as "soft and less resilient than that of the earlier generations", said fellow speaker, Ms Malar Palaiyan, Head (University Counselling Centre), NTU.

And at the workplace, they are often labelled as "difficult" and when it comes to work ethics, they are always perceived as "leaving work on time and prioritising self-care and stress management", "unwilling to go the extra mile", etc., said Ms Malar.

This action of 'pigeonholing' can be what Dr Teo termed as "generational othering".

'Generational othering' can be described as ascribing individuals' behavioural traits or attitudes based on the year that they are born, and acting upon these beliefs, she shared. "For example, you behave like that because you are a Gen Zer..."

Dr Teo noted that generational othering happens whenever a new generation enters the workplace. "There will always be complaints about how each new generation is never as good as the one before," she said. However, labelling people in terms of age cohorts, instead of trying to understand them as individuals, based on their upbringing, work and school experience, is not only inaccurate, but also creates unnecessary barriers between people in the workplace. This is especially so when labelling is applied by more senior people, and these labels usually carry negative connotations.

"We like to think in binaries. Gen X is like this, Gen Y is like that, and boomers are like that," shared speaker, Dr Preman Rajalingam, Director (Centre for Teaching, Learning and Pedagogy), NTU.

"Do you think Gen Zs are different cognitively than, let's say, baby boomers or Gen Xs? Who thinks they're different?" he asked.

Are We All that Different?

"(I think) people are much more similar than they are different," he said. "We are actually looking at very slight differences in perspectives."

Dr Preman feels that the "myth" of the older generation being 'better' than the younger is due

to the change in human cognition over time. This change is the result of a combination of different factors such as better nutrition, better education, advancements in technology, the environment, etc.

In fact, the world's intelligence seems to be going up, he said, sharing that the evidence showed that IQ (intelligent quotient) of the younger generation is increasing at around three points across the world.

"So that means if you're 30 years older than your junior, there's a high chance that the junior thinks you're slow, because they may be 10 points on average more intelligent than you," he quipped.

To Dr Teo, she feels that Gen Zs are far from being "strawberries". "I think they are brave enough to speak up about things like stress management, diversity, and individual wellness," she said. "And I think they will lead the change."

Gen Zs' Anxieties

Like the generations before them, Gen Zs also experience anxieties and uncertainties as they transit into the working world.

Through her conversations with some of her NTU students as head of the NTU counselling



Speakers (from left): Ms Malar Palaiyan, Dr Preman Rajalingam, and Dr Winnie Teo

The incessant need to seek external validation adds an additional layer of pressure to their already complex emotional state. "They view self-validation as pathetic," she said. The act of self-validation means that "nobody else would" would validate them or their actions, she adds, which may explain why the number of likes and followers that they have on their social media accounts take high priority in their lives.

Having to navigate through layers upon layers of complex emotional and psychological issues is no easy feat for anyone, needless to say for a Gen Zer, who is stepping into a rapidly changing and VUCA (Volatile, Uncertain, Complex, and Ambiguous) – or more accurately, BANI (Brittle, Anxious, Non-linear, and Incomprehensible) – world for the first time as a working professional.

Ms Malar shared that about students who approached her about their "crushed dreams" of not being able to find the dream job – one that has prestige and a good salary, were unable to understand why their efforts do not equate to having their dreams realised.

"If I do this, and this. It (results) should come this way," she said.



Participants at the Q&A session

While it may be easy to dismiss their concerns and anxieties as trivial or throw remarks such as "suck it up", it will not help the Gen Zs 'toughen up', comply with the status quo, and much less thrive in a working environment, system, and culture with values and perspectives that are different from theirs.

centre, Ms Malar shared that mental health awareness is a significant concern for them.

While the students were open to discussing mental health issues in general, she realised that they were hesitant to talk about their own mental health struggles, for "fear of being judged or deprived of opportunities".

These "digital natives" engage in masking behaviours such as putting on a show of confidence, or hiding or suppressing symptoms, behaviours, and difficulties, in order to mask their underlying self-esteem issues, shared Ms Malar.



Photo opportunity (from left): A/Prof Wong Teck Yee, Dr Winnie Teo, Ms Malar Palaiyan, and Dr Preman Rajalingam

In part 2, the speakers explored more about Gen Zs' expectations at the workplace, what they value at work, and how their senior colleagues can help ease these next generation of healthcare professionals into the work environment.

An illustration of four diverse people (two men and two women) sitting around a table, engaged in a discussion or meeting. They are looking at a laptop screen. The background is purple with icons of people and a plant.

Residency Leadership Talk Part 2: Know Thyself

Thirty-nine Chief Residents (CR) were inducted into their new leadership role during the National Healthcare Group (NHG) Residency Chief Resident Induction Programme, held in July 2023. These young new leaders nominated by their peers and juniors, will represent them as their voice (to the faculty, department and organisation), and will also oversee resident welfare, facilitate teaching activities, on top of their own training and clinical duties. Three distinguished speakers – Adjunct Professor Lee Bee Wah, Emeritus Professor Rajendran Kanagasuntheram, and Associate Professor Yong Keng Kwang – were invited to share their leadership experiences and perspectives with these budding young leaders as they kick-start their leadership journeys.

In the second of a three-part series, guest speaker, Emeritus Professor Rajendran Kanagasuntheram, Department of Anatomy, National University of Singapore Yong Loo Lin School of Medicine (NUSMedicine), shared with our CRs about the importance of figuring out who one is, and communities in one's career.



You are Unique

"Hey, what do you think I should do? Don't do that," shared Prof Rajendran (or more intimately known as Prof Raj), with the CRs about making career choices.

He stressed for the CRs to make their own career decisions, and not ask others what they should do, and not to follow what their friends are doing.

"You are a different individual, unique," Prof Raj added.

"Ask yourself, why am I here?"

"You have to figure (your calling or purpose) out, and figure out what you should be doing about it... because knowing oneself is the beginning of a lot of wisdom."

Figuring Out Who You are

Prof Raj cited his own story as an example.

As he was growing up, Prof Raj thought that he would become an engineer, given his interest and inclination towards "art" and "mechanical things". However, his father persuaded him to go into medicine – as it was perceived to be a more secure, respected, and a well-paying career, even though he was not keen.

Despite being unable to pursue engineering, it did not stop Prof Raj from wanting to do something "with his hands". Hence, he decided to embark on surgical training after graduating from medical school, thinking that it would allow him to play on his strengths.

"I just felt that I need to be in a place where I can be relevant, contribute, and be happy," said Prof Raj. But he soon realised that surgery was not the right fit for him, as he struggled to cope with the stress and demands of surgery.

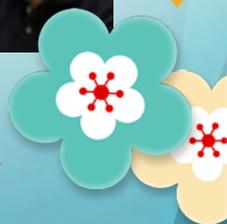
And it was years later, and upon much reflection, that he realised he had "zero hobbies" during his stint in surgery.

"This means that you don't exist," he added. "You don't exist if you lost your hobby... and this is a symptom of being in the wrong place."

"A big bell rung in my head when I saw an advertisement in the papers for a position in anatomy at the university... I went home, cut it out and applied for it, and surgery



Participants at the Q&A session



was history," said Prof Raj, who has been with the NUSMedicine Department of Anatomy ever since.

He realised that the decisions he made through his medical journey and career, were him "drawing on his talent"; and his "mechanical mind" at work.

"Don't be afraid to do that," said Prof Raj. "Your talents actually speak to you when you're making a choice. There's an inner voice telling you, this is you, and you should go ahead and do it."

He noted that only when one knows oneself (for example, one's inclinations), can one confidently decide what one really wants to do (career wise) later.

"Teaching was new to me, and I never knew I would be a teacher, although I subsequently learned to enjoy it," he reflected, realising that what he had been seeking was his calling (teaching), finding the right fit, and being in the right community.

The Sense of Community

Prof Raj highlighted the importance of being in a community, or a sense of belonging in a community, especially when one is in difficult situation(s).

"We should never forget that we are seated in a community," he stressed. "Something which I cannot do (or do not have the skills or abilities for), I can think of somebody else who can join in, don't forget that."

To Prof Raj, the sense of community is especially important when guiding junior team members. "You need to have someone, a mentor to depend on for advice," he said.

However, Prof Raj cautioned the CRs – as young leaders – that forming and building communities should be done physically or face-to-face, and not through gadgets or mobile devices.

"The change I noticed was that previously, there were natural situations and events that brought communities together," he shared.

However, with the increasing reliance on technology these days, Prof Raj felt that communication becomes less effective, as it lacks the human touch. And this leads to the "deterioration" of the community, he said.

"There is a need to be more proactive, finding ways to keep the community going... It may look artificial, but I think it is worth it," Prof Raj stressed.

"And please (remember), handphone is for convenience, not a community."

"Your talents actually speak to you when you're making a choice. There's an inner voice telling you this is you, and you should go ahead and do it."

**Emeritus Professor,
Rajendran Kanagasuntheram**



Prof Rajendran Kanagasuntheram with alumni from his anatomy class

Laying Everything Out on the “Table Top”

By Eugene Seng



As a communications specialist with National Healthcare Group (NHG) Education, I am involved in various projects relating to editorial work, media, and publicity. Due to the nature of my work, I was approached to assist in the shortlisting of NHG Teaching Excellence Award (TEA) winners for the production of tribute videos, media features, and our e-newsletter, LearniNHG.

Annually, faculty from across NHG submit nominations of clinical educators for TEA, managed by the Faculty Management and Recognition team (FMRT) within NHG Education.

With the hundreds of submissions to comb through, and tight deadlines for the various deliverables leading up to the Teachers' Day (TD) celebrations in September, it was an annual (and perennial) issue for the TD committee members and the teams involved to grapple with.

FMRT would put out a call for nominations, and go through multiple rounds of discussion, evaluation, and approval to determine the awardee list. In the meantime, the TD committee waits for my shortlist of finalised awardees to begin the production for the tribute video, and media features. As the shortlisting process could only start when the finalised awardees are confirmed – which is usually rather near to the celebrations, this leaves me with a very tight turnaround time.

Through it all, the working relationship between all members remains professional, but tensions can be felt nevertheless

as each of us had different requirements, expectations, and deadlines to meet. While we had discussions about the process and were cognisant of each other's requirements, it was insufficient to ensure that the whole process was smooth because each member had constraints that the other(s) may not be aware of, and each of us were very focused on completing our respective areas of work.

To resolve this perennial issue when preparing for TD 2023, an experimental table-top exercise was organised for us to address this recurring problem, identify the gaps, and better understand the challenges each party faced.

What is the Table-Top Exercise?

A table-top exercise (TTX) is a discussion or simulation session which involves key stakeholders working on a (usually large) project to identify, discuss, and iron out existing and future processes.

Ms Serene Goh (Director, Group Education) roped in Ms Vivien Tan (Senior Executive, Group Education) and Ms Joy Leong (Senior Manager, People & Organisation Development, Woodlands Health) to craft our department's first TTX session.

Building on their learning from the **NHG Education Overseas Expert Programme** in 2023 by Professor Victoria Brazil on translational simulation and how to build high performing teams

to drive team performance; the three of them incorporated gamification and simulation concepts into this experiential TTX to make the session more engaging and fun, instead of the usual discussion-style format that we are familiar with.

What was Done at the TTX

We began the simulation exercise seated in separate tables – each reflecting our respective roles (Head of Department, TD Chairperson, Faculty Management and Recognition Team, and Engagement Communications). During the one-hour role-play

We collectively agreed that the TTX gave us better clarity, understanding of each other's perspectives (and implications), and expedited our usual slower-and-high-chance-it-may-cause-misunderstandings email communication practices.

It made us see from each other's views and pain points, which we may not be able to if we continued communicating via email, phone calls, or even in-person, because we were concerned about getting our respective area(s) addressed – which usually results in a win-lose situation.

**“Strive towards win-win solutions...
I cannot stress this enough.
Without this mindset, nothing
will move, because participants
will purely be concerned about
protecting their area of work.”**



session, all of us were required to respond accordingly to specific real-life scenarios presented to us while being mindful of the “virtual clock” ticking, with each scenario involving at least two or more stakeholders.

As we progressed through each scenario, we took notes of (a) what can be done better, (b) the gaps that surfaced, (c) the thought processes and concerns behind our decisions, and (d) we highlighted each other's blind spots where necessary. At the end of the session, everyone present (including the observers) came together to discuss our observations and offered solutions which I personally felt were quick, sound, and relatable.

What the TTX Did for Us

I have to admit that it was quite a vulnerable experience being the inaugural (“guinea pig”) batch for the TTX. All of us reflected that we did not know what to expect, and at times, what, and how we were supposed to respond.

But what the TTX did was to ensure that everyone involved was on the same page, and created a safe space which allowed for:

- All stakeholders to lay everything out on the “table”, allowing for processes, challenges and different perspectives to be seen by all stakeholders and observers;
- Known and unexpected gaps to surface;
- Processes to be tightened; and
- Solutions that benefitted everyone (win-win).

The Take Home Message of the TTX

TTX is a great method to iron out complicated and complex processes in large-scale projects that involve different stakeholders. I believe that in order to have a fruitful session, the following criteria needs to be met:

- **The TTX space must be psychologically safe – Facilitators and management (whom I recommend to be present) need to create a safe space for participants to feel “vulnerable”, so that they will be more open to share. It is also crucial to reiterate that the session is not a finger-pointing exercise;**
- **Open mindset – All participants of TTX must come with an open mind. Do not withhold any information or thoughts to protect one's pride or area of work, and be open to criticism;**
- **Be willing to be vulnerable – Everyone needs to be willing to be “vulnerable”, and share work and thought processes (including flaws) openly. But this is not be a session to pour out personal emotions or baggage; and**
- **Strive towards win-win solutions (or compromises) – I cannot stress this enough. Without this mindset, nothing will move, because participants will purely be concerned about protecting their area of work. They will soon find themselves perpetually stuck in an unnecessary tense cycle of trying to get their own specific portions of work done.**

'Artificial Intelligence (AI) in my Practice! Real or Not?'

with Dr Vaikunthan Rajaratnam

"I'm not an AI (Artificial Intelligence) expert, but I am an expert in using AI, because I'm a very lazy guy," quipped Dr Vaikunthan Rajaratnam, Senior Consultant, Orthopaedic Surgery, Khoo Teck Puat Hospital. He was the speaker at the NHG Education Learning Series 'Artificial Intelligence (AI) In My Practice! Real or Not?' webinar, held on 28 September 2023.

"I like to find things that make my life easier, and that's generally what humans do."

"(And) This is what AI is all about. Remove all repetitive, mundane tasks, that can be done by a machine, so that you can spend more time with your patients, comfort them... and (focus on) the other aspects, the real care for the patient," he said.

What is AI or Generative AI?

Dr Vaikunthan defines AI as the simulation of human intelligence using machines.

In recent times, the buzz around AI refers to rise of generative AI (GenAI). GenAI is a branch of AI that has the ability to produce various types of content such as text, images, videos, audio, etc., based on the patterns and structures of the input data.

One example of GenAI that is making the headlines is ChatGPT. 'Chat' refers to the conversational style of input and response, and 'GPT' stands for generative pre-trained transformer, said Dr Vaikunthan.

While this technology (GenAI in Chatbots) is not new – first introduced in the 60s, it has gained traction in recent times due to the improvement in machine learning algorithm, and its ability to generate high quality content.

"What ChatGPT does is to take large amount of documents, and predicts what the next sentence would be," said

Dr Vaikunthan, elaborating that GenAI such as ChatGPT generates an appropriate response by comparing the words and proximity of the words that were input, and predict what should be next to it; very much like how a chatbot responds to queries.

He feels that the role of GenAI is to make the lives of healthcare professionals (HCP) easier, as it helps to remove repetitive and mundane mechanical tasks, in order to "free" up time for HCPs to do more "human" tasks, such as spending more time with patients, providing comfort, etc.

"Focusing on the real care for the patients," he added, stressing that AI is not a "monster job eater a drawing".

"The beauty of it (ChatGPT) is you don't have to use coding, you don't have to use Boolean search," explained Dr Vaikunthan. He elaborates that the interaction between user and the machine (GenAI) is done in "conversational" manner – a question-answer fashion. However, he highlighted the importance of understanding how to use appropriate GenAI prompts.

"The quality of the data is whatever you supply it (GenAI), so garbage in, garbage out," he cautioned. "The quality of the response is directly proportional to the quality of your prompt and understanding."

Prompts are instructions entered by the user into the GenAI platform to guide it to generate an intended response. And these prompts can be a combination of requests,



questions, context, references, examples, etc., which are input by the user in natural language – not programming language.

He shared an example of how GenAI (or ChatGPT) works, using the phrase "Don't cry". A common fill-in-the-blanks response would be the song, "Don't cry for me Argentina", he said. However, if a third word e.g. 'over' is added, then the predictive sentence would become, 'Don't cry over spilled milk'.

AI responses are predictive, and in order to get appropriate or accurate response(s), the prompts need to be constantly revised, he said, and emphasised for the user – who is also the subject matter expert – to constantly validate the new iterations.

"This is an iterative process of seeing what response you get, and then you put in your problem until it reaches a level of satisfaction in the outcome."

Using GenAI to Make Our Lives Easier

As a medical educator and instructional designer, Dr Vaikunthan believes that GenAI can be used and implemented in different areas of health professions education (HPE) to aid educators and curriculum designers to create more personalised learning experiences, and in some instances, help enhance the learner's clinical competencies.

One of the uses of GenAI for HPE would be to create simulated-patient chatbots for medical students to improve their

clinical and history-taking skills, he noted. By providing the appropriate prompts such as defining learning objectives and context setting, clinical educators can design simple one-word Q&A (such as "Have you had jaundice before?", "Are your stools pale coloured?", etc.) clinical-simulation chatbots that would then enable learners to learn, and educators evaluate, at their own time.

"This makes for a good history-taking orders gap, and you (educator) can fill the gaps on a face-to-face basis," he said.

"Something like this (off-the-shelf simulator) would have cost between USD\$25K – 30K to purchase."

Another area that GenAI can be employed is in curriculum design. Dr Vaikunthan shared that by providing the GenAI with the context and scenarios, and instructions (to include learning outcomes, pedagogy, lesson plan, and assessment criteria), a draft curriculum with assessment rubrics can be generated within seconds.

"Once the draft is generated, all the educator needs to do is validate it for clinical accuracy, determine if the lesson plan is sound, and if the higher-order thinking is factored in."

And with the increasing shift towards more autonomous and bite-sized learning, demands for instructional videos have continued to propel since the start of the COVID-19 pandemic.

Dr Vaikunthan has been collaborating with NHG College to conduct instructional design workshops using GenAI.

"They (educators) were struggling for a couple of years, but by the end of this one-day workshop, we have people who never knew how to create instructional videos, producing five-minute video using AI."

As with any other GenAI applications, Dr Vaikunthan stressed the importance of providing the GenAI platform with a clear learning outcome, followed by the other prompts such as piecing together a script, and selecting appropriate images, videos, audio, and text.

For educators and content creators who are concerned about the use of copyright images, GenAI is able to recommend non-copyright images, and even create AI-generated images, he shared.



“
People say AI is going to replace you... No, AI will never replace you, but someone with the competency in AI will definitely replace you.”

- Dr Vaikunthan Rajaratnam

AI's Potential in Healthcare

As a clinician, Dr Vaikunthan appreciates the critical decision process that GenAI offers. Through evidence-based recommendations that GenAI generates, he is able to do a narrative synthesis of the available data, and this helps him in his decision in diagnosis, predicting patient outcomes, possible treatment pathways, and in clinical decision support systems.

Dr Vaikunthan believes that the role of AI in healthcare is tremendous, due to the large amounts of data available. He sees the potential for this data to help in improving operational efficiency, and especially in predictive analysis of patients' conditions.

"The ability (of AI) to handle large amounts of data and simulate various models, even for drug production and development," he said.

"(And) eventually you will see how AI is going to help to predict patient's progress longitudinally based on sensors and data monitoring."

Unlike non-patient related applications such as education and training, the use of GenAI for real-life clinical applications (involving patients) becomes a little more complex as validity of the generated response, data governance, and ethical concerns such as the Personal Data Protection Act enters the equation, said Dr Vaikunthan.

With no secure and official GenAI platforms at the current juncture, he cautioned educators that should they decide to use or experiment with GenAI in clinical-related applications, they should not input personal identifiable data into the GenAI. This is especially so, as current GenAI platforms such as ChatGPT upload and generate data to and from the cloud.

Dr Vaikunthan urged for clinicians to be involved early in the development of AI-related tools, to provide clinical guidance and background as the tools are being developed, and not only to be involved when the product is completed.

"As somebody recently described, AI is like the toothpaste. When it comes out of the tube, you can't put it back in. So, AI is here to stay," he said.

"People say AI is going to replace you... No, AI will never replace you, but someone with the competency in AI will definitely replace you."

Login to eLearn.sg/NHG
to view Dr Vaikunthan's talk -
"NHG College: AI In My Practice!
Real or Not?"
**Only available for NHG Staff*