

THE BLUEPRINT

Paarl Boys' High | Hoër Jongenskool Paarl

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Stepping into the Future with Tech-Savvy Teaching ICT Integration at PBH

Matthew Lamprecht

Implementing technology and information communication technology (ICT) in classrooms have become increasingly prevalent in educational settings worldwide. This shift towards integrating technology into teaching and learning processes is driven by the potential to enhance student engagement, facilitate personalised learning experiences, and prepare students for success in a digital age. The COVID-19 pandemic also forced many

into a position that required them to turn to these options. However, the effective implementation of technology in classrooms requires careful planning, ongoing support, and consideration of both advantages and disadvantages.

In the absence of clear, integrative provincial strategies, progress in South Africa is fragmented in this regard and driven by solution providers. Paarl Boys' High, however, as one of these,

is changing significantly and ICT is becoming an integral part of studies at the school, with Learning Management Systems (LMS) being used ever more frequently. Although there are some concerns about ICT implementation in schools, there is considerable merit to technological advancement in schools and helping students become more digitally literate. Currently, within classrooms, Microsoft Teams is the school's platform of choice,

servicing as a hub for communication, content sharing and assessment. The shift from Google Classroom to Microsoft Teams was a decision based on the seamless integration with other Microsoft Office tools, familiarity, and robust features offered by the latter. Features like collaboration spaces, file sharing, and real-time communication further solidified the choice. Beyond this, ICT is used to streamline administrative tasks,

facilitating staff collaboration, document management, and scheduling. D6+ is the new administrative platform being used to handle all school administration – including communication, curriculum tasks and learner database.

Addressing concerns about equitable access to ICT resources, particularly for students from disadvantaged backgrounds, Paarl Boys' High employs a mixed approach, combining digital and traditional methods. While Grade 8 learners participate in a "Bring Your Own Device" pilot, senior grades face logistical challenges due to curriculum demands, budget constraints and practical considerations. The school remains committed to bridging the digital divide, ensuring that no student is left behind and believes that through careful planning along with gradual adoption and incremental introduction of features to develop an inclusive environment, change can be sustainable.

There are other concerns that need to be considered as well. First, prioritising digital privacy and security, robust measures safeguard student privacy. Educating students about privacy settings, informed consent, and responsible online behaviour is part of the school's ongoing effort.

Next, tackling the issue of distraction and influence on academic performance, clear guidelines on

students about responsible technology use helps mitigate distractions, ensuring focused engagement during learning activities. Effectiveness is measured by employing a number of qualitative and quantitative methods, and academic performance is monitored by tracking student performance and engagement, allowing for identification of any negative impact. Regular assessments guide adjustments, ensuring that technology's benefits align with academic outcomes, the goal ultimately being to create a dynamic learning environment where technology empowers both educators and learners.

This journey toward a technologically inclusive learning and work environment has not been without challenges. Firstly, the knowledge gap among both staff and students poses hurdles. Some educators are still not entirely comfortable with LMS software, and bridging this gap requires, as before mentioned, ongoing training and support. Secondly, cost constraints play a significant role. Investing in devices, licenses, and infrastructure can strain budgets. Balancing technological advancements with financial realities is a delicate task. Third, the school must grapple with loadshedding, a recurring challenge in South Africa. To mitigate disruptions, they are actively working on installing solar panels that will connect to the ex-

isting inverter system. These panels will ensure uninterrupted access to digital resources even during power outages.

Looking further into the future, the possibility of e-books supplementing textbooks is being investigated. The viability of this shift needs to be carefully assessed, however. While e-books can yield long-term cost savings, the initial investment—covering devices, licenses, and necessary infrastructure—must be weighed against the benefits. Returning to equitable access, learners without personal devices must also be accommodated. The pedagogical impact of e-books, too, needs to be evaluated. Interactive features, searchability, and multimedia elements can enrich content, but the school must consider how they align with their educational goals and acknowledge the preferences of students, catering to both those preferring the tactile and digital approaches respectively. Thus, physical textbooks will not be phased out entirely.

Striking the right balance between preserving traditional methods and embracing ICT integration is essential. The school's approach involves gradual adoption, ensuring that technology enhances—not disrupts—the learning experience. They remain committed to preserving the best of both worlds.

The journey doesn't end here, though. Beyond expanding e-book offer-

ings, exciting plans for further ICT development and implementation include exploring adaptive learning platforms, and enhancing teacher professional development. There is also focus on fostering a culture of digital citizenship, where students learn to navigate the online world responsibly.

This article is just a scope of the planning and implementation that the school has either done or plan to do in the future. Plans can change, but the vision of a prosperous future for ICT at Paarl Boys' High School's will remain clear, with their commitment to innovation remaining unwavering.

Did you know?

Kahoot is already a favourite in many PBH classrooms. Let's investigate how gamification can be taken even further.

Virtual Reality Technology could be used in Biology classrooms to simulate surgery or create interactive models of different Biological concepts and structures.

Heavier games, like Napoleon Total War, could also be used in classrooms. It has been proved that this game specifically, for example, can enhance teaching of both local and global historical concepts, aided by simulations of Napoleonic War.

Boys' High Culture Camp 2024

Helgard Nolte

For five days Boys' High's culture department came together and rehearsed for more than six hours every day. Boys' High's Culture Camp of 2024 was a perfect opportunity for the culture department to connect through blood, tears and an abundance of sweat.



The Suonare hard at work

Members of the Suonare (Wind Band), Cantare (Choir) and Drumline have started the year on the right foot and make us excited to see their upcoming performances.

With the matrices of 2023 leaving, it was time to pass leadership on. The leaders of the Culture Department for 2024 are as follow: Jon Dorman as the leader of the Drumline, Jack Enslin and Mike Wang as Leader and Vice-leader of the Suonare, Altus Basson and Joshua Peterson as Leader and Vice-leader of the Cantare, and the Music Prefects: Daniël Groenewald, Jack Enslin, Curtley Abrahams, Hugo Smit, Daniel Fulton and Helgard Nolte. We trust these boys will lead their respective groups to great heights.



The Culture Boys all together

Only 35% of Americans can play an instrument. However, 90% wish they could play or perhaps become a multi-instrumentalist. So it's amazing that Boys' High is able to bring all these talented individuals together and provide them with the opportunities to improve. Not only as musicians, but as people. Playing an instrument takes time, practice and dedication. We wish you luck!

Helgard Nolte



Matthew Lamprecht playing violin

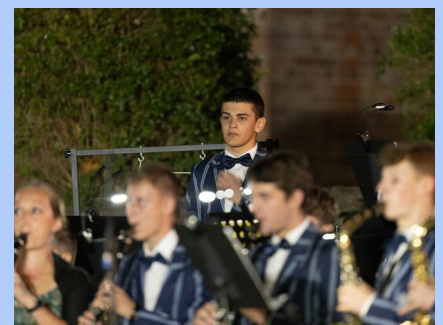
The translation for Zamar, the guest artist that featured this year at Boys' High's annual picnic concert, is to praise God with music or to make music to God, which is a perfect way to describe this special night, not just because of the impressive performance of Hallelujah, written by Leonard Cohen, played on cowbells.

Picnic Concert 2024

It was a time for Boys' High's music department to show what the Culture Camp has led up to. The night, true to its name, was a picnic under the stars, with comfortable blankets and camping chairs on Boys' High's field. The night featured dancing lights, beautiful decoration and notes that bounced off the valley.

Talented musicians showed how hard Boys' High's music department works to provide the best space for learning and improvement. Groups such as the Suonare, Cantare and Drumline demonstrated the power of cooperation, as well as solo items, setting the stage for young musicians to show their skills to the world.

The Picnic Concert always provides an atmosphere of tranquility, warmth, and joy. Because music is not just organised sound - it brings people together. The music department has given us a taste and we are excited to see them perform at future events.



Alex and the Suonare



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Sometimes the things we can't change, end up changing us

Ulrich Nienaber

In the quaint, quiet town of Capel, lived an elderly woman named Clara. She had spent her entire life in the charming cottage that overlooked the serene meadows. Clara's days were routine, filled with tending to her garden and sharing stories with the neighbourhood children.

One chilly Autumn day, a letter arrived bearing the news that her childhood friend, Joshua had passed away. The news shocked Clara to her core, and the weight of grief settled heavily on her shoulders. Joshua's passing opened a floodgate of memories, reminding Clara of the unspoken words and missed opportunities for reconciliation.

As winter descended upon Capel, Clara found herself grappling with regret. She couldn't change the past, and the realisation of this truth weighed on her like a relentless storm. Joshua's absence left a void, and Clara's heart yearned for closure. It was then that she stumbled upon a forgotten box in the attic, filled with letters exchanged between her and Joshua over the years.

As Clara sifted through the letters, she discovered a pattern of missed chances and misunderstandings. The letters revealed the depth of their friendship, and the love that had gone unspoken for decades. The realisation hit Clara with a profound truth – sometimes the things you can't change, end up changing you.

Motivated by this newfound insight, Clara decided to honour Joshua's memory by embracing change in her own life. She reached out to those she had grown distant from over the years, mending strained relationships and making amends. The process was challenging, but with each step, Clara felt a weight lifting off her heart.

to Capel, mirroring the changes within Clara. The meadows bloomed with vibrant colours, symbolising the renewal of connection that had been dormant for too long. The townsfolk noticed Clara's metamorphosis and admired her resilience in the face of loss.

One day, while tending to her garden, Clara met a young girl named Lily. Lily had recently moved to Capel, carrying her own burden of past mistakes. Clara shared her story of missed chances and the importance of embracing change, inspiring Lily to confront her own demons.

As the seasons continued to change, so did the people of Capel. Clara became a beacon of wisdom, reminding everyone that life was a series of transformations. The moral of her story resonated throughout the town – sometimes the things you can't change, end up changing you.

Clara's journey taught the town of Capel that it's almost never too late to mend relationships, seek forgiveness, and embrace the inevitable changes that life brings. The town flourished with a newfound understanding, all because Clara chose to confront her past and let the winds of change carry her towards a brighter future.

Boishaai Blaaië is an initiative that aims to acknowledge some of the best writing produced in PBH throughout the year. The two essays included in this edition are both written by English Home Language students - the first, from a first term assessment completed this year and the second, from a third assessment completed last year.

Although mistakes have been edited, the choice of words has been retained to the greatest extent possible in order to retain the authenticity of the work.

And just like that, it was all over

Matthew Lamprecht

A ray of sunlight pierced the murky depths, disturbing the delicate state of limbo in which I found myself. I was being pulled upwards and the dark, blotched curtains restraining me parted for a soft, yellow voice. Slowly, as one that sloshes about in a muddy swamp, my eyes opened and turned toward the bright, hot sun that emanated a comforting familiarity.

The sun sang a frightful song that I could hear only in fragments: accident, paralysis, loss... The light dimmed and I saw my mother's face, my heart sinking. It all came rushing back to me in that moment – a relentless cascade of memories threatening to drown me once more. I understood: accident, paralysis, loss... The song was meant for me.

I tried to speak, but my lips would not part. An icy horror clutched me as my thoughts, bright and clear, terrifyingly convoluted, not able to escape. Another wave came crashing down on me, as I imagined the elusive touch of a cool, silver flute beneath my fingers, and that of a tense gut string or delicate piano key.

And then, I sank deeper once more. The murky waters enveloping me seeped into my brain, and my thoughts, bright and clear, started to crack, alarmingly delicate beneath the force of the crashing waves.

Over time, as I ventured closer to the bottom, the clarity of my mind weakened and hope dissolved, my dreams and aspirations forgotten. I was lost. And just like that, it was all over.

Elon Musk VS “Open” AI

The Fight for Open Source Development

Charl Steenkamp

Elon Musk, a co-founder of OpenAI, has recently raised a lawsuit against them for allegedly breaching their contract by becoming a for-profit organisation, claiming that the organisation has shifted their goals and interests to pursue their self-interest to make money instead of helping the betterment of humanity. This article will analyse both sides of this dispute and focus on some key points raised in the lawsuit, especially the open sourced and close sourced development of Artificial Intelligence in general.

Originally, OpenAI was created as a non-profit organization with an open source mindset where they openly share the technologies that they were working on to “benefit humanity as a whole.” Sam Altman, currently the company’s CEO, and Elon Musk both shared this view when they founded the company with other members of the board in charge of OpenAI in 2015.

However, this view has



Sam Altman, CEO of OpenAI (left) and Elon Musk (right)

gradually changed over time as experimentation has led to multiple technological innovations from 2016 to 2018, such as its Python toolkit designed for **reinforcement learning** algorithms called OpenAI Gym, which allowed many of the board members to consider the potential to profit off of their technology and therefore stop being a non-profit organisation.

This sense of a changing perspective was contributed by their use of cloud computing, the on-demand use of computer resources, such as servers and storage, over the internet where you only pay according to what and how much you use, most notably with Microsoft’s Azure. The use of cloud computing was a pivotal strategic move and allowed them to make more innovations

easier due to the access to more computing power and ease of scalability for larger projects.

Ultimately, the shift to commercialisation was executed in 2019 with the use of a hybrid for-profit/non-profit structure that legally abided by the initial contract to remain a non-profit organisation, but still allowed them to make money after the production costs, which cloud computing comprised a large portion of, exceeded their capital. This was probably why Elon Musk had left the board in 2018, when they started discussing these developments.

After becoming a for-profit organisation, Microsoft had realised the company’s potential and started funding OpenAI with \$1 billion. Since OpenAI and Microsoft already had good relations with Microsoft due to

OpenAI’s use of Microsoft’s cloud computing, Microsoft was not reluctant to start this strategic partnership. These developments allowed them to develop technology and train AI models such as ChatGPT.

Reinforcement Learning

Reinforcement learning is a type of artificial intelligence where an agent learns to make decisions by interacting with an environment. The agent receives feedback in the form of rewards or penalties based on its actions. Through trial and error, it adjusts its strategy to maximize long-term rewards. It’s like teaching a pet to perform tricks: they try actions, get treats for good behavior, and learn to repeat those actions that lead to rewards, gradually improving their performance.

When OpenAI became a for-profit organisation, the way that they share their technology also changed. Instead of being **open source**, they changed to a **closed source** model where they have absolute control over their own technology and don't need to share the workings of their technology or the technology itself.

Elon Musk especially raised this point in his lawsuit, claiming that they became too focused on making a profit instead of doing what is best for humanity. He also Tweeted, or "X'ed" that, *"OpenAI was created as an open source (which is why I called it "Open" AI), non-profit company to serve as a counterweight to Google, but now it has become a closed source, maximum-profit company effectively controlled by Microsoft. Not what I intended at all."*

OpenAI denies all of these claims, however, stating that Elon Musk supported becoming a for-profit organisation, but he allegedly wanted total control of the organisation. OpenAI also stated that he was envious of them after leaving the company and that the idea of any founding agreement to stay a non-profit organisation between them was a *"fiction Musk has conjured to lay unearned claim to the fruits of an enterprise he*

Open Source vs Closed Source

In the context of an AI company like OpenAI, open source refers to making the source code and associated resources freely available to the public. This allows anyone to view, modify, and distribute the software, fostering collaboration and innovation within the community. Conversely, closed source, or proprietary software keeps its source code confidential and restricts access. While it offers tighter control over the product, it limits external contributions and transparency. OpenAI's open approach encourages widespread participation and scrutiny, potentially leading to faster advancements and greater trust, while closed source models prioritise control and proprietary interests.

initially supported, then abandoned, then watched succeed without him."

This point raises a valid issue - whether technology with a high risk, such as Artificial Intelligence, should be developed in an open or closed source environment.

On the one hand, if AI is developed in a close source environment, the entity developing it has more control over its development, which could be used to ensure safety and stability, as well as

the complete opposite, as they have total control over its development.

On the other hand, if it is developed in an open source environment, its development and technology would have a lot more transparency, which makes it more trustworthy than a closed source approach. However, since everyone can access the source code of the AI and therefore edit and run it according to their own will, it makes it possible to use it for nefarious purposes, such as training an AI on someone's voice to imitate them in order to embarrass them, or worse.

Despite these negative aspects of both open and closed source AIs, both have received significant popularity in the past couple of years, especially **generative AI**.

Some notable examples of open source AIs include *Llama*, an LLM such as ChatGPT, *Stable Diffusion*, a text-to-image AI such as OpenAI's DALL·E and *tortoise-tts*, a text-to-speech tool.

Generative AI

Generative AI involves creating new data, such as images, text, or audio, by learning patterns. One example is OpenAI's ChatGPT, capable of generating human-like text based on input prompts. LLMs use deep learning techniques, like recurrent neural networks or transformers, to understand and generate language. They've been applied in various tasks, from creative writing to code generation. Generative AI's potential extends to generating realistic content, aiding creativity, and even assisting in problem-solving across multiple domains.

In conclusion, although Elon Musk's seemingly well-meaning lawsuit against OpenAI for changing into a for-profit organisation had failed, it had raised the question whether high risk technology, such as Artificial Intelligence, should be developed in an open or closed source environment.

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Open-Source Vs. Close-Source LLMs		
Features	Open-Source LLMs	Close-Source LLMs
Cost	Lower initial cost but possibly higher maintenance.	Higher initial cost but lower maintenance.
Innovation	Collaborative and fast innovation from a global community.	Slower innovation directed by a single entity.
Support	Reliant on community-based support, which can be extensive but inconsistent.	Consistent and quality support offered through dedicated channels.
Customization	Highly customizable with access to source code.	Customization possible within the platform's limits.
IP	Shared IP under open-source licenses.	IP is closely held, providing competitive advantage.

A comparison between Open-Source and Close-Source Large Language Models

Mrs Fontini

Pieter Combrink

On the 17th of January 2024, Mrs Di-Andi Fontini made her entrance at the gates of Paarl Boys' High School.

Born at Panorama Hospital, Mrs Fontini was raised in Kuilsrivier and then eventually moved to Bellville, attending Mikro-Primary School. In high school, Mrs Fontini attended Bellville High School in grade eight and nine, and then attended



Mrs Fontini

La Rochelle Girl's High School from grade ten to matric.

Mrs Fontini initially studied B.Eng Electrical Electronics at Stellenbosch University, but decided to switch to a scientific direction. She completed her B.Sc in Chemical Biology and B.Sc Honours degree in Chemistry. Switching to UNISA Mrs Fontini also obtained her PGCE in senior phase and further education.

In 2021, she graduated cum laude with a B.Ed Honours in Education Management and Administration from North-West University. Currently awaiting the results of her M.Ed studies in Educational Leadership and Management, she will continue her studies for a PhD in 2025.

Why would she become a teacher then? "Easy," she replied, "because I want to spread my love for physics and inspire those who want to pursue careers in such a field."

Mrs Fontini decided to come and teach at PBH due to the immense focus on the growth of the learners. She respects the school as it doesn't worry only about the "Outside image", but also the self-image a person has.

She has taught learners at schools from Pietersburg High School, Drostdy High and Paul Roos Gimnasium. She wants students to feel safe and comfortable in her classroom. She wishes for learners to be able to have a level of mutual respect with her and their fellow brothers in blue.

Mrs Fontini has been happily married to her husband for the past two years. Although she does not have any children of her own yet, she sees the learners she teaches as her children. Mrs Fontini tells the students of Paarl Boys' High the following, "Gentlemen – act as if what you do makes a difference, because it does!"

Mr Hanekom

Wikus Visser

There's a new teacher on the block!

We recently welcomed a new member into the Boishaai family, Mr. Dian Hanekom. He is not your ordinary "did you do your homework?" teacher. He has already established himself as a no-nonsense, getting the job done type of teacher. He is a very respected teacher, despite being at Paarl Boys' High for merely three weeks.

During my interview with Mr Hanekom, I found some interesting facts about him that I'm sure most people don't know:

He was born in Pretoria but moved to Sasolburg where he lived for 13 years. After that, he moved back to Pretoria.

He matriculated at Hoërskool Wonderboom in Pretoria.

Mr Hanekom's passion, apart from

teaching, is coaching sport. I can definitely see a few incredible teams being produced by this incredible passionate coach over the next few seasons.

Mr Hanekom's furry friend is an Australian Shepherd dog who goes by the name Nugget.

Boys' High's dog to student ratio is on the rise again, not to mention already having 80 "Bellevue-dogs" among us.

By now, there's nothing we don't know about Mr Hanekom, right? Actually, no. It turns out that there is another cool fact about our beloved teacher: When he was still a child, he was completely ginger!

Like many of us, Mr Hanekom loves rugby. Luckily, he did his prep work before coming to Cape Town (unlike a certain English teacher). He supports the Stormers – by far the best choice, Mr Hanekom!

Mr Hanekom chose teaching as his profession, because he loves to

work with young people and he believes he can make a real difference in the lives of his students – something that he is already doing at Boishaai.

I think it's safe to say that Mr Hanekom is a teacher who is going to play a big role in educating our learners and developing fine young men for the future.



Mr Hanekom

Boishaai's Flash

Robert Harris

Boishaai's athletics season is definitely one for the books. From winning Prestige with almost 1000 points to becoming the 5th best athletics school in the country, the reason for this success is our athletes; one of the more notable, is Micah Africa: Boishaai's Flash.

Micah's first big athletics event was at the age of ten. As with most first times, it didn't go so well. It was more of a disaster than anything, yet this was only the

beginning of an era – it only inspired him to do better and win more. His first year at Boishaai was one of many successes. Not only did the name of a fourteen-year-old athletics prodigy spread across the Boland, but his name would strike fear into the hearts of anyone if they heard they were competing against him.

He helped the u14 claim victory at prestige and he would set new records there too. This success led

him to be able to join the Boland athletics team. This would help him set the Boland record for the 100m dash and see him finish second in the 300m. Promptly becoming one of the most successful athletes at Boishaai, his journey is not over yet.

A big inspiration to Micah are his friends; Dante Davids, Ra'ed Frederics and Cheston Kapot. They are an inseparable friend group and when they are together they can't be stopped. Another inspiration are his parents. They were the ones who

inspired Micah to pursue athletics and they motivated him to continue his athletics dream. This year saw Micah captain the u15 Prestige team. It also saw him win the 100m dash, 300m dash and the 200m dash. To clarify, these are only his victories. This article would be much longer if we talked about all his results.

All in all, whether you like it or not, Micah's athletics career is a success already, but it is not over. There is a bright future to come for Micah. There is more to

come of Boishaai's Flash.

Did you know?

The famous Man-netjies Roux, who was an Old Boy had a son called Pietie. Pietie would tread in his father's footsteps and also become a famous sportsman.

Although not attaining his success in the field of rugby, like his father did, Pietie became a very successful athlete and would move on to be an SA Pole Vault Champion.



Micah Africa - Boishaai's Flash



GK at the Prestige



Our proud athletes jumping to victory