

Tehran International & Adaptive School

TIS

M A G

January 2026



TIS — Where Cultures Meet





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Head of the Center for International Affairs and Schools Abroad's Message

School Is More Than Classrooms and Exams: Lessons from Iran's International Schools

Contemporary education systems are facing a fundamental question: what role should school play in the holistic development of students? Is the mission of education merely the transmission of content and preparation for examinations, or should it also foster individual, social, moral, and civic competencies? Responding to this question has turned student-centered and skills-based activities into one of the key pillars of educational policymaking at both national and international levels.

In this context, the experience of Iran's international schools—operating within the country's legal frameworks, upstream policy documents, and cultural and identity-based values—offers a thought-provoking opportunity to reconsider prevailing educational logics. These schools are not presented as an alternative to the formal national system; rather, they function as experimental educational environments that seek to systematically connect





student activities with curricular goals and meaningful learning.

This approach aligns closely with emphases found in contemporary global educational models. In such systems, the primary focus is on cultivating skills such as critical thinking, problem-solving, effective communication, self-management, teamwork, responsibility, and self-assessment—skills that are strengthened through purposeful activities, research projects, and authentic learning experiences, rather than through theoretical instruction alone.

In many traditional models, student activities are confined to extracurricular and sporadic programs, with little direct connection to the learning process. By contrast, in international schools, activities are designed from the outset as extensions and complements to classroom instruction. Research projects, collaborative work, and social and intercultural activities are treated as integral components of the curriculum and play a direct role in achieving educational objectives. This coherence transforms activities from peripheral undertakings into effective elements of learning.

One consequence of such design is a shift in the role of the student. Students move from being passive recipients of programs to active participants in selecting topics, determining modes of implementation, and engaging in evaluation processes. This active participation makes learning more meaningful and creates conditions for the development of skills such as creative thinking, problem-solving, teamwork, responsibility, and reflective practice—skills that are regarded in international educational approaches as core indicators of academic and developmental success.

From this perspective, academic success is not limited to final exam scores. Instead, attention is given to individual progress, skill-based competencies, lifelong learning capacity, and the ability to apply knowledge in real-life situations. Student activities, especially when redefined within the framework of national identity and indigenous values, provide a practical platform for realizing these goals.

Ultimately, the experience of Iran's international schools demonstrates that when student activities are designed purposefully, aligned with the curriculum, and grounded in genuine participation, deeper learning and more sustainable academic success emerge. Thoughtful and localized use of these experiences can contribute to improving educational quality and enriching developmental programs at the national level—a path that, under today's complex conditions, is more necessary than ever.

Dr. Mohamad Salimi

Head of the Center for International Affairs and Schools Abroad



PRINCIPAL'S MESSAGE



**Dear students,**

You are the spark that lights the path forward.

In a world full of questions, challenges, and change, your presence is a promise of hope, of peace, of possibility. At TIS, we believe that every idea you nurture, every friendship you build, and every challenge you face is shaping a better tomorrow.

Hope is not just a feeling—it's a force. It's the courage to dream big, to rise after setbacks, and to believe in your power to make a difference.

Peace begins with you. In your classrooms, your conversations, and your choices, you can create harmony, understanding, and respect. You are the ambassadors of a kinder world.

Innovation is your language. Whether you're coding, creating, debating, or designing, your imagination is the engine of progress. We are here to support your curiosity and celebrate your breakthroughs.

And the future? It's not far away. It's already unfolding in your thoughts, your actions, and your hearts. You are not just preparing for the future—you are building it.

We are proud to walk beside you on this journey.

Keep dreaming. Keep daring. Keep growing.

With admiration and belief in you,

Hassan Jiba**Principal of Tehran International and Adaptive School
boys**



Head of the Research and Innovation center's message





The Voice of the Future Begins at School

In a world that's evolving faster than ever, school is no longer just a place of learning—it's a launchpad for ideas, dialogue, and the future itself.

TIS Mag is more than a publication. It's a mirror reflecting the vibrant minds, bold voices, and visionary dreams of students across international schools.

We extend our heartfelt gratitude to all the brilliant students, dedicated teachers, and visionary school leaders who participated in the ISC Talk. Your presence turned the event into a celebration of thought, creativity, and global conversation. You reminded us that the most powerful trends today are not fashion—they are hope, peace, and innovation.

We also deeply appreciate everyone who contributed articles, reflections, poems, and creative pieces to the magazine. Each submission is a bridge—connecting classrooms to the world, and today's thoughts to tomorrow's breakthroughs.

And this is just the beginning...

We warmly invite all students from international schools

Minoo Taheri

**Head of Research & Innovation Center of Tehran
International & Adaptive School (Boys)**



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RESEARCH & INNOVATION CENTER



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Research & Innovation: Bridging Ideas and Impact

Minoo Taheri founder & president of ISC Talk



Introduction and Mission

The TIS Research and Innovation Center is dedicated to fostering a culture of creativity, critical thinking, and practical problem-solving. Our mission is to bridge the gap between theoretical learning and real-world application, empowering students to transform from passive learners into active creators and innovators. By providing a dynamic environment for experimentation, we prepare our students to navigate the complexities of the modern world through technology, media, and scientific inquiry.



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▲ Key Highlights and Achievements:

▲ ISC Talk 2025

Participation in ISC Talk 2025 served as a cornerstone for our academic outreach this year. Our students engaged in high-level discussions and presentations, honing their public speaking and thought leadership skills while exchanging ideas with peers and professionals in the innovation ecosystem.

▲ The ISC Talk Junior High 2025

took place on April 29 at the prestigious Mirzakhani Hall within the Tehran International & Adaptive School – Boys. The event brought together a dynamic group of junior high students for a day of insightful and inspiring presentations.

▲ The 37th International Film Festival (Young Jury)

In a prestigious collaboration, TIS students were selected to serve as official judges for the 37th International Film Festival. This initiative allowed our students to apply media literacy and analytical skills at a global level, representing the voice and perspective of the next generation in the world of cinema.

▲ Hackathon Collaboration with Rubikamp

Our strategic partnership with Rubikamp culminated in an intensive Hackathon where TIS teams showcased their technical prowess. Our students' innovative solutions not only secured them significant cash prizes but also earned them a prestigious "Spotlight" feature at the ISC Talk event, highlighting their potential as future tech leaders.

▲ ISC Cup: Strategic Excellence in E-Sports

Recognizing e-sports as a platform for strategic thinking and rapid decision-making, the R&I center organized the ISC Cup (Clash Royale). Our students demonstrated exceptional teamwork and tactical skills, successfully competing for and winning the top prizes in this high-energy competition.

▲ TIS Magazine: A Project in Creative Media

The very magazine you are reading is a flagship project of the Research & Innovation department. Beyond being a publication, TIS Magazine is an active learning lab for media management and content creation. It involves students in every step of the process—from editorial planning and reporting to design and distribution—serving as a vibrant archive of our school's innovative journey.



2025 ISC Talk report

Tehran International and Adaptive School (Boys)



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Speech of Dr. Mahmood Amani **(Secretary General of the Supreme Council of Education of Iran)**



Before everything, I would like to express my deepest thanks and congratulations to everyone who has contributed to conducting this outstanding event, the Third ISC Talk.

Good morning, brilliant and fresh minds. Today, we gather here not just for a competition, but for something far greater: ideas that can change the world. It all begins with one question: why does your life matter?

Some of you might think that you are just a student, but it is a different story. Many great leaders started their ideas as part of a team.

Think about the last time you had an idea but hesitated to share it. You may have thought that no one would listen or that you were not good enough. But today, this stage is yours. Every word you say could start something, and yours could be the next.

Students who have practiced public speaking are much more likely to become leaders in their teams. Why? Because when you step up for others, you turn your fuel into fuel for others.

Today is not just a competition; it is a test of courage. You are given ten minutes to show us how you see the world.

Speak loudly, because the future is listening. To every one of you here, congratulations. By stepping onto this stage, you have already won. Now go out there and shine.





Speech of Mr. Hassan Jiba (Principal of Tehran International & Adaptive School (Boys))



Today, at this magnificent ceremony, you have brought determination, hope, and success to this stage.

I would like to take this opportunity to thank the creative, thoughtful, and hardworking students who presented their ideas alongside our prestigious guests.

As students, you have shown all your peers that you can be unique, exceptional, and extraordinary. Your fingerprint is one of a kind, and so are your talents and abilities. The only force that can turn this unity into international transformation and evolution is willpower.

Tehran International School will do everything it can to support and guide you, our outstanding students.

Today, I invite all of you to listen to the participants of ISC Talk and to join us in making ISC Talk 2026 even more powerful.

I would also like to thank the school teachers and principals, as well as the dear parents who support their children and help them grow and flourish.

I would like to thank Ms. Taheri, the event secretary, along with the executive team. Finally, I would like to thank our dear guests—ambassadors, faculty managers, and ministry and academic center directors—who honored us with their presence and share our hopes for a bright and successful future.



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▲ Speech of Ms. Minoo Taheri (Founder & President of ISC Talk)



Ideas are valuable, but if they are not shared, they will have no impact on the world. Stage talks provide an opportunity to express ideas—briefly, yet with a lasting effect.

At ISC Talk, we strive to ensure that students graduating from international schools are not only learners of knowledge, but also changemakers of the world. Three years ago, we asked ourselves a simple yet important question: How can we support international students and create a platform that enables them to develop innovative ideas, while also giving them a space to be seen and heard?

This question led to the establishment of ISC Talk. This year, we are fortunate to host the third ISC Talk event, and we have made a conscious effort to improve with each passing year. One of our greatest privileges this year was having Dr. Saeed Hosseinzadeh, the founder of Rubikamp, with us. The workshops he conducted with our selected students were truly exceptional and highly impactful.

Another valuable opportunity was having Mr. Kaveh Taghvai honor us by serving as the host of this year's ISC Talk event, as well as leading a workshop on public speaking, from which we benefited greatly. Throughout the journey of building and developing ISC Talk, we have grown significantly and learned a great deal. I would like to sincerely thank all the students who stepped onto the stage with passion and enthusiasm to share their ideas. I also extend my gratitude to their families—their parents—and to the school administrators who stood by us. Together, we continue to work toward building the future.





▲ Speech of Dr. Mandana Sajadi (Scientific Secretary of ISC Talk)



Good morning, everyone. It is such a pleasure to be here with you today.

I would like to begin by expressing my heartfelt thanks to Mr. Jiba, the principal of Tehran International and Adaptive School (Boys). I would also like to devote special thanks to Ms. Minoo Taheri, whose role and presence have been key in shaping this event. This event would not have been possible without her leadership and encouragement.

As the scientific secretary of this event, I would like to briefly share with you how we evaluate your submissions and what criteria guide us in making our decisions. Before I talk about the evaluation process, I want to start by saying one important thing: thank you. Thank you for your curiosity and your courage. Every one of you who submitted an abstract did not just submit a text; you shared a part of your thoughts, your questions, and your imagination. That takes a lot, and it is something to be proud of.

This year, ISC Talk received 208 abstracts from nine international schools across the country. This means that 234 students took the time to research and write something meaningful, and that is truly amazing.

As many of you already know, we had to make some very difficult decisions.



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Due to the nature of this event, only 24 students were selected to present on stage today, with just six students per subtheme.

I want to be very clear: this was not about choosing the best student or the most perfect abstract. It was about the writers and the special ideas they had to share. To achieve this, we designed a detailed evaluation process.

Some papers were reviewed by different academic judges and university professors to ensure that every student was given a fair chance.

We used several criteria to evaluate the abstracts. The first criterion was relevance: relevance to the ISC Talk goals, the method, the structure, and the contribution of the paper.

The second criterion was originality of the idea. We asked whether the idea was fresh and creative.

The third criterion was the structure of the abstract. As you may know, we carefully reviewed how each abstract was written.

The next criterion was how clearly you explained the process of reaching your idea.

The fifth criterion was audience engagement. We considered how engaging the topic would be for the audience, as ISC Talk is a public speaking event.

Lastly, the sixth criterion was the student's own contribution. This was very important to us. We wanted to make sure that the work was truly your own and that you demonstrated a clear level of understanding of your topic.

If your abstract was not selected, it does not mean that it lacks value. Many strong abstracts were not chosen simply due to time limitations or repeated topics, as we aimed to include a diverse range of voices and themes.

On behalf of the entire selection team, I would like to thank each and every one of you for your invaluable contributions. Your efforts have truly added something meaningful to this event and to the future of science in our country.

We hope you continue to dream and pursue your curiosity.

Thank you.



Tehran International and Adaptive School (Boys)



Subject:

Importance of communication

 **SADRA MALEKI – GRADE 11**

Subtheme: Art & Humanities

Email: malekissadra88@gmail.com

(I get on stage and start doing jumping jacks)

Hello!

I know the action that I just committed might seem very weird and unusual, but it was for two main reasons:

Firstly, it was to relieve my stress and anxiety by exercising, which isn't of any importance. But the second reason to do jumping jacks was to gain everyone's attention. See if you're trying to communicate with someone or even a group of people, you need to be able to stand out, which brings me to my topic of communication skills, yes, you heard me right, communication skills.



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Transmission can seem tedious, but when done right, it can also be the most important ability anyone can show.

In life, it doesn't matter if you're a 10/10 technically, because people only look at the way you are able to express yourself; they are listening to your communication, and if you are not able to convey your message, people are not going to perceive you as a technical person.

The best example I could give you is a teacher that I used to have; he was phenomenal at his job and was one of the chosen teachers to teach that certain book; however, his lessons would get tiring, and most students would zone out in his teachings since he couldn't connect with the

students. This is why I consider conversation skills as one of the most important skills that an individual can convey.

There are several ways of acquiring the perfect set of skills for communication, and the very first one is pausing. What do I propose by that? Pausing gives the listener some time to process and think about what you have just said.

(in a fast tone I say) If I say a sentence, I give you no time to process, and if you can't think about the sentence, there is absolutely no clarity, just like how you couldn't process what I just said. But pausing also gives you some time to replace your non-words, which are essentially your filler words, with actual filler words, resulting in a clearer sentence.

Another vital aspect of social skills is slowing down. In this way, you are putting emphasis or a highlight on a certain word or sentence.

Have you noticed how intrigued we get when someone is whispering in our ear or even in someone else's ear? Well, the same thing happens when you slow down in a sentence; the listener will think what you are saying is important even though it doesn't need to be. For example: (in a slow tone, I say)

Today I went to the supermarket and bought some gum.

That's it, the sentence was extremely irrelevant, but by slowing down, I put a verbal highlight on a specific word, and now the statement seems important.

But last and certainly not least is the notorious topic of small talk, a skill many people, including myself, lack. I have always thought of small talk as boring and dreary, but why?

See, the trick about small talk is the questions we ask, such as:

The weather today is good, isn't it?

Or a question that has irritated me as a student: What grade are you in?

These types of questions are generic, which is the main factor that makes them uninteresting. For a question to be amusing, it needs to be engaging and different, for example:

1. What is the best book you can suggest to me?

With a question such as that, you can spark the other person's interest in a certain topic, which can eventually lead to a greater outcome.

All these different skills and tricks combined can make anyone a master at interactions and communications. Even the topic of this whole presentation, communication skills, is a very boring and uninteresting topic. I mean, who wants to listen to someone presenting about an everyday action? But by compounding these steps into a whole exchange, it can make even the

The most boring of topics seems interesting and thought-provoking.



Subject:

Self-Awareness: Blessing or Burden?

MOJTABA SHAHHOSSEINDASTJERDI – IB1

Subtheme: Art & Humanities

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Defined as the ability to recognise and understand one's own thoughts, emotions, and behaviours, as well as their influence on oneself and others, self-awareness stands as a cornerstone in both philosophical thought and psychology. This heightened consciousness reality: we are often dragged toward a crueler truth of nihilistic absurdity. Rather than enlightenment, self-awareness often highlights our flaws and amplifies our existential dread, leaving us stranded and questioning our very purpose and value in life. Such a dark spiral is common in a self-aware mind. So, is self-awareness truly a blessing, or does it simply subject us to the burden of our own mental limitations and imprisonment? In this talk, we'll explore both sides of the paradoxical, fulfilling emptiness that is self-awareness, analysing its value as a gift or curse, and what it truly means to be aware of oneself in a world absent-minded and uncertain.

The gift or blessing of self-awareness heralds many advantages. Enhanced consciousness, a stronger sense of self, and a deeper understanding of the world around you all contribute to the potential for personal growth and higher levels of emotional and cognitive intelligence in a self-aware mind. In contrast, self-awareness's darker side—its burden—reveals a much crueler reality. Rather than enlightening you



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with more knowledge, those who claim self-awareness often report that it simply reminds them of how little they truly know. They are in constant battle with their own purpose and place in life, captive to the limitations of their own minds.

The beauty or terror of self-awareness is not found in its benefits or dangers, but rather in its balance. The human mind is capable of unimaginable things—perhaps more than it can withstand or comprehend. Finding balance in self-awareness and passive thought is essential to maximise both cognitive prowess and enjoyment of life.



Subject:

Will there ever be an end to racism?

MOHAMMADREZA ELSHEIKH – GRADE 11

Subtheme: Art & Humanities

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Racism, an external conflict that I have been dealing with my whole life, is a social construct that has harmed the views of our past, current, and future generations. Unfortunately, while heritage is supposed to be used as a positive means to express identity and stories of life, it has turned out to be manipulated mostly to divide and oppress. It is a sad reality that such a beautiful aspect of diversity can be twisted into a tool of hatred and discrimination.

Why does this issue need to be addressed?

As a person of African heritage, there have been many instances where I and many



others have been treated poorly due to our race. I have been called racial slurs and physically harassed. I feel the need to spread more awareness on this topic so that other people who are experiencing this racial bias towards them can get the attention needed to stop and neutralise this cycle of persecution. Racism perpetuates discrimination and inequality and denies us equal opportunities in society. Addressing racism is a crucial step that we as human beings should take to finally create an all-inclusive world where people will be treated equally regardless of skin colour or ethnicity.

What complications has racism caused me and other people?

Racism has caused me so many complications throughout my life, one example I have was from a few years ago, my classmates insulted me and treated me with physical violence and hatred for my skin color, which always made me feel scared and anxious when I at school, and even more depressed and anxious when I was at home, knowing I couldn't do anything about it. Alerting school authorities seemed like a bad idea since I thought they would be even more hostile towards me. That made me feel horrible. I blamed myself for it, like I was to be blamed because I was born with this skin. But as I grew older, I realised that was not it, I should not have blamed myself for something I was not in control of. This was just one tiny incident that temporarily affected my mental health for some time, while there are millions of incidents that happen daily, which lead to even worse mental health issues and sometimes even physical issues due to Racial antagonism. So, to heal from this issue and build a more just future, it is necessary for us to emphasise and raise awareness.

What approach should we take to neutralise racism?

The main approach we need to take as a community to end racism is to prioritise education, awareness, and empathy. Educating each other and the youth on the harmful impact caused by racism can enlighten us into believing that we can learn and live harmoniously and peacefully with each other, regardless of ethnicity. Making people aware of all the problems that are being caused by racism can also help them realise and empathise with all the pain of the people who have been receiving racial harassment and discrimination throughout their lives.

There are many approaches to counteract racism, but from firsthand experience, one extremely popular method that never works is ignorantly not mentioning it to your children. The idea is that if you never talk about racism, your children will not learn it, which seems like a clever idea on paper, but I would argue it is not. Children are curious and easily influenced by their surroundings. Suppose you do not explain that their ethnicity or skin tone may differ from others and that they should not judge people based on their physical factors, but rather on their personality and characteristics. In that case, others will influence them, like at school or on social media, which may lead to negative viewpoints for your child. As much as I hate to admit it, racism is an issue that must be addressed. Ignoring it causes ignorance, and if we do not educate youth about it and break the cycle, they may pass it on to their children and to the next generations to come.

Conclusion

To sum up everything I stated, racism is not just about me; it is a great issue that continues to affect millions of people in harmful ways. By teaching and educating ourselves and our youth about the importance of equality, only then can we begin to break the cycle of discrimination. We cannot change what we did in the past, but we can certainly start reforming for our future, a future with no trace of inequality and discrimination.



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Subject:

My Journey in Iran's horse industry

KAMYAR MANESHI – GRADE 11

Subtheme: Business & Entrepreneurship

Email: maneshi.kamyar@gmail.com

My name is Kamyar Maneshi, and I'm 16 years old. Today, I'm excited to share my journey as I strive to make a name for myself in Iran's horse industry, focusing on both racing and polo. This isn't just a passion; it's my dream.

The Beginning of My Journey. Recently, I took a trip to Gombad Kavoods, a northern city in Iran known for horse racing. I've always wanted to immerse myself in that atmosphere of Iranian horse racing; when I was there, the sounds and sights were pleasing to my senses and indicative of the local community's hard work. However, it was more than a mere pleasure trip. I academically endeavoured to go there to seek, and as per necessity, still seeking, one Mr. Atakor, the local city horse racing announcer. We had a nice give and take. When

I inquired as to what obstacles the industry faced, and he relayed that better infrastructure was needed for testing tracks, training facilities, and more housing for all involved. It was an eye-opening moment as it revealed to me how many more positive developments should be made on behalf of those who are truly invested in the experience. When I inquired as to what he loved most about being a caller, he started at twenty years old, with a Turkmen cultural translation of "singing" and then merged that art with his love of racing. Through dedication and devotion—in other words, thousands of laps—he carved a niche for himself as one of the acknowledged voices, which ultimately aims to resonate with the population and elevate the racing experience. I walked away inspired to do



anything I've ever wanted to do in my life with that much devotion and a positive attitude.

Iran's equine history is ancient. The very notion of a horse exists within Iranian life alongside royal and important endeavours. The Iranians possess battle and travel saddles and harnesses, and they feature in much Persian artwork and civic undertakings. The horse market today exists in various fields, from breeding to racing, riding to saddles. Horses as Deities and Literary Figures in Culture from Ancient to Contemporary Times. In Ancient Persia, horses symbolised power, royalty, and prestige. An empire built on horses. The infamous Persian Empire's cavalry was horseback, and historic military victories remain. Imagery over the expanses of time includes reliefs and Persian artwork. Stables behind legions made the Persian warriors victorious for centuries at a time. So much of a stable involves horses that even in the Book of Kings, the Shahnameh, horses play a significant role amongst the legendary characters of the work and their heroic existence. Even modern-day Iran boasts a horse breeding population, as horses are employed in farming and sport. Many of the indigenous and imported breeds exist, but the most common Iranian horse breeds are the Turkmen horse, the Kurdish horse, the Arabian horse, the Darre Shouri, and the Caspian horse for racing, competition, and labour purposes.

Personal Connection and Future Goals

I have my horse—my crossbred racing horse, Afrasiab. Admittedly, he is a colt at this stage, but Afrasiab is my launchpad to the future. He needs me—meaning love and care—for us to cultivate the skills of patience, loyalty, and respect while working with such immense entities. Of course, racing is one avenue; my heart sways towards Chogan (polo). Chogan is the historical game of Iran, symbolic of the union between horse and rider as a communal game that requires respect for its means and deliberate moves to ensure clarity of purpose. I would love to assist in re-establishing and expanding this game without negating access to the racetrack. I intend to make such achievements in the future by giving back to the horse community when I return to Iran, from educated ownership to improvements in the industry and greater youth involvement and understanding of our centuries-old heritage with racing and polo. This would not only be my growth but also something that secures the bloodline for generations to come.



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Subject:**Green Inhibitors****ARTA PADYAB & KOMEIL KHOSROJERDI – GRADE 11****Subtheme: Science & Technology****Email: padyab.arta@icloud.com**

Corrosion can be a great issue in many industries, including construction, chemical and petrochemical industries, as well as productive, economic, environmental, and health areas.

There are solutions to problems like these, such as chemical inhibitors, which are efficient at their job but are rather harmful to the environment. For this reason, a better solution was needed. Corrosion is the gradual wearing away of metals due to exposure to elements such as oxygen and water—it's a bacterial relationship as well. Billions are spent annually on diminished strengths and increased ineffectiveness due to corrosion.

Yet, according to the American Chemical Society, chemical corrosion inhibitors have been studied and found to be the most successful means of mitigation for decades. However, although certain chemicals are quite effective, many are toxic, non-renewable, and hazardous to the environment. One of the more recent developments is the use of green corrosion inhibitors, which is a "greener" way of preventing corrosion. Green inhibitors are biodegradable, non-toxic natural substances that provide an eco-friendly solution for corrosion. The article investigates a variety of natural substances that serve as corrosion inhibitors in acidic environments, specifically hydrochloric acid (HCl). For example, pomegranate extract, ginger root extract, cocoa bark extract, and olive stem are fantastic inhibitors for mild and carbon steel. These naturally found inhibitors eliminate the necessity for chemical inhibitors harmful to nature, but still offer comparable results. But green inhibitors create their own issues. Because they are so reactive, they may not work with other pre-existing coating systems, essentially meaning more R&D. New processes have to be developed to avoid the avoidance, so to speak. One such process exists. EonCoat is a proprietary application designed for carbon steel which provides permanent corrosion resistance without any hazardous materials. No paint. No VOCs. EonCoat is not a paint; it's a ceramic phosphate coating that bonds with the steel substrate. This ceramic is corrosion-inhibitive because it bonds with the steel via mechanical bonding, which is non-porous, meaning it's sustainable and safe in all environments.

Furthermore, one of the most widely used corrosion protection methods comes industrially as well—hot dip galvanisation; steel is chemically cleaned and dipped into molten zinc at 450 degrees Celsius. The zinc application is a bonded layer to the steel itself and prevents corrosive elements from penetrating the steel. This protective measure is helpful on an industrial scale and is a relatively inexpensive, eco-friendly, long-term protective option. The best solution for corrosion protection comes from many alternatives and advancements over time, such as green inhibitors, EonCoat, and hot-dip galvanisation. They give structures, vehicles, and products the longevity



necessary to avoid failure, safety issues, or inefficiency while simultaneously being harmless to the environment. Corrosion is something that happens naturally, yet we have the ability to avoid it—new abilities—and new sustainable abilities.

The green inhibitors are just a start into what could be a much larger realm of manufacturing and sustainability integration. I personally hate the wrought iron gate outside my window—it's ugly. But then I look at it and look at its corrosion and realise that we, as humans, have to combat what nature has given us. If nature is going to give us the opportunity to combat corrosion, why not? Such inhibitors can prevent our created world from falling apart. Now we have the ability to avoid such an alternative—it's up to us—and move forward with such projections for future implementation and a new awareness for sustained performance.



Subject:

A Multimodal AI Platform for Mental Health Diagnosis and Alerting

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Subtheme: Science & Technology

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This project develops a system to assess users' mental health by analyzing their interactions on social media platforms, such as Instagram, Telegram, and TikTok. It aims to identify risks such as depression, anxiety, ADHD, and stress, raising awareness of users' mental states. By addressing issues that current tools overlook, the system



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responds to growing concerns about the impact of social media on mental health.

The system functions through multiple key stages to process collected data effectively. The data collection module initiates the core functionality by gathering information from social media platforms via their APIs. This module allows for real-time or historical data collection, including text posts, voice recordings, and visual media like images and videos.

The next stage is data preprocessing, where raw data is cleaned and prepared for analysis. Text data undergoes normalisation for uniformity, with punctuation and stop words removed for accuracy. Audio files are converted to text using Automatic Speech Recognition (ASR) models, followed by feature extraction for tone and speed. Images and videos are resized and normalised for faster processing. Each step ensures data is ready for the analysis phase.

In the analysis phase, advanced algorithms and models process the data. For text, the system uses BERT, a deep learning model for sentiment analysis, which detects emotions and scores them from -1 (negative) to 1 (positive). Additionally, Latent Dirichlet Allocation (LDA) models topics and identifies recurring themes like stress or loneliness. Audio data is processed using methods, Mel-Frequency Cepstral Coefficients (MFCC), for feature extraction, with emotional states classified using machine learning models, Support Vector Machine (SVM). Sequential data from speech or video is analysed using Long Short-Term Memory (LSTM) models to track changes over time and detect deeper emotional patterns.

Visual data analysis focuses on behavioural cues and facial expressions. Convolutional Neural Networks (CNN) identify patterns in images related to emotions or actions, while videos are examined frame by frame using LSTM to evaluate user behaviour and changes over time.

The results from text, audio, and visual data are combined to calculate a mental health score, which rates users' mental states as normal, moderate, critical, or extreme. Besides the score, it generates a report and analyses the reasons behind the given score for the user. If the score falls within the critical or extreme range, it provides suggestions for seeking help or reducing social media use.

Human experts are essential to address biases in training data, such as cultural or language differences, and to validate system outputs. Psychologists or mental health professionals review results, provide feedback to improve algorithms, and ensure fairness. Their oversight adds trustworthiness and ensures accurate, actionable recommendations beyond AI's capabilities.

Why is this system needed? Social media significantly impacts mental health, with negative content, cyberbullying, and social comparison causing anxiety, stress, ADHD, or depression. Current mental health tools often focus on specific data types, such as text or surveys, and fail to provide a comprehensive mental health evaluation. This system fills the gap by analysing text, audio, and visuals to provide a holistic understanding, offering real-time feedback and insights that enable early intervention and prevent severe issues.

In conclusion, this system aims to raise mental health awareness and promote proactive care. Analysing social media interactions provides insights into their impact on mental states, offers early warnings, and suggests actions to reduce risks. Future applications could include workplaces, schools, and platforms for large-scale mental health monitoring, fostering a healthier, more empathetic society.



Subject:

The Intersection of Physics and Art: How Physics Influences Creative Expression

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Subtheme: Innovation & Creativity

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Physics and art, although two independent fields, are related in such a way that each enriches the other in deep ways, shaping how creative expression comes to reflect the natural world. This abstract examines how physics influences artistic methodologies and outcomes, drawing inspiration from interdisciplinary research that integrates scientific principles with innovative artistry. The study exposes how the understanding of light, colour, and optics has helped artists make their works more colourful and realistic. The discovery of the refraction of light gave way to colour theory, used by Impressionist painters like Claude Monet in capturing instantaneous moments of light and atmosphere. Similarly, the exactitude of optical principles has lit the fuse for movements like Op Art, where artists such as Bridget Riley create mind-boggling illusions through visual perception. Examples show how physics and methodology interact in the practice of the arts.

Equilibrium and motion, both derived from physics, have also inspired kinetic



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sculptures and dynamic compositions. Alexander Calder's mobiles epitomise the use of equilibrium to create moving art in harmony. Futurist painters, taking their cue from the mechanics of motion, painted speed and energy in fragmented forms-echoing the ability of physics to describe dynamic systems. Such a merger of science with creativity has reshaped the way motion is perceived in art. It also brings to the fore the evolution of the concept of space in art through principles of geometry and perspective. Whereas Renaissance artists used mathematical means in trying to achieve depth, the avant-garde movements of the 20th century drew on the theory of relativity developed by Einstein in questioning traditional notions of perspective. An example of such is Cubism, whereby a single object is depicted from various angles, reflecting this scientific notion of spatial relativity. These results thus show how physics underlies artistic inquiry and propels creativity.

New physics-based media and modern technology have widened artistic expression. Lasers, holography, and virtual reality expand new dimensions of interaction and immersion, not only for artists themselves but also for the audience. Physics makes an enormous impact with such contributions to extending artistic means, fusing old genres and approaches with new ones.

In the end, the meeting point of physics and art shows how connected human knowledge is. This research underlines the great role physics plays in influencing artistic outcomes, from historical techniques to contemporary practices. The findings of this study contribute to our understanding of how science and art come together, enriching both fields. This convergence is important not only because it forces innovation within the arts but also because valuable science is conveyed to the populace through available and innovative media. Physics and art are two constantly evolving fields, and further ground-breaking developments within shared methodologies and contributions in physics and art will bear fruit.



Tehran International and Adaptive School (Boys & Girls)



Subject:

Breaking the Invisible Shackles: Revolutionising the Gaming World with Generative AI

MOHAMMAD REZA HUSSAINI & MASUMA BATOOL HUSSAINI – 10

Subtheme: Science & Technology

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Although contemporary video games are challenging, engaging, and entertaining, there are a few downsides that all players must have noticed at least a couple of times during their gaming experience: the invisible shackles. Buildings we can't enter? Vehicles and objects that are not functional? Games are designed so that we follow only the given mission. What if the game wasn't limited to the track the designers considered for us to follow, to the restricted methods of reaching the goal, or to the pre-assigned levels of the game? Present-day technology has progressed sufficiently to



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allow us to achieve this. Generative AI can free us from all those restraints, providing us with the freedom to explore infinite, personalised, and more challenging gaming experiences.

The objective is to examine the Gaming World through the lens of generative AI, which will eliminate the invisible boundaries gamers encounter in traditional video games. Our research aims to evaluate the potential impact of the entrance of generative AI on the future of human developers in this sector.

To gain a comprehensive insight into the transformative potential of generative AI, detailed interviews were carried out with engineers specialising in artificial intelligence. The data collected was analysed using thematic analysis to identify key themes and patterns. We have organised the advancements that AI can contribute to into four primary categories: real-time content creation, transformative storylines, intelligent characters, and tailored challenges.

Real-time content creation: Unlike the traditional games where we were limited to the developer-created pre-existing game (i.e. in terms of setting, interactivity of props, and the storyline), generative AI enables us to have an instantaneous game creation. This can include a new advancement in the storyline and infinite landscapes (which free us from the invisible walls and non-functional props).

Transformative storylines: Generative AI will allow developers to create multiple storylines, which will be designated by adjusting to the players' preferences. The players will no longer be restricted to the pre-established 'obliged to choose' target. Every decision and every action will have a ripple effect on the game world, leading to unique and personalised experiences.

Intelligent characters: Through its assessment of our gaming data, the generative AI will create characters with whom we can form both logical and emotional connections. These characters will resonate more profoundly, resembling genuine friends and embodying the spectrum of human emotions throughout our gaming experiences.

Tailored challenges: Generative AI will create personalised challenges specifically designed to align with each player's unique skills and preferences, based on an in-depth analysis of their data. Consequently, the game will be appropriately challenging for all players, calibrated to their respective levels, thereby enhancing the overall enjoyment of the gaming experience.

Generative AI, though powerful, is merely a tool for human game developers, akin to a hammer requiring human guidance. AI engineers, the creators of these tools, emphasise their dependence on human ingenuity.

All in all, generative AI is changing the way games are made, allowing developers to create beautiful, immersive worlds where players can shape their own stories. This technology is opening up endless possibilities, making gaming more dynamic, personalised, and exciting than ever before.



Tehran International and Adaptive school (Girls)



Beyond the One-Size-Fits-All: Personalising Learning for Different Brains

PARIA SHAMLOONAVID – 10

Subtheme: Business & Entrepreneurship

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My journey into understanding cognitive diversity began in a neuroscience clinic where I underwent brain mapping and cognitive assessments. This experience opened my eyes to the remarkable variety of cognitive patterns and learning styles that exist among students, leading me to envision a revolutionary approach to education. Through my personal experience with cognitive assessment, I discovered that each student's brain processes information uniquely, suggesting that our current one-size-fits-all educational model may not be serving all students optimally. This realisation sparked an idea: what if we could create an innovative platform that bridges the gap between neuroscience and education? The proposed platform would begin with comprehensive cognitive assessments for each student, analysing their unique learning patterns, strengths, and areas for development. Based on these individual cognitive profiles, the system would generate personalised recommendations for both teachers and students. For educators, it would suggest specific teaching strategies tailored to each student's cognitive pattern, while students would receive customised learning approaches that align with their natural thinking and processing styles.

This adaptive learning ecosystem would encompass several key components:

- Personalised lesson plans and educational content that match individual cognitive styles
- Customised homework assignments that consider each student's processing patterns
- Tailored assessment methods that accurately evaluate learning while accounting for cognitive diversity



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- Specific learning strategies and tools recommended based on individual cognitive profiles

Since my experience at the neuroscience clinic, I've been actively applying insights about my own cognitive patterns to enhance my learning journey. This personal exploration has shown me the potential impact of cognitive-aware education. While the exact implementation of such a platform requires further development and refinement, the fundamental principle remains clear: understanding and adapting to cognitive diversity in education is crucial for optimal learning outcomes. The vision extends beyond just technology – it's about creating an educational environment that recognises and celebrates cognitive differences, where every student has the opportunity to learn in a way that best suits their brain's natural tendencies. This approach could revolutionise how we think about education, moving from standardised methods to truly personalised learning experiences that maximise each student's potential. As I continue to explore and refine this concept, I remain committed to the idea that understanding our cognitive differences is the key to unlocking better educational experiences for all students. This platform represents not just a technological solution but a paradigm shift in how we approach education, learning, and cognitive diversity in the classroom.



Subject:

Turning FOMO into Fortune: How Businesses Profit from the Fear of Missing Out

TINA GHARIBI – 12

Subtheme: Business & Entrepreneurship

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If you have ever noticed yourself feeling oddly pressured to buy a product, you may have been affected by the psychological factors behind FOMO. The Fear of Missing Out (FOMO) has emerged as one of the most powerful tools businesses use to influence consumer behaviour. In this talk, I will explore how companies tap into this phenomenon to boost their sales, and examine real-world marketing campaigns to uncover why this approach is so effective while also addressing the ethical challenges that come with it. To understand how FOMO is applied in marketing, we can look at examples from successful businesses like Apple's product launches, Amazon's flash sales, and Adidas's exclusive sneaker releases, which consistently spark consumer excitement and drive purchases. Psychological studies and survey data help identify the emotional triggers businesses rely on, such as the urgency created by limited-time offers or the exclusivity of limited-edition products. Social media platforms, particularly Instagram and TikTok, act as major amplifiers of FOMO, where curated lifestyles and time-sensitive promotions thrive. I've often found myself scrolling through my phone and coming across countless microtrends that captivate me and subconsciously make me eager to join in and be part of the buzz. Little did I know, these trends were each designed with such precision and allure that their whole purpose was to be irresistible. The findings show that FOMO works best when marketing tactics emphasise urgency, exclusivity, and social proof. Consumers are more likely to act quickly when they feel they might miss out on something desirable,



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especially if others are seen enjoying it. For example, campaigns like Nike's limited sneaker drops or Amazon's Prime Day sales have demonstrated increased consumer engagement and significant sales spikes. However, the study also uncovers risks associated with FOMO tactics, such as consumer dissatisfaction, overspending, and erosion of trust when these strategies are overused or perceived as manipulative. On the whole, this study examines the complex relationship between psychology and marketing, revealing how businesses craft compelling narratives that tap into our instincts to belong and participate. By combining real-world examples with critical insights, the research not only equips marketers with strategies to engage audiences but also encourages a shift toward ethical business practices that prioritise long-term relationships between brands and consumers. In an era of fleeting trends and hyper-connected lives, the findings emphasise the importance of balancing innovation with responsibility, ensuring that businesses continue to grow in ethical circumstances, even as they master the art of inducing FOMO.



Subject:

How Can Entrepreneurs Create Businesses That Survive Multiple Generations?

MANELI SHABABI – 11

Subtheme: Business & Entrepreneurship

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Building a business that lasts through several generations is quite a challenge, but it can be done with the right approach. Entrepreneurs need to look past quick profits and work towards establishing a legacy based on strong foundations. This involves having a clear vision, strong values, the ability to adapt, and effective succession planning. In this discussion, we'll explore the key areas entrepreneurs should emphasise: vision, values, succession planning, adaptability, innovation, and customer loyalty. Having a clear vision and solid values is vital for creating a business that stands the test of time. A vision guides the company, helping it maintain its purpose even during changes. On the other hand, core values act as a moral guide, promoting consistency and trust. Take Disney, for example; it has thrived for years by sticking to its mission of delivering magical experiences while also adjusting to the changing tastes of consumers. Together, vision and values lay a strong groundwork for future generations. Succession planning is another important aspect of smooth leadership transitions. Entrepreneurs need to identify and prepare their future leaders early on, whether they come from the family or are outside hires. Mentorship, training, and clear expectations can help ensure that successors can move the business forward while preserving its identity. Companies like Ford and Walmart show how having structured succession plans helps businesses remain successful across generations while keeping their strategic direction intact. For a business to thrive over the years, it must also be adaptable and open to innovation. Markets, technologies, and customer tastes are always changing, so companies must stay



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flexible to remain relevant. A great example is IBM, which successfully transitioned from manufacturing hardware to providing software and cloud solutions, adapting while staying true to its core values. Innovations not only drive growth but also help businesses tackle new challenges effectively. Another crucial factor for enduring multi-generational businesses is maintaining strong customer loyalty. By consistently offering high-quality products or services, companies can build trust and keep customers over the years. This loyalty often carries through to the next generation as families pass down their brand preferences. A prime example is Coca-Cola, which has cultivated lasting relationships with its customers by continually reinforcing its iconic brand while updating its product lineup. To create a business that thrives through multiple generations, entrepreneurs must focus on long-term strategies rather than just immediate profits. A clear vision and solid values lay the groundwork, while effective succession planning guarantees leadership continuity. Being adaptable and innovative allows businesses to change with the times, and strong customer loyalty ensures a steady revenue stream. By prioritising these factors, entrepreneurs can build businesses that endure and leave a meaningful legacy.



Subject:

The Influence of Cultural Diversity on Creative Entrepreneurship

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Subtheme: Innovation & Creativity

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Introduction Cultural diversity plays a pivotal role in shaping creative entrepreneurship, fostering innovation, and enhancing economic growth. As societies become increasingly interconnected, the blending of different cultural perspectives leads to unique entrepreneurial opportunities. This abstract explores how cultural diversity influences creative entrepreneurship through various dimensions such as idea generation, market expansion, and collaborative networks. Idea Generation and Innovation of the most significant impacts of cultural diversity on creative entrepreneurship is its contribution to idea generation and innovation. Diverse cultural backgrounds bring varied experiences, values, and worldviews that can inspire new concepts and solutions. For instance, entrepreneurs from different cultures may approach problem-solving differently due to their unique upbringing and societal norms. This variety can lead to innovative products or services that cater to a broader audience. Research indicates that teams composed of individuals from diverse backgrounds are more likely to produce creative outcomes compared to homogenous groups. A study published in the Harvard Business Review found that diverse teams are 35% more likely to outperform their counterparts in terms of creativity and innovation. This phenomenon occurs because diverse teams can draw upon a wider range of ideas and perspectives, leading to more comprehensive solutions. Market Expansion Opportunities, Cultural diversity also opens up new markets for creative entrepreneurs. By understanding the preferences and behaviours of various cultural groups, entrepreneurs can tailor their offerings to meet specific needs. For example, a food entrepreneur who understands both Asian and Western culinary traditions might create



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fusion dishes that appeal to a broader demographic. Moreover, culturally diverse entrepreneurs often have access to networks that provide insights into different consumer behaviours and trends. This access allows them to identify niche markets that may be overlooked by less diverse competitors. According to a report by McKinsey & Company, companies with greater ethnic diversity are 33% more likely to outperform their peers in profitability. This statistic underscores the financial benefits associated with leveraging cultural diversity in business strategies. Collaborative Networks critical aspect of how cultural diversity influences creative entrepreneurship, is through collaborative networks. Diverse communities foster environments where collaboration thrives, enabling entrepreneurs to share resources, knowledge, and skills. These collaborations often lead to cross-cultural partnerships that enhance creativity and innovation. For instance, incubators and accelerators that prioritise diversity tend to attract a wide array of talent from different backgrounds. These platforms not only provide funding but also facilitate mentorship opportunities among entrepreneurs from various cultures. Such interactions can lead to the development of groundbreaking ideas that might not emerge within more homogenous settings.

In conclusion, cultural diversity significantly influences creative entrepreneurship by enhancing idea generation, expanding market opportunities, and fostering collaborative networks. As globalisation continues to shape our world, embracing cultural diversity will be essential for entrepreneurs seeking innovative solutions and sustainable growth in an increasingly competitive landscape. The Influence of Cultural Diversity on Creative Entrepreneurship



Subject:

The effects of travelling on the human brain & personality

SHAYLI PISHGAH SHOMALI – GRADE 11

Subtheme: Art & Humanities

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We are the students of international schools, with interesting and different lives which within them have many astonishing events. We all have our own stories to tell and our own experiences with being an international student. Due to many reasons, we are either constantly travelling to or have travelled to many places. This lifestyle plays a crucial role in our growth as human beings. Personally, my itinerant lifestyle has made a valuable contribution to who I am today. It has its pros and cons, but at the end of the day, what truly matters is the effect it has on us and who we become throughout this journey. In addition, because of our frequent travels, we develop many different opinions, points of view, and personalities depending on the country, environment, and situation. In turn, all of these changes shape the way we interpret events and make decisions. To be able to find our true identities among the many versions of ourselves, we need to be aware of how this lifestyle of continuous change influences us in a scientific and psychological way. If we are not properly educated on this matter, we might never be able to keep up with and keep our true selves alive among all of these people who have the same face as us but are entirely different from who we really are, mentally and personally. How can we understand which version of us is actually us? When we realise how we are being affected by our travels, we can proudly announce that we have the answer to that question. As individuals whose entire beings depend on travelling, we need to understand that we are made of each memory, experience, and journey we take. The more you travel, the more you are exposed to a variety of beliefs, cultures, religions, and environments. This can either



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make you or break you. Sometimes your brain can process this information in the right manner, and as a result, you become more mature and reap the significant benefits of that experience. But in other cases, this can have the opposite effect, and your brain can misinterpret the information it is given. By explaining what effects travelling has had on who we are, we can not only become the person we desire to be and prevent ourselves from becoming a victim of its negative effects, but we can also introduce our international community of students to similar but at the same time completely different ways of life.



Hakim International School (Girls)



Subject:

The right way to govern humanity

ADRINA MALAYERI – GRADE 10

Subtheme: Science & Technology

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In the complex landscape of governance, it is a common assumption that a choice must be made between one leader or another, but the reality is far more nuanced. The truth is that no single individual is inherently fit to govern a nation or society. As the scope of responsibility and the diverse interests at play are too great for any one person to adequately address.

This assertion does not imply that leadership is unimportant or that governance should not be the responsibility of a person. Rather, it highlights the recognition that human limitations and the complexities of governance require a collective approach and collaboration among individuals and institutions.

The argument I am attempting to posit is that human governance has proven largely ineffective. If we are to be candid, our society is plagued with a myriad of issues, including increasing poverty, illness, and coupled with a rapidly depleting environment. We often find ourselves making crucial decisions based on emotional or ideological motivations, which fails to provide the optimal conditions for all living beings. It is high time we recognize the fallibility of human alternative approaches to better manage our society and the world around us. While I'm not advocating against the concept of leadership, I pose a theoretical inquiry. An idea: What if there existed a leader devoid of emotions or beliefs? Such an entity could make informed decisions aimed at maximizing the well-being of all living things, whether in relation to medical advancements, economic policies, or environmental preservation. While this idea may be speculative, it highlights the potential benefits of having a leader guided solely by data-driven analysis and that consideration of collective interests.



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**Subject:****How can members of dysfunctional societies help heal sociological wounds?****BARAN RASTEGAR – GRADE 11****Subtheme: Art & Humanities****Email: hanan.rastegar135@gmail.com**

History continues to have a tendency to repeat itself. Developed nations continue to grow to be the best in the world, while developing countries plummet in sociological aspects. I made the decision to evaluate the psychological aspects of social culture in dysfunctional societies, in order to analyze and evaluate the reason why they continue to find themselves in more complex situations each day.

The reason why I decided to be active in this particular field is that the world is so focused on medical sciences and technological innovations, we often forget the foundation of where we stand in the first place is highly related to social sciences. Medicine and technology are honorable, but we aren't able to live properly without psychology in correspondence to sociology. This research, evaluated properly, can be highly beneficial for the development of societies that just can't appear to get out of the dysfunctional cycle. If more people have access to be educated by this research, then more people can take their part in society with proper awareness.

This research will focus on the core sociological issue of any dysfunctional society from its root- the weak emotional intelligence from social culture which eventually finds its way to cause economic and political mishap. The main argument is that once the members of dysfunctional societies can finally put toxic aspects of social culture and communication aside, then they can expect to see vibrant changes around them. Otherwise, no positive difference will be made in the society. Individuals of dysfunctional societies often take part in weak emotional behaviors



and communication, which clearly states how unintelligent they are in that aspect. Many of these behaviors include stigma and discrimination, immature ways of communicating, and weak capacity for criticism. By observing stronger societies in contrast to dysfunctional societies and analyzing the environment around me, I discovered many of these many factors and examined them with caution to make sure I was accurately supporting my perspective on this matter.

The evidence I have was simply provided to me by going outside and socialising with my own society. Whether it was people who are in closer proximity like my family or people whom I've had interactions with in public areas, there was more than enough evidence which I witnessed with my own eyes. All in all, this project seeks to answer such questions: How can members of dysfunctional societies help heal sociological wounds? What can they do to break out of the never-ending cycle of sociological pain and suffering? The answers to these questions will be deeply investigated in order to actually make a difference. I aspire to inform and raise awareness to people who have the potential to adjust their lifestyle according to this matter. If people can encourage others to use their voice while accepting their own mistakes that is when the society, they are a part of can experience a burden off its shoulder.



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**Subject:****Preventing the Export of Products:
A Case Study on Iran's Truffle
Mushroom Industry****FATEME KHOSH – GRADE 11****Subtheme: Business & Entrepreneurship****Email: 3yedrezai@gmail.com**

This study examines the implications of restricting the export of high demand products, with a focus on Iran's truffle mushroom industry. The purpose is to explore the economic, political, social, and environmental factors driving these restrictions and their broader impact on international trade and local economies. Non-expert export restrictions on high-demand goods, such as truffle mushrooms, can significantly affect a country's economy and trade relations. While these measures may be motivated by conservation or domestic supply needs, they often create unintended challenges for both exporters who are part of the nervous system of the country's economy and perhaps for part of the global markets. The study finds that restricting exports of truffle mushrooms has led to:

- Decreased foreign exchange earnings for Iran.
- Increased smuggling and illegal trade.
- Economic challenges for local producers.
- Conservation benefits in some regions.

This study explores how the ban on the export of a strategic product such as truffles can significantly harm the country's foreign exchange earnings, negatively impact forest ecosystems, and severely damage the local economies of northern communities. This study highlights the importance of balancing economic and environmental considerations in trade policies. It provides recommendations for policymakers to adopt sustainable and economically viable strategies.



Subject:

Designing a Room of a Space Hotel

PARMIN SALAMI – GRADE 10

Subtheme: Innovation & Creativity

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Since the project of having a hotel in space has been rejected, it is suggested to design a hotel that the guests can feel like they are really in space. The place, that has been suggested to have this hotel is in desert, since it has so many difficulties that the astronauts face, such as: the changes of weather at nights, people can have a greater vision of stars.

The purpose of this project is to design a room in this space-like hotel.

So, there are 2 types of rooms in this hotel: 1- a luxury room, 2-normal room. Also, the luxury rooms are also two types: a luxury room for families with kids, a luxury room for 2 people. The idea is to design a luxury room with children. The colour of the room walls is mostly light grey, because in real spaceships, they don't use dark colours due to the theory of light-obtaining colours in physics.

The room consists of a small kitchen for some small and essential foods (when they miss a meal in the main lunchroom) – kids' room –bathroom – small dining room and the main room for parents. The bathroom supplies are exactly as same as the ones in the real spaceship. The sanitary equipment (such as toothbrush, toothpaste, the alcohol that the astronauts use in space to antiseptic their hands, etc..) are exactly in front of the bathroom door. The astronauts can't wash things in space, so they get towels to clean their bodies and the things they want to clean. So in this room, we don't have running water for washing (in a sink or shower). The guests can use towels to clean themselves. Showering in space is so different from the Earth. The shower



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is like a big tube which guests can go in it and use the washcloth and the towel and a bit of non-foaming liquid soap and add a bit of pouch water to make the soap wet for taking shower, but as I mentioned, there is no running water for showering, they can just use the pouch water to make the towel and the toothbrush wet. There is also a soap and a liquid soap pouch for washing hands and because there is no running water, they can use water pouches. After using soap, guests can add a bit of water from the pouch and then remove the water and soap from their hands using the towel. The windows are in some corners. The difference is that from these windows, we don't see the view of the desert. There is an LCD behind the window that the guests can see the view that the astronauts see in the spaceships from space and the Earth. The view isn't constant, and it changes the way that it changes in spaceships whenever they move. On the left side, there is a small dining room that consists of astronauts' clothes in a glass as the decor of the room in a glass-like closet, and there is a TV stuck to the wall where people can watch their favourite TV programs, and they can also get connected to Netflix in order to watch movies. There is a small room in the left corner of the main room, which is the room for the kids. It consists of two small beds that are like sleeping bags but are pinned to the floor in order to stay in their place.

It also has a closet in the right corner that the guests can put their own clothes beside the astronaut clothes that are located in the closet. The parents' room is right next to the kids' room. It isn't that much different from the kids' room. The only difference is that the sleeping bag is king-sized. There is a big closet next to the bed where there is a safe box beside the clothes.



Hakim International School (Boys)



Subject:

Surface Composites by FSP Method with the Addition of SiC Nanoparticles

RADAN MOHAMMADSALEHI & KAVEH AHMEDIPOUR – GRADE 12

Subtheme: Innovation & Creativity

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One of the methods of preserving primary resources is the use of composite structures (metal matrix composites). Due to its wide use in various industries: automobile, ship, and railway, the production of composites has increased. In today's world, composites have received much attention due to their good mechanical properties. This research used friction-stirring processing (FSP) to make an aluminium surface composite. This research aims to investigate the properties of the surface composite created by SiC ceramic nanoparticles with an average particle size of 75 nm and Al5754 as a matrix. We strive to create a solution and a way of cutting prices for aluminium while delivering a higher-grade material that can withstand high temperatures, is more resistant to surface wear, and improves the strength of the metal to withstand higher mechanical loads. Summary of findings: Optical Microscope (OM) and Scanning Electron Microscope (SEM) have been used to investigate the microstructure. Vickers microhardness test was used to check microhardness. The average grain size of the base alloy was 25 μm , and also for the surfaced composite sample without nanoparticles and with nanoparticles in the Stir Zone (SZ), it was reported to be 12 and 4 μm .



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respectively, which resulted in a favourable decrease in grain size. The average microhardness profile of the surface composite sample without SiC nanoparticles and with SiC nanoparticles was 55.4 and 66.5 Vickers, respectively. This difference is due to the addition of SiC ceramic nanoparticles, the placement of these nanoparticles at the grain boundaries, and the intensification of the recrystallisation process due to creating preferred nucleation sites. The research follows the FSP method, with the materials used being the matrix of aluminium alloy (Al5754) and the reinforcement of SiC ceramic nanoparticles. The rotational speed and traverse speed parameters of the tool pin were fixed and equal to 500 rpm and 20 mm/min, and these parameters are maintained throughout the process to ensure consistency. The FSP tool is used to mix the SiC nanoparticles into the surface of the aluminium matrix, and the heat generated from the tool's motion and friction softens the aluminium, allowing the nanoparticles to be uniformly distributed in the stir zone (SZ), then creating the composite. Significance/ contribution of the study: This study contributes to the development of low-cost, easy-to-prepare aluminium composites that exhibit improved mechanical properties, including increased hardness and refined microstructure. These innovations are significant for industries such as automotive manufacturing, aircraft construction, shipbuilding, and railway, where lightweight, durable, and high-strength materials are essential. The research demonstrates the potential for FSP and SiC nanoparticles to improve material performance, offering a practical solution for various high-demand applications.



Nikoo International School



Subject:

Innovative pet's food bowl to detect pests

SAHAR BAGHERIYE MEHRNOOSH AGHAMOHAMMADI – GRADE 10

Subtheme: Innovation & Creativity
Email: neda.sajedi1990@gmail.com

An innovative pet food bowl equipped with sensors to monitor a pet's health can be a game-changer for pet owners. Here's how such a product might work:

Features

1. Saliva Analysis:

The bowl could include built-in sensors to analyse saliva for biomarkers indicative of illnesses or health conditions, such as infections, dental issues, or dehydration. Advanced chemical sensors could detect abnormal pH levels, signs of inflammation, or traces of blood.

2. Temperature Monitoring:

o Embedded infrared or contact sensors could monitor the pet's body temperature as they eat or drink, helping to identify fevers or hypothermia early.

3. Food Consumption Tracking:

The bowl could weigh food portions before and after a meal, tracking the exact amount of food eaten.

This data could indicate changes in appetite, which might signal health issues like



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gastrointestinal problems or stress.

4. Behavioural Insights:

o Motion sensors might detect how frequently the pet approaches the bowl, their eating patterns, and if they're avoiding food, providing insights into potential behavioural issues.

5. Connected App:

A companion app could record and analyse this data, alerting owners to irregularities and providing trends over time. Integration with veterinary systems might enable remote monitoring by professionals.

6. Customisation:

The bowl might support multiple pet profiles, adjusting its analysis based on the pet's breed, age, and known health conditions.

Benefits

- **Early Detection:** Regular health monitoring helps identify potential problems before they become severe.
- **Convenience:** Owners get actionable insights without constant manual observation.
- **Personalised Care:** The data can guide dietary adjustments or health interventions tailored to the pet's needs.

Challenges

- **Accuracy and Calibration:** Ensuring the sensors provide reliable results across different pets.
- **Hygiene:** Preventing saliva buildup on sensors without compromising their functionality.
- **Cost:** Making the device affordable while incorporating advanced technology.

This type of product could revolutionise pet care, offering both peace of mind and proactive

health management for pet owners. If you're considering developing such a bowl, integrating machine learning for predictive analytics could enhance its utility even further.



Shahid Mahdavi International School



Subject:

Breaking Stereotypes: Why Labels Don't Define Us

DARYA KESHAVERZ & ANISSA FAZL ZARANDI – IB1

Subtheme: Art & Humanities

Stereotypes are the invisible walls that surround us; they describe not only how others envision us but, more importantly, how we envision ourselves. These oversimplified ideas might suggest "girls aren't good at math," "boys don't cry," or "you don't look like a leader"—all barriers to living our full potential. Stereotypes just describe and confine.

As students, we find ourselves living in a stereotypical world: our interests, capabilities, and even personalities are too often judged through the filter of assumptions we never chose. One of us was told she should not be in science because girls do not belong in the STEM fields, while the other was faced with the consistent belief that jocks cannot be great students. These names questioned our abilities, doubted our potential, and even made us wonder if we had to choose between the things we loved and the things society expected of us. The thing is that stereotypes are not only very often wrong, but they reduce people to one-dimensional characters. They ignore the complexity and individuality that make us human. They disallow exploration, hinder self-expression, and allow the fear of stepping out of one's box to



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live on. In our talk, we aim to challenge these assumptions and inspire others to do the same. No one should be defined by a label. We are more than the boxes we're put into, and it's time to break free.

To break stereotypes, we have to understand where they come from. Stereotypes arise from a human tendency to categorize. Faced with the complexity of the world, our brains look for patterns and shortcuts. While this might be useful, it leads to overgeneralization. These stereotypes are then reinforced through media, culture, and societal norms, becoming self-fulfilling prophecies that discourage people from breaking the mold. For instance, take the images of women in leadership in media: always aggressive, bossy, or cold. These portrayals only fuel the myth that women lack the qualities needed to lead. So, girls grow up, and many avoid leadership positions, justifying this stereotype. And the circle goes on, with society losing its potential.

Stereotypes affect how others see us; they also shape how we see ourselves. When we're told that we don't belong or aren't capable, we start to believe it. This phenomenon, known as "stereotype threat," can undermine confidence and performance. Think of a student who loves to code but is always told that they don't "look like" a programmer. After some time, they may start doubting themselves, stop participating in coding competitions, or totally give up on their dream. It is not just the individual who gets harmed; the stereotype is taking away potential contributions from the world.

The good news is stereotypes can be broken. It begins by accepting them for what they are: outdated, oversimplified assumptions that don't reflect reality. Every time we question a stereotype, we reduce its power. In our lives, we have fought against the stereotype by embracing the things that we were told we could not do. One of us pursued her passion for science despite being told it wasn't "feminine." The other excelled in both sports and academics, proving that one can be physically and intellectually strong at the same time. What we learned from these incidents is that stereotypes only have the power we give them. Breaking stereotypes also involves creating areas where people feel free to express themselves without judgment. Representation, in this regard, plays a very instrumental role. When we see diverse role models breaking barriers, whether women in STEM, men in caregiving roles, or athletes excelling academically, it becomes easier to imagine a world where labels don't define us. Let us stop making assumptions about people based on their appearance, gender, or interests. Rather, let us applaud individualism and curiosity and build an atmosphere where people feel free to pursue their passions.

Breaking stereotypes is difficult because it calls for courage, persistence, and the ability and will to challenge societal preconceptions. But it pays off. By rejecting labels and embracing individuality, we can unlock potential, inspire innovation, and create a more inclusive world. In the words of Chimamanda Ngozi Adichie, "The problem with stereotypes is not that they are untrue, but that they are incomplete." They make one story become the only story." We seek to remind others that more is always there in the story and to help everyone remember that no label defines us. Our goal is to pursue the celebration of individuality, a challenge to assumptions, and a vision for a future wherein labels are replaced with limitless potential.



Subject:

Designing a Metro Plaza to Promote Interaction

SOPHIA MOAYYED – IB1

Subtheme: Innovation & Creativity

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Throughout history, humankind has attempted to create new, enhanced innovations that enable communication with one another. This is mainly due to the fact that humans are social animals, hence making social interaction a fundamental necessity. One such innovation is the metro station, a public space which contains people from all over the city, regardless of their social or economic status. This setting, therefore, acts as a bridge that connects distinct individuals from various regions, bringing people closer together. Through multiple product analyses, critical evaluation of a wide range of online sources, and thorough examination of various books, I was able to gather sufficient information in order to augment my initial design ideas and to ultimately accentuate the metro plaza design.

As opposed to cars, a metro station provides a large space where individuals can meet, exchange seats, and interact, in addition to reducing the carbon footprint by greenhouse gases and minimising climate change. A prominent feature of

underground stations is the main entrance, which captivates people to enter in the first place. The architecture, cleanliness, safety, and availability of facilities all contribute to the design of an adequate metro plaza; hence, such settings are capable of interconnecting people from various areas of a nation.

An important factor to take into consideration is the population density of the city, as this further reinforces and emphasises the need for appropriate public transportation facilities. Tehran's daily population is approximately 14 million, with 10 million permanent citizens, according to Smart Cities Dive (Peach, n.d.). According to Macrotrends, the metro area population in Tehran, Iran, has gradually increased since 1950 and is predicted to continue rising until 2037 to approximately 11 million people. The current metro area population (2024) is 9,616,000, a 1.22% increase since 2023 (Macrotrends, n.d.). Furthermore, the rise in metro area population discloses the fact that individuals from all over Tehran province (and possibly other regions of Iran) have the need for affordable transportation, in addition to a chance to interact with various people in a community.

As a result, I decided to design a metro station which would promote social interaction among my city's community members. My design, therefore, incorporates social seating areas and furniture, and an area where people can embrace artworks, paint with others, and express themselves through art and social interaction. Places like metro stations, where various people come and go on a daily basis, are an efficient method of encouraging communication. This project thus seeks to promote interaction among individuals in the most efficient way possible, with the use of a well-designed and facilitated metro plaza.



Soodeh International School



Subject:

Mathematics to the Rescue! The SIR Model

GOLBARG ANDEJI GARMAROUDI – IB2

Subtheme: Science & Technology
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Purpose of study: It is an interdisciplinary study between mathematics and biology that entails research into how mathematics can be applied in our real lives outside the classroom (where it may seem dull and boring to students). This study explores an epidemiological mathematical model (SIR model) to accumulate information pertaining to the ways in which one can model the rate of the spread of diseases and analyse disease intervention methods. Thus, the purpose of this study is to spread awareness on the integral role that mathematics plays in our lives and to explore an epidemiological model which can establish the basis for the intervention of the spread of a disease through mathematical models that can be analysed to provide fundamental data.

Methodology: The study uses the SIR model with variables:

- S: individuals who are susceptible to the disease (1)
- I: individuals who are infected with the disease (1)
- R: individuals who recovered from the disease. (1)



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The equations and their parameters are as follows (1):

$$\frac{dS}{dt} = -\beta S(t)I(t)$$

$$\frac{dI}{dt} = \beta S(t)I(t) - \gamma I(t)$$

$$\frac{dR}{dt} = \gamma I(t)$$

- β = disease transmission rate
- γ = recovery rate
- N = overall population number (assumed constant)
- $R_0 = \beta/\gamma N$, basic reproduction number

The major assumptions of this model include:

- Homogeneous mixing of the population (2)
- Closed population (2)
- No latent period (2)
- Permanent immunity (3)
- β and γ are considered constant (3)

Summary of findings:

The basic reproduction number determines whether or not a disease can invade a population. (4)

- $R_0 = 1$: a threshold between epidemic and no epidemic (4)
- $R_0 > 1$: disease can invade (4)
- $R_0 < 1$: disease will die out (4)

Disease intervention methods, including vaccination, are beneficial as they decrease the pool of susceptible individuals, which in turn reduces the transmission rate (β) and R_0 , delaying and lowering the peak infection rate of the epidemic. (3)(5)

Epidemics will occur only if $dI/dt > 0$ or $S(t) > \gamma/\beta$ as (4):

$$\frac{dI}{dt} = \beta S(t)I(t) - \gamma I(t) = I(t)(\beta S(t) - \gamma) > 0$$

$$(\beta S(t) - \gamma) > 0$$

$$\beta S(t) > \gamma$$

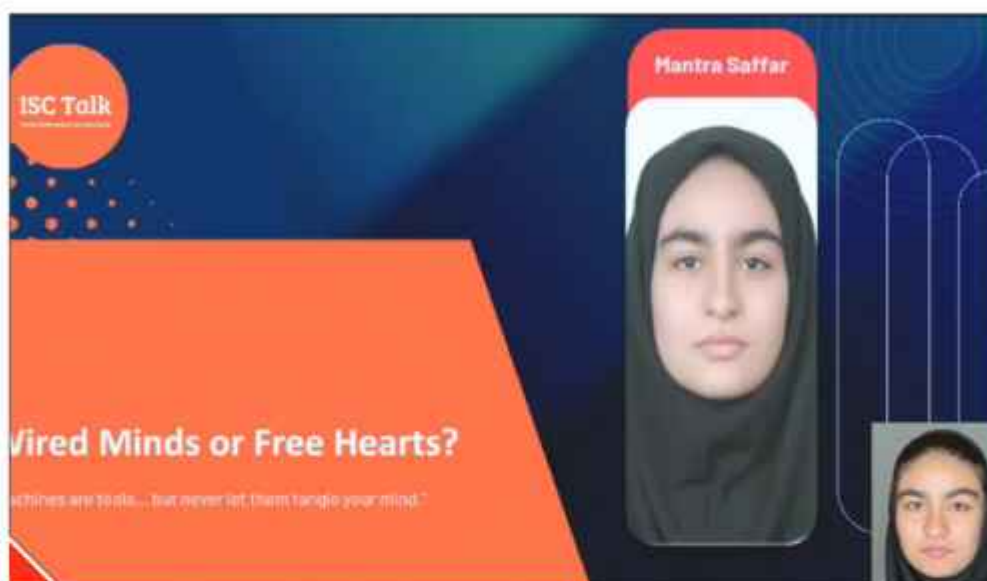
Significance of the study:

- The SIR model can help predict the peak infection time, allowing for healthcare preparations and decision-making about interventions. (3)
- Science and technology, in this case mathematical modelling, can help intervene in the spread of disease and evaluate those interventions. (3)
- Testifies to the applications of mathematics in real life, elucidating its practical role in public health domains.

Conclusion: Understanding and interpreting the results of such mathematical modelling allows for the prediction of the spread of an infectious disease through the obtained trends and can also be applied to evaluate the efficiency of interventions (e.g. vaccination). However, the classical SIR model incorporates assumptions for simplification, which can be considered as limitations, leading to modified versions of this model (e.g. SIRS (6) and SEIR (7) models). This study sheds light on the vital role of mathematics in our everyday lives, especially in public health domains.



International School of Mashhad (Shokooch-e Iranian)



Subject:

Blood Dialysis by Pine

MANTRA SAFFAR – GRADE 12

Subtheme: Science & Technology

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As I was surfing the Web on ways to filter contaminated water, it struck me: why shouldn't wood be used as a means of filtering blood? Pine, being a very common tree, can most certainly filter out and fully cleanse contaminated water: so why not blood? Since I had just recently, once again, been exposed to the topic of Kidneys in my school subjects, it fascinated me on how, in terms of an emergency, Pine could filter out the blood and function as a Kidney to the human body. Now, many studies done by the Massachusetts Institute of Technology (MIT) have proved that Pine can successfully filter out water, but the question arises as to how. It is well known that all woody plants generally have a basic structure. The xylem tissue having a straw-like conduit, has the role of the vascular system for the plant and works by transferring water and minerals from the roots to the leaves of the tree. These conduits are interconnected through thin membranes to sift out bubble from water and sap that pass through. In Pine, the xylem tends to be larger and the cells tend to be smaller, allowing for better flow and proper filtration. With the help of sapwood,

the tree is effectively capable of filtering out more than 99 percent of the pathogen E. Coli, rotavirus and most other types of bacteria from water as well; now imagine its effects on the blood. It can be used to sieve out viruses from the blood and help in the healing process of the patient, acting as a secondary immune system. In this general process of blood dialysis, the xylem tissue would strain the blood of waste materials, including: salts, urea, toxic materials, and even small bacterium, leaving a solute water derived from the blood; biologically known as urine. Originally, the urine consists of water and the waste materials mentioned above. In this case, the wooden kidney would hold the waste materials (salt, urea, etc.) and must be replaced every so often to ensure maximum capacitance of blood refinement. Although, it includes some natural limitations. For instance, when the wood dries up, the membranes begin to stick to the walls of the xylem, reducing the filter's ability to allow water to flow through. Thankfully, researchers overcame these limitations, first by soaking small cross-sections of the sapwood in hot water for an hour, and afterwards dipped them in ethanol. Once dried, the material was capable of retaining its permanence and functioned as it did before. To conclude, in cases where we are faced with an emergency situation of Kidney Failure of a patient, where immediate measures must be taken, the action of Blood Dialysis can be effectually taken by the usage of Pine as a replacement of the human Kidney, while yielding the advantage of being a low-cost purifying system.



ISC Talk Junior 2025 Report

Date: April 29, 2025

Venue: Mirzakhani Hall, Tehran International & Adaptive School – Boys

The ISC Talk Junior High 2025 took place on April 29 at the prestigious Mirzakhani Hall within the Tehran International & Adaptive School – Boys. The event brought together a dynamic group of junior high students for a day of insightful and inspiring presentations.

A total of 16 student talks were delivered, each offering a unique perspective on a wide range of topics. From science and innovation to, cultural reflections, and global issues, the presentations demonstrated remarkable creativity, research, and communication skills.



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سی و هفتمین
جشنواره
بین المللی
فیلم های
کودکان و
نوجوانان

اصفهان - ۱۲ تا ۱۶ مهرماه ۱۴۰۴
37th International Film Festival
for Children and Youth
ISFAHAN, 4-8 October 2025





37th International Film Festival for Children and Youth

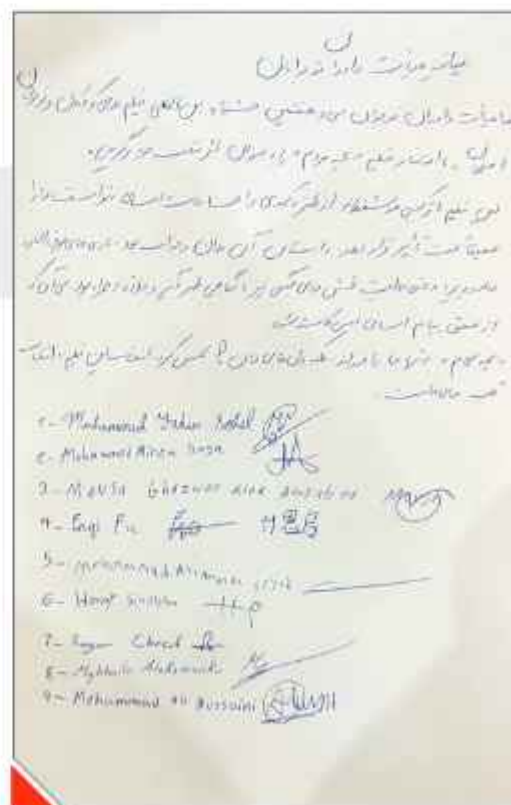
A delegation of students from TIS was formally selected to serve as official judges for the 37th International Film Festival for Children & Youth. This prestigious collaboration provided a platform for students to apply critical media analysis skills at an international level, directly contributing the voice and perspective of the next generation to the festival's competitive proceedings.

Why did the TIS judges choose this

We the youth jury of the 37th international children and youth film festival in Isfahan proudly selected the dedicated orphan as our winning film.

Its heartfelt story, outstanding performances, and clever use of humour even in scenes of war. Deeply moved us. This film made us laugh, reflect and feel.

it was more than a movie it was a experience we'll never forget



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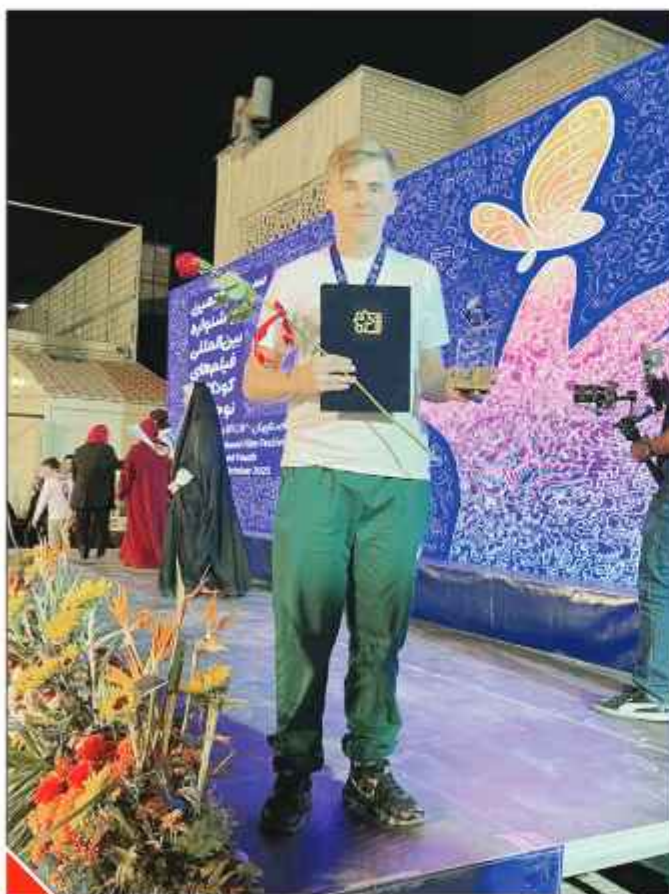


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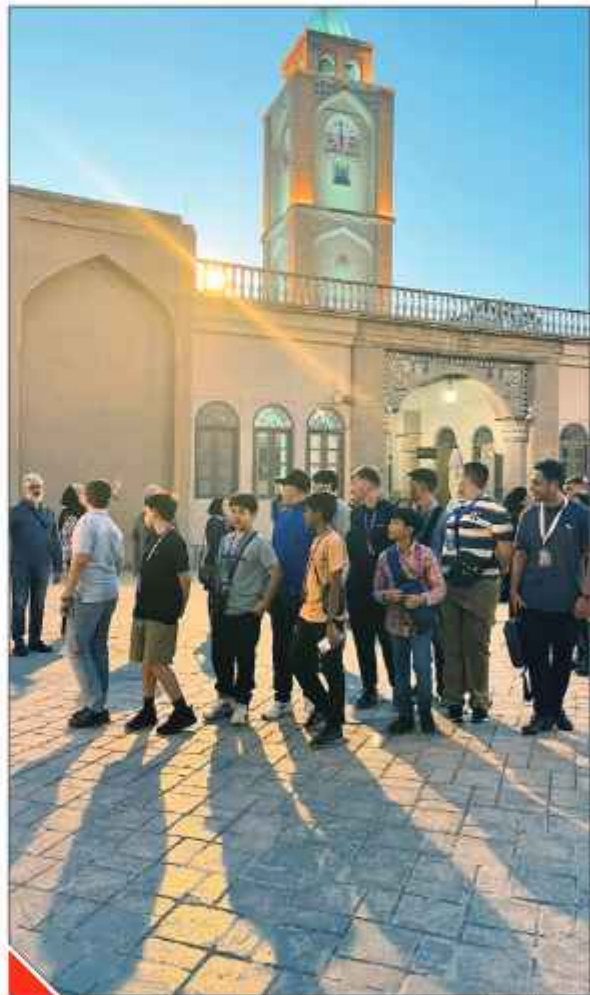


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The ISC Cup: A Successful First Season

Our school recently launched its first esports tournament, the ISC Cup, featuring Clash Royale. Students signed up via the Skyden.games platform, registered their player details, and entered the competition. The event saw great participation, setting a strong foundation for future gaming events at our school. Well done to all competitors!



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The Champion and the winner of ISC Cup:



Second place in the ISC Cup:



Third place in the ISC Cup:



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IB

Introduction



IB

THE IB DIPLOMA PROGRAMME: A GLOBAL PASSPORT TO UNIVERSITY SUCCESS

*UNLOCKING THE INTERNATIONAL BACCALAUREATE
DIPLOMA PROGRAMME (IBDP):*

▲ *NASRIN BAROOTCHI IB COORDINATOR*

A Pathway to Global Universities

When it comes to choosing an academic path in high school, few programs match the rigor, depth, and global recognition of the International Baccalaureate Diploma Programme (IBDP). Unlike traditional high school diplomas, AP courses, or A-levels, the IBDP offers a unique, university-like structure that not only prepares students for the academic intensity of higher education—but often exempts them from parts of it.



What Makes IBDP Different?

The IBDP operates at a level comparable to freshman year at university. In countries like the UK, where foundation programs are usually required for international students, IBDP graduates are admitted directly into university—without additional preparation. The same holds true in countries such as Australia, Germany, and the Netherlands.

College Credit for HL Subjects

Students who score at least 5 out of 7 in Higher Level (HL) subjects may receive university credits, saving time and tuition. For example, many US and Canadian universities award credit for HL results, just as they do for AP scores. This recognition rewards not only achievement but effort: HL subjects demand up to 240 hours of instruction, compared to 150 for Standard Level (SL).

Who Is the IBDP Best For?

This program is tailor-made for students who thrive on challenge, love inquiry, and maintain disciplined study habits. If you're the kind of person who enjoys pushing limits and exploring ideas beyond the textbook, IBDP might be your perfect match.

Beyond academics, the program fosters independence, resilience, and a growth mindset. Students don't just learn facts—they learn how to learn. These habits set the foundation for lifelong learning and success in an ever-changing world.

The Power of ATL Skills

One of the hallmarks of the IBDP is its focus on Approaches to Learning (ATL) skills:

- Thinking skills: Analytical, creative, and critical thinking
- Communication skills: Effective writing, listening, and speaking
- Social skills: Collaboration and empathy
- Self-management skills: Time management, goal setting, resilience
- Research skills: Data analysis, information literacy

These are not just academic buzzwords—they are skills that shape careers. Whether you're solving global challenges or innovating in tech, ATL skills are your lifelong toolkit.

Why Choose IB?



The International Baccalaureate (IB) is a globally recognized educational program that develops students' intellectual, personal, emotional, and social skills to live, learn, and work in a rapidly changing world.

But Why IB?

- **Holistic Learning** – Learning that grows the whole student.
- **Global Perspective** – Understanding beyond your classroom.
- **University & Life Prep** – Prepares you for studies and beyond.
- **Personal Growth** – Building resilience and responsibility.



TIS IBDP, Class of '26

Challenging? Yes. Worth it? Absolutely.





ARMAN CHEGENI

*VICE PRINCIPAL OF HIGHSCHOOL AND IB OF TEHRAN
INTERNATIONAL & ADAPTIVE SCHOOL BOYS*

Nurturing Well-Being: The Foundation of Success

As we begin a new year together at Tehran International School, I want to affirm something we already sense: feeling safe, cared for, and balanced is not a luxury – it's the very foundation of learning. As IB1 Coordinator and Vice Principal of the international division, I've learned that students can't focus on learning if they're hungry, tired, scared, or struggling to have their basic needs met[1]. This is the principle behind the phrase "Maslow before Bloom" – educators remind us that we must first meet students' needs for food, sleep, safety, and belonging before we expect them to tackle challenging academic work[2][1]. In practical terms, it means checking whether students feel physically well and emotionally secure before we begin rigorous lessons. It's like building a house: without a strong foundation of safety and well-being, the upper floors of knowledge simply cannot stand[3][2].

Well-Being is Whole-Child and Multidimensional

At TIS we care about each child's whole well-being – not just grades. Well-being is a multidimensional concept. Research reminds us that student well-being includes psychological (emotional), cognitive, and social components[4], and in our view it also embraces physical health and a sense of meaning or purpose. In everyday terms, this means we pay attention to:

- **Emotional well-being:** feeling safe, supported, and able to manage feelings or stress.
- **Cognitive/intellectual well-being:** having curiosity, a sense of challenge, and confidence in learning.
- **Physical well-being:** getting enough sleep, healthy food, exercise, and medical care.
- **Social well-being:** enjoying friendships, teamwork, and a sense of belonging in the community.
- **Purpose/spiritual well-being:** feeling connected to one's values or aspirations, and having hope for the future.

When all these parts are supported, students thrive both personally and academically. For example, a well-rested student with strong friendships and confidence will learn more effectively. On the other hand, if any dimension is neglected – say a student goes hungry or feels isolated – it can undermine everything else. As one scholar put it, reducing well-being to a single measure “obscures potentially valuable information” – we really do learn better when we nurture each facet of a child's life[5][4]. In practice at TIS, this means teachers check in on students' feelings as well as their homework, help with nutrition and health, and clubs and games encourage social and emotional growth. It's why we say: well-being is not just the absence of problems; it's the presence of positive support in all areas of life.

Cultivating Passions and Interests

One of the most exciting ways to build well-being in our school is by celebrating students' passions. When students are engaged in activities they love – music, sports, art, coding, robotics, or any personal interest – their learning in other areas actually improves. As one educator observed, “learning outcomes are more meaningful to students when teachers engage their passions”[6]. In other words, a math lesson linked to a hobby or a history project with real-world context becomes memorable. Research even shows that students who participate in extracurricular activities like sports,



band, theater or clubs tend to have higher academic motivation and achievement[7]. These activities build teamwork, confidence, and school belonging – all of which fuel classroom success.

At our School for both IB and TIS students we believe students should never have to give up what they love in order to succeed. Whether it's practicing an instrument, playing on a soccer team, drawing cartoons, or enjoying cultural pursuits, these interests are part of a healthy, balanced life. Rather than cutting them out, we teach time-management and integration. For instance, if a student has evening soccer practice, we work together to schedule study time around that commitment. A rested, happy student who stays true to their passions will often tackle academics with more energy and creativity than one who feels forced to drop what they love.

Balancing Passion and Academics: A Personal Story

I'll never forget a student I once advised in the IB program. The student was a talented musician who also loved running. At first, he tried to sacrifice both in order to "focus on studies," only to become exhausted and less productive. We sat down together and built a weekly plan starting with what mattered to him: band practice and his morning run. We literally penciled in those activities first, and then fit study sessions and homework around them. The result was remarkable: he stayed energized for his coursework, completed assignments on time, and even said he enjoyed learning more because he wasn't worn out or resentful. This taught me a simple truth I now share with all students: you don't have to abandon music, sports or games – you just have to manage your time wisely so you can do both. These pursuits aren't distractions, they're parts of your identity and wellbeing. They fuel motivation, creativity, and a sense of purpose that drive academic success.

Teacher Well-Being Matters, Too

We often talk about student well-being, but teacher well-being is equally vital. Our teachers and staff need to feel safe, heard, and valued in order to pour their best into students. In fact, education research shows that "teacher well-being and student outcomes are intertwined"[8]. When teachers are stressed or undervalued, they have less patience and energy in the classroom, which can dampen student learning. Conversely, teachers who feel supported and fulfilled bring creativity and enthusiasm that light up the room. For example, one large review found that when educators

reported higher well-being, they were more likely to use innovative teaching methods and foster student engagement[9]. At TIS we strive to create a culture where teachers can thrive – through professional support, listening to staff concerns, and building a positive collegial community. As the saying goes, “you can’t pour from an empty cup”: we encourage our teachers to care for themselves, model healthy balance, and in turn they create vibrant, caring classrooms.

Open Conversations and Boundaries

Finally, cultivating well-being means talking openly about stress and balance. We encourage students, parents, and staff to share when things feel overwhelming. Feeling pressure or anxiety is a normal part of life, not something to hide. At TIS, with help and support of our counselor, we make space for check-ins in counseling and in the classroom. Importantly, well-being does not mean lack of structure or low standards – structure and care go hand-in-hand. Clear boundaries and routines actually help students feel secure. We remind everyone that caring rules and expectations still exist (homework is important, deadlines matter), but they are applied with understanding. When a student misses an assignment because of a family issue, for example, we respond with support and a plan to catch up, not just punishment. As one commentator puts it, every young person deserves to “feel safe, heard, valued, and respected” in school. That is our goal: to listen to student and parent concerns about workload or stress, and work together on solutions – whether it’s adjusting schedules, offering mindfulness breaks, or planning fun community-building events.

A Vision of Well-Being where I work

Looking ahead, I see a school where academic excellence and well-being flourish together. Imagine a TIS and IB students sprint happily from art class to math class, knowing they have time for both their passions and their studies; where teachers plan challenging projects and still leave room for a quick stretch break or a quiet chat with a student; where parents, teachers, and students openly discuss how to handle stress. In this vision, Maslow’s needs are met before Bloom’s higher thinking skills, and everyone feels connected in a caring community. This is not just an ideal – it’s entirely possible if we commit to it.

Together, as a school family, we can build this culture of well-being. By respecting each other’s needs, celebrating our passions, and providing support at every level, we ensure that every TIS learner can achieve both academic success and personal happiness. In the end, a student who feels well is a student who learns best – and that’s how we all win. Let’s make TIS a place where the whole child thrives, today and every day.



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Student's Research & Stories



The malleability of the human mind.

- ▲ A LITERALLY ANALYSIS ON GEORGE ORWELL'S NOVEL:1984
- ▲ BY ALBORZ SHAMS, IB1

As humans, we like to think that we shape our beliefs and ideas through our own observations of the world; that our ways of thinking are based on reason and grounded in logic; and that our logic is simply a solid, inarguable construct. George Orwell, in his novel 1984, challenges this assumption by presenting a world where individuals are stripped of their personal rights and freedoms, as well as their personal beliefs, ways of thinking, and logic. Orwell doesn't just warn us about how rampant government authority and control over our environments and ourselves can annex our daily lives, but how it can annex our minds and alter them for the worse.

(Please skip the "background" and "plot" sections of this essay if you are familiar with the novel already.)



Background:

About 40 years ago, a revolution had happened, and, in consequence, the governments of many of the Western nations of the world (Britain, Northern and Southern America, Western Europe, and Australia) were overthrown and completely replaced by a political party known as INGSOC. The nations (which are the aforementioned countries/continents) under the control of this party were to become known as a "super nation" called Oceania (not to be confused with the Oceania continent). INGSOC rules Oceania with an iron fist, crushing any rivaling party or opposing forces. A mysterious person known as "The big brother" also, in some sense, acts as the face and mascot of this party. The living standards of Oceania as a whole have also significantly decreased; people of this nation live in extreme poverty and constant, non-ending wars with other super nations. People in this nation are kept under heavy surveillance every day. Telescreens (what Orwell likes to call a device similar to a TV but with microphones and cameras) have a full view of Winston's smoldering little apartment, and with their microphones, have the full ability to listen to anything being said in the apartment. Those who fall out of favor with the Party become "unpersons", disappearing per damnatio memoriae with all evidence of their existence destroyed.

Plot:

In London, Winston Smith is a member of the Outer Party, working at the Ministry of Truth, where he rewrites historical records to conform to the state's ever-changing version of history. Winston revises past editions of *The Times* (A newspaper written by INGSOC), while the original documents are destroyed. He secretly opposes the Party's rule and dreams of rebellion, knowing that he is already a "thought-criminal" and is likely to be caught one day. As he works in the Ministry of Truth, he observes Julia, a young woman maintaining the novel-writing machines at the ministry. He also vaguely suspects that O'Brien, a member of the Inner Party (meaning that he has a high-ranking position in INGSOC) and a superior of his, is part of an enigmatic underground resistance movement known as the Brotherhood, formed by Big Brother's political rival, Emmanuel Goldstein. One day, Julia discreetly hands Winston a love note, and the two begin a secret affair. Julia explains that she also loathes the Party, and the two begin plotting against the Party. Weeks later, O'Brien invites Winston and Julia to his flat, where he introduces himself as a member of the Brotherhood. However, soon Julia and Winston find out that they have been fooled by O'Brien and that he



was actually an agent of the party conspiring against them. Julia and Winston are separated and taken to torture chambers where they suffer bone-shattering physical and mental torture as a punishment for their thought crimes.

This essay analyses how the party manages to, for a lack of a better word, reshape Winstons mind during these tortures.

Analysis:

In the world of 1984, the freedom of expression AND freedom of thinking have been essentially ground to dust by the totalitarian party of INGSOC. That is, if anyone begins to think of opposing the party or doing anything that is not approved by the party, even if they do not act on it, they are still guilty of it. "Thought crime" as the party likes to call this, is punishable by such intense tortures that not only destroys one physically but exhausts one's mind. Physical exhaustion may result in death, but mental exhaustion strips individuals of their capacity to resist, forcing them to surrender their beliefs, logic, memory, and even their will to live. As how George Orwell puts it, "How easy it all was! Only surrender, and everything else followed. It was like swimming against a current that swept you backwards, however hard you struggled, and then suddenly deciding to turn around and go with the flow instead of opposing it." The immense bone-shattering tortures that were inflicted on Winston made his mind numb and completely malleable to anything that his torturers (INGSOC) desired. "He (Winston) began to write down the thought that came into his head." Wrote George Orwell, "He wrote first in clumsy large capitals: 'FREEDOM IS SLAVERY' then almost without a pause he wrote beneath it 'TWO AND TWO MAKE FIVE'" Winston did not merely act like he believed in these statements; he genuinely had started believing in them. His logic was completely reshaped by the party.

George Orwell terrifyingly demonstrates how easily the resistance of the human mind collapses under extreme torture, allowing authoritarian regimes to reshape individuals' beliefs and perceptions to fit their agenda. Winston's mind is so thoroughly broken by the Party's methods that he begins to lose all sense of objective reality. He starts to view reality itself as a mere construct of the mind, subject to manipulation and control. As Orwell writes, "The fallacy was obvious. It proposed that outside oneself, there was a real world where real things happen, but how could there be such a world? What knowledge have we of anything save through our own minds? All happenings are in the mind; whatever happens in our minds truly happens." This passage reflects Winston's total detachment from the real world, as he becomes unable to distinguish between external reality and the mental constructs imposed on him. The Party's relentless psychological manipulation has eroded his ability to trust his own senses, thus enabling INGSOC to create its own version of truth.

In the end, Winston becomes a shell of his former self. His personality, his beliefs, his logic, and his memory have all been eroded away, leaving what once was a human

is now a drone who will submit to the party in all ways possible. As O'Brien (torturer of Winston) had put it earlier, "We shall squeeze you empty and fill you with ourselves". The party doesn't kill people who oppose them; rather, they break their minds open and mold it in their own desire. Turning a person who once hated them (Winston) now a true lover and supporter of the INGSOC regime, and the most horrifying part of it all is that Winston does now love and support the party wholeheartedly and not as an act to survive the iron fist of INGSOC.

So, how should we take this warning from George Orwell? It's simple, look out for political situation where we are asked to abandon what seems logical, or situations where we are told not to question our government and authority. It is in our social duty to protest against such happenings. If something is questionable, questions MUST be asked. If something or someone is asking us to abandon logic, we MUST protest against it. This serves as a chilling reminder of the dangers of unchecked political power, where, in the end, the truth is not erased but altered. In a world where the human mind is surrendered, resistance becomes almost impossible.

Thank you for reading.

And never forget...

WAR IS PEACE
FREEDOM IS SLAVERY
IGNORANCE IS STRENGTH



Planned Obsolescence of Technology and the Ethics of Consumer Technology Design

▲ AMIRHOSSEIN HAGHIGHI IB2

In the modern digital economy, technological innovation is often celebrated as a symbol of progress. Every year, companies like Apple, Samsung, Microsoft, and others urge people to replace phones, laptops, and other devices with newer, faster, and sleeker versions. Behind this culture of upgrade and replacement is a rather controversial business strategy: planned obsolescence. The deliberate design of products to have a limited lifespan or to become obsolete quicker. This practice raises key ethical questions about corporate responsibility, environmental sustainability, and consumer rights in a technology-driven world.

Planned obsolescence can be practiced in many forms: designing hardware parts to fail after periods, or releasing software updates that deliberately slow performance on earlier models. Critics have charged, for instance, that smartphone manufacturers reduce the processing speed of older models or eventually stop supporting past versions of operating systems. Such



practices prompt consumers to replace, rather than repair or maintain their existing devices. In purely business terms, this strategy brings more sales and growth in an otherwise highly competitive market. Yet, it runs afoul of ethical principles related to honesty, transparency, and care for the environment.

The moral problem of planned obsolescence, begins with the intentional wastefulness of products designed to fail prematurely.

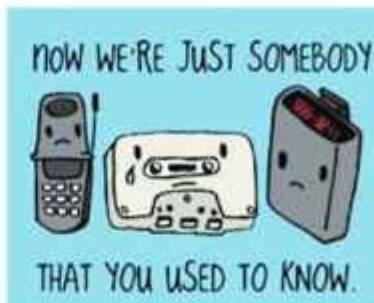
In this regard, planned obsolescence contributes directly into the growing electronic-waste crisis of the world. According to the United Nations, at least fifty million tons of electronic waste are generated every year; much of it is landfilled or sent to developing countries for dumping in unsafe conditions. The materials used in electronics, including lithium, cobalt, and rare earth elements, are not just environmentally costly to mine, but also difficult to recycle. Thus, planned obsolescence exceeds mere

personal inconvenience; it forms a source of environmental harm driven by profit. Morally speaking, companies have the responsibility to take into consideration the long-term ecological impact faced by their design decisions rather than externalizing those costs onto society and the planet.

Furthermore, planned obsolescence raises concerns regarding consumer freedom and fairness. When design limitations or marketing strategy compels users to replace their devices, the freedom of choice is compromised. Most consumers do not have technical knowledge regarding why their gadget slows down or stops receiving updates. Thus, this asymmetry in information gives corporations the disproportionate power to shape the purchasing habits as well as the digital experience of millions of people. Ethically speaking, this constitutes a violation of informed consent, which remains one of the core values in both commerce and technology ethics. True innovation should empower users, rather than manipulate them into unnecessary consumption.

Advocates of planned obsolescence argue that shorter product cycles result in technological progress. Continuous innovation means better features, greater efficiency, and the creation of jobs in connected industries. The argument is valid, but it doesn't take into consideration sustainable innovation, technological advancements without less waste. Firms can still achieve profitability with modular design, repairability, and longevity through software updates. For example, some laptop and smartphone brands have already moved toward allowing users to change parts with ease or update components rather than purchasing entirely new devices. This ultimately shows that ethical design can go hand in hand with economic growth if long term thinking replaces short sighted profit orientation.

PLANNED OBSOLESCENCE



Ultimately, this is an issue of ethics, and the solution must be a collective one. There are many possible solutions, for example governments can implement right-to-repair laws that guarantee access to parts, manuals, and affordable repair services for consumers. Education systems can raise awareness of responsible consumption, while consumers should become more mindful of their purchases. However, lasting change relies primarily on corporations embracing ethical design and sustainable development as part of their brand. Transparency about product life, fair pricing for repairs, and environmental accountability should not be optional corporate gestures but rather standards of responsible innovation.





The Role of Artificial Intelligence in School Studies: Efficiency, Subject Learning, and Ethical Boundaries

▲ BY AMIRPARSA RAOUFMOGHADDAM GRADE 12

Artificial Intelligence (AI) is one of the most significant forces transforming education today. From language programs that adapt to the level of a student, to intelligent learning companions that take notes automatically, artificial intelligence is no longer science fiction—a part of everyday school life. For students of international schools, where learning is spread over several languages, upper sciences, and hundreds of computer assistants, the impact of AI can be experienced even more deeply.

Whether or not AI belongs in the classroom is not the question but how it is implemented. Done right, AI can streamline the learning efficiency, individualize the learning process, and even make learning math, science, and languages possible. But in so doing, too much AI will choke creativity, undermine critical thinking, and create ethical questions about academic honesty.

This article delves into where AI



meets learning in school. This will discuss three general categories: how AI streamlines learning efficiency, how it reframes learning by subject, and how students can utilize it ethically without depending on technology.

AI for Study Efficiency

The greatest challenge to students today is not lack of knowledge of something but volume of information. Books, online articles, video, and coursework all vie for the attention of the student. That is where AI applications are useful in helping the students to learn better.

AI-driven tools such as Otter.ai or Notion AI can even automatically summarize long lectures or underline the essence of a class discussion. Instead of writing down the same notes hour after hour, students can simply review the important points and devote more time to understanding them.

Customized revision is another

aspect where AI introduces efficiency. Conventional learning is a one size fits all methodology, wherein everybody must learn as a group. AI platforms can track the learner's progress and generate adaptive quizzes or flashcards that focus on areas where the learner is most vulnerable. This prevents time wastage on what the learner is already a master of.

AI can even serve as a smart study planner. Most of the apps utilized today use AI to monitor the schedule, nearing deadlines, and workload of a student and attempt to suggest when and what to study. For students with numerous subjects, extra-curricular activities, and perhaps part-time work, it can render studying easier and stress-free.

Fundamentally, AI is more about helping students maximize their time than it is about doing their work for them. By putting information in front of them sequentially, personalizing practice sessions, and helping them manage their time, AI helps students keep the priorities straight: learning and application.

AI Across School Subjects

Though AI increases the efficiency of learning overall, its power is best utilized when applied to specific subjects. There is a range of problems for each learning subject—languages, math, and science—and AI offers a selection of tools to address them.

1. Language Learning

Language learning requires daily practice in speaking, listening, reading, and writing. Language learning software and chatbots powered by AI, such as Duolingo or ChatGPT-based tutors, allow students to practice speaking anywhere and anytime. Unlike traditional textbooks,

the program can correct grammatical errors on the spot, recommend more suitable words, and even adjust the level of difficulty according to the learner's performance. To international school students who might have to learn English as a second language, AI is a personal tutor always at their fingertips.

2. Mathematics

Mathematics scares most students, particularly if they don't understand the complex formulas or steps in deriving answers. AI tools such as Photomath or Wolfram Alpha don't simply provide answers—they can guide the student step by step. Not only can this guide the students to the correct answer, but also to understand why. There are even AI software that reacts to the student's thinking process, offering extra practice on the weak points. Rather than a substitute for critical thinking, AI can potentially make math less painful and more enjoyable.

3. Science

Science labs have traditionally depended on experiments and demonstrations, yet they are limited in a physical classroom. AI can recreate these occurrences in virtual labs and simulations. A chemistry student, for example, can utilize an AI-based program to combine virtual chemicals on a computer screen and observe realistic outcomes without peril from an actual lab. In biology, AI programs can simulate cell function or an ecosystem so evasive concepts become more concrete.

Through subject-specific AI-driven learning techniques, learning is now a breeze and a pleasurable experience. A formula in mathematics is now a practice problem with a solution, a language lesson is now a conversation,



and a science experiment is now a virtual experiment with no risk. In this way, AI transforms the classroom into an even more dynamic and personalized platform.

Ethical and Responsible Use of AI

As wonderful as AI is, its value depends on what students will do with it. Like any tool, it can enhance learning or replace it in the wrong way. The distinction is an issue of responsibility, balance, and ethics.

The Benefits of Proper Use

When used correctly, AI reduces learning and makes it less frustrating. The learners get instant feedback, learn at their own pace, and learn through explanations that are in their own learning style. This is of tremendous benefit to international schools as the students learn different levels of study and knowledge in the language. AI would be able to fill those gaps as it can give individual advice.

Risks of Overuse

But problems happen when students use AI inappropriately or to do their thinking for them. For example, depending on the use of an AI tool to compose whole essays is short-term time-saving but prevents individuals from using their own thinking and writing skills. Similarly, frequent use of AI for doing mathematics or science problems may restrict problem-solving abilities. Over time, the dependence will have a delusional effect—students will think they can sit for examinations while in reality, they have not practiced enough critical thinking. Ethical Student Standards

As they attempt to avoid these pitfalls, students should adhere to some basic moral principles when using AI:

1. Utilize AI as a support tool, not a replacement. Use it to help your learning, but still try to figure things out yourself before going to it for assistance.

2. Be honest on assignment work. If AI was utilized in the context of ideas or organization, then credit that contribution rather than trying to pass it off as your own.

3. Combine technology with human ingenuity. Professors, classmates, and working by yourself are still gold for education.

4. Do not overrely on screens. Too much AI can shorten attention span, creativity, even interpersonal skills.

And finally, AI is to be utilized like the internet or a calculator: a great tool to enhance learning—but only if students understand its limitations and how to ignite it.

Artificial Intelligence is transforming learning inside and beyond classroom walls. AI can make learning efficient with automatic note-taking, revision personalized, and smart time management. For other disciplines, AI brings new possibilities: spoken conversation in languages, step-by-step solving of numerical in mathematics, and simulation on computers in science. All such technologies make learning enjoyable, convenient, and tailored to the learner.

Yet this capability comes with its cost. Overuse of AI or use as a crutch undermines the student's learning process by diluting creativity, critical thinking, and autonomy. The secret to success lies in the middle: using AI to

support learning but still developing personal skills and independent thought.

For international students in school for whom education is challenging and for whom global communication is necessary, AI can be helpful if properly used. The classroom of the future will not be a class of machines replacing teachers or human labor but a class where students and AI work together to open the gates to knowledge even more.

Ultimately, they will be the strongest learners who can choose whether to lean on AI—and when to lean on themselves.

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The Future of Jobs in the Age of AI

BY ARTIN SAEIDI – GRADE 12B

THE FUTURE OF WORK IN THE AGE OF AI



JOBS AT RISK

Some jobs are being replaced by robots and intelligent programs. Tasks like data entry, basic accounting, and driving may be automated in the future.



LEARNING IS KEY

The future belongs to those who know how to learn. Anyone who can adapt to changes always has a place to shine.



NEW JOBS EMERGING

- AI designer and trainer
- Data analyst
- Cybersecurity specialist
- Arts and technology integrator

IN SUMMARY

Jobs may change, but intelligent, adaptable, and creative people remain important. It's better to learn to work with AI now, not fear it.

A New Chapter for Everyone

Just a few years ago, "artificial intelligence" sounded like something out of a movie.

But now, it's part of our everyday lives — in our phones, in classrooms, in hospitals, and even in the apps we use without thinking.

AI isn't just changing technology; it's changing us — the way we live, learn, and work.

Some Jobs Are Fading Away

It's no secret that some jobs won't look the same in the future.

Machines and programs can already handle simple, repetitive tasks better than we can.

Jobs like data entry, basic accounting, driving, or answering simple questions online — these are all slowly being taken over by AI.

But here's the thing: this doesn't mean people are becoming less important.

It just means the kind of work we do is evolving.

New Jobs, New Dreams

For every job that disappears, a new one is being born.

There are now people who literally “train” AI systems, helping them understand the world better.

There are data analysts who turn raw information into stories and insights.

There are cybersecurity experts who protect our digital world.

And there are creative people using AI to make art, music, and even movies.

The future isn't about replacing humans — it's about humans and technology growing together.

Why Learning Matters More Than Ever

The most valuable skill you can have in the age of AI isn't coding or building robots — it's learning how to learn.

The world is changing fast, and

the people who can keep up, adapt, and stay curious will always find their place.

You don't have to be a genius — just open-minded and willing to grow.

So, What's Next?

AI can think faster, calculate better, and work nonstop — but it still can't dream, love, or imagine like we do.

That's our magic.

The future will belong to those who use technology not to replace humanity, but to amplify it.

So don't be afraid of AI — get to know it.

Learn from it.

And let it help you become the best version of yourself.

THE FUTURE OF JOBS IN THE ARTIFICIAL INTELLIGENCE

A NEW ERA BEGINS

Just a few years ago, “artificial intelligence” sounded like something out of science fiction movie. But today, AI is part of almost everything — from our phones and classrooms, to hospitals and businesses. This fast growing technology is changing the world of work forever.

JOBS AT RISK

Some traditional jobs are slowly being replaced by intelligent systems and robots.

Tasks such as:

- Data entry
- Simple accounting
- Driving and delivery services
- Customer support chat

are all being automated.

However, this doesn't mean people will lose their jobs. It simply means the nature of work is changing.

NEW OPPORTUNITIES AHEAD

As AI grows, so do the number of new, exciting jobs:

- **AI Designer and Trainer:** Teaches AI how to think and make better decisions.
- **Data Analyst:** Finds meaning in big collections of information.
- **Cybersecurity Specialist:** Protects systems from hackers and misuse of AI.
- **Art & Technology Creator:** Blends creativity and science to make new forms of art.

IN SUMMARY

Jobs may disappear, but new ones will always rise.

The key is not to fear artificial intelligence, but to learn to work with it.

The best way to be ready for the future is simple:

- Keep learning
- Stay curious.
- Think human.

A NEW ERA BEGINS



GR(i)EF

▲ BY ASIM KARKHANEH – 10B

The door swings open, its hinges screaming for care. The man enters his apartment, the door slamming shut behind him. He takes off his boots and coat and throws them aside, raising voluminous plumes of dust from both the ground and the garments. He shuffles into the kitchen and considers making himself a cup of coffee, but then decides against it. He sets himself down on an expensive but moth-eaten sofa and lights a cigarette. He sighs, a trail of smoke escaping from his mouth. "I really hate being alive," he says, melancholy dripping from his voice. "I wish... I wish I could just die." He drops his head into his hands and sighs again.

I have seen quite a large number of strange humans in my time, but this one is more peculiar than most. His name is Simon J. Hughes, and he works as the manager of a prestigious hotel. He was born into wealth and had a good childhood. He was the only child, and so his parents spent all their time and money on him and him only. He was happy, and though his mother died when he was 18, things were still great for him. His father died when he was 26, and he inherited everything. He bought himself a luxurious apartment, the same which he now sits wallowing. He married a beautiful woman named Mary, and everything was fine until about four years ago. He suddenly seemed to decide that he was the most miserable man of all. That was around the same time he caught my attention; you see, when people speak or think of death, I can always feel it. And this man has spent every moment of his life since then thinking about me, and pleading for death. In his self-presumed misery, he divorced his wife, as if to add to his sadness, and limited himself to only his home and his workplace. His apartment fell into disrepair, and every night he comes home, sitting just where



he is sitting now, and thinks of death until he falls asleep. I would not have bothered myself, but it has grown thoroughly upsetting and annoying to be constantly accompanied by his complaints about life and pleas for death at the back of my head. Which is why, as of late, I have been thinking of a solution, though I have never done such a thing before, and am still unsure whether he will lose his sanity or not.

I approach him, knowing he cannot see me. He sits there, and I can feel the thoughts of death emanating from him. "Simon J. Martin," I announce, and at once he sits up, startled and stares at me in surprise. "Your calls for death have reached me." He stands and backs away from me slowly, while pointing a trembling finger at me. "Who are you? What do you want with me?" He demands, though the fear buried within his voice is palpable. "I am Death," I reply calmly. "You have been asking for me, and I am now here." He freezes in his spot. "Do you think I'm a fool? What did you take me for?!" He bellows. "Leave my house at once before I call the police!" I smile and lay a hand on his shoulder, causing him to flinch as the cold from my palm spreads into him. "I would understand if you didn't believe me. But this is no joke, nor am I any form of burglar.

As I said, I am Death," I say. "Can I ask you something? Why do you wish to die?" He drops his head and stares at the ground. "I am the most miserable man in the world. None have truly suffered as I have." He replies. "Is that so? And what makes you say that?" I ask. "I lost my parents, my wife, and all my money only brought me sadness and never happiness. I live in this dump, and I hate my job." He says, but then looks up at me with offended surprise as I begin to laugh. "You did lose your parents, true, but they were nice to you when

they were alive, isn't that right? And your wife never left you, quite on the contrary, she pleaded with you not to divorce her, but you did nevertheless, the reason which still eludes me." I wave a hand at his apartment. "You live in this beautiful apartment, which is in this state because you refused to care for it, and still, you complain? And if I remember correctly, which I do, you wanted your job. You asked your father for the position of the manager at his hotel, and you were the one who sold it all off and had to stay manager instead of owner. So do not tell me, of all, that your life has been anything but good." A defiant expression crosses his face. "What would you know? My life is a living hell!" He exclaims.

"No, you have made your life living hell," I respond. "Do you wish to see the lives of others? Others who are truly miserable and still cling to life?" He considers for a moment, then looks up to me. "If you are here, it means I am going to die, so be it, I have nothing else to do before I die, so I might as well see a fraction of my pain in the lives of others." I motion for him to follow me, and I walk to his front door. He opens his mouth, perhaps to tell me that the door leads only outside his apartment and into the corridor, but when I turn the knob, the maroon door opens out onto a snowy alley. I step outside onto the frost-covered asphalt, and he follows, mouth agape, the door swings shut behind us, and he looks back to check if the door still leads back to his apartment, but is instead faced with a graffiti-covered and thoroughly door-free wall. "But- I- the door..." he stammers, but I wave him off. Suddenly, I stop and turn to him. I can see the confusion and the slight hint of fear in his eyes. "Tonight, before the hour of dawn, I will show you three people whose lives I must take," I tell him. "Your sole task is to watch and compare their suffering to your own." He nods; his face still contorted into an expression of unsureness and confusion.

The first is a once-wealthy merchant by the name of William Morrison, living in Birmingham,

England, who lost all of his wealth in a failed investment. His wife and only child died in an automobile accident, which only he survived, and he has since lost the ability to walk. His brother, taking advantage of his helpless condition, used false documents to take away what little possessions he had, and he now spends his days in poverty, living in the frail husk left of his once grand

manor, which is all that he has left. I stand before the rusted iron gates to his manor, Hughes behind me. With a curt motion of my hand, the gate flies open, and we enter. The wooden staircase creaks under Hughes' heavy steps, whilst I silently ascend. At the top of the staircase is a corridor with several arches, each leading to different halls. As though hearing the creak of the floorboards, the old man awakens from his troubled slumber and looks in the direction of the corridor from the

nearest hall to the left. "Who's there?" He demands, his accented voice shaking. I step into the hall, followed by Hughes. "Calm down Mr. Morrison, we are not thieves," I assure him. "It is my utmost displeasure to say this, but William Morrison, I have come to collect your soul. May you find peace in death." He looks at me with his watery blue eyes, acceptance and resignation in his eyes. "Why didn't you come sooner? I have been expecting you for a very long time," he says, a ghostly smile forming on his lips. "You should have taken me alongside my wife and daughter in that accident.

Tell me, why did you not? Or if not, then why not take me after my brother took all I had away from me, and left me to rot away while reliving every memoir of my family that the walls of this crumbling house seemed to hold." He lowers his head, and silent tears stream down his pale, wrinkled face. I lay a hand on his trembling shoulder, causing Hughes to frown in confusion. "But... isn't it cold?" He asks the old man. The old man smiles bitterly. "When one welcomes death so, then the ice cold becomes the warmest comfort." He replies darkly. Hughes looks at a loss for words. "Let's not torment you any further, shall we?" I said, and proceeded to take his life, as Hughes stated in awe.

William Morrison, aged 71, was found dead in his home a week after his death. The cause of death was declared heart failure.

The second is a woman by the name of Rebecca Waters, aged 30, and living in New Orleans. Once a beautiful young girl who would win any man's heart, her beauty has now been claimed by the years, and she remains unmarried. She works as a hotel maid, which barely covers her rent and food, and she is unhappy with her life, though even now she does not think of death. I walk down the corridor of the shabby hotel, Hughes' footsteps light on the floor tiles (he seems to have decided to be somewhat more stealthy



since he roused the old man), and I watch as she opens the door to a room and enters, leaving her trolley, on which she has stacked piles of mattresses and pillows, outside. We enter the room, and the door swings shut behind us. Startled by the sound, she looks up from the ground (she was trying to clean a stain), and once she notices us, she stands. "Oh, I'm terribly sorry. Is this your room?" She asks politely. "I could leave and come back later if you don't want to be bothered." Hughes opens his mouth to tell her just why we are here, but then catches my glare and falls silent. "No, it is quite all alright, you may proceed" I respond, smiling. As she returns to the stain, I begin to wander around the room. "Have you any children?" I ask her. Her face falls. "No, sir, I do not," she replies solemnly. "I'm not even married. When I was young, I was a beautiful girl, and all the boys wanted to go out with me." She smiles sadly at the thought. "Though I never gave even a single one of them a chance. Not only did I reject them, but I mocked so many. I remember this one boy, his name was Stanley. He wore glasses that were too big for his face, and had long wavy hair that fell over his ears. He was terribly thin and didn't speak much. But once, he came up to me, and as though it took all the effort he could muster, he asked me to go on a date.

Even then, I found it adorable, but my pride wouldn't let me accept him. And not only did I reject his

offer, I made fun of him and dumped flowers over his head. He never spoke to anyone at school again after that." Her voice began to shake as tears began to form in her eyes. "As a matter of fact, I saw him a few weeks ago, on my way home. He was in a large, expensive-looking car, wearing a suit, and of course, his glasses were no longer big for his face. He had a personal driver, and I later learned he owned a giant construction firm and had attained great wealth and success. While I, beautiful Rebecca Waters, am here working as a maid, and nothing of my beauty is left." She broke into tears, and I placed my hand on her shoulder, and as expected, she flinched away from the cold. Shoving a braid of her greyish-red hair behind her ear, she continues, "I don't have anyone to rely on, no one to help me with the bills, and neither do I have anyone to parent for. I always dreamed of forming my own family, with a loving h-husband a-a-and a... a child.

I always wanted to have a d-daughter, who would have red hair like I used to." As she sobbed, I turned to Hughes, and as I was expecting, he was looking at his boots in solemn thought. "Miss Waters, what if I told you that we are not hotel guests, and that I am not here to stay in my room, but to take your life?" I ask her. She immediately pulls back from me, and fear begins to creep into her tear-soaked face. "Sir, this is really not a good time for joking," she says, the fear finding its way into her voice as well, "I'm afraid I am not joking." I reply gravely. "I am not a human, like you, or Mr. Hughes." I point towards Hughes, "I am Death. You are now living your final moments, and I am unable to change your fate." She takes a step back. "Wh-what do you mean, I-I, but- but why?" She stammers. "You will die of a serious head trauma," I tell her. "Now, let's not waste time any further. With the greatest displeasure, I must say," I announce. "Rebecca Waters, your time to live is up, and now you will die." She looks around frantically for an escape, but after seemingly being unable to find one, turns on her heels and runs in the direction opposite to where I stand. Hughes begins to go after her, but I hold him back. "Patience, Mr. Hughes, patience." Just that, instead, a scream echoed from the bathroom which Waters had run into, followed by a wet thud. Hughes ran into the bathroom, and though he tried to explain to me what he was seeing, it was pointless; I already knew what had happened. In her haste, she has slipped over the wet bathroom floor, fallen into the bathtub, and hit her head on the metal faucet, and is now bleeding the tub full from the crack on her forehead.

Rebecca Waters, aged 30, was found dead by the owners of the hotel room she had been cleaning. The cause of death was declared severe head trauma, as a result of slipping in the bathroom while working.

The third and last, was quite regrettably, a teenage. Roger Greene, a 17-year-old high school student currently in temporary suspension from school due to being caught smoking in the school storage rooms. He lives in Manchester, and has recently become involved in drug use. Currently he is walking down the streets, which are empty as they usually are at midnight. He trudges down the street, his over-large clothes sagging against his skinny frame. He constantly fiddles with the position of his backward cap. It is clear that he

is under the influence of drugs; he relentlessly whispers to himself and occasionally lets out an airy laugh at some joke he cracked in his head. Suddenly, we walk out of an alley and stop in front of him, blocking his path. "Hey, you got a problem, fellas?" He asks. "No, not really," I respond coolly. "Then get the hell out my way," he says. "Unless you want a bloody good thrashing, that is," I chuckle. "Could it be because of those pills you took earlier that you are now so boldly showing aggression to someone who is twice your stature, or perhaps it is that walking alone at this time has made you feel somewhat invincible?" He tries to push me back, but quickly withdraws his hand as he feels to ice cold. "Why- what are you so cold?" He asks, a slight note of fear hiding in his voice. "Why are you so sure you aren't hallucinating as a result of the pills?" I ask. He seems to lose whatever little temper he had and pulls out a switchblade from his pocket. He engages the mechanism, the blade popping out with a click, and puts the blade to my throat. I smile. "Why don't you put that away?" The blade bends away from me, and soon twists into a knot. He drops the knife in horror and stares up at me. "Unlike what you are thinking, Mr. Greene, this is not a hallucination," I say. "You will probably have a difficult time believing me, but I am Death. I am here to claim your life. Roger Greene," I announce. "It is with great displeasure that I say this: you are now drawing your final breath, and your time to live is over. May your parents, older sister, and younger brother find solace." He stammers and falls back. "But... I'm just 17... I'm too young, I can't die!" I smile bitterly.

"Do you remember those pills, Mr. Greene? About 15 minutes ago, you consumed a large quantity of amphetamine, which is called an overdose, I believe." Speechless, tears form in his eyes. "You are seeing your childhood before your eyes, are you not? Who would have thought that the adorable boy with messy dark hair and blue eyes, the same one whom his teachers predicted to be some form of genius in mathematics, would meet his end here, in this way?" He begins to choke, his throat closing up. Sweat pours down his face, and he falls back down, clutching his throat.

Roger Greene, aged 17, was found dead two hours later by the youngest daughter of the household, whose house he died in front of. She had apparently been unable to sleep and had risen from bed to look out of the window for

cats as she usually did, when, instead, she was greeted by the sight of the dead boy. The cause of death was declared to be due to an overdose of amphetamine.

The light of dawn reflects off the glass windows of New York City as the sun makes its way onto the horizon. We walk along the sidewalk, an occasional car passing by on the near-empty streets. "Well, Mr. Hughes, you had a request I presume?" I ask him, turning around to meet his gaze. Suddenly, he falls to his knees. "I'm truly sorry, I-I had an amazing life, and I took it away from me. I thought I knew true suffering, but I can't even begin to understand it. Please," he begs. "I beg of you. Grant me one more chance to live. I swear I will not waste my life anymore." After a few seconds of awkward silence broken only by the sound of his whimpering, I started to laugh. "Mr Hughes, I never intended to take your life. I only meant to show you just how valuable and precious your life was, to stop you from spending your seconds in vain," I say, and he looks up at me, hope forming in his eyes. "Now, it appears you have learned what you needed to learn. Well, farewell, Mr. Hughes. I sincerely hope we will not meet again for a very long time." He rises to his feet. "I couldn't be any more grateful for the blessing you have given me. Thank you," he looks up, though when he does, I am no longer there, and a passerby is staring at him with a curious expression.

Though his home would be a good 20 minutes away with a car, he runs the whole way. Not jogging or running lightly, but running, nearly knocking over several people. He stops on a crosswalk, closes his eyes, and inhales deeply, taking the breath in, holding it and savouring it, the cool early morning breeze of New York battling against his pale face and cheeks flushed from running. He releases the breath slowly in a laugh, eyes still closed. He imagines all the things that he will do now, how his apartment will look once he has it renovated, plans for the hotel, perhaps later even meeting someone.

And that was probably why he didn't hear the truck coming.

Simon J. Hughes passed away in an accident involving a truck driver who fell asleep, and woke too late to find a man just standing on the crosswalk with his eyes closed. After much debate, the cause of death was declared suicide.



Do Not Regret the Past

BY BENYAMIN GHAEMMAGHAMYAN - IB1

Regret is one of the simplest feelings to describe, yet one of the hardest to let go of. Everyone makes mistakes—some small, some life-changing—but holding on to those mistakes only weighs us down. If we cling to regret, we end up dragging the past into the present, slowing our progress and hurting our ability to grow.

When we make a mistake, the first reaction is often sadness or disappointment. Sometimes that feeling fades quickly; other times it lingers for months or even years. But time is precious, and dwelling on something that can't be changed only steals time from what we could be improving today. Imagine a student who receives a terrible grade. Instead of using it as motivation to try harder, they become discouraged and lose the drive to keep working. They don't gain anything from dwelling on the mistake—in fact, they fall further behind.





But why does regret hold us back so effectively? Because it convinces us that we “should have known better.” The more obvious the mistake seems in hindsight, the heavier the regret feels. These experiences are normal, yet people around the world replay their errors every day. Over time, this kind of rumination can take a serious toll, leading to anxiety, low self-esteem, sleep issues, and emotional exhaustion. Regret doesn’t just live in the mind; it traps us emotionally and behaviorally, preventing us from moving forward.



There are two powerful ways to break that cycle. The first is acceptance: recognizing that the past cannot be changed, but the present is completely in your control. By shifting your focus from what already happened to what you can do today, you reclaim your energy and direction. The second method, when needed, is seeking support from a therapist. Talking through your thoughts can reduce the weight of regret and help you understand your emotions without being overwhelmed by them.

In the end, regret is something everyone experiences—but overcoming it is what allows us to keep growing. A sharp moment of pain is better than a lifetime of holding yourself back. The past may not change, but your future still can.



The Engine Inside You

BY DANIEL TAGHVAI 12A

Have you noticed how people tend to divide other people into tidy little boxes?

The partier.

The studious one.

The athlete.

The burnout.

The quiet kid.

The one who feels too much.

The one who feels nothing at all.

As if humans were other species.

As if the names tell the tale.

And the honest truth? None of these categories actually means anything. They're just facades we place so we can pretend the complicated just isn't worth dealing with. Because at the end of every type, every trait, every pattern, there's only one force operating the entire machine: Obsession.

Some of you burn the nights away at partying, pursuing noise so that you do not have to listen to the sound of your own mind. Some of you bury your heads deep into books, pursuing answers so that you do not have to stare at the reality of uncertainties. Two different lives. Two different masks. The same urge.

You are keeping one step ahead of the silence.

People like to pretend that one is better than the other. The straight A's mean the child is 'responsible' and the party-goer is 'lost.' But the mind doesn't operate

on the levels of right and wrong. Both are dedicated. Both are serious. Both are seeking. Both are hiding. Both are worshipping at the altar of distraction with different rituals.

Obsession is just energy yet to be directed. Voltage unchanneled within the head. Some focus it on pleasure. Some on achievement. Some on destruction. Some just never point it at anything and go through their lives wondering why the world hurts.

The problem isn't obsession.

The problem is not knowing what's driving it

Most people never wonder why the sound of noise is so comforting or why the experience of silence is so dangerous. Why the work matters or why the escape matters more. They don't wonder about the hunger that fuels their behaviour. They just satisfy it, then pretend that's who they are.

This is how individuals end up with one life version so ingrained that they forget that they constructed this reality.

But the quiet truth lurking behind this façade is this:

If at some time you just stopped and took a look at your obsession, named it, and understood it, you got the wheel back.

Now that you understand the nature of obsession, you can turn it. Redirect it. Like

redirecting the path of a river that's been inundating your life.

But the wild that people waste in dark rooms could point toward creation, toward learning, toward strength, toward discipline.

You can take the overthinking that's destroying someone's day and translate that into clarity and strategy.

The anxiety that chases some of you into bad choices? You can turn that into momentum.

Same energy.

New direction.

Different reality.

Want the Secret of How To Live Any Life You Want?

It's simple but not easy.

Start with an awareness of the desire that fuels your behaviour pattern. All obsessions are the questions we are afraid to answer. Naming the desire reduces the problem by half.

Second, know the function. What are you being protected from with this obsession? What silences this cowardice? What fear is this cowardice smothering?

Thirdly, redirect the ENERGY, not the personality. Do not attempt to extinguish the passion. Use it. Watch the manner of other party-goers. Produce with the very desire that another exhibits to escape. Construct with the very power that another brings upon himself through destruction.

Fourthly, let go of your identity. As soon as you say 'I'm this type of person,' you box yourself into a small, familiar box. You turn into a ghost who keeps repeating the past.

Fifthly, know that every form of yourself that there is will just be temporary. The fact is that you are not meant to be one thing. You are meant to be someone who shifts and evolves. And if this mindset can take hold in your mind, then the

experience of transition will no longer feel like an experience of death but an experience of breathing.

People don't want to admit this, but everybody who surrounds you is battling the same cloud.

Some use books.

Some have bottles.

Some with laughter.

Some may resort to loneliness.

Some hold onto hope.

Some of them rely on despair.

Various techniques. One wound.

Once you understand that, compassion becomes automatic. Not soft compassion; not sentimental compassion; but the kind that comes from clearly seeing. You see that everyone is aiming to outrun the same emptiness. Everyone is attempting to make meaning out of the same chaos. Everyone is trying to put the pieces of themselves back together so that they can become someone they can live with.

The trick is not to kill the obsession that drives you.

The trick is to wake up inside it.

Take control.

Steer it.

Aim it.

By being the kind of person who makes that decision, you remove yourself from the passenger seat of your life. You take yourself out of the trajectory that led you into the roles that were designed with your shape in mind, but not with your character.

You became fluid. Adaptive. Self-made. Able to move realms the way someone changes the channel on a television.

Not because of luck.

Not because of talent.

Because you have seen the truth that no one bothers to teach:

You never were a "type."

You were a power awaiting guidance.

And now that you've noticed it, you can choose where it goes.



Cities That Breathe: Drawing Inspiration from Iranian Architecture for a Sustainable Future

▲ BY HAMI YOUSEFI ZADEH – GRADE 9

Introduction

Cities are not merely collections of buildings; they are living entities that breathe with us, grow, and—if neglected—suffer. In an era when the energy crisis, climate change, and unchecked urban growth poses significant challenges, looking back at Iranian architecture and urban planning can illuminate a path forward. This architecture is not only a display of beauty and culture but also a treasure trove of intelligent and sustainable solutions for contemporary urban life.

From the winding alleys of Yazd to the magnificent squares of Isfahan, from ingenious windcatchers to dreamlike gardens, Iran's traditional cities demonstrate that it is possible to create human-centric, sustainable spaces by respecting nature, preserving cultural identity, and considering social needs. The key question is: How can we leverage this invaluable heritage to design future cities that are sustainable, beautiful, and humane?

1. Narrow Alleys and Inward-Looking Houses

The historic alleys of Yazd and Kashan, with their narrow, winding design, naturally create shade and reduce ambient temperature. Houses were arranged around a central



courtyard, a space where water, plants, and trees moderated the temperature and served as a focal point for family gatherings and interaction.

Contemporary significance: Reduced energy consumption and an enhanced sense of calm and belonging.

Reinterpretation: Designing inward-looking residential complexes

with shared courtyards, shaded pathways, and natural airflow to minimise energy use and strengthen social bonds.

2. Squares: The Social Heart of Iranian Cities

Isfahan's Naqsh-e Jahan Square is a peerless example of a multifunctional urban space. It simultaneously served as a place for commerce (bazaar), worship (mosque), and cultural interaction (gatherings), bringing different segments of society together.

Modern relevance: Shaping urban identity and reinforcing social life.

Contemporary significance: Creating multifunctional squares and public spaces in modern cities to host local markets, exhibitions, and cultural events—ensuring these spaces remain vibrant and dynamic, not merely beautiful.

3. Windcatchers: Iranian Innovation in Sustainable Architecture

The ingenious windcatchers of Yazd channelled cool, fresh air into living spaces, providing thermal comfort without any additional energy consumption.

Contemporary significance: A symbol of the feasibility of sustainable architecture with minimal energy use.

Reinterpretation: Integrating the concept of windcatchers with modern natural ventilation systems and smart buildings to reduce electricity consumption and ensure residents' well-being without straining energy resources.

4. Neighbourhood-Centricity: Cities for People

Traditional Iranian cities were structured around neighbourhoods. Each neighbourhood had its own mosque, small bazaar, bathhouse, and public space, creating a distinct collective identity.

Contemporary significance: Greater sense of belonging, stronger social cooperation, and enhanced psychological security.

Reinterpretation: Re-creating this structure by developing small neighbourhoods equipped with all daily necessities within walking distance—aligning with the “15-Minute City” concept—thereby reducing car dependency while enhancing social interaction and quality of life.

5. Water: The Soothing Soul of Iranian Cities

In Iranian architecture, water—beyond being a decorative element—played a vital role. From ingenious qanats to central pools and garden streams, water helped moderate the temperature, create beauty, and provide mental tranquility.

Contemporary significance: The presence of water improves the quality of life and makes the urban environment more pleasant.

Reinterpretation: Reintroducing water flow into the urban landscape through canals, fountains, and small water parks can help address water scarcity challenges while improving mental health and air quality in future cities.

6. Geometry and Proportions in Iranian Architecture

Iranian architecture employs precise geometry and human-scale proportions. From the symmetry governing gardens to the dimensions of buildings and the delicacy of tilework,

Everything is designed with mathematical precision.

Contemporary significance: Creating balanced and harmonious spaces that provide visual and psychological calm.

Reinterpretation: In designing modern cities, these human proportions and nature-inspired geometries can be applied to create visually striking, sustainable, and harmonious urban spaces.

7. Light and Shade in Iranian Urbanism

The masterful use of natural light and shade—through windcatchers, stained-glass windows (orosi), and the intelligent design of open and closed spaces—created both beautiful effects and exceptional comfort.

Contemporary significance: Controlling ambient temperature and lighting with minimal energy consumption while creating a sense of calm and security.

Reinterpretation: Designing smart cities that utilise natural lighting and appropriate shading to reduce energy consumption, enhance quality of life, and offer a pleasurable experience for citizens.

Conclusion

Iranian architecture and urban planning are not merely historical heritage; they are a living, dynamic guide for designing the cities of the future. The narrow alleys, social squares, ingenious windcatchers, identity-rich neighbourhoods, flowing water, balanced geometry, and intelligent play of light and shade all teach us that cities can be sustainable, humane, and beautiful.

The cities of the future should not be built solely of concrete and glass; they must breathe in harmony with nature and enhance human life. Inspired by Iranian architecture, we can create cities that are alive, beautiful, and culturally rich—cities where humans and nature coexist in complete harmony.



Reality Doesn't Exist Until You Look

BY HAMID JAFARI IB1



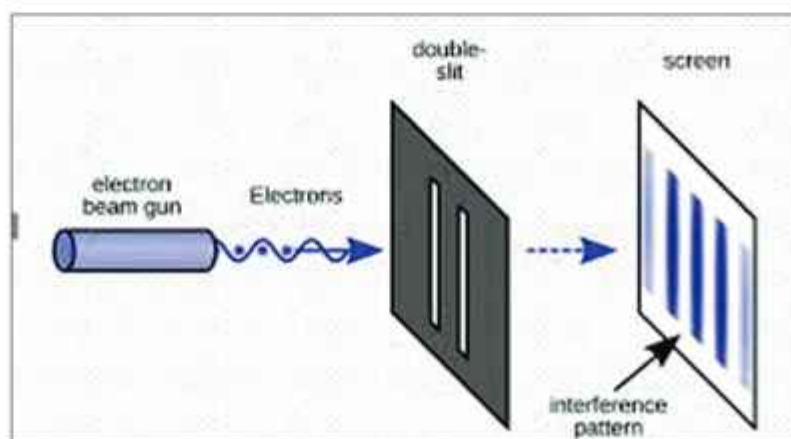
Introduction

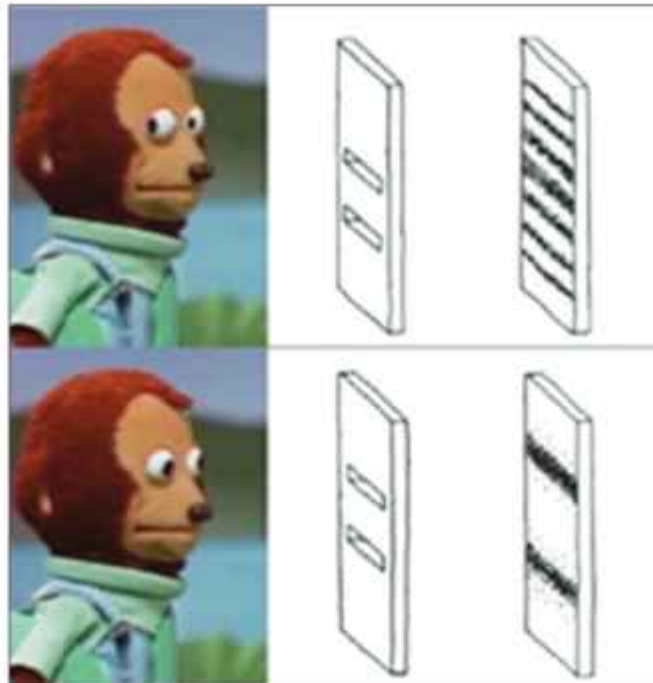
If no one looks at the world, does it still exist? It sounds like science fiction – but according to quantum physics, it might be true. Deep inside atoms, the tiniest pieces of matter don't seem to exist in one place until someone observes them. Before that moment, they're just waves of possibilities – everywhere and nowhere at once. It's as if the universe itself is waiting for us to decide what to become.

The Experiment That Changed Everything

It all began with a surprisingly simple setup: a beam of electrons aimed at a barrier with two tiny slits. Scientists expected to see two lines on a screen

behind the slits like little bullets passing through. However the results were shocking – a wave-like pattern appeared, as if one electron had passed through both slits at the same time. Even stranger, when researchers tried to observe which slit an electron went through, the pattern disappeared, and the electrons behaved like solid particles again. This is called the observer effect, and it tells us that in the quantum world, measuring something can change its behaviour and what it does. Particles don't just exist in one state; they exist in superposition, a cloud of possibilities, until a measurement forces them to choose. Even Einstein couldn't believe it, famously asking whether the Moon really exists when no one is looking.





What It Means for Reality

So, what does this strange behavior tell us about the world we live in? This behaviour doesn't mean our eyes magically create the universe, but it does suggest that observation – the act of interacting with something – is essential to defining it. Scientists are still debating what this really means. Some propose that every possibility actually exists in parallel worlds, while others think particles exist only as probabilities until measured. Either way, the experiment challenges the simple idea that the universe is a fixed stage waiting for us – it's dynamic, unpredictable, and far stranger than most of us ever imagined.

Why does it matter?

The strange rules and logics of the quantum world aren't just some random facts – they have real consequences. Technologies we use every day, like lasers in barcode scanners or the screens on our phones, rely on principles discovered in quantum physics. Today, scientists are building quantum computers that use

superposition to perform calculations far beyond ordinary computers, potentially changing medicine, communication, and even how we understand information itself. Beyond technology, these discoveries make us rethink our place in the universe. Reality isn't simply fixed; at its core, it's full of possibilities, uncertainties, and surprises waiting to be explored. Even the tiniest particles teach us that the world is far stranger and more fascinating than our everyday experience suggests.

The Universe That Watches Itself

Every time we observe the world, we may be helping it decide what to be. The tiniest particles, invisible to the naked eye, don't settle into a single state until they're measured – and in that moment, reality itself unfolds. The universe isn't simply a stage where life plays out, it's a dynamic, mysterious story, full of possibilities waiting to be revealed. So the next time you look at the night sky or even at a beam of light, remember: observing isn't just seeing – it's participating. In the quantum world, reality doesn't just exist – it responds.



The Big Car Debate

Gasoline vs. Electric Cars — Which One Truly Leads the Future?

▲ ARTIN BAHRAMI, MAHAN SHANEHSAZ – 10B

From how it all started just as a simple way to show that you're wealthy, and all the way to becoming part of human's life, and for some their whole life.

Then how, when the fuel prices were down and there were no concerns about global warming, or the air pollution which some might call the golden age of cars, which is mostly due to the over engineered, high displacement and high torque cars of that era, which are still beasts of their own.

But then it all changed, starting with concerns about global warming and air pollution, and most major authorities like Europe and us putting out major and strict laws against internal combustion cars from strict mot in the UK and euro 6 standards for Europe, and from US rising gas prices to persuade people to go electric.

But then came the electric era of cars, which for some they may not even be considered as "real cars." The idea was around many decades ago, but brought to life by Elon Musk; a south African multi billionaire who first mass produced fully electric cars in the name of his company TESLA. But it was never as easy as that to just switch to electric cars all together and stop all the pollution and harm done to the



Artin Bahrami



Mahan Shanehsaz

environment. One of the biggest cones of electric cars is their batteries, which not only it's harmful to mine both for the earth and humans, but also it's difficult to recycle and most countries don't even have the technology or they're not willing to spend capital on such thing.

But then it got to the peak of electric cars; and they started evolving from having extra safety features and having full self-

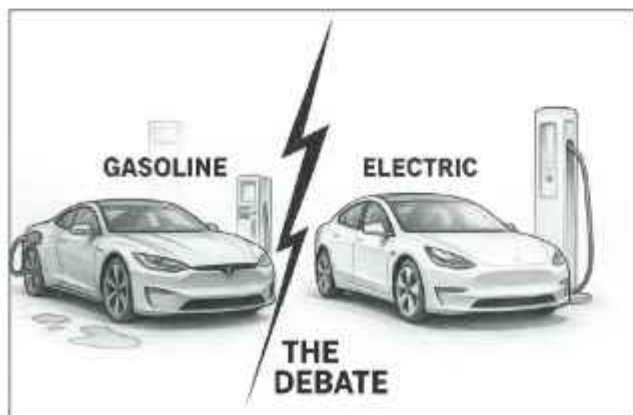
driving. for a while Elon musk ruled the world of electric cars; most importantly US electric cars, until China started getting into the electric cars and they went beyond extra especially with their well-known brands like BYD, most recently, their BYD Yangwang U9, which as of September 2025 holds the record for the fastest production car, reaching the speed of 496km/h (308 mph). It can even do things like jumping or shaking for various situations, and all of these while being fully electric, which some might call impressive. Even with Tesla having its own supercar way before BYD and impressively sending it to space but never being mass produced and staying as a concept for future this BYD supercar has left TESLA speechless, and some would consider embarrassed even.

And then it came the rejection era, in which "petrol heads" as some would call, called out electric cars to be "soulless," because all they enjoyed and cared about was to feel the car; feel every little vibration, and doing every shift manually, and most importantly hearing the engine roar. That's what they believe makes the car a car and gives it the true car spirit. This was one of the main reasons that made petrol heads so aggressive

towards electric cars and companies that mass produced them. Most of the companies focused mainly on electric cars which made fans super hostile and not willing to buy electric models, which also skyrocketed the price of previous models which weren't electric. On the other hand, this made the stock of companies to come down since no-one was buying new electric cars. Researchers and petrol heads started noticing that the pollution produced from the mining of electric cars batteries which were mostly lithium and cobalt does about the same, and if not even more, damage to the environment than internal combustion cars. Only after a decade it would surpass gas cars in terms of pollution, and that's with assuming that the electricity used for charging them comes from clean energy which in most countries isn't the case.

But then came the era in which automobile manufacturers desperate to sell cars and make money they mostly have went back to combustion engines.

In the end, cars have always been more than machines. From roaring engines to silent electric power, they reflect our passions, our choices, and our impact on the planet. The technology changes, but the love of driving remains.





A Brief History of Bell Canada

▲ BY SEPEHR SANAEIPOUR AND NIMA ANISI – 10B

Bell Canada's plan to become an income trust is the latest metamorphosis in the company's 126-year history. Canada's largest communications company, whose past is tied to the invention of the telephone, will become the largest income trust in the nation. Here is a list of key past - and recent - developments in the company's history: Summer 1874: Alexander Graham Bell discusses his theories on the telephone with his father, Professor Alexander Melville Bell, at the family home in Brantford, Ontario.

March 7, 1876: Mr. Bell receives a patent for the electric-speaking telephone and his father unveils the invention. Early phones were made of wood in the shape of a box or a butter stamp.

Much of the conversation was lost. The rental fee was about \$40 a year.

February 1879: Dominion Telegraph agrees to market the Bell telephone. At the same time, Montreal Telegraph acquired the rights to distribute Edison telephones. The keen competition between these two companies had negative effects: Montreal Telegraph subscribers and Dominion Telegraph subscribers couldn't telephone each other and city streets were



Sepehr Sanaei pour



Nima Anisi

invaded by a profusion of poles and wires. Summer, 1879: Professor Bell decided to sell his rights to the telephone. Potential Canadian purchasers declined, and the rights were sold to National Bell of Boston, owners of Graham Bell's patent in the United States. 1880: National Bell chooses a Boston businessman, Charles Fleetford Sise, to organize a Canadian phone company. Sise becomes the founder of

The Bell Telephone Company of Canada, incorporated by federal charter on April 29, 1880. 1881: The Mechanical Department (now known as Nortel Networks) in Montréal was created to assemble the American-made telephone parts. 1915: Marked a turning point in the history of the phone with the first transcontinental telephone call.

May 1, 1920: The first stock purchase plan of The Bell Telephone Company of Canada was introduced for its employees.

December 31, 1931: As the Depression worsens, more telephones are disconnected than are connected for the first time in Bell's history.

1943: As a result of the Second World War, a growing number of women are trained as technicians in some central offices.

March 7, 1968: Use of corporate name "Bell Canada" is authorized.

April 28, 1983: Bell Canada Enterprises Inc. becomes the parent company of Bell Canada and all shareholders of Bell Canada become shareholders of BCE Inc.

June 12, 1992: CRTC opens door to long distance competition.

May 6, 1998: Jean C. Monty succeeds Red Wilson as the new CEO of the company. June 30, 1998: CRTC allows competition in the public phone service sector.

Feb. 25, 2000: BCE launches an unsolicited \$2.3-billion bid for CTV. The

buzz word of the time: "convergence."

Sept. 15, 2000: BCE, Thomson, and Woodbridge Co. Ltd. create a new company that will own The Globe, CTV and Sympatico-Lycos.

Jan. 9, 2001: BCE and Thomson Corp. create Bell Globemedia, a company with interests in broadcasting, newsprint and the Internet.

April, 2002: Jean Monty surprises investor by resigning from his CEO post. Michael Sabia becomes president and chief executive officer of BCE.

June 28, 2002: BCE says it will pay \$6.3-billion over the next two years to buy back the 20 percent of Bell Canada held by SBC Communications Inc., of San Antonio, Tex.

Sept. 11, 2006: Telecom rival Telus announces plans to convert to a trust, sending BCE shares soaring on talk it would soon follow suit.

Sept. 12, 2006: Bell's chief operating officer George Cope down played speculation the company would convert to a trust. "At the last AGM in June . . . we indicated we were not prepared to convert the balance of Bell Canada at that time," he said. "We also said management and the board continue to review the suitability of an income trust structure in light of technical and competitive change. And that remains our position."

Oct. 11, 2006: BCE says it will convert Bell Canada into an income trust.



Hemifusomes

BY REZA HUSSAINI 11B

Cells are full of strange and beautiful structures, but even after decades of research, new organelles are still being discovered. The latest to join this list is something scientists have named the hemifusome. It is found inside mammalian cells, captured using one of the most powerful imaging techniques available: in situ cryo-electron tomography.

In a groundbreaking 2025 study from the National Institutes of Health, researchers used this advanced technology to look at living cells that had been frozen so rapidly that the internal structures stayed exactly in place. What they discovered surprised everyone: long-lived pairs of vesicles partially fused together by a unique membrane connection called the hemifusion diaphragm (HD). These paired vesicles form a completely new type of organelle in the cell.

What Exactly Is a Hemifusome?

A hemifusome is a structure made of two vesicles that are partially fused together. Unlike normal membrane fusion, where two vesicles merge fully, hemifusomes only share their outer membrane layers, forming a large flat interface

called the hemifusion diaphragm (HD).

Key Features of Hemifusomes

- Two vesicles: A large vesicle and a smaller one
- Hemifusion diaphragm: A large, unique connection between the two membranes
- Proteolipid nanodroplet (PND): A small particle located at the junction of the membranes

This kind of structure had never been seen in actual living cells before because traditional electron microscopy distorts fragile membrane intermediates. Cryo-electron tomography allowed scientists to capture these structures in their natural state, frozen almost instantly before they had the chance to change.

The researchers found hemifusomes in four different cell types, making up 10 percent of vesicles near the edge of the cell. It was an unexpected discovery that opens up new ideas about how cells organize and change their membranes.

The Mystery of the PND

One of the most surprising aspects of hemifusomes is the proteolipid nanodroplet (PND) that's consistently found at the hemifusion diaphragm. These PNDs are small, dense particles that contain both lipids and proteins. They are almost always found embedded at the junction of the two membranes.

Researchers believe that the PNDs may act as "vesicle builders", helping the formation of the smaller vesicle inside the hemifusome. The PND might insert itself into the membrane and trigger a process where the membrane forms a blister that grows into a new vesicle. This idea is



brand new and challenges what we thought we knew about how cells create vesicles.

Two Types of Hemifusomes

The study identifies two main forms of hemifusomes:

1. Direct Hemifusomes

In this form, the small vesicle sits outside the larger one, both sharing a large hemifusion diaphragm.

2. Flipped Hemifusomes

Here, the smaller vesicle is flipped inside the larger vesicle, with the hemifusion diaphragm on the inside.

This flipping process resembles the formation of multivesicular bodies (MVBs), but the mechanism is completely different from the well-known ESCRT machinery. Instead of using ESCRT proteins to form internal vesicles, the hemifusome uses a different, likely unknown process.

Why Hemifusomes Matter

Hemifusomes may help explain many unknowns about cellular functions:

- Protein and lipid sorting: How cells organize and distribute proteins and lipids
- Vesicle formation: The process by which new vesicles are created, especially inside the cell
- Multivesicular body (MVB) formation: The way cells create complex, multi-compartment organelles
- Membrane remodeling: How membranes bend and reshape without relying on all the known protein complexes

This new discovery suggests that hemifusomes could be part of vesicle biogenesis, offering a fresh perspective on how cells build new structures. They may represent a new form of vesicle formation that doesn't rely on the traditional ESCRT system we learn about in textbooks.

Are Hemifusomes Part of Endocytosis?

To find out if hemifusomes are linked to endocytosis (the process by which cells take in particles), researchers used gold nanoparticles

to track what happens during endocytosis. These nanoparticles are absorbed by cells in a similar way to how molecules from the outside environment are brought inside.

The results were interesting. The gold particles showed up inside:

- Clathrin-coated vesicles (transport vesicles)
- Endosomes (transport vesicles)
- Lysosomes (digestive vesicles)

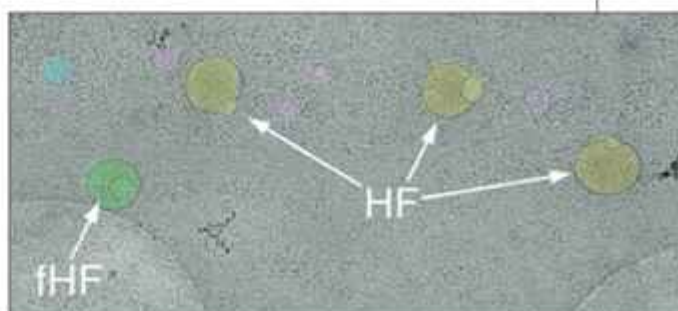
But they did not appear in hemifusomes. This suggests that hemifusomes are not part of the normal endocytic pathway. Instead, they may be a separate type of vesicle with their own function in the cell.

Conclusion

The discovery of hemifusomes takes our understanding of cellular biology to a new level. It shows that cells can have structures much more complex than we previously thought, where membrane fusion doesn't follow the typical rules.

Hemifusomes challenge some of the long-standing ideas in cell biology, especially regarding how vesicles are formed, how membranes remodel, and how proteins and lipids are organized. By showing that these new structures can be stable and long-lived, the study changes the way we think about membrane fusion in cells.

Cryo-electron tomography has revealed that cells contain structures so delicate and transient that traditional methods couldn't capture them. Now that we can see them, scientists can better understand how these processes work in health and disease, leading to new potential treatments and therapies.





Analyzing the Sentiment of Users on Social Media About the Corona Vaccine Using Deep Search

▲ BY MOHAMMAD TAHA AMIRSHAHI 12B

The COVID-19 pandemic dramatically changed our daily lives. During this time, social media became more than just a space for sharing personal experiences it turned into a powerful platform for spreading information, opinions, and emotions.

As countries started vaccination programs, millions of people began to share their thoughts and feelings online. Understanding these opinions is not just about curiosity it helps governments,



health organizations, and researchers create better strategies to build public trust. Understanding these opinions is not just a matter of curiosity; it can help governments, health organizations.

What is sentiment analyzing? This technique allows computers to detect whether a piece of text expresses a positive, negative, or neutral attitude. When applied

to posts about vaccines, sentiment analysis can reveal how people actually feel. Are they hopeful, angry, or supportive?

To analyze these emotions, researchers use two advanced technologies:

- Deep Learning
- Natural Language Processing (NLP)

Deep learning uses special models such as:

- Convolutional Neural Networks (CNN)
- Long Short-Term Memory (LSTM) networks.

What is CNNs?

type of artificial neural network used primarily for processing and analyzing visual data like images. It automatically learns spatial hierarchies of features by using layers like convolutional layers for feature extraction, pooling layers to reduce dimensions, and fully connected layers for final output and classification. This architecture makes CNNs highly effective for tasks like object recognition, image classification, and other computer vision applications.

What is LTSM?

type of recurrent neural network (RNN) aimed at mitigating the vanishing gradient problem commonly encountered by traditional RNNs. Its relative insensitivity to gap length is its advantage over other RNNs, hidden Markov models, and other sequence learning methods.

What step should we do to sentiment analyze data?

The first step in sentiment analysis is data collection and preparation. Researchers gather public posts from platforms like Twitter. Then the text is cleaned by removing links, usernames, and extra characters.

The second step is text representation and model training. Cleaned words are turned into numerical vectors. These vectors are fed into deep learning models such as CNN or LSTM, which learn to

recognize patterns that show whether the emotion is positive, negative, or neutral.

The third step is evaluation and application. The trained model is tested to check how well it recognizes emotions. Once it performs well, it can analyze new posts in real time and show trends in public opinion.

What result sentiment analysis provide?

The results of sentiment analysis provide a clear picture of public opinion about a specific topic. By analyzing thousands or even millions of posts, the model can identify whether people express positive, negative, or neutral emotions.

Positive sentiments often show trust, hope, or relief. For example, many users posted about being happy to receive the vaccine, feeling safer, or appreciating science and medical progress. These kinds of results indicate strong public support.

Negative sentiments often reveal concerns or resistance. People might express fear of side effects, mistrust toward pharmaceutical companies, or frustration with government policies. By identifying these negative emotions, health authorities can understand where doubts exist.

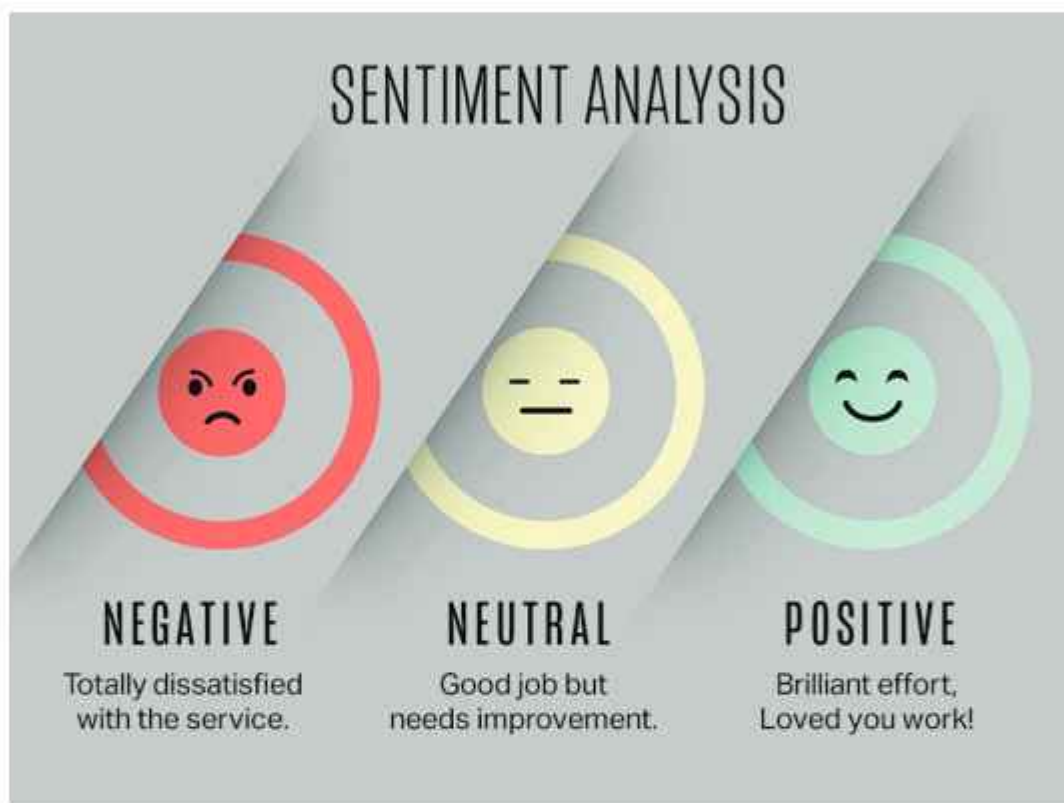
Neutral sentiments are also valuable because they reflect information sharing without emotion. These posts might include news updates, statistics, or personal experiences stated in a neutral tone. Tracking neutral content helps researchers understand how information spreads online, even when no clear emotion is attached.

Sentiment analysis matters because it helps governments, health organizations, and researchers understand how people truly feel. By identifying positive, negative, and neutral emotions on a large scale,



experts can detect early signs of fear, mistrust, or support. This allows them to respond quickly, build better communication strategies, and increase public trust.

"It turns social media data into useful knowledge that can guide smarter decisions and protect public health during crises like the corona pandemic"



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The Mind's Time Machine: Why We Constantly Replay the Past and Imagine the Future

▲ TALIB JEBUR – GRADE 11B



Sometimes, in the middle of class or while walking home, my thoughts just drift away without asking permission. One second, I am here, paying attention, and the next I am thinking about a random memory from last summer or imagining what my life might look like ten years from now. It almost feels like there is a time machine in my head. One that does not need buttons or flashing lights, just a working brain.

Scientists actually have names for this mental situation. When we replay the past, it is called episodic memory, and when we imagine the future, it is known as prospection. What is really fascinating is that both of these use the same parts of the brain, especially the hippocampus, which handles memory and imagination. So, when you picture yourself in the future getting full mark on a final exam you have been studying for, you are using the same system that remembers your first day of school.

This ability to move through time in our heads is something that makes us special. It helps us learn from our mistakes by constantly remembering them, plan for what is next by imagining or predicting the future (just like predicting someone in clash royale, but that is a different topic). It is also the reason we can tell stories or feel nostalgic for moments in the past. Our mind is like a movie editor, editing scenes from the past and making new scenes that are just our imagination of the future.

But this incredible time machine is not just

sunshine and rainbows. Sometimes it traps us in loops of regret or sorrow. We replay the most embarrassing things we have ever done or imagine the worst-case scenarios that might never happen. Maybe even remember a family member's death. Psychologists think this habit comes from survival instincts. Long ago, remembering danger or predicting problems actually kept our ancestors alive. Today, it just keeps us up at night.

Although this might seem as something bad, it is not because the brain is just doing something it is good at (remembering things). Every flashback and daydream adds another page to the story of who we are. That is why we feel nostalgic and satisfied when we remember memories that are so valuable to us. It reminds us that our lives are still being written and that we have to make the most out of it, which shows the beauty of this whole topic. Our thoughts wander not because we are distracted, but because it is reminding you of who you were, who you are, and who you want to be.

In conclusion, this ability is not something bad, but something unique to us humans thanks to Allah. So, the next time your mind drifts off during class, do not feel bad. You are not just zoning out; you are time traveling. You are revisiting the memories that built you into who you are now and foreseeing out the futures you may or may not one day live. Time travel might sound like science fiction, but for our minds, it is just an ordinary part of being alive.



The Nervous System and the Brain

▲ BY OKTAY ATA EI | GRADE 7



The human body is capable of performing many functions at the same time. This remarkable ability is made possible by the nervous system, which works together with the brain to send signals throughout the body. These signals control both voluntary and involuntary actions, allowing different parts of the body to function efficiently.

The brain consists of three main parts: the cerebrum, the cerebellum, and the brainstem. The cerebrum is responsible for controlling actions and coordinating the activities of the body and organ systems. The cerebellum plays an important role in balance, coordination, and voluntary movements. The brainstem connects the brain to the spinal cord, enabling electrical signals to travel throughout the body.

Specialized cells called neurons are responsible for transmitting electrical signals from the brain to the rest of the body. A neuron is made up of several important parts, including dendrites, the cell body (soma), the axon hillock, the axon, the myelin sheath, and axon terminals. Each part plays a crucial role in signal transmission.

When a signal is received by the dendrites, it passes to the cell body. The axon hillock then integrates incoming signals and determines whether the signal will continue along the axon. The axon carries the electrical impulse to the axon terminals, where

chemical messengers are released. These chemicals allow the signal to pass to other neurons, muscles, or organs. Some axons are covered with myelin, which acts as an insulator and significantly increases the speed of signal conduction.

The nervous system is divided into two main parts: the Central Nervous System (CNS) and the Peripheral Nervous System (PNS). The CNS includes the brain and spinal cord, while the PNS consists of all the nerves outside the CNS.

The PNS is further divided into the sensory division, which sends information to the brain, and the motor division, which carries signals from the brain to the body. The motor division includes the Somatic Nervous System, which controls voluntary movements, and the Autonomic Nervous System (ANS), which regulates involuntary actions.

The ANS has two subdivisions: the sympathetic nervous system and the parasympathetic nervous system. The sympathetic nervous system prepares the body for stressful or dangerous situations, while the parasympathetic nervous system helps the body relax and maintain balance.

The brain also has four main lobes, each with specific functions:

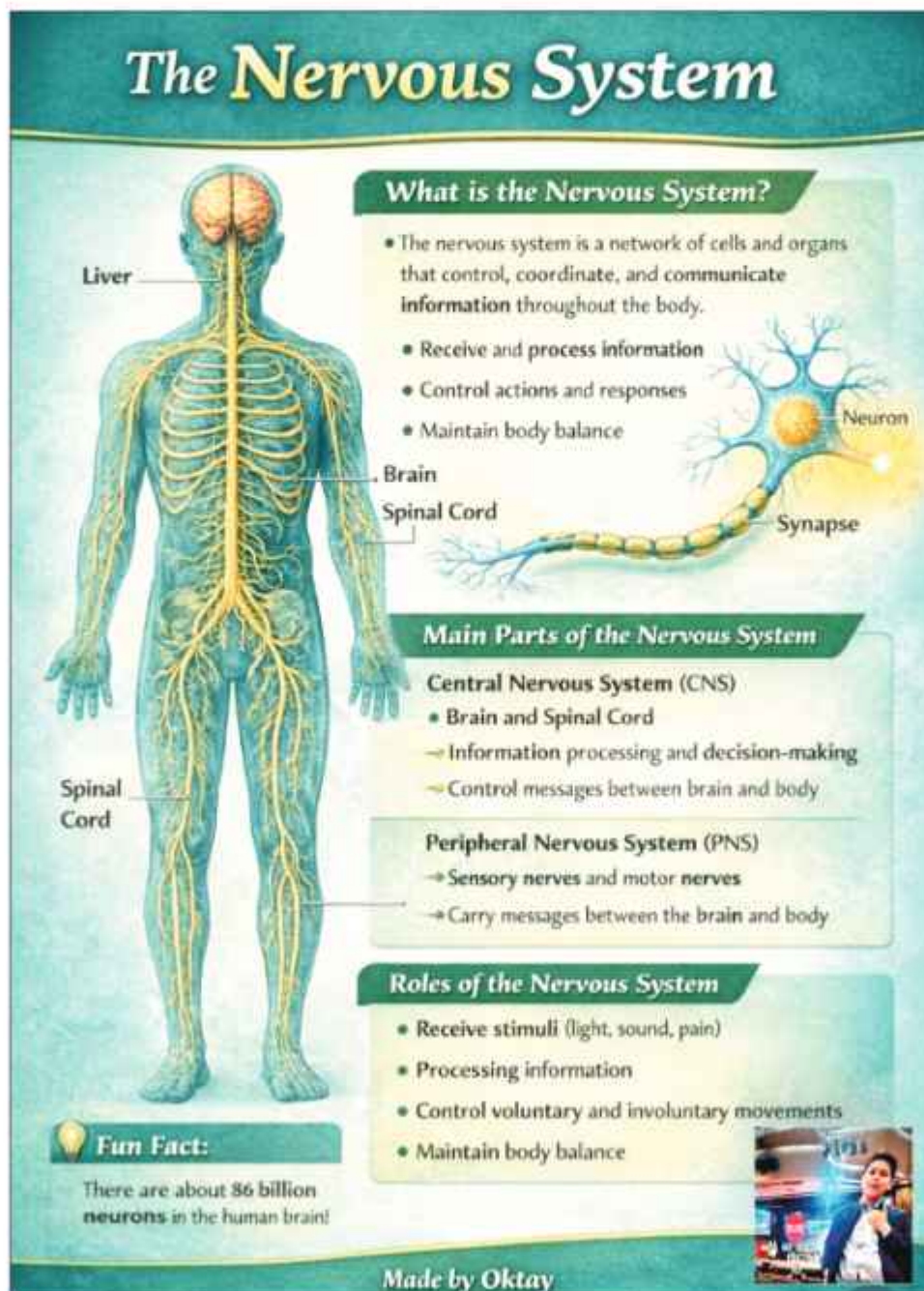
- **Frontal Lobe:** Responsible for voluntary movement, planning, problem-solving, emotions, personality, and speech production (Broca's area).

- **Parietal Lobe:** Processes sensory information such as touch, temperature, pain, and pressure, and supports spatial awareness.

- **Temporal Lobe:** Involved in hearing, language comprehension (Wernicke's area), and memory.

- **Occipital Lobe:** The primary center for visual processing, including color, shape, and motion.

The nervous system and brain work together to control every action in the human body, making them essential for survival and daily life.





INTRODUCTION AND BIOGRAPHY

BY ILIA MONEM – GRADE 7



This is Ilia who graduated in grade 6 in Tehran Adaptive and International primary School (TIS). I started learning programming in school, where my teachers recognized my talent in coding, so they encouraged me to participate in the KIDCODE National Programming Competition held by Sharif University.

I succeeded in that competition and has been chosen to enter in Lancer Sharif Academy as a student. Here I can mention some of my achievements and presents during my educational course.

1- Number One in Scratch at School Coemption.

2- Graduated in App Inventor Programming from Lancer Sharif Innovation Centre.

3- Gold Medal of Kid code 2025 National Competition in App Inventor Field.

4- Selected as a member of Lancer Sharif Team for the International Robotics Competition in Malaysia.

At moment I continue my education and studying Arduino-based robotics and I hope to be use full and effective



PROGRAMMING

What is the programming?

Programming is the process by which humans communicate with computers and instruct them to perform specific tasks. This communication is carried out using programming languages, which are generally divided into two categories: block-based and text-based.

In the early days of computing, programming was much more complex. Developers had to write instructions in machine language, using only 0s and 1s. This was a very slow and error-prone

process, as each instruction had to be precisely coded in binary. Over time, programming evolved with the creation of higher-level languages that are much easier to read and write. These languages allow developers to focus on logic and functionality instead of worrying about binary code.

Today, programming has become much more accessible thanks to these modern languages and tools.

Block-Based Programming

Block-based platforms like Scratch, Scratch Junior, and App Inventor allow users to build programs by dragging and connecting visual blocks. These platforms are especially helpful for beginners and young learners. Despite their simplicity, many developers have created creative and even advanced projects using them.

Text-Based Programming

Text-based programming involves writing code manually using languages such as Python, HTML, CSS, JavaScript, PHP, and many more. These languages are widely used in professional software development and offer powerful capabilities.

Within text-based programming, there are several key areas:

- **Front-End Development:** This focuses on the user interface—the parts of a website or app that users interact with. Technologies used include HTML, CSS, JavaScript, and libraries or frameworks like React, Vue, or Angular.
- **Back-End Development:** This handles the server, database, and logic behind the scenes. Common back-end tools and languages include Python (Django, Flask), Node.js, PHP, Ruby

on Rails, and databases like MySQL, MongoDB, or PostgreSQL.

- **Full-Stack Development:** A full-stack developer works on both the front-end and back-end, and is capable of building a complete application from start to finish.



Artificial Intelligence (AI)

Definition:

Artificial Intelligence (AI) refers to the ability of a machine or system to perform tasks that typically require human intelligence. These tasks include learning from data, understanding language, recognizing images or patterns, making decisions, and even generating creative content.

Key Applications of AI:

- **Natural Language Processing (NLP):** Used in virtual assistants and chatbots to understand and respond to human language.
- **Computer Vision:** Enables machines to identify and analyze visual content, such as in facial recognition or medical imaging.
- **Recommendation Systems:** Used by platforms like Netflix, YouTube, and Amazon to suggest content or products based on user behavior.
- **Autonomous Vehicles:** AI systems help cars detect obstacles, follow traffic rules, and make real-time decisions.



- Healthcare: AI assists in diagnosing diseases, analyzing scans, and suggesting treatments.

Benefits of AI:

- Increases efficiency and productivity
- Automates repetitive or dangerous tasks
- Reduces human error
- Enables real-time decision-making with large data sets
- Enhances user experience in digital systems

Concerns and Future Risks of AI:

While AI has brought significant advancements, it also raises important concerns—especially regarding human dependence.

As AI becomes more integrated into daily life, people are increasingly relying on it to do everything from writing essays and designing presentations to solving problems and making decisions. This over-reliance could lead to a future where:

- Individuals stop learning essential skills
- Critical thinking and creativity decline
- People struggle to perform tasks without AI assistance

If one day AI systems become unavailable—due to technical failure, policy restrictions, or ethical limitations—many may find themselves unable to operate independently. In such a scenario, society may face a serious productivity and educational crisis.

Difference Between AI and Programming

Distinguishing between artificial intelligence (AI) and traditional programming is essential to understanding their respective roles in software development.

At its core, programming entails explicitly instructing a computer to perform specific tasks through detailed, deterministic commands. Programmers write code that defines exact sequences of operations, control flow, data manipulation, and interactions with hardware and software components. This approach ensures predictable and reproducible behavior, as the computer executes the given instructions precisely as written.

In contrast, artificial intelligence fundamentally differs in methodology and purpose. Rather than being programmed with explicit instructions for every possible scenario, AI systems—particularly those based on machine learning—are designed to infer patterns and make decisions from large datasets. Instead of direct commands, AI is provided with training data and algorithms that enable it to learn, adapt, and generate outputs that mimic aspects of human cognition, such as reasoning, problem-solving, and natural language understanding. This enables AI to handle complex, ambiguous, or variable situations where predefined rules may be insufficient or impractical.

However, despite these advanced capabilities, AI cannot supplant traditional programming. The development of reliable, secure, and efficient software demands a comprehensive skill set that extends beyond code generation. It requires rigorous problem analysis, architectural design, integration of diverse systems and libraries, debugging, testing, and ongoing maintenance. These activities necessitate a deep understanding of both the technical environment and the end-user requirements, alongside creative and critical thinking.



Teacher & Staff Research



Leveraging AI in General English and Writing Classes: Practical Applications and Benefits

▲ **HAMID REZA KHODAYARI**
MIDDLE SCHOOL VICE-PRINCIPAL

▲ Introduction

As Artificial Intelligence (AI) becomes increasingly integrated into education, its potential to transform general English and writing classes is undeniable. From enhancing writing skills to fostering critical thinking and personalizing learning, AI offers tools that can support both students and teachers. By strategically incorporating AI, educators can create dynamic, engaging, and effective learning environments that cater to diverse student needs while maintaining the human connection essential to language arts. This article explores practical ways to use AI in English and writing classes, focusing on tool selection, classroom integration, and ethical considerations.

■ Enhancing Writing Skills with AI Tools

One of the most immediate applications of AI in English and writing classes is supporting students in developing their writing skills. AI-powered writing assistants, such as Grammarly, Quillbot, or ProWritingAid, provide real-time feedback on grammar, syntax, style, and clarity. These tools can:

- Identify and explain grammatical errors, helping students understand their mistakes.
- Suggest improvements for sentence structure and word choice to enhance readability.
- Offer tone and style adjustments to teach students how to adapt their writing for different audiences.

For example, teachers can assign a persuasive essay and encourage students



to use an AI tool to refine their drafts before submission. By reviewing the AI's suggestions, students learn to self-edit, fostering independence and a deeper understanding of writing conventions. Teachers can also use these tools to streamline their feedback process, focusing on higher-level aspects like argumentation and creativity while AI handles basic mechanics.

■ Personalizing Learning Through Adaptive Platforms

AI-driven adaptive learning platforms, such as Duolingo for language practice or tools like NoRedInk, can personalize English instruction. These platforms analyze student performance and tailor exercises to address individual strengths and weaknesses. In a writing class, for instance:

- Students struggling with verb tenses can receive targeted exercises generated by AI.
- Advanced learners can be challenged

with complex writing prompts or vocabulary-building tasks.

- AI can track progress over time, providing teachers with data to inform instruction.

In practice, teachers can integrate these platforms into daily lessons or homework assignments. For example, assigning 15 minutes of NoRedInk practice during class allows students to work at their own pace while the teacher circulates to provide one-on-one support. This blended approach ensures personalized learning without overwhelming educators.

■ Fostering Critical Thinking with AI-Powered Analysis

AI can also enhance critical thinking in English classes by analyzing texts and facilitating discussions. Tools like Turnitin's Revision Assistant or AI-driven text analysis platforms can evaluate student writing for coherence, evidence use, and argument strength. Beyond this, AI can support literary analysis.

For instance, a teacher might upload a short story to an AI platform that highlights metaphors and similes, then ask students to debate their impact on the narrative. This not only deepens textual understanding but also teaches students to engage critically with AI outputs, questioning potential biases or limitations in the analysis.

■ Supporting Creative Writing with AI Prompts

Creative writing is another area where AI shines. Tools like Sudowrite or Jasper AI can generate writing prompts, story starters, or even full paragraphs to inspire students.

In a classroom activity, students might use an AI tool to generate a story opening, then continue the narrative themselves. Teachers can guide students to refine AI-generated content, teaching them to blend their creativity with technology. This approach encourages experimentation while reinforcing the importance of human voice in writing.

■ Ethical Considerations and Digital Literacy

While AI offers significant benefits, its

integration must be paired with lessons on ethical use and digital literacy. Teachers should guide students to:

- Understand AI limitations, such as potential biases in language models or over-reliance on automated feedback.
- Use AI as a tool for learning, not a shortcut for completing assignments.
- Cite AI assistance appropriately, fostering academic integrity.

■ Practical Implementation and Teacher Support

To successfully integrate AI, schools must provide robust support for teachers. This includes:

- Professional Development: Regular training on AI tools, focusing on practical classroom applications.
- Technical Infrastructure: Reliable internet, devices, and IT support to ensure seamless tool use.
- Collaboration Opportunities: Peer-sharing sessions where teachers exchange successful AI strategies.

■ Measuring Success and Continuous Improvement

To ensure AI enhances learning outcomes, teachers should monitor its impact through:

- Pre- and post-assessments to measure improvements in writing or comprehension.
- Student and teacher feedback on tool usability and engagement.
- Adjustments to AI use based on classroom data, discontinuing ineffective tools and scaling successful ones.

▲ Conclusion

AI has the potential to revolutionize general English and writing classes by offering personalized feedback, fostering critical thinking, and inspiring creativity. By carefully selecting tools, integrating them into lessons, and teaching ethical use, educators can create a dynamic learning environment that complements traditional instruction. The key is to view AI as a partner in education—one that enhances, rather than replaces, the human connection at the heart of language arts.



Ataraxia or affluence

▲ ABBAS SHEIKH HASSAN

The perennial philosophical contest between material acquisition and inner equanimity presents a profound dialectic concerning human fulfilment. Contentment, a state of psychic sufficiency and imperturbable serenity, contrasts starkly with wealth, the aggregation of fungible resources commanding external power. Determining superiority necessitates examining their respective capacities for engendering eudaimonia—flourishing beyond transient pleasure.

Contentment constitutes an autonomous, internally-sourced condition. It manifests as an epistemic recalibration, appreciating extant possessions and circumstances irrespective of comparative material lack. This mindset fosters profound psychological resilience, insulating individuals from the vicissitudes of fortune. The contented person, possessing Stoic apatheia, remains unperturbed by market fluctuations or social stratification, their self-worth decoupled from perishable externals. Such imperturbability facilitates richer interpersonal connections, unimpeded by instrumental calculations or status anxiety. Furthermore, this equipoise cultivates sustainable existence, divorcing well-being from ecologically deleterious consumption patterns.

Conversely, wealth operates within a transactional, instrumental paradigm. Its utility derives from facilitating choices, securing commodities, and amplifying societal influence. Financial reserves afford educational opportunities, healthcare quality, and geographic mobility—undeniable constituents of a comfortable vita. However, wealth's benefits demonstrate asymptotic diminishment: beyond fulfilling fundamental necessities, additional accumulation yields progressively negligible enhancements to well-being. Its pursuit often engenders chronic apprehension



regarding asset preservation, competitive positioning, and potential loss. This Sisyphean endeavor can corrode authentic relationships, replacing them with mercenary associations, while fostering an insatiable appetite for further accretion.

Ultimately, contentment's primacy emerges from its ontological independence. Wealth remains perpetually vulnerable to exogenous forces—economic volatility, political upheaval, or personal misfortune. Its value is contingent and context-dependent. Contentment, however, once cultivated through cognitive discipline and perspectival alignment, becomes an inalienable possession. It provides an unassailable foundation for enduring tranquillity, impervious to external deprivation.

Thus, while wealth offers commendable instrumental advantages for mitigating physical duress, it constitutes a means, not a telos. Contentment, representing the actualization of an inner citadel, constitutes the ultimate end itself—the very essence of human flourishing. The former provides temporary alleviation from life's inconveniences; the latter grants permanent liberation from psychic enslavement to desire. Consequently, philosophical precedence must be accorded to the self-sufficient fortress of a contented mind over the precarious, gilded cage of limitless affluence.

Can humanity eliminate dependence on plastic?

▲ ABBAS SHEIKH HASSAN

Notwithstanding pervasive ecological apprehensions, nations persist in their utilization of synthetic polymers due to an intricate confluence of geopolitical, economic, and material imperatives. The proposition of wholesale renunciation remains a political and practical impossibility, ensnared within a web of path dependency and entrenched industrial infrastructure. This recalcitrance stems not from mere obstinacy, but from a sober calculus weighing immense contemporary benefits against diffuse, future environmental liabilities.

Foremost among these justifications is economic indispensability. Plastics constitute the lifeblood of modern manufacturing, logistics, and consumption. Their unparalleled cost-effectiveness, malleability, and durability render them irreplaceable across sectors—from automotive and aerospace engineering to healthcare and food preservation. Agrarian economies rely extensively on polymer-based irrigation systems and greenhouse films to bolster yields, while medical practice hinges upon single-use, sterile devices for preventing nosocomial infections. The global supply chain, a monument to efficiency, would collapse absent lightweight, protective packaging, precipitating monumental food spoilage and resource waste. A transition toward alternative substances would necessitate capital investments of staggering proportions, potentially destabilizing fragile markets and imposing untenable consumer price inflation.

Concomitantly, the geopolitical dimension exerts profound influence. Resource-rich states possessing hydrocarbon reserves view plastic production as a strategic economic pillar, integral to national revenue and employment. For developing countries, inexpensive polymers facilitate rapid, albeit often unsustainable,

urbanization and consumer goods accessibility. Moreover, any multilateral agreement mandating reduction would encounter fierce sovereignty disputes, with nations resisting external mandates perceived as impinging upon their developmental trajectory or industrial policy. The global community lacks a coherent, enforceable framework capable of reconciling these divergent national interests with planetary ecological limits.

Material science further complicates this quandary. Presently, no substitute material offers a comparable combination of performance, versatility, and economic viability. Biodegradable alternatives frequently demonstrate inferior barrier properties, mechanical strength, or thermal stability, failing to meet rigorous technical specifications for numerous applications. Recycling technologies, while advancing, confront thermodynamic constraints and contamination issues, rendering them a partial solution at best. Thus, polymer science itself has yet to produce a viable successor, locking society into its current dependency.

Ultimately, the continued dominion of plastics represents a collective action problem of epic scale. The immediate, tangible advantages for individual actors—be they corporations, consumers, or sovereign states—dwarf the abstract, long-term perils of ecosystem degradation and biogeochemical cycle disruption. Until technological innovation yields superior alternatives and robust international governance mechanisms emerge to redistribute associated costs, this pervasive material will remain deeply embedded within our civilizational fabric, its abandonment a prospect both pragmatically unfeasible and politically untenable.



The Role of Learning Analytics (LA) Enhanced by Machine Learning (ML)



▲ **ALIREZA KARAMI MOHAMMAD ABADI**
2025 - AI RESARCH MAG

Introduction

The world is currently witnessing profound transformations in information technology, with a significant portion of these advancements impacting the field of education. With the increasing proliferation of digital and electronic learning, a vast amount of data related to teaching and learning processes is being generated. This big data holds a treasure trove of raw, unprocessed information. Extracting and analyzing this data can lead to a deeper understanding

of learning patterns, student academic progress, and the effectiveness of teaching methodologies.

In this context, Learning Analytics (LA) emerges as an innovative approach focused on the collection, measurement, analysis, and reporting of this data. The ultimate goal is to optimize learning environments and pedagogical processes. This in-depth processing serves as a powerful tool for improving the quality of education and learning. It can help identify influential and beneficial

factors within the teaching and learning process, thereby enhancing student performance.

The true impact of LA as a key factor in systematically improving educational processes becomes evident when it is integrated with advanced Machine Learning (ML) tools. As a branch of artificial intelligence, machine learning (ML) can process and classify vast amounts of raw data using sophisticated algorithms for learning. It allows it to make predictions and even automate analytical processes. AI-enhanced learning insights provide new levels of comprehensive and integrated data analysis that were previously unimaginable (Afify, 2019).

Therefore, this article emphasizes the importance of machine learning in learning analytics and aims to answer the central question:

How can the integration of machine learning with learning analytics contribute to improving the effectiveness of teaching and learning processes, personalizing education, and supporting educational decision-making?

Definition and Applications of Learning Analytics (LA)

Learning Analytics is a multidisciplinary field that seeks to understand and optimize the learning process through the analysis of data related to learner activities (Lang et al., 2017). The history of LA dates back to the mid-2000s when the emergence of Learning Management Systems (LMS) and e-learning platforms facilitated the collection of extensive data from user interactions.

The LA cycle primarily involves four key stages:

- **Data Collection:** Gathering data

from various sources such as LMS logs, grades, online activities, and forum interactions.

- **Data Analysis:** Employing statistical methods, data mining, and machine learning techniques.

- **Reporting and Visualization of Insights:** Presenting findings through tools like dashboards.

- **Intervention and Action:** Implementing measures to improve the learning or teaching process.

In this analysis, various tools are utilized, including statistical and data mining software, programming languages, and modeling tools such as Python, R, and MATLAB.

Introduction to Machine Learning (ML)

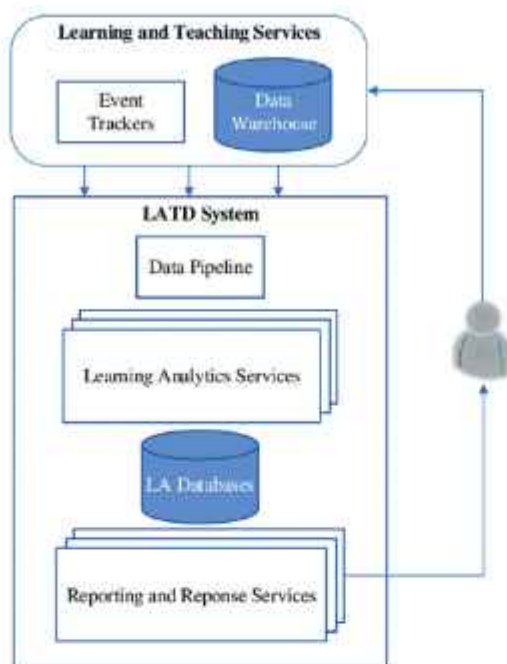
Machine Learning is a subset of artificial intelligence that enables systems to learn from data without explicit programming. ML encompasses three main types:

- **Supervised Learning:** In this approach, the model is trained on labeled data (e.g., predicting a score based on previous activities).

- **Unsupervised Learning:** In this approach, the model discovers hidden patterns in unlabeled data (e.g., clustering students based on similar behaviors).

- **Reinforcement Learning:** An agent learns by interacting with its environment to maximize knowledge or reward.

Fundamental machine learning (ML) concepts include training, validation, and testing of the model, as well as defining features and labels. Machine learning is highly suitable for educational data due to its ability to process large volumes of complex data and uncover patterns that might be imperceptible to humans.



Applications of Machine Learning in Learning Analytics

The transformative applications stemming from the combination of learning analytics and machine learning are becoming a fundamental need in modern education. These applications include:

- **Predicting Student Performance:** Machine learning (ML) algorithms can identify students at risk of academic failure or dropping out based on initial data, such as previous grades, Learning Management System (LMS) activity, and attendance. For instance, using Logistic Regression or Support Vector Machines (SVM) can predict a student's likelihood of success in a particular course (Santoso, 2020).
- **Personalized Learning Paths:** By analyzing each student's learning style, strengths, weaknesses, and preferences, ML-based recommender systems can suggest educational content, exercises, or activities tailored to their specific needs. Collaborative filtering and

content-based filtering are two common machine-learning techniques in this area.

- **Detecting Behavioral and Interaction Patterns:** Machine learning (ML) can identify complex patterns of student interaction in online learning environments, such as participation levels in discussions, frequency of content review, or time spent on a specific topic. Clustering students into groups with similar behaviors (e.g., active, passive, or struggling) is a prime example of this application.

- **Automated and Timely Feedback:** By utilizing Natural Language Processing (NLP) and Text Classification techniques, systems can be developed to grade written assignments or provide constructive feedback to students automatically. It can include recommendations for improvement based on performance.

- **Improving Instructional Design and Curricula:** Analyzing student performance data across different sections of a course can help identify weaknesses in content or teaching methods. This data-driven approach enables informed decisions to optimize content sequencing or revise educational materials.

Case Study: Predicting Academic Success and Identifying At-Risk Students

A concrete example of ML's application in LA is explored in the scientific research paper "Analysis of Educational Data of Students to Evaluate Academic Success Using a Data Mining Approach (Case Study: Faculty of Management and Industrial Engineering, Shahrood University)" (Hassani & Bazrafshan, 2018).



This research utilized an Extended Hierarchical Clustering technique to categorize students based on their characteristics before and after university admission, as well as their academic status. The objective was to identify behavioral and academic patterns that lead to student success or failure.

Consider a university aiming to identify engineering students in their first year who are at risk of probation or dropping out. This university can collect data such as:

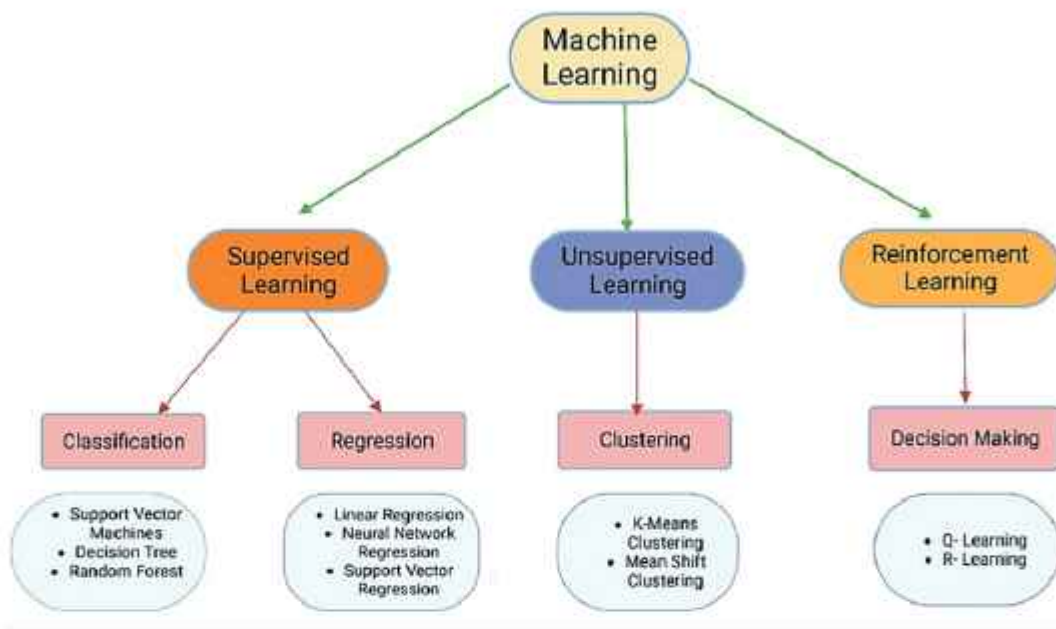
- High school grades and entrance exam scores (prior to university admission).
- Demographic information: age, gender, city of residence.
- First-semester university data: midterm grades, class attendance, level of activity in the LMS (e.g., number of logins, time spent on each course, participation in discussion forums), and frequency of accessing supplementary learning resources.

Using this data, a Classification model

based on ML (e.g., employing a Decision Tree algorithm or Neural Networks) can be trained. This model can accurately predict which students are likely to be placed on probation at the end of the first semester based on their initial behavioral and performance patterns. Upon identifying these students, early interventions, such as providing academic counseling, remedial classes, or guidance on utilizing additional resources, can be targeted to prevent academic decline or dropout. This preventive approach not only benefits the student but also contributes to increasing the university's success and retention rates.

Commonly Used Machine Learning Methodologies

Various data analysis methods are employed in analyzing teaching and learning data. Below, I will highlight some of the most significant data analysis techniques in this field:

**Supervised Learning:**

- **Classification:** Used to predict specific categories of data (e.g., successful/unsuccessful, active/passive). Algorithms like K-Nearest Neighbors (KNN), Naive Bayes, Decision Trees, Support Vector Machines (SVM), and Random Forests are applicable here.

- **Regression:** Used to predict a continuous value (e.g., final grade). Linear Regression and Logistic Regression are examples of these methods, which examine the relationship between a dependent variable (e.g., grade) and one or more independent variables (e.g., age, gender, attendance).

Unsupervised Learning:

- **Clustering:** Data is divided into several categories based on similarities between them. Algorithms such as K-Means, DBSCAN, and Hierarchical Clustering are useful in identifying student groups with similar behavioral patterns. This method helps in identifying different patterns within the data.

- **Dimensionality Reduction:** Used to

simplify data by reducing the number of features while preserving essential information. Principal Component Analysis (PCA) and t-SNE are commonly used techniques in this domain.

Natural Language Processing (NLP): Utilized for analyzing textual data like student comments, essay responses, or online forum content. Word Embeddings and Topic Modeling aid in extracting meaning and hidden patterns from texts. This method helps in identifying various patterns within textual data.

Network Analysis: Relationships between different variables in the data are modeled as a network. This method helps in identifying complex relationships between various variables.

Factor Analysis: Used to identify underlying factors and hidden patterns in data, which can help in identifying influential factors in learning.

Challenges and Considerations

Despite the immense potential of LA with ML, there are also significant

challenges:

1. **Privacy and Ethics:** The collection and analysis of sensitive student data raise serious concerns regarding privacy and ethics. Ensuring informed consent, data anonymization, and adherence to regulations such as the GDPR (General Data Protection Regulation) are crucial. The risk of discrimination or unfair stereotyping based on data analysis must also be managed.

2. **Data Quality and Volume:** Educational data is often incomplete, noisy, or collected from heterogeneous sources, making its analysis and interpretation challenging. Managing Big Data in education requires advanced infrastructure and tools.

3. **Model Interpretability:** Complex ML models, especially Deep Learning models, can act as "black boxes," making it difficult to understand the reasoning behind their predictions. For educators and administrators, understanding why a result occurred is as important as the result itself.

4. **Integration and Implementation:** Integrating LA and ML tools into existing educational infrastructures, such as Learning Management Systems (LMS), and ensuring data compatibility from various sources presents a technical and organizational challenge.

5. **Resistance to Change:** The adoption of new technologies by educators and administrators requires training, persuasion, and demonstrating the tangible benefits of these approaches.

Future Trends

The future of learning analytics with ML appears bright and full of innovation:

- **Deep Learning in LA:** The potential of deep neural networks to discover

more intricate patterns in educational data and provide more accurate predictions.

- **Multimodal Data Analytics:**

Combining and analyzing data from various sources (e.g., audio, video, text, sensors) to create a more comprehensive picture of the learning process.

- **Reinforcement Learning (RL) in Adaptive Environments:** Utilizing RL to develop intelligent educational systems that can automatically adjust content and challenges based on learner responses.

- **LA as a Service:** Providing cloud-based LA solutions that offer access to advanced analytical tools even for smaller educational institutions.

- **Impact of Generative AI on LA:** Generative AI can play a significant role in producing personalized educational content, creating simulated learning scenarios, and generating automated feedback of unprecedented quality.

Conclusion

Learning analytics, powered by machine learning, stands as one of the most significant convergent fields in information technology and education. It holds immense potential for fundamentally transforming learning and teaching processes. By collecting, analyzing, and extracting knowledge from educational data, this approach enables personalized learning experiences, facilitates early prediction and intervention for at-risk students, enhances instructional design, and evaluates the effectiveness of teaching methods. As the "SData website" points out, "By using various data analysis methods, we can identify different patterns in teaching and learning data



and achieve improvements in the educational process."

Despite challenges such as privacy concerns, data quality, and model interpretability, continuous advancements in machine learning (ML) and analytical tools promise a future where educational decisions will be increasingly evidence-based and data-driven. Given the growing volume of educational data and the need for continuous optimization of learning processes, investing in research and implementing learning analytics (LA) solutions with machine learning (ML) is not just an advantage but a necessity. This field enables us to develop the most effective strategies for teaching and learning, thereby continuously enhancing educational quality. Future research can focus on developing more interpretable models, scalable solutions for big data, and intelligent strategies for managing ethical and privacy challenges.

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A Study of the History of Mathematics and Its Role in Mathematics Education

▲ BY HAMIDREZA AMIRI



Introduction

What is the motivation for including biographies of great mathematicians like Mahboob, Tusi,

Khayyam, Kashani, and Behzad in a country's high school mathematics textbooks?

The Rio de Janeiro declaration on the sixth of May 1992 and the announcement of the year 2000 as the World Year of Mathematics by Professor Roque Loubière, President of the International Mathematical Union (IMU) at the Institute of Pure and Applied Mathematics in Brazil, may provide an answer to this question. In this declaration, in addition to announcing the World Year of Mathematics, it appears that the science of mathematics and the scholars of the past and present of this branch of human knowledge belong to all of humanity.

Mathematics as a foundational discipline has tremendous importance, and naturally its history and the account of human knowledge over the years is also important. The influence and civilization of successful generations is built upon the past, because the future is shaped by the past and carries the experience of the past with it.

Today's youth will be tomorrow's

mathematical scholars who, with their innovations, will make the tools for understanding and using this science understandable and available to most people in the world. The history of mathematics is important to us because through it we can understand the past of mathematical science and comprehend where and how it began, in which lands it developed, flourished or declined, when and by whom.

1. Self-Confidence of Students and Belief in the Impact of Iranian Mathematics

1-1. Jamshid Ghiyath al-Din Kashani in his book 'Miftah al-Hisab' (Key to Arithmetic) presented a general rule for extracting n th roots, which is the same as the 'Ruffini-Horner method' that was introduced in Europe in the 19th century.

1-2. Sharaf al-Din al-Tusi ibn Hasan ibn Husayn Samarqandi, an Iranian Muslim mathematician of the 13th century who remains relatively unknown in our country's history of mathematics, employed innovative and novel methods in his work titled 'Treatise on the Method of Equations.'

1-3. Khayyam's quadrilateral, in which the angles adjacent to the base are 90 degrees and the perpendicular sides are equal, became known as the



'Saccheri quadrilateral.' Khayyam used this quadrilateral to prove Euclid's parallel postulate at least 500 years before Saccheri.

Five centuries later, when the work of mathematicians on the parallel postulate reached European scholars through John Wallis and others, Saccheri, Lambert, and Lobachevsky

examined and followed the work of Muslim scholars using this same quadrilateral, preparing the groundwork for the birth of non-Euclidean geometries.

3 In fact, Muslim scholars such as Ibn al-Haytham, Thabit ibn Qurra, Khayyam, and Khawaja Nasir are considered pioneers in the discovery of non-Euclidean geometries.

1-4. The history of differential equations, in which 'infinitesimal quantities' play an important role, goes back to a time when mapping methods were needed for constructing waterways, dams, and land distribution.

2. Familiarity with Mathematics Teaching Methods

2-1. People like Khayyam would travel hundreds of kilometers, on foot or by horse, to obtain a book and use it, enduring great hardships.

2-2. Respect for knowledge, scholars, and teachers was another reason for the emergence of individuals like Ghiyath al-Din Kashani, Abu Rayhan Biruni, Khayyam, and Khwarizmi. Valuing knowledge and scholars and providing a suitable environment for the growth of intellectuals has been and continues to be an effective factor in producing individuals like Khayyam.

2-3. Perhaps one of the most obvious reasons for the current lack of mathematicians in Iran who have a global impact is the presence of these same Iranians abroad as citizens of countries like America, Canada, and Germany.

3. Connection Between Ancient and Modern Mathematics

3-1. It can be said that merely studying and observing the external appearance of

mathematical history is not what interests mathematicians. They usually take pride in the fact that mathematics is more precise and complete than any other science, and that ancient mathematics and past mathematical achievements have always been useful for modern mathematics.

3-2. Ghiyath al-Din Jamshid Kashani in his work on the circumference, although he does not explicitly mention the concept of limits, uses this concept with complete mastery in its precise form for calculating the number π .

4. Self-Confidence and Recognizing That Great Mathematicians Made Mistakes

4-1. Pierre de Fermat believed that numbers of the form $1 + 2^{(2^n)}$, where n is a power of 2, are all prime. However, Euler proved in 1732 that $1 + 2^{32}$ is not prime:
 $2^{32} + 1 = 4,294,967,297 =$
 $641 \times 6,700,417$

4-2. Mersenne claimed in 1644 that the number $M_p = 2^p - 1$ is prime for certain prime numbers.

However, this claim has errors, as M_{67} is composite while M_{61} , M_{89} , and M_{107} are prime.

4

5. Being Influential at Any Age

5-1. Ghiyath al-Din Jamshid Kashani died at the age of 42. Therefore, his valuable findings were made during his youth, and in fact, he was a young mathematician.

5-2. Ibrahim ibn Sinan, who was the grandson of Thabit ibn Qurra, lived in the third century AH, and Western historians have written about him.

6. The Unrealistic Nature of Mathematical History Written by Westerners It should be noted that most historians of science, even the most fair among them, have been unable to properly evaluate the status of Iranian mathematics in the overall history of mathematics. Most of them have reduced Iranian mathematicians to mere translators of Greek texts, claiming that these translations were eventually returned to their original owners, namely the Europeans.

Why do nations linger in a state of inaction?

▲ **ABBAS SHEIKH HASSAN**

The global community's adherence to a paradigm of praxis over pronouncement presents a paradoxical tableau of negligible and substantive triumphs. Evaluating this necessitates a bifurcated analysis, scrutinizing institutional frameworks alongside collective human endeavor. The verdict remains profoundly ambiguous.

Within the supranational apparatus, a chasm frequently separates ratified accords from tangible execution. Multilateral declarations on climatic catastrophe, for instance, often culminate in voluntary, unenforced pledges, thereby illustrating a deficit of consequential political volition. Similarly, proclamations endorsing universal human rights persistently confront sovereign intransigence, where rhetorical commitments evaporate against geopolitical exigencies and *realpolitik*. These domains exhibit a preponderance of declarative politics, an performative articulation devoid of material enforcement mechanisms. The architecture of global governance, consequently, appears mired in a cycle of ambitious articulation followed by operational impotence.

Conversely, transcendent anthropogenic enterprise offers a compelling counter-narrative. Technological and scientific advancement operates predominantly through iterative, tangible contribution. The decentralized, collaborative endeavor underlying open-source software development, or the international consortium facilitating particle physics research, exemplifies a culture where iterative building supersedes vacuous assertion. Here, progress is intrinsically linked to demonstrable artifact and functional innovation, not discursive flourish. This epistemic community thrives on implementable solutions, its currency being patentable invention and peer-validated



discovery, not mere *communiqué*.

Furthermore, civil society and philanthropic institutions frequently embody this ethos more faithfully than their governmental counterparts. Grassroots mobilization addressing local impoverishment or disease eradication prioritizes direct intervention—distributing therapeutics, constructing infrastructure, empowering microenterprises. Their operational model circumvents bloated diplomatic rhetoric, channeling resources toward measurable impact. These actors understand that alleviating suffering requires direct engagement with afflicted populations, not abstract symposiums producing further documentation.

Ultimately, planetary success regarding this axiom is not monolithic. A schism exists between the lethargic, often hypocritical, theater of statecraft and the vigorous, solution-oriented undertakings of scientific cadres and non-state actors. The former frequently engages in elaborate verbal spectacle; the latter manifests principled pragmatism. Humanity's capacity for genuine praxis flourishes where accountability is direct and objectives are concrete. The overarching landscape, therefore, is one of stark contrast: institutional failure juxtaposed with incremental, distributed victories achieved by those who build, heal, and discover quietly, their labor constituting the authentic embodiment of this cherished principle.



Why Teenagers Start Smoking — And How They Can Quit

▲ BY MAHSA BAREKAM – NURSE AT TIS



Many teenagers try smoking, even though they know it's bad for their health. There are many reasons why teens start, but there are also many ways they can stop. Understanding both

can help teens make better choices.

Why Teenagers Start Smoking

1. Pressure From Friends

A lot of teens smoke because their friends do it. They don't want to feel left out, so they join in even if they don't really want to.

2. Stress and Emotions

School, family problems, or personal issues can make teenagers feel stressed or sad. Some think smoking will help them relax, but it only gives short-term relief and leads to addiction.

3. Curiosity

Teens are naturally curious. They want to try new things, and sometimes smoking is one of them. They might think, "Just once won't hurt," but this can quickly turn into a habit.

4. Media Influence

Movies, online videos, and social media sometimes make smoking look cool or grown-up. This can make teens think it's something worth trying.

5. Vaping Confusion

Many teens believe vaping is safe. They don't realise that most vapes contain nicotine and can hurt their lungs. Vaping can also make it easier to start smoking cigarettes later.



Why Smoking Is Harmful for Teens

Even if the problems don't show right away, smoking can cause:

- Trouble breathing
- Tiredness and low energy
- Problems in sports
- Coughing
- Addiction that gets stronger over time

Smoking affects teens now, not just in the future.

How Teenagers Can Quit Smoking

1. Know What Triggers Them

Teens should notice when they feel the urge to smoke. Is it when they're stressed? Bored? With certain friends? Knowing the triggers helps them avoid smoking.

2. Find Healthy Replacements

Instead of smoking, teens can:

- Chew gum
- Drink water
- Take deep breaths
- Go for a quick walk
- Play a game or listen to music

These activities help distract from cravings.

3. Ask for Support

Quitting is easier with help. Teens can talk to:

- A trusted friend
- A parent
- A teacher or counsellor

Support makes them feel less alone.

4. Stay Away from Smoking Situations

Teens can avoid:

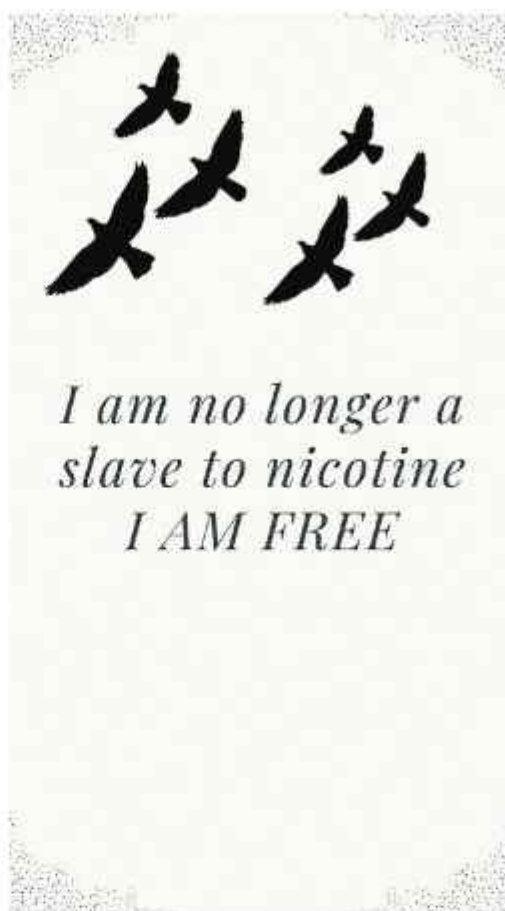
- Places where lots of people smoke
- Friends who pressure them
- Online content that encourages smoking

smoking

Changing their environment helps them stay strong.

5. Use Help from Professionals

There are apps, hotlines, and health professionals who can give advice on



quitting. Teens can get guidance without feeling judged.

6. Set Clear Goals

Writing down reasons to quit can help. For example:

- "I want to breathe better."
- "I want more energy."
- "I don't want to be addicted."

These goals can motivate them when cravings appear.

Conclusion

Teenagers start smoking for many reasons — stress, curiosity, or wanting to fit in. But smoking brings real health problems and can be hard to stop once it becomes a habit. The good news is that with support, healthy habits, and strong goals, any teen can quit smoking and choose a healthier future.



Slavish living

▲ ABBAS SHEIKH HASSAN

The global geopolitical landscape evinces a conspicuous pattern of deference to American prerogatives, even those adjudged imprudent by external observers. This acquiescence emanates not from collective approbation but from a multifaceted matrix of structural dependencies, coercive mechanisms, and institutional path dependencies. Nations navigate an international system profoundly conditioned by Washington's comprehensive primacy, wherein dissent precipitates formidable repercussions across strategic and economic domains.

Fundamental to this dynamic is America's unrivalled martial preponderance. The United States commands a unique capacity for global force projection, underpinned by sophisticated weapons platforms, forward-deployed assets, and an extensive constellation of security alliances. This martial supremacy facilitates potent compellence strategies. Defiance risks severe countermeasures, encompassing arms transfer restrictions, devastating financial sanctions, or potential armed intervention. Consequently, many polities calculate that conformity, however intellectually disagreeable,

constitutes the most judicious course for preserving national security and political autonomy.

Concurrently, profound economic interlinkages enforce compliance. The dollar's hegemony as the principal reserve currency and medium for international transactions provides Washington with formidable structural leverage. Control over dollar-clearing infrastructure permits the effective ostracization of recalcitrant states from global finance. Moreover, entry to America's immense domestic market remains indispensable for export-driven economies. This fiscal and commercial vulnerability ensures diplomatic opposition incurs immediate, material penalties, potentially jeopardizing hard-won developmental gains and internal stability.

Beyond overt coercion, deep institutional embeddedness perpetuates this alignment. Post-war architectures like the Bretton Woods institutions, while ostensibly multilateral, predominantly reflect Anglo-American economic orthodoxy. Their lending conditionalities and technical assistance programs frequently propagate policy paradigms favourable to Washington's strategic objectives. This institutional sedimentation transforms governance

frameworks into instruments for perpetuating influence, rendering opposition analogous to challenging the international order's foundational tenets.

Ultimately, this widespread adherence signifies a pragmatic, if disquieting, recognition of asymmetrical power distribution. While specific American directives may appear ill-considered or hazardous to external analysts, the colossal aggregation of martial, economic, and institutional

authority concentrated in Washington creates an environment where resistance seems counterproductive. For most sovereign entities, managing this pronounced disparity necessitates tactical accommodation, prioritizing existential security over ideological dissent from questionable policies. The contemporary international system thus functions less through consensual governance than through enforced congruence with a unipolar centre's strategic dispositions.



From Theory to Practice: Creative and Practical Approaches to Biology Education

▲ MAHYA PAKIZEHKAR

INTERNATIONAL (GIRLS) BIOLOGY TEACHER

Biology is a discipline fundamentally grounded in observation, experimentation, and inquiry. However, biology education in many classrooms continues to emphasize theoretical instruction and memorization, often at the expense of meaningful engagement with scientific practice. Such approaches risk distancing students from the investigative nature of biology. Effective biology teaching requires creative, practical methodologies that allow students to experience biology as a living and dynamic science.

As an international biology teacher, I have intentionally developed a teaching approach that prioritizes hands-on learning, creativity, and student-centered inquiry. In my biology classes at Tehran International School (TIS), learning is designed as an active process in which students are encouraged to explore, question, and experiment rather than passively absorb information. My teaching practice focuses on transforming the classroom into a space where curiosity is valued and scientific thinking is continuously developed.



Practical activities are not treated as occasional additions but as essential components of instruction. Through carefully designed laboratory sessions, guided investigations, and creative inquiry-based tasks, students actively engage with biological concepts. Emphasis is placed on

scientific ethics, laboratory safety, accurate data collection, and critical interpretation of results. My role as a teacher is not limited to delivering content but involves guiding students to think independently, evaluate evidence, and reflect on their learning process.

A particularly strong focus of my teaching is anatomy and human body systems, especially within IB DP-aligned biology courses. While textbooks and visual models provide useful theoretical frameworks, they cannot fully convey the complexity of real biological structures. For this reason, students regularly participate in supervised dissection sessions that allow direct interaction with anatomical specimens. These sessions are carefully planned to align with curricular goals while fostering

respect, responsibility, and ethical awareness.

Through dissection and hands-on anatomical study, students develop a deeper understanding of structure–function relationships and biological variation. These experiences support analytical discussion and critical comparison between theoretical representations and real biological systems. In the context of IBDP biology, where students are expected to apply knowledge rather than simply recall facts, such practical exposure is particularly valuable.

My creative teaching methods also aim to connect biology to real-world contexts, including human health, environmental issues, and ethical questions in science. By integrating

real examples, discussion-based activities, and reflective tasks into lessons, students are encouraged to see biology as relevant to their lives and future academic paths. This approach increases engagement and supports the development of scientifically literate learners.

Experience from my biology classrooms at Tehran International School demonstrates that a creative, practical-centered approach enhances student motivation, conceptual understanding, and scientific reasoning. By combining innovative teaching strategies with hands-on learning, biology education can move beyond memorization and better reflect the true nature of scientific inquiry.



Students participating in supervised anatomy and human systems dissection sessions as part of creative, hands-on biology instruction.



The Role of Adaptive Schools in Reducing Academic Decline of Returning Students in Iran: Insights from 17 Years of Experience

▲ AUTHOR: ROBABEH KARAMI MOHAMAD ABADI

Keywords: Iranian adaptive education system, Center for International Affairs, adaptive school, academic decline, returning students

Introduction

Like many countries, Iran faces unique educational challenges with students returning from abroad after studying in different educational systems. These students often experience academic decline or difficulties integrating into the Iranian educational framework, leading to decreased performance and, in some cases, increased dropout rates. Adaptive schools (مدرسه تطبیقی) were established as a specialized solution to ease this transition, offering tailored environments designed to bridge the gap between foreign educational experiences and Iran's national curriculum.

With more than 17 years of direct experience in adaptive education in Iran, I have observed the transformative role these schools play in reducing academic decline among returning students. This article draws upon practical experiences and relevant research to examine how



adaptive schools contribute to improved academic outcomes and smoother educational integration.

Background and Literature Review

The Iranian educational system is highly centralized and nationalized, often differing significantly from foreign

curricula. Returning students encounter challenges such as language barriers, unfamiliar teaching methods, cultural adjustment, and subject matter gaps. According to Ghanizadeh and Moafian (2012), these factors collectively contribute to academic decline, which, if left unaddressed, may lead to dropout or failure.

Adaptive education seeks to meet the needs of diverse learners by modifying content, instructional methods, and support systems. Internationally, adaptive schooling models have proven effective in supporting immigrant and returning students (Suárez-Orozco et al., 2010). In Iran, the Center for International Affairs (مركز امور بین الملل) oversees adaptive schools that align foreign-educated students with national standards while addressing their unique needs (Hosseini & Shariatmadari, 2018).

Adaptive Schools as a Solution

Adaptive schools are specialized institutions where curricula are modified to balance the Iranian national framework with students' prior learning. Key components include:

- **Curriculum Adaptation:**

Combining core subjects with targeted supplementary modules to address knowledge gaps. For example, students may take additional courses in Persian language and Iranian history alongside regular classes.

- **Language Support:** Persian as a second language programs help improve comprehension and communication, which are critical for academic success (Khodabandeh, 2016).

- **Cultural and Emotional Support:** Counseling services assist students in coping with culture shock and social integration, fostering a supportive

environment.

In one adaptive school in Tehran, individualized learning plans (ILPs) were implemented to assess students' prior knowledge and tailor instruction accordingly. This approach reduced academic stress and improved test scores within a semester.

Impact on Academic Performance and Dropout Rates

Empirical data from adaptive schools under the supervision of the Center for International Affairs demonstrates a notable reduction in dropout rates among returning students compared to those placed directly into mainstream schools. For example, in one Tehran-based adaptive school, dropout rates decreased from 25% to 10% over five years, accompanied by improvements in academic performance.

Effective strategies that contributed to these results included:

- Regular formative assessments to track student progress
- Small class sizes allowing for individualized attention
- Active family engagement programs that educate parents on the Iranian education system and ways to support their children

One case involved a student returning from Germany who struggled with Persian literacy. Through targeted language instruction and counseling, the student advanced from failing grades to above-average performance within a single year.

Challenges and Limitations

Despite these successes, adaptive schools face persistent challenges, including limited resources, insufficiently trained teachers specialized in



adaptive education, and administrative constraints within the national system. For instance, teacher training programs rarely provide comprehensive coverage of adaptive education strategies, which reduces instructional effectiveness.

Recommendations and Future Directions

To enhance the effectiveness of adaptive schools, the following recommendations are proposed:

- **Policy Support:** The Ministry of Education and the Center for International Affairs should prioritize funding and policy frameworks that strengthen adaptive education.
- **Teacher Training:** Specialized training modules for educators working in adaptive schools are essential.
- **Parental Involvement:** Family engagement programs should be expanded and reinforced.
- **Technology Integration:** Blended learning models can provide flexible and individualized opportunities, particularly for students with diverse academic backgrounds.

Conclusion

Adaptive schools play a pivotal role in addressing the academic decline frequently observed among returning students in Iran. Through specialized

curricula, language and cultural support, and tailored instructional strategies, these schools promote successful academic reintegration. Seventeen years of experience in adaptive education confirm the transformative potential of these schools in creating equitable educational opportunities. Sustained research, policy development, and adequate resource allocation are vital to expanding and improving this important educational model.

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The Museum Therapy and Its Role in Teaching Iranian Studies at Tehran International and Adaptive School

▲ BY ZAHRA SHIRAN (INSTRUCTOR AND HEAD OF IRANIAN STUDIES CENTER)



Introduction

In recent decades, the concept of the Museum-Based Approach or Museum Therapy has emerged as an innovative framework in education, art, and mental health, attracting the attention of researchers and educators worldwide. Museums are no longer merely places for preserving cultural artifacts; rather, they serve as educational and inspirational spaces



Naderi Museum, Mashhad

that promote psychological well-being, reduce stress, improve mood, and foster a sense of social belonging (Clift & Camic, 2016). The museum-based approach or Museum Therapy, grounded in environmental psychology, art-based learning, and experiential education, explores the influence of cultural spaces on cognitive, emotional, and social development (Camic & Chatterjee, 2013).

In today's world, psychological stress,



social isolation, and mental fatigue have become major public health challenges. Cultural spaces such as museums, by providing multi-sensory and reflective experiences, can serve as restorative environments for the mind and spirit. Based on the Attention Restoration Theory, cultural environments like museums help restore mental capacity by providing calm and focus (Kaplan & Kaplan, 1989). In art-based learning, interacting with artworks helps express unconscious emotions and fosters self-awareness. According to the Meaning-Making Theory, engaging with art encourages reflection on values, beliefs, and personal identity (Frankl, 1963).

The Impact of Museum Therapy on Adolescents

Museum Therapy plays a vital role in shaping adolescents' mental health, personal growth, and social development. Museum visits offer hands-on, experiential learning opportunities, allowing students to engage with historical, artistic, and scientific concepts in tangible and collaborative ways.

Key benefits of the museum-based approach for adolescents include:

- **Identity Formation and Self-awareness:** Museum visits foster a sense of identity and deepen understanding of personal and cultural heritage.
- **Stress and Anxiety Reduction:** Research shows that spending time in calm, educational museum environments reduces stress, confusion, and tension (Morse et al., 2020).
- **Social Development:** Interacting with peers and museum guides improves communication, respect for diversity, and teamwork.
- **Increased Motivation for Learning:** Face-to-face engagement with authentic artifacts makes learning more dynamic,

engaging, and meaningful.

Museum Therapy in International Schools

In international school settings, Museum Therapy serves as an effective tool for cultivating global citizenship. By visiting local and international museums, students gain exposure to diverse cultures, arts, and sciences, fostering empathy, open-mindedness, and appreciation for cultural differences. Interactive workshops, storytelling sessions, theater, and collaborative museum projects enhance educational experiences while promoting emotional and psychological well-being (Thomson et al., 2018).

Successful models exist in countries such as the United Kingdom, Canada, and France, where museums integrate cultural education and public health through collaborative, experiential learning initiatives.

The Experience of The Tehran Adaptive and International School

Inspired by the educational and therapeutic potential of museums, the Center for Iranian Studies at Tehran Adaptive and International School, in collaboration with the School's Research and Innovation Center, has developed a comprehensive Iranian Studies curriculum for grades seven through twelve. This program integrates Museum Therapy, cultural education, and experiential learning, enabling students not only to acquire academic knowledge but also to engage in reflective, calming, and identity-building experiences.

This curriculum honors the memory of all Iranian martyrs, whose enduring sacrifice continues to shape national identity and culture. Honoring their legacy is both a cultural and moral commitment embedded within this

educational initiative. The program remains open to feedback from teachers, students, and researchers to enhance its effectiveness and educational impact.



In alignment with its mission of continuous improvement, the program welcomes constructive feedback and suggestions from teachers, researchers, and students to further enrich the content and strengthen its educational impact.

Curriculum Overview (Grades 7–12)

Grade 7, the curriculum centers on the return of a dual-national Iranian student to Iran, through which students are introduced to the city of Tehran and its major museums. Each lesson is designed to connect with the city's cultural heritage, allowing students to explore identity, belonging, and national pride through real-world experiences.

Grade 8, students share their personal experiences from cultural journeys across different provinces of Iran. Through classroom storytelling and project-based learning, they present the history, art, and museums of various regions, encouraging intercultural understanding and appreciation of Iran's diversity.

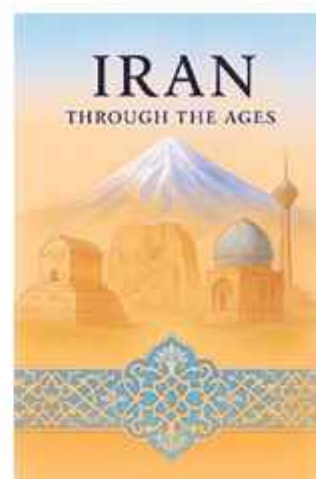
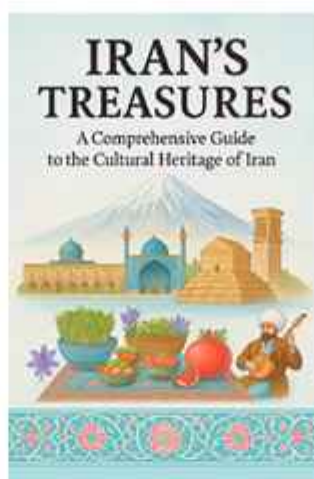
Grades 9 and 10, students embark on an academic and reflective exploration of *114 museums, treasures, and heritage sites registered with UNESCO and Iran's National Heritage Organization. This stage aims to deepen their understanding of Iran's cultural and civilizational legacy and foster a sense of responsibility toward heritage preservation.

Grade 11, the focus shifts to the history of Iran from the Iranian Plateau through the Sassanian Empire, offering students a comprehensive understanding of ancient Iranian civilizations, dynasties, and their cultural achievements.

Grade 12, students study Iran's post-Islamic history, engaging with the country's evolution in art, science,



governance, and philosophy after the advent of Islam. This final stage emphasizes continuity, transformation, and Iran's enduring contribution to global civilization.



Conclusion

Museum Therapy creates a vital bridge between culture, art, education, and emotional well-being, offering rich opportunities for holistic learning and identity formation. By transforming museums into active, therapeutic learning environments, students engage directly with tangible artifacts of history and culture while developing reflection, critical thinking, curiosity, and self-awareness. This approach nurtures cultural pride and belonging while supporting academic motivation and emotional balance.

Integrating Museum Therapy into international and mainstream school curricula provides a model of education that is culturally rooted, globally informed, and psychologically enriching. The implementation of Iranian Studies at Tehran International and Adaptive School demonstrates how heritage education, combined with experiential and museum-centered methods, can cultivate cultural identity, strengthen community connections, and inspire future generations to become thoughtful, creative, and empathetic global citizens.

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Psychology



Establishing a Counseling and Psychology Association for Middle and High School Students

▲ BY MASOUD SADEGHI

Introduction

In today's fast-paced and pressure-filled academic environment, high school students face a range of challenges—from academic stress and social anxiety to identity exploration and future planning. To support their holistic development, we propose the creation of a Counseling and Psychology Association within the school.

Objectives

- Provide accessible mental health support and education.
- Foster emotional resilience, self-awareness, and interpersonal skills.
- Create a safe space for students to discuss personal challenges.
- Offer career guidance and life planning resources.
- Promote mental health awareness and reduce stigma.

Benefits

Academic Improvement

- Students with access to counseling



show better focus, attendance, and performance.

- Emotional support helps reduce test anxiety and procrastination.

Emotional and Social Growth

- Students learn coping strategies, conflict resolution, and emotional regulation.
- Peer support groups and workshops build empathy and community.

Career and Future Readiness

- Guidance counselors and psychologists help students explore career paths and college options.
- Workshops on goal-setting, time management, and decision-making prepare students for life beyond school.

**School-Wide Impact**

- A healthier student body leads to a more positive school climate.
- Reduced disciplinary issues and improved peer relationships.

Evidence of Effectiveness

- The ETHOS study (UK) found that school counseling led to significant improvements in students' emotional well-being, behavior, and academic engagement.
- According to the American School

Counselor Association, schools with robust counseling programs see higher graduation rates and lower dropout rates.

Conclusion

Creating a Counseling and Psychology Association is not just a support system—it's a proactive investment in students' futures. By nurturing their minds and emotions, we empower them to thrive academically, socially, and personally.





The Power of School Trips for Middle and High School Students

▲ BY MASOUD SADEGHI

Introduction

Imagine stepping into a museum where ancient civilizations come alive, or walking through a science lab where innovation sparks curiosity. These aren't just fun outings—they're transformative experiences. School trips are more than a break from routine; they're essential tools for growth, learning, and connection.

Academic Enrichment

School trips bridge the gap between theory and reality. When students visit historical landmarks, science centers, or cultural institutions, they gain firsthand knowledge that textbooks alone can't provide. This kind of experiential learning deepens understanding and makes education exciting and memorable.

Social Development

Traveling with classmates fosters teamwork, communication, and empathy. Students learn to navigate group dynamics, share responsibilities, and support one another. These experiences help build stronger friendships and teach valuable life skills like cooperation and respect.

Emotional Growth

Being away from home—even for a day—can be a powerful confidence booster. Students learn to manage their belongings, make decisions, and adapt to new environments. These challenges help develop independence and resilience, preparing them for future responsibilities.

Broadening Horizons

School trips expose students to new cultures, ideas, and possibilities. Whether it's a visit to a local government office or a faraway nature reserve, these experiences expand their worldview and can even inspire future career paths or passions.

Conclusion

School trips are not just educational—they're transformational. They ignite curiosity, strengthen relationships, and build character. If we want to nurture well-rounded, engaged, and inspired students, we must continue to support and prioritize these invaluable experiences.





18 Schemas That Change the Way You See the World

▲ BY MASOUD SADEGHI

These beliefs could be affecting your life without you even realizing it.

Key points

- There are 18 different schemas that, if developed in childhood, may have an unpleasant effect on how one views the world.
- A person may not even realize they have schemas—in fact, the ideology may feel entirely ordinary.
- Once a person becomes aware of their schemas, they can decide how they wish to respond to and combat them.

Have you ever heard of a schema before?

A schema is an enduring negative pattern that develops during childhood or adolescence, which persists and expands throughout our lives.

We experience the world through the lens of our schemas. Typically, you accept these beliefs without question and might not even be aware that they exist. They are self-perpetuating and are very resistant to change, but with appropriate treatment, you can change them.

For instance, children who develop a schema that they aren't good enough rarely challenge this belief, even as adults. They can be the best-selling author of a renowned book series and still go home feeling as though they're inadequate.

Schemas attempt to mold your experiences and encourage you to live in a way that keeps them around.

Schemas are formed when our needs are not met during childhood. The schema, acting as its self-serving self, often prevents these needs from being satisfied in adulthood.

Relationships are a good example of how these schemas can persist. If we don't have secure attachments with our childhood caregivers, often we will find that these patterns are replicated in our adult relationships. Schema therapy was first introduced in 1990 and defines 18 schemas. Make note of the schemas that appear familiar, either for you or for someone you know.

Awareness is a skill!

1. Emotional Deprivation

This schema refers to the belief that your primary emotional needs will never be met. These needs can be placed in three categories: nurturance, empathy, and protection. Nurturance relates to needs for closeness, affection, or love. Empathy is our need to feel understood. Our need for direction, guidance, or advice is protection. This schema often arises in adults who had more distant parents who didn't adequately attend to the emotional needs of their child.

2. Abandonment/Instability

If you have fears of abandonment, this is one of your predominant schemas. Typically, people with this schema believe that they will soon lose anyone they form an emotional attachment with. There are many ways this schema could develop in childhood. Was there a disruption in your home life that was particularly damaging for you (e.g. the death of a caregiver)? Did you have parents who were inconsistent in attending to your needs?

3. Mistrust/Abuse

This schema refers to the expectation that others will intentionally take advantage of you in some way. People with this schema expect others to hurt, cheat, demean, or abuse them, and may often think in terms of attacking first or getting revenge afterward.

4. Social Isolation/Alienation

This schema refers to the belief that one is secluded from the world and/or not part of any community. This belief is often caused by experiences in which children see that they are different from other people.

5. Defectiveness/Shame

This schema refers to the belief that you are deeply flawed, and that, if others get close, they will realize this and leave you. This feeling of being flawed and inadequate often leads to a strong sense of shame. Individuals who develop this schema grew up in homes in which one or both parents were very critical and perhaps made them feel as though they were unworthy of love.

6. Failure

This schema refers to the belief that you are incapable of excelling or even performing as well as your peers in your personal life, career, school, or sports. Did you grow up in a family where anything less than an "A" was a failure? If you persistently had experiences like this as a child, you

may have developed this schema.

7. Dependence/ Incompetence

This schema refers to the belief that you're not capable of handling daily responsibilities adequately and independently. Generally, children with this schema were not encouraged by their parents to act independently and develop confidence in their ability to take care of themselves.

8. Vulnerability to Harm and Illness

Do you always feel like your own personal doomsday clock is ticking away? This schema refers to the belief that your next major catastrophe is looming, whether it be medical, financial, mental, etc. Having this schema may lead to taking extreme precautions to protect oneself. In many cases, we may have grown up with a fearful parent who communicated to us that the world is a dangerous place.

9. Enmeshment/Undeveloped Self

People who struggle with enmeshment often have little-to-no boundaries and are too emotionally involved in their relationships. It may also include lacking your own sense of self or no inner direction or compass. This schema is often brought on by parents who are controlling, abusive, or overprotective to the point that the child is discouraged from developing their own sense of self.

10. Entitlement/Grandiosity

This schema is the belief that you're superior to others. Some may have an exaggerated focus on details that they believe display this superiority (e.g. being amongst the most wealthy or successful). Individuals with this schema are engaging in these behaviors to achieve power and control, and not primarily seeking approval or attention.

11. Insufficient Self-Control or Self-Discipline

This schema refers to the inability to



tolerate any irritation in reaching your goals, as well as an inability to avoid making your impulses or feelings known. In its milder form, you may have an exaggerated emphasis on avoiding pain, conflict, confrontation, or responsibility. When lack of self-control is extreme, criminal or addictive behavior may be apparent.

12. Subjugation

This is the excessive surrendering of control to others because you feel coerced. This behavior is usually done to avoid things like conflict, anger, or abandonment. People with this schema typically think that their experiences, opinions, feelings, and desires are not as important as those around them. Many times, subjugation can lead to a build-up of anger over time which may display itself in unhealthy symptoms such as passive-aggressive behavior or anger outbursts.

13. Self-Sacrifice

This schema refers to the excessive sacrifice of your own needs in order to help others. Common reasons are to prevent causing pain to others and to avoid guilt from feeling selfish. This sometimes leads to the realization that your own needs are not being adequately met, and you may develop resentment towards those for whom you are making sacrifices.

14. Emotional Inhibition

This schema involves the belief that you must suppress spontaneous action, feeling or communication. This is usually to avoid disapproval by others, feelings of shame, or losing control of your impulses. Additionally, you may have difficulty expressing vulnerability or freely communicating your needs or feelings and may disregard emotional experiences for an excessive emphasis on being rational.

15. Approval Seeking/Recognition Seeking

This schema refers to placing emphasis on gaining the approval and recognition of

others at the expense of your own genuine needs and sense of self. It can also include placing excessive importance on status and appearance as a means of gaining recognition and acceptance.

16. Negativity/Pessimism

This schema refers to a prevalent, lifelong focus on the negative aspects of life while minimizing, ignoring, or discounting the positive aspects. People with this schema have trouble enjoying things because they are always concerned with elements of displeasure or potential future problems that could possibly arise.

17. Unrelenting Standards/Hypercriticalness

This schema refers to a belief that you have to meet extremely high standards of performance or behavior. The person with this belief pattern is usually doing this to avoid criticism. The unrelenting standards typically present as perfectionism, rigidity, and living by a lot of abnormal "shoulds" in several areas of their life (e.g. we "should" always be productive). This schema often leads to significant damage in a person's ability to experience pleasure and relaxation, and can negatively impact health, self-confidence, and relationship satisfaction.

18. Punitiveness

This is the belief that people should be harshly punished for making mistakes. People with this schema tend to be critical and unforgiving. This often presents itself as people who are angry, intolerant, disciplinary, and impatient with people (including themselves) who do not meet their standards.

These early maladaptive schemas can be developed in all types of families, from the abusive to the well-meaning. Now that you have an idea of what these schemas are and how you might be responding to them, you have the chance to choose a different pathway.



legal right & Education Regulations



An Overview of Students' Rights, Duties, and Legal Responsibility in Iran

▲ Dr. Seyfollah Karimzadeh - Educational Counselor

Familiarity with laws and awareness of one's rights and duties are among the factors that create psychological security for individuals and society. Law-abiding people usually enjoy a reasonable level of mental and emotional balance. At the same time, providing counseling services in schools requires not only an accurate understanding of students' psychological and emotional conditions but also familiarity with their individual and social rights and responsibilities. This awareness is not limited to counselors alone; students themselves must also recognize their rights and obligations, as such knowledge helps maintain their mental and emotional well-being. For this reason, this brief text addresses some of the rights and duties related specifically to students and their age within Iran's legal and educational system. According to Articles 78 and 79 of the Executive Regulations of Schools approved on August 10, 2021, by the Supreme Council of Education, when guidance, counseling, and corrective efforts within the framework of encouragement, motivation, and discipline are ineffective, and while observing proportionality to the type of misconduct, disciplinary measures may be taken, including private verbal



warnings, summoning the student's parent or guardian for consultation, issuing written warnings, changing the student's class where multiple classes exist at the same grade level, temporary suspension from school for up to three days, or transfer to another school. The implementation of verbal and written warnings is carried out by the teacher or school principal, class changes and temporary suspension require the approval of the School Council, and student transfer must be approved by the School Council and supervised by the local Department of Education. If transfer is not possible due to the lack of an appropriate school or field of study, the regional education authority makes a decision based

on the best interests of the student. Based on the latest revision of the school regulations, attending classes as an unofficial listener is prohibited, determining whether a student's absence is excused or unexcused for less than one month is the responsibility of the school principal and for more than one month rests with the School Council, records of student misconduct and disciplinary actions are erased at the end of each academic year, detention of a student by judicial authorities is considered an academic interruption, wearing a standard school uniform is mandatory, installing CCTV cameras in classrooms and school facilities for supervision and protection is permitted, and schools are allowed to have only one bank account, except for educational complexes that follow specific financial regulations. In terms of civil liability, according to Article 1238 of the Iranian Civil Code and Article 7 of the Civil Liability Act, if a guardian fails to properly supervise a minor and the child

causes damage to others, the guardian is responsible for compensation; similarly, in the common law system, including England, a guardian is held liable if negligence in supervision is established. Therefore, if a student causes damage to individuals or school property, civil liability rests with the student's guardian. Regarding criminal responsibility, according to Articles 88 to 91 of the Islamic Penal Code, children under the age of nine bear no criminal responsibility and only their parent or guardian may face financial penalties, while minors aged nine to twelve, twelve to fifteen, and fifteen to eighteen are subject to graduated responsibility; financial compensation is borne by the guardian, and in cases involving serious offenses or bodily harm, minors may be detained and subjected to corrective and rehabilitative measures in juvenile facilities, with stricter decisions applied to those aged fifteen to eighteen if it is proven that they were aware of the consequences of their actions.



Counseling with a Focus on Students' Rights and Responsibilities

▲ By Dr. Seyfollah Karimzadeh - Educational Counselor

Providing counseling services in schools requires, on the one hand, a clear understanding of students' psychological and emotional characteristics, and on the other hand, awareness of their individual and social rights and responsibilities. This awareness is not only the duty of the school counselor but also the responsibility of the students themselves. Students need to understand their rights and obligations so that this knowledge can help maintain their mental and emotional balance.

This brief article addresses the criminal, civil, and disciplinary responsibilities of students, who are generally under the age of 18.

With regard to criminal responsibility, according to Articles 88 to 91 of the Islamic Penal Code, individuals under the age of 18, including students, are subject to special rules. Children under the age of 9 bear no criminal responsibility, and only their parent or legal guardian may be subject to financial penalties. Other minors are divided into three age groups: 9 to 12, 12 to 15, and 15 to 18 years old. If a student commits a financial offense, compensation is the responsibility of the parent or guardian. If the offense involves bodily harm or

a serious crime, the student may be detained and subjected to corrective and rehabilitative measures in special juvenile facilities, depending on their age. In cases involving students aged 15 to 18, if the judge determines that the student was aware of the legal rules and the consequences of their actions, a more severe decision may be issued.

Regarding civil responsibility, minors are generally unable to manage their personal affairs independently due to their young age or physical or mental limitations and therefore require the support and supervision of others. The law protects minors by placing them under guardianship to safeguard their rights and interests and by assigning a guardian to manage their affairs. The civil liability of a guardian, whether arising from law or contract, is based on fault. If a guardian fails to properly supervise or care for a minor and the child causes damage to others, the guardian is held responsible. In Iran's legal system, according to Article 1238 of the Civil Code and Article 7 of the Civil Liability Act, the guardian must compensate for damages caused by the minor if negligence is proven. Similarly, in the common law system, including the legal system of England, a guardian is

civily liable if negligence in supervision is established. Therefore, if a student causes damage to other individuals or to school property, the civil responsibility rests with the student's guardian.

As for disciplinary responsibility, based on Articles 78 and 79 of the Executive Regulations of Schools approved by the Supreme Council of Education on August 10, 2021, when guidance, counseling, and corrective measures within the framework of encouragement, motivation, and discipline are ineffective, and while observing proportionality to the nature of the misconduct, the school may take disciplinary actions. These include a private verbal warning, summoning the parent or guardian for consultation, issuing a written warning with notification to the guardian, changing the student's class if multiple classes exist at the same grade level,

temporary suspension from school for up to three days with parental notification, or transferring the student to another school.

The implementation of verbal and written warnings may be carried out by the teacher or school principal, while class changes and temporary suspension require the approval of the School Council. In cases of transfer to another school, the decision must be approved by the School Council and referred to the local Department of Education. The counseling unit of the department is required to follow up within one week and supervise the transfer process after obtaining approval from the head of the department. If transfer is not possible due to the absence of a suitable school or field of study, the local education authority will make a decision based on the best interests of the student.



TIS — Where Cultures Meet





Educational Affairs Report



Tehran International Middle School 2024-25 Academic Year Report



▲ PREPARED BY: HAMID REZA KHODAYARI/ MIDDLE SCHOOL VICE-PRINCIPAL

■ Introduction

The 2024-25 academic year has been a period of consistent growth, structured learning, and collaborative efforts in our middle school. Our goal has remained clear: to ensure that each student receives a high-quality education supported by continuous guidance and active communication between teachers, students, and their families. Below is a summary of the key initiatives and activities undertaken during the academic year to support our students' academic and personal development.

■ Weekly Syllabus Distribution

To promote transparency and help both students and parents remain well-informed about academic expectations, we implemented a system of weekly syllabus distribution. Each week, students and their parents received an outline of topics to be covered in all subjects. This initiative not only helped students stay organized but also enabled parents to engage more meaningfully in their children's learning process. Feedback from parents indicated that this practice increased their ability to support their children's academic efforts at home.

■ Support for Underachieving Students

Understanding that students learn at different paces, we introduced extra classes specifically for underachieving students. These sessions focused on areas where students demonstrated difficulty, particularly in subjects such as Mathematics, General English, and Physics. Such instructions and targeted support helped these students improve their overall performance. Teachers worked closely with these students, using differentiated instruction methods to meet individual learning needs.

■ Parent Communication via LMS

Maintaining continuous communication with parents was a top priority throughout the academic year. Our school's Learning Management System (LMS) played a vital role in this process. Through the LMS, we regularly shared updates, academic progress, homework assignments, and notices. Parents had direct access to the information which fostered a stronger school-home connection and enabled timely interventions when academic or behavioral concerns arose.

■ Classroom Assessment and Observation

To uphold high educational standards, we conducted regular assessments and classroom observations. These observations ensured that instruction remained aligned with the curriculum, and teaching strategies were effective and engaging. Constructive feedback was shared with teachers, encouraging continuous professional development and adaptation to best practices.

■ Educational Counseling Services

We recognized the importance of addressing not only academic but also emotional and psychological needs. Our counseling services provided students with guidance related to academic planning, stress management, peer relationships, and personal development.

■ Teacher Collaboration Meetings

Throughout the year, regular discussion meetings with teachers were held to identify, address, and overcome educational challenges. These meetings served as platforms for teachers to share classroom experiences, suggest improvements, and collaboratively develop solutions.

■ Parent-Teacher Meetings

We facilitated formal Parent-Teacher Meetings. These sessions provided a structured opportunity for detailed discussions about student progress, behavior, and areas for improvement. Parents appreciated the chance to meet with subject teachers and gain a holistic view of their child's academic journey.

These meetings strengthened trust and cooperation between the school and families.



TIS – Where Cultures Meet





Activities report



IT DEPARTMENT ACTIVITIES REPORT

ALIREZA KARAMI MOHAMMAD ABADI



Step 1

700 Online Classes via Skyroom Platform

Our school has successfully conducted 700 online classes using the Skyroom platform. This advanced system provided interactive whiteboards, screen sharing, and session recording, significantly enhancing the learning experience. This achievement was made possible through the dedicated efforts of our teachers and active participation of students.



Step 2

Learning Management System

Our school has revolutionized the learning experience by implementing a Learning Management System (LMS). This digital platform seamlessly integrates all processes, including online attendance tracking, digital course materials, e-assignments, virtual exams, and performance analytics.

Students and teachers now access a unified portal for interactive learning—uploading resources, submitting assignments, and engaging in real-time collaboration. The LMS enhances transparency, reduces paper usage, and provides data-driven insights into student progress.

Smart learning today for a brighter tomorrow!

Step 3

IT Assistant Program

Our school's IT Assistant Program has been successfully executed with outstanding results. Thirty tech-savvy students were trained and actively supported the school's digital infrastructure throughout the academic year.

Step 4

Professional Workshops IT

- Advanced Content Production
- Artificial Intelligence Applications
- Python Programming
- Media Literacy
- Graphic Design

IT DEPARTMENT ACTIVITIES REPORT

ALIREZA KARAMI MOHAMMAD ABADI

Step 5

AI Workshop Session

Our introductory Artificial Intelligence workshop was successfully launched with enthusiastic student participation. Participants explored AI fundamentals and real-world applications through interactive discussions. The engaging Q&A session highlighted students' curiosity and marked a strong start to their AI learning journey.



Step 6

Introduction of "Merat" Self-Assessment Platform

We proudly launched the Merat Learning System - an innovative self-evaluation platform designed to:

- ✓ Continuously measure student mastery through AI-powered questioning
- ✓ Provide personalized learning pathways for each student
- ✓ Generate real-time progress analytics for teachers and learners





Arbor Day:

On the occasion of the tree planting movement for a green Iran, in the presence of a group of experts from Tehran's District 2 municipality and members of TIAS' cultural vice principal, 3 seedlings were planted by students around the grass field of TIAS.







Educational Diplomacy in TIAS:

Topic:

Educational Diplomacy in TIAS' Perspective

Event:

Japanese school officials (in Iran) visit TIAS

Objectives:

1. Updating international findings and experiences
2. Introducing and strengthening individual and interpersonal skills in schools of both countries
3. Creating appropriate conditions for the exchange of experience
4. Introducing the history and culture of Iran

Guests:

Mr. Takayuki Nishida,

principal of the Japanese school

Ms. Toyoko Morita,

education expert and researcher

First Secretary of the Embassy of Japan

Executive Secretary of the Embassy of Japan

Results:

1. Holding a joint workshop for teachers of both schools on the topic of knowledge enhancement
2. Holding joint scientific and research events







A friendly football match was held between teams: School Teachers and Staff & Selected Students







School's trip to shiraz

winter 2025:











The presence of TIAS' Environmental Group:

- Padra Sheikholslami
- Mohammad Hossein Karvan
- Arian Abedini

along with Mr. Jiba, TIAS' principal, at the National Environmental Conference.
March 4th, 2025





Biodiversity Park

Visit of students of the seventh, eighth and ninth grades to the Museum of Biodiversity, Pardisan Park, Tehran
2025 May 16, Friday



Holding a Teacher Appreciation Day on the Occasion of Teacher's Week





In Memoriam of Dr. Yahyazadeh

One year ago, our school community was united in profound grief upon receiving the somber news. We reflect today on the legacy of a remarkable educator who left an indelible mark on the International Department.

A Community Mourns: Remembering Dr. Yahyazadeh

A year has passed since TIS confronted a profound loss. It was announced that Mr. Dr. Yahyazadeh, the revered Persian language teacher for the international department, had passed away. The message shared with the community began with the solemn reminder, "To Allah we belong and to Him we shall return," setting a tone of faith and submission to the divine will amidst deep sorrow.

Dr. Yahyazadeh was remembered not just as an instructor, but as a triple pillar: a caring professor, a devoted teacher, and a kind father figure. His career was defined by a singular, unwavering devotion. As noted in the tribute, "He spent his entire teaching career loving his students," a simple yet powerful testament to his approach. His classroom was more than a place of language learning; it was an environment shaped by genuine care and paternal kindness.







Museum of Contemporary Arts

Museum of Contemporary Arts Camp Date: 2025 May 10 , Saturday

IB students

Number: 18







International Student Talk
Event 2025

www.isctalk.ir
@isc_talk

ISC Talk
FROM FRIENDS AROUND TO THE STAGE

ISC Talk