



The Future of Education & Learning : Issues,

Challenges & Opportunities



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Dr Sam Man Keong ...A Lifelong learner for more than 60 years ...A teacher/educator for more than 50 years





Outlines

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- 2. What is Learning?
- 3. What is Active Learning?
- 4. What is Self-Directed Learning?
- 5. What is Experiential Learning?
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- 7. What is Lifelong Learning? What is CPD?
- 8. Can Robots replace Human Teachers?









1. What is Education?

Education is the transmission of knowledge, skills, and character traits and manifests in various forms. Formal education occurs within a structured institutional framework, such as public schools, following a curriculum. Non-formal education also follows a structured approach but occurs outside the formal schooling system, while informal education entails unstructured learning through daily experiences. Formal and non-formal education are categorized into levels, including early childhood education, primary education, secondary education, and tertiary education. Other classifications focus on teaching methods, such as teacher-centered and student-centered education, and on subjects, such as science education, language education, and physical education. Additionally, the term "education" can denote the mental states and qualities of educated individuals and the academic field studying educational phenomena.

In prehistory, education primarily occurred informally through oral <u>communication</u> and <u>imitation</u>. With the emergence of ancient <u>civilizations</u>, the invention of <u>writing</u> led to an expansion of knowledge, prompting a transition from informal to formal education. Initially, formal education was largely accessible to elites and religious groups. The advent of the printing press in the 15th century facilitated widespread access to books, thus increasing general literacy. In the 18th and 19th centuries, public education gained significance, paving the way for the global movement to provide primary education to all, free of charge, and <u>compulsory</u> up to a certain age. Presently, over 90% of primary-school-age children worldwide attend primary school.

Schoolgirls sit in the girls' section of a school in Bamozai, near Gardez, Paktya Province, Afghanistan. The school has no building; classes are held outdoors in the shade of an orchard.



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Primary school classroom in Ethiopia



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USAID supports the South African Government's focus on improving the quality of education as outlined in the Department of Basic Education's Action Plan to 2014: Towards the Realization of Schooling 2025. Ongoing USAID projects focus on strengthening the effectiveness of teachers and school management. Photo Credit: USAID/R. Zurba

A high school senior (twelfth grade) classroom in the United States



Students in a laboratory at <u>Saint Petersburg</u> <u>State Polytechnical University</u>, Russia





Plato's Academy, depicted in a mosaic from Pompeii, is frequently regarded as the inaugural institution of higher education. Bologna University in Italy, established in 1088 CE, is the world's oldest university in continuous operation.



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2. What is Learning?

Learning is the process of acquiring new understanding, knowledge, behaviors, skills, values, attitud es, and preferences. The ability to learn is possessed by humans, non-human animals, and some machines; there is also evidence for some kind of learning in certain plants. Some learning is immediate, induced by a single event (e.g. being <u>burned</u> by a <u>hot stove</u>), but much skill and knowledge accumulate from repeated experiences. The changes induced by learning often last a lifetime, and it is hard to distinguish learned material that seems to be "lost" from that which cannot be retrieved.

Human learning starts at birth (it might even start before) and continues until death as a consequence of ongoing interactions between people and their environment. The nature and processes involved in learning are studied in many established fields (including educational psychology, neuropsychology, experimental psychology, cognitive sciences, and pedagogy), as well as emerging fields of knowledge (e.g. with a shared interest in the topic of learning from safety events such as incidents/accidents or in collaborative learning health systems). Research in such fields has led to the identification of various sorts of learning. For example, learning may occur as a result of habituation, or classical conditioning, operant conditioning or as a result of more complex activities such as <u>play</u>, seen only in relatively intelligent animals.

American students learning how to make and roll sushi



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Children learn to bike in the eighties in Czechoslovakia.





A depiction of the world's oldest continually operating university, the <u>University of</u> <u>Bologna</u>, Italy

Future school (1901 or 1910)



At School

Future Technology Schools (2025)



Future of Schools with smart technology



Futuristic High School



3. What is Active Learning?

Active learning is "a method of learning in which students are actively or experientially involved in the learning process and where there are different levels of active learning, depending on student involvement." Bonwell & Eison (1991) states that "students participate [in active learning] when they are doing something besides passively listening." According to Hanson and Moser (2003) using active teaching techniques in the classroom can create better academic outcomes for students. Scheyvens, Griffin, Jocoy, Liu, & Bradford (2008) further noted that "by utilizing learning strategies that can include smallgroup work, role-play and simulations, data collection and analysis, active learning is purported to increase student interest and motivation and to build students **'critical thinking, problem-solving and social skills**". In a report from the Association for the Study of Higher Education, authors discuss a variety of methodologies for promoting active learning. They cite literature that indicates students must do more than just listen in order to learn. They must read, write, discuss, and be engaged in <u>solving problems</u>. This process relates to the three learning domains referred to as knowledge, skills and attitudes (KSA). This taxonomy of learning behaviors can be thought of as "the goals of the learning" process." In particular, students must engage in such higher-order thinking tasks as analysis, synthesis, and evaluation.










LEARNING PYRAMID



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dreamstime.com

Problem-Based Learning



"True learning is **based** on discovery . . . rather than the transmission of knowledge."

John Dewey

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4. What is Self-Directed Learning? (SDL)

Source: What is Self-Directed Learning?

Benefits and Strategies

Self-directed learning (SDL) is a process in which students take the initiative to diagnose their learning needs, formulate learning goals, identify resources for learning, select and implement learning strategies, and evaluate learning outcomes. Autodidacticism or self-education is education without the guidance of masters or institutions. Generally, autodidacts are individuals who choose the subject they will study, their studying material, and the studying rhythm and time. SDL is a process towards Autodidacticism, aimed at helping students become more autonomous in their learning.



Benefits of Self-Directed Learning

There are various **advantages of self-directed learning** that empower students to control their educational journey. By actively engaging in this process, students can better tailor their academic experiences to suit their unique needs and interests.

Provide Flexibility

Self-directed learning is flexible, allowing learners to decide when and where they study. This method can be done in settings that suit their needs, from home to public spaces. Without being bound by traditional schedules, students often find this flexibility beneficial for achieving a balance with other commitments.

Improve Critical Thinking Skills

Learners in self-directed environments are required to gather and evaluate information independently. This necessity enhances their critical thinking capabilities, preparing them for real-world challenges. Key skills developed include: •Research: Locating and assessing relevant information. •Decision-Making: Choosing effective strategies based on gathered data. •Problem-Solving: Addressing challenges creatively and efficiently.

•Self-motivation: Maintaining a drive for personal growth.

Boost Motivation For Learning

Self-directed learning allows students to personalise their learning experience, increasing their engagement and motivation. Control over their studies helps learners enjoy the learning process and contribute positively to their educational experience.

Help Learners Identify Their Learning Style

Self-directed learning also enables individuals to discover their most effective learning style. Learners might engage through reading, visual aids, or interactive activities, creating a personalised and effective learning environment that caters to their preferences.

Encourage Lifelong Learning

By developing skills in **self-directed learning**, students are more likely to continue <u>learning independently</u> throughout life. This lifelong learning attitude benefits personal and professional growth as learners become motivated to pursue knowledge and skills on their initiative.



Step 1: Assess Learning Readiness

Assessing readiness involves evaluating one's ability to learn independently. This includes a self-assessment of their study habits, family environment, and available support systems. Indicators of readiness include autonomy, organisation, selfdiscipline, <u>effective communication</u>, and an openness to feedback.

Step 2: Establish Learning Objectives

Setting clear objectives can be formalised through learning contracts that outline:

- •Defined goals and structure for study
- •Timelines for activities
- •Resources needed for each goal
- •Evaluation criteria
- Regular feedback from an instructor

Step 3: Engage in the Learning Process

To succeed, students must understand their preferred learning methods and study approaches. They should consider questions like "What instructional methods suit me?" and reflect on past learning experiences to guide their approach:

Deep approach: Engage deeply with material by applying knowledge creatively and learning beyond mere requirements.
Surface approach: Focus on the minimum needed to complete tasks.

•Strategic approach: Aim for high grades by preparing for exams and focusing on relevant materials.

Step 4: Review Learning Outcomes

Regular self-reflection and instructor consultation help students evaluate progress and make necessary adjustments. Students should frequently seek feedback, reflect on achievements, and ask themselves questions such as:

•"How well do I understand the material?"

- •"Am I confident in explaining what I've learned?"
- •"Do I know when to seek guidance?"

How to Promote Self-Directed Learning in the Classroom

Besides knowing **self-directed learning meaning**, to effectively foster **self-directed learning** in educational settings, educators can implement several strategies:

1.Evaluate Student Readiness: Before introducing **self-directed learning**, assess whether students possess the organisational and self-discipline skills needed for this approach.

2.Establish Learning Goals: Setting clear goals provides a structure students can follow, making the self-learning process manageable.

3.Involve Students in the Process: Engage students by helping them explore how they learn best. Encouraging a deep, connected approach to learning promotes higher engagement.
4.Clarify Roles in Self-Directed Learning: Clearly define responsibilities between students and teachers. Students should monitor their learning while knowing when to seek guidance.
5.Measure the Learning Effectiveness: Regular evaluations allow students to reflect on and improve their learning processes, promoting accountability and growth.
6.Adjust and Adapt Approaches to Meet Student Needs: Adapt self-directed learning techniques according to individual student needs, blending traditional and self-directed methods as required.

5. What is **Experiential Learning?** (ExL)

Experiential learning (**ExL**) is the process of learning through experience, and is more narrowly defined as "learning through reflection on doing". Hands-on **learning** can be a form of experiential learning, but does not necessarily involve students reflecting on their product. Experiential learning is distinct from rote or didactic learning, in which the learner plays a comparatively passive role. It is related to, but not synonymous with, other forms of <u>active learning</u> such as action learning, adventure learning, free-choice learning, cooperative learning, service-learning, and situated learning.

The general concept of learning through experience is ancient. Around 350 BC, Aristotle wrote in the *Nicomachean Ethics* "for the things we have to learn before we can do them, we learn by doing them". But as an articulated educational approach, experiential learning is of much more recent origin. Beginning in the 1970s, David A. Kolb helped develop the modern theory of experiential learning, drawing heavily on the work of John Dewey, Kurt Lewin, and Jean Piaget.

Experiential learning has significant teaching advantages. <u>Peter</u> <u>Senge</u>, author of <u>The Fifth Discipline</u> (1990), states that teaching is of utmost importance to motivate people. Learning only has good effects when learners have the desire to absorb the knowledge. Therefore, experiential learning requires the showing of directions for learners.

Experiential learning entails a hands-on approach to learning that moves away from just the teacher at the front of the room imparting and transferring their knowledge to students. It makes learning an experience that moves beyond the classroom and strives to bring a more involved way of learning.





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David Allen Kolb (born December 12, 1939, in Moline, Illinois) is an American educational theorist whose interests and publications focus on experiential learning, the individual and social change, career development, and executive and professional education. He is the founder and chairman of Experience Based Learning Systems, LLC (EBLS),¹¹ and an Emeritus Professor of Organizational Behavior in the Weatherhead School of Management, Case Western Reserve University, Cleveland, Ohio. Kolb has collaborated with his daughter Alice on research related to experiential learning and has co-authored several works with him. [citation needed] Kolb earned his BA from Knox College in 1961 and his MA and Ph.D. from Harvard University in 1964 and 1967 respectively, in social psychology.

Kolb Model of Learning





Shimer College students learning to cook by cooking, 1942



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6. What is Competence-Based Learning? (CBL/CBE)

Competency-based learning or competencybased education is a framework for teaching and assessment of learning. It is also described as a type of education based on predetermined "competencies," which focuses on outcomes and real-world performance. Competency-based learning is sometimes presented as an alternative to traditional methods of assessment in education.

Origin of CBE

<u>Competency-based learning (CBE) originated</u> in the United States in the early 1970s. It shifted the focus from clock or credit hours to demonstrated student learning and structured education around discrete learning goals or <u>"competencies" rather than traditional</u> courses. The theoretical origins of CBE come from behaviorism and systems theory.

Concept

In a competency-based education framework, students demonstrate their learned knowledge and skills in order to achieve specific predetermined "competencies." The set of competencies for a specific <u>course</u> or at a specific educational institution is sometimes referred to as the <u>competency architecture</u>. Students are generally assessed in various competencies at various points during a course, and usually have the opportunity to attempt a given competency multiple times and receive continuous feedback from instructors.

Key concepts that make up the competency-based education framework include demonstrated <u>mastery</u> of a competency, meaningful types of assessment, individualized support for students, and the creation and application of knowledge.

Methodology

In a competency-based learning model, the instructor is required to identify specific learning outcomes in terms of behavior and performance, including the appropriate criterion level to be used in evaluating achievement. Experiential learning is also an underpinning concept; competency-based learning is learner-focused and often learner-directed.

The methodology of competency-based learning recognizes that learners tend to find some individual skills or competencies more difficult than others. For this reason, the learning process generally allows different students to move at varying paces within a course. Additionally, where many traditional learning methods use summative testing, competency-based learning focuses on student mastery of individual learning outcomes. Students and instructors can dynamically revise instruction strategies and based on student performance in specific competencies.

What it means to have mastered a competency depends on the subject matter and instructor criteria. In abstract learning, such as <u>algebra</u>, the learner may only have to demonstrate that they can identify an appropriate formula with some degree of reliability; in a subject matter that could affect safety, such as operating a vehicle, an instructor may require a more thorough demonstration of mastery.




Personalized Learning

The strength of competency-based training lies in the fact that it puts the ownership of learning into the students and lets them meet a certain bigpicture understanding. It allows students to progress at their speed. This approach acknowledges that students have different learning paces and styles. It ensures that learners truly understand and master each competency before moving on to the next, promoting deeper understanding and knowledge retention.

Flexible Scheduling

To students who have been a drop-out, but would still wish to move forward, but without a gap, CBE is a boon! With competency-based education, students do not have to waste time sitting in the classroom on things that they have already mastered. CBE lets them move on demonstrating their mastery level.

Accelerated Learning

Highly motivated and capable students can progress through CBE programs more rapidly than traditional ones. They can focus on competencies they haven't mastered yet, potentially shortening the time required to complete a degree or program.

Competency Mastery

In CBE, the emphasis is on mastering specific competencies or skills. This ensures that graduates are not just exposed to information but can demonstrate their

Real-world relevance

CBE programs are often designed in close collaboration with industry partners. This alignment with real-world needs ensures that graduates are well-prepared with practical skills and knowledge that are immediately applicable to their chosen careers.

Cost-Efficiency

CBE can be cost-effective for students. By allowing them to progress at their own pace and potentially finish courses more quickly, they can reduce tuition costs and accumulate less student loan debt. It's a financially responsible option for many learners.

Individualized Support

Amidst schools that fail to address students' critical learning gaps, knowledge, and skills, competency-based schools proactively challenge age-old practices and bring alternative systems in place to promote success for all. CBE portrays student learning in a transparent, authentic manner with enough room for personalized training. Teachers in CBE develop meaningful, engaging projects for students and work together giving feedback, revising their work to hit the mastery of standards. This personalized approach ensures that students receive the support they need to succeed.

Increased Engagement

CBE often incorporates interactive and engaging learning materials. These can include simulations, case studies, and hands-on experiences that capture students' interest and motivation, making the learning experience more enjoyable and effective.

Credentialing Flexibility & Improved Retention

In Competency-Based Education (CBE), students can earn micro-credentials and stackable certificates, recognizing specific skills as they progress, and enhancing adaptability to the job market. CBE's focus on competency mastery increases course completion rates and knowledge retention, promoting a deeper understanding of subjects.

A Novel Assessment and Grading Mechanism

In Competency-Based Education (CBE), <u>assessment</u> and grading depart from traditional methods. CBE prioritizes competency mastery over standardized exams, introducing innovative assessments like projects and simulations. This approach offers diverse ways to showcase skills and provides immediate feedback, fostering deep understanding. CBE's selfpaced model allows students to choose when to demonstrate competence, promoting personalized learning paths and ensuring graduates are truly competent in their fields.



- Variability in program quality: Competency-based education programs vary widely in quality.
- 2. Difficulty in identifying and quantifying skills: Some skills cannot be easily measured.
- Lack of flexibility for uncertain futures: It may not prepare learners for rapidly changing needs.
- Objectivist approach to learning: It focuses on immediate employer needs and may ignore social learning.
- 5. **Challenges for students**: Varying time spent on skills can make studying with peers difficult, and frustration may arise when mastering challenging skills.



Lifelong learning is the "ongoing, voluntary, and <u>self-motivated</u>"^[1] pursuit of <u>learning</u> for either personal or professional reasons.

Lifelong learning is important for an individual's competitiveness and employability, but also enhances <u>social inclusion</u>, <u>active citizenship</u>, and personal development.

Professions typically recognize the importance of developing practitioners becoming lifelong learners. Many licensed professions mandate that their members continue learning to maintain a license.

Lifelong learning institutes are educational organisations specifically for lifelong learning purposes. Informal lifelong learning communities also exist around the world.

What is **Continuing Professional Development?**

CPD stands for Continuing Professional Development and is the term used to describe the learning activities professionals engage in to develop and enhance their abilities. CPD is a holistic approach towards the enhancement of personal skills and proficiency throughout a professional's career.

Different methods of CPD learning













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TRAINING COURSES

A CPD training course is the most well-known method of completing Continuing Professional Development, and can vary in length from one day up to several days or over several weeks. Training courses will often be specific to one subject or offer skills in a particular area of industry.

CPD training courses can also sometimes encompass others forms of learning such as lectures, seminars and workshops, and can be delivered either in-person such as classroom style, or online, or even possibly a hybrid of both.



SEMINARS

A seminar is a type of short course and typically only a few hours long up to one day. CPD seminars provide an opportunity to focus on a particular subject matter in detail. They are usually conducted in a group setting with no more than 20 participants.

CPD seminars will typically include group work, activities and interactive discussion, in order to allow individuals to contribute which can lead to better retention of knowledge. Seminars can also be a chance for individuals to network with others from different areas of their own industry or other sectors.



WORKSHOPS

A workshop is an interactive educational group session typically involving between 1 to 3 days of learning. Workshops and seminars are similar, but there are a few key differences. CPD workshops are less theoretical and tend to offer a more handson, practical skills approach to learning which may include practical exercises, breakout sessions and role plays. Workshop groups are usually smaller than seminars.

As CPD workshops are primarily activity and exercise based, it gives the group a chance to apply theoretical knowledge in a practical context and offers a hands-on approach to enhancing skills and knowledge.



WEBINARS

Webinars are an online learning activity held virtually and attended by an online audience. Often, the main objective of a CPD webinar is to educate and inform professionals in a short and concise manner about new and relevant information. CPD webinars can provide opportunity to interact and participate, ask questions to the hosts, complete polls or surveys, and share documents between attendees.

CPD webinars are useful in that they do not require attendance at an in-person event and therefore provide opportunity for wider, often international, participation.





There are a number of different forms of learning that are considered CPD events. For instance, there could be a live speaker delivered in the format of a guest presentation or a panel discussion. CPD events includes conferences, usually held at venues, sometimes with a keynote session and offering breakout learning by topic. Seminars may also feature as part of wider CPD events.

Organisations can choose to host or sponsor a particular industry trade show which are usually held in large spaces, with hundreds of products and services being showcased, and in doing so may add an educational CPD learning opportunity within the trade show itself.



ONLINE COURSES

Online CPD courses are an increasingly popular method of learning, and can offer convenience and affordability, in that there is no need to attend an in-person event and course materials can be shared free online.

Online courses offer flexibility for individuals to participate at a suitable time and schedule around other work and family commitments. In many instances, online CPD courses can be spread over a period of time rather than requiring participation on a given day.



Continuing Professional Development (CPD)

30 hours

As a professionally active Member of the IET, you are required to undertake and record at least **30 hours** of CPD per calendar year (or at least 10 hours if partially active) under the IET's Rules of Conduct.

AMERICAN SOCIETY OF CIVIL ENGINEERS

The American Society of Civil Engineers (ASCE) is a <u>tax-exempt professional body</u> founded in 1852 to represent members of the <u>civil engineering</u> profession worldwide. Headquartered in <u>Reston</u>, <u>Virginia</u>, it is the oldest national <u>engineering</u> society in the United States.^[3] Its constitution was based on the older <u>Boston</u> <u>Society of Civil Engineers</u> from 1848.





Singapore Chapter





Professional Engineers Board – Singapore: CPD Requirement

The PE Act requires a registered professional engineer to comply with requirements relating to continuing professional development (CPD) as part of the criteria to renew his practising certificate. The objective of CPD for professional engineers is to reinforce the need for lifelong learning. It is also in line with the emerging global trend towards promoting and ensuring continuous learning by engineers and other professionals so as to maintain their competency.

A PE who wishes to renew his practicing certificate is required to obtain a minimum of 40 professional development units (PDUs) over a prescribed renewal qualifying period. The **40 PDUs** shall comprise a minimum of 15 PDUs (20 PDUs for PC 2015 and thereafter) in structured activities, and the remainder can be obtained from either structured or unstructured activities. A structured activity refers to a course or activity that is **qualified by PEB for PDUs** while an unstructured activity refers to an activity that involves self-directed learning, reading, discussion or participation.



Source: Can Robots Replace Human Teachers? | GoStudent | GoStudent



Will technology replace teachers?

Over the past few years, scientists and experts have invested heavily in technology and robots that can help in improving children's <u>educational experiences</u>. For example, robots have been used to aid students with personalised learning to <u>learn</u> <u>at their own pace</u>.

In China, hundreds of kindergarten classes are assisted by a small robot named <u>Keeko</u>. Keeko tutors the children individually by <u>telling them stories</u>, posing logical questions, and even reacting with facial expressions when the children learn the content. In Boston, teddy bear-sized robots are being used to <u>teach children English</u>.

Some specialised programs can even answer questions with more accuracy and efficiency than teachers do. In 2016, a <u>Georgia Tech Professor</u> used an artificial intelligence bot as an online teaching assistant. He only revealed the TA's true identity to the students at the end of term. The students were very impressed and claimed they couldn't distinguish the bot from a real human.

Situations like these suggest that robots might be more efficient than <u>human teachers</u>. They can tailor individual lessons for each student and are accessible to the largest of classes. With such rapid advancement, what are the chances of robots replacing teachers and teaching your children? Let's find out.

Robot teachers invade Chinese kindergartens



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Teachers vs. technology

There are many components that a human teacher brings to a classroom that a robot simply cannot. Here are two of the main reasons why robots will likely never replace teachers:

•Reading social cues 🕾

A teacher's job is not just limited to teaching. While robots may be more efficient in <u>helping children learn</u>, they are incapable of reading social cues that take place within the classroom.

One of a teacher's primary roles is identifying difficulties students may be facing during a class. Robots can detect technical problems and act accordingly; however, they lack the ability to detect issues like <u>speech</u> <u>difficulties</u> or recognise emotions.

Teachers are important because children need someone to pay attention to their social cues and interact with them accordingly. Supporting a student requires a lot of empathy and understanding of human emotions, and robots aren't exactly designed to do that. Your child needs humans to relate to, and teachers are essential to support them throughout this process.

•The ability to inspire 👰

Teachers have the unique ability to inspire children to learn. Humans are social animals and inherently prefer to learn from other humans. Robots might be efficient in teaching facts, logic, and theories; however, they cannot practice skills like sharing and teaching from life experiences. Such unique human qualities are vital for growth and learning, and there's no way robots can replace these elements.

So, don't fret! Your children's classrooms won't be resembling the scary sci-fi scenes depicted in futuristic, apocalyptic movies any time soon.

Teachers and technology

Robots and teachers don't necessarily have to be seen as one or the other. As mentioned above, **robots are often designed and used to assist teachers in the learning process**. This is another reason why robots won't replace teachers: they need to co-exist. 💝 Wondering how this is possible? Well, here are some pointers to help you understand:

1.Some tasks can be tedious and repetitive. A lot of a teacher's time is spent collecting homework, marking papers, and memorising content. These tasks can deter teachers from teaching effectively and efficiently. **Robots can take over menial classroom tasks and save the teacher's time and energy**.

2.Many students face difficulties in their education due to various physical and mental health conditions, such as <u>ADHD</u> or paralysis. With the help of AI and technologies like <u>Virtual Reality</u> and Individual Learning Tools, teachers can use robots to integrate such children into the classroom better. In addition, **teachers can use AI to recognise students' potential disabilities in their classes before they even start teaching.** This can help **identify weaker students and give them the attention they may require.**

Rather than being a threat to human teaching, the advancement in technology actually assists teachers in ensuring that their children get to **learn best** with the resources available to them. Education isn't equal for everyone, but robots can help teachers lessen the gap. So, instead of worrying about robots taking over, try imagining technology and human teachers working together to help your children and give them the best learning experience.












A good teacher can inspire hope, ignite the imagination, and instill a love of learning.

66 A good tead

A good teacher is like a candle—it consumes itself to light the way for others.

MUSTAFA KEMAL ATATÜRK



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Southern Living











Jeremy (2014)

Thank you for your attention

Any Question... Email: sammk1951@gmail.com













2023

Jeremy and Selina Sam (2023)















Sam & wife at Singapore's River (2023)



FDr. CEng Dr. Sam Man Keong, DFRICE, DFRIE, FRIEdr, FRIM, FRIMath, FRIStat, RIIVPF

FROM RI SINGAPORE FAMIL

December 9

Nday