Publishing day for the next issue is January 18th 2019

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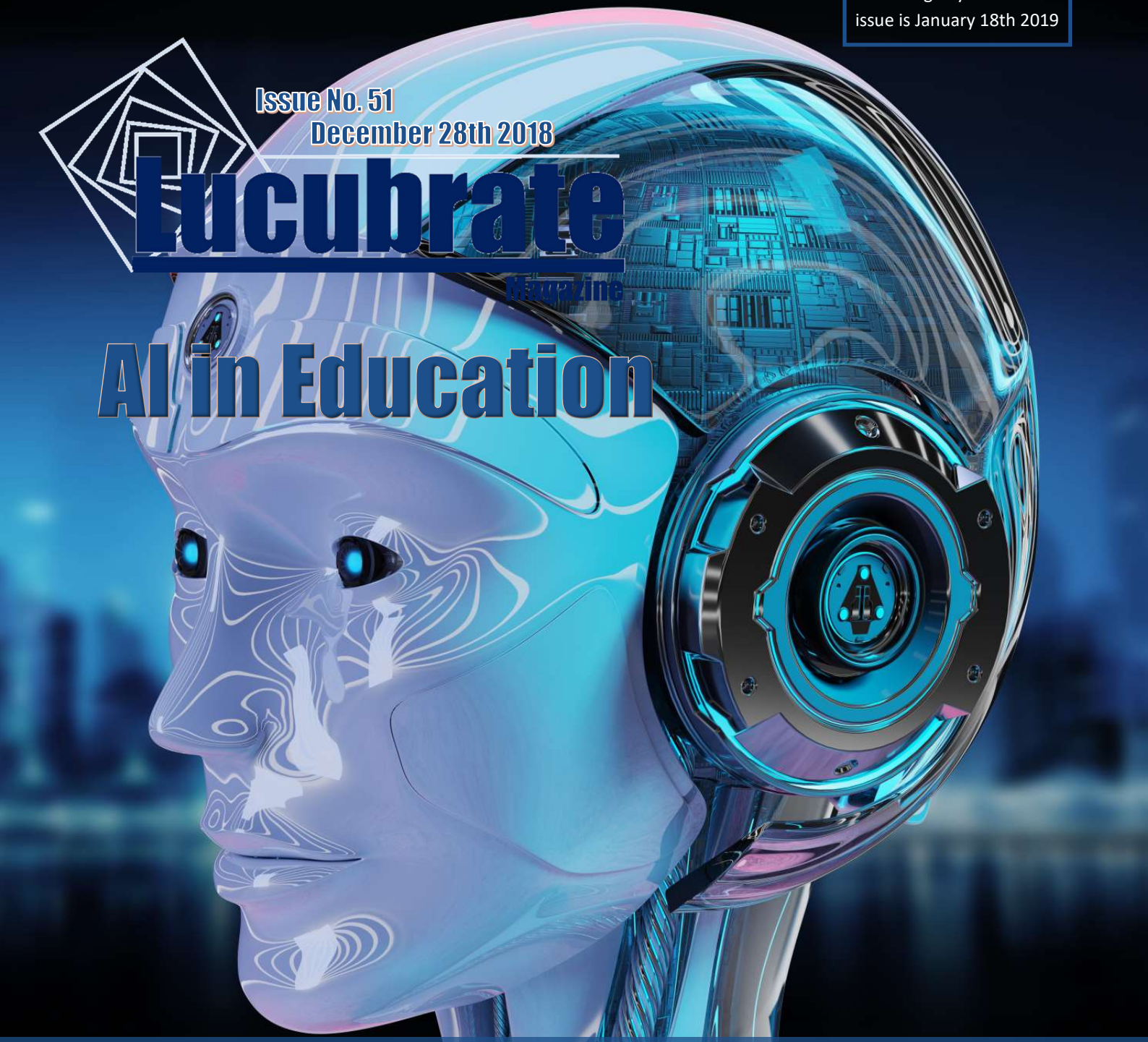
AI in Education



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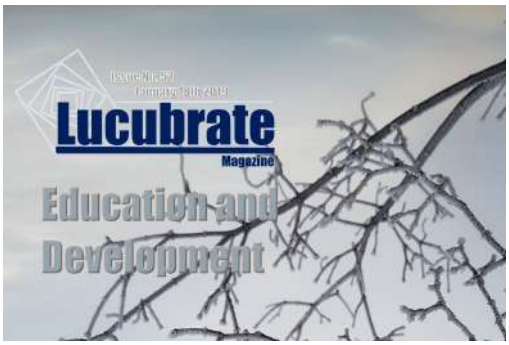

LUCUBRATE MAGAZINE

Thank you to all of the Lucubrate Magazine readers. We are sure you have got something by reading articles from the magazine.

Happy New Year

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LUCUBRATE MAGAZINE

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Publisher: Lucubrate
Street address: Eva Nansens vei 5, Fornebu, Oslo, Norway
Mail Address: PO Box 1048, 1307 Fornebu, Norway
Web: https://lucu.nkb.no/
Email: lucubrate@nkb.no

Editor: Mr. Karl Skaar, Norway
Design: Architect. Iman Ahmed, United Arab of Emirates
Marketing Manager: Ms. Sarah Andy, England
Assistant journalist: Mr. Igberadja Serumu Igberadson, Nigeria

In the Future, Artificial Intelligence Will be Available to Everyone

Substantial increases in the future use of AI applications, including more self-driving cars, healthcare diagnostics and targeted treatment, and physical assistance for elder care can be expected. While drawing on general research and technologies, AI systems are specialised to accomplish particular tasks. Each application requires years of focused research and careful, unique construction.

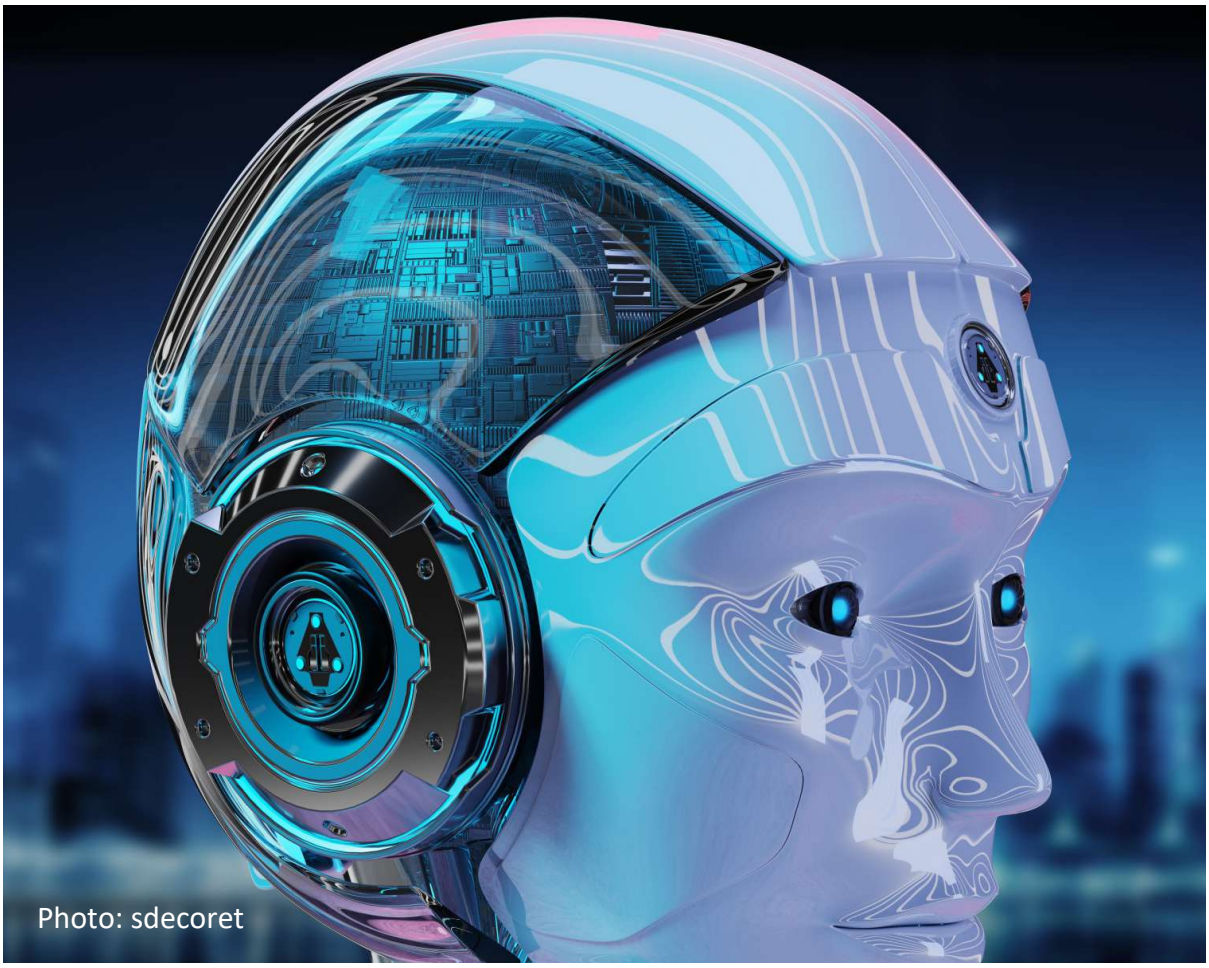

Photo: sdecoret

Artificial Intelligence (AI) is a science and a set of computational technologies that are inspired by—but typically operate quite differently from—the ways people use their nervous systems and bodies to sense, learn, reason, and take action. While the rate of progress in AI has been patchy and unpredictable, there have been significant advances since the field's inception sixty years ago. Once a mostly academic area of study, twenty-first century AI enables a constellation of

mainstream technologies that are having a substantial impact on everyday lives. Computer vision and AI planning, for example, drive the video games that are now a more significant entertainment industry than Hollywood. Deep learning, a form of machine learning based on layered representations of variables referred to as neural networks, has made speech-understanding practical on our phones and in our kitchens, and its algorithms can be applied widely to an array of applications that rely on pattern recognition. Natural Language Processing (NLP) and knowledge representation and reasoning have enabled a machine to beat the Jeopardy champion and are bringing new power to Web searches.

Photo: *Photo*: *ipopba*

While impressive, these technologies are highly tailored to particular tasks. Each application typically requires years of specialised research and careful, unique construction. In similarly targeted applications, substantial increases in the future use of AI technologies, including more self-driving cars, healthcare diagnostics and targeted treatments, and physical assistance for elder care can be expected. AI and robotics will also be applied across the globe in industries struggling to attract younger workers, such as agriculture, food processing, fulfilment centres,

and factories. They will facilitate delivery of online purchases through flying drones, self-driving trucks, or robots that can get up the stairs to the front door.

Photo: vectorfusionart

Contrary to the more fantastic predictions for AI in the popular press, the Study Panel found no cause for concern that AI is an imminent threat to humankind. No machines with self-sustaining long-term goals and intent have been developed, nor are they likely to be developed in the near future. Instead, increasingly useful applications of AI, with potentially profound positive impacts on our society and economy are likely to emerge between now and 2030, the period this report considers. At the same time, many of these developments will spur disruptions in how human labour is augmented or replaced by AI, creating new challenges for the economy and society more broadly. Application design and policy decisions made in the near term are likely to have long-lasting influences

on the nature and directions of such developments, making it essential for AI researchers, developers, social scientists, and policymakers to balance the imperative to innovate with mechanisms to ensure that AI's economic and social benefits are broadly shared across society. If society approaches these technologies primarily with fear and suspicion, missteps that slow AI's development or drive it underground will result, impeding important work on ensuring the safety and reliability of AI technologies. On the other hand, if society approaches AI with a more open mind, the technologies emerging from the field could profoundly transform society for the better in the coming decades.

Do you have a comment or do you want to give your feedback on this article? Do you want to write letters to the editor? Please use the link https://lucu.nkb.no/feedback/

The article is from the Executive Summary of the report: "One Hundred Year Study on Artificial Intelligence (AI100)," Stanford University, accessed August 1, 2016, https://ai100.stanford.edu. The Lucubrate editor has added on the pictures for the article.

Derivates and Hedging Capacity

By Peter Welch, Georgia, CEO GlobalCfo.LLC

When we create a derivative position we're selecting a directional movement. In the case of Barings, it was a totally speculative, and naked position in which you either gained significantly or lost significantly and we all know the outcome here. However, when derivatives are used in a hedging capacity the entity is seeking in theory effectively an NGNL position (no gain no loss) in which any additional cost (loss) is offset by a gain on the derivatives contract.

Photo: wsf-f

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Accounting Series – article No: 31

Accounting Theory – Advanced Part 21

And what is this risk? If an entity knows, for example, that in six months it has to pay a significant amount in a foreign currency and there is a risk the currency could move against them thus increasing the US dollar cost. It is that loss that derivatives can mitigate by creating a financial offset or a neutral position. The IASB in developing the standards sought to ensure that only legitimate hedge transactions would qualify for special accounting treatment. It also ensured that mark to market and/or fair valuation would bring to the surface, transparency, of all directional movements both positive and negative. The rules under codifications are particularly important to ensure that speculative positions do not receive special accounting treatment. It was the application of derivatives in a hedging capacity that gave rise to Other Comprehensive Income (OCI). Without OCI there literally would be no legitimate location within accounting (definitions within the framework) to record market movements. Clearly, market movements qualify as neither revenue nor expenses and are certainly not a Balance Sheet, i.e., Statement of Financial Position, items. But like everything examples illustrate underlying accounting entries.

So, what are the characteristics of derivatives:

1-3 Derivatives

A derivative is a financial instrument with all three of the following characteristics

1. Its value changes in responsa to a **specified** underlying (interest rate, commodity price, exchange rate etc.); and
2. **It requires no or little initial investment**; and
3. It is settled at a future date

(Emile Woolf Essentials IFRS Guide 2018)

And as we have seen earlier Derivatives can be classified into two broad categories:

1. Forward arrangements (commit parties to a course of action)

   Forward contracts

   Futures

   Swaps

2. Options (Gives the option buyer a choice over whether or not to exercise his rights under the contract)

(Emile Woolf Essentials IFRS Guide 2018)

There are two main types of hedging, **fair value** and **cash flow hedge**.

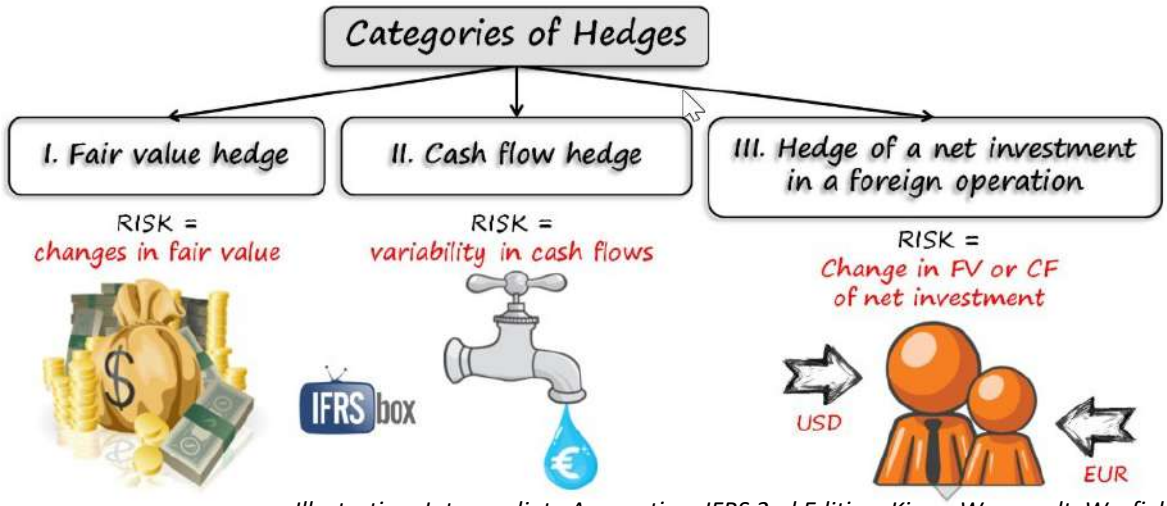


Illustration: Intermediate Accounting, IFRS 2nd Edition, Kieso, Weygandt, Warfield

Fair value hedge:

A company uses a derivative to hedge (offset) the exposure to changes in the fair value of a recognized asset or liability or of an unrecognized commitment.

Companies commonly use several types of fair value hedges.

- interest rate swaps
- put options

Cash flow hedge:

Used to hedge exposures to **cash flow risk**, which results from the variability in cash flows. Reporting:

- Fair value on the statement of financial position.
- Gains or losses in equity, as part of **other comprehensive income**.

Example of Purchasing Tons of Aluminium

In September 2015 Allied Can Co. anticipates purchasing 1,000 metric tons of aluminum in January 2016. As a result, Allied enters into an aluminum

futures contract. In this case, the aluminum futures contract gives Allied the right and the obligation to purchase 1,000 metric tons of aluminum for ¥1,550 per ton (amounts in thousands). This contract price is good until the contract expires in January 2016. The underlying for this derivative is the price of aluminum. Allied enters into the futures contract on **September 1, 2015**. Assume that the price to be paid today for inventory to be delivered in January—the spot price—equals the contract price. With the two prices equal, the futures contract has no value. Therefore no entry is necessary.

At **December 31, 2015**, the price for January delivery of aluminum increases to ¥1,575 per metric ton. Allied makes the following entry to record the increase in the value of the futures contract.

EXAMPLE			
	I/B	DR	CR
Futures Contract	B	25000 [1]	
Unrealized Holding Gain or Loss—Equity (OCI) ([¥1,575 - ¥1,550] x 1,000 tons)	I		25000

Allied reports the futures contract in the statement of financial position as a current asset and the gain as part of **other comprehensive income**.

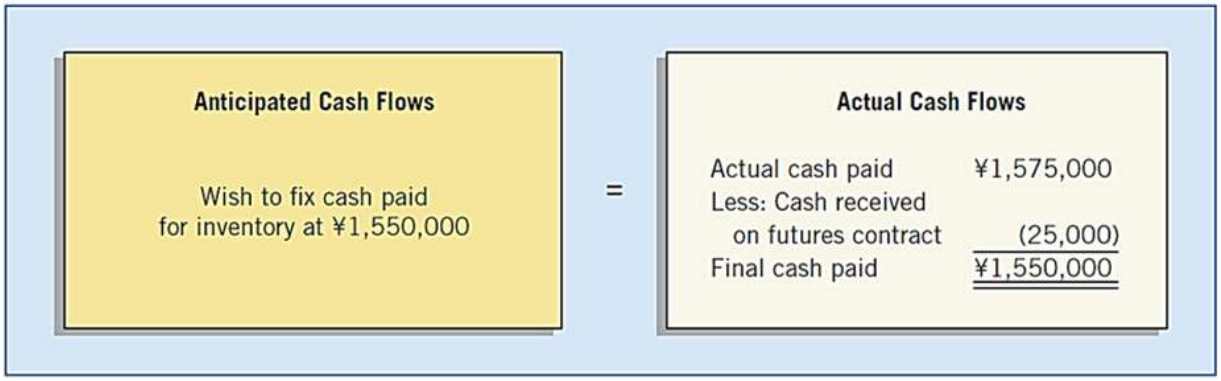
In **January 2016**, Allied purchases 1,000 metric tons of aluminum for ¥1,575 and makes the following entry.

EXAMPLE			
	I/B	DR	CR
Aluminum Inventory	B	1575000	
Cash (¥1,575 x 1,000 tons)	B		1575000

At the same time, Allied makes final settlement on the futures contract. It records the following entry.

EXAMPLE			
	I/B	DR	CR
Cash	B	25000	
Futures Contract (¥1,575,000 - ¥1,550,000)	B		25,000 [1]

Effect of Hedge on Cash Flows



There are no income effects at this point. Allied accumulates in equity the gain on the futures contract as part of other comprehensive income until the period when it sells the inventory.

Assume that Allied processes the aluminum into finished goods (cans). The total cost of the cans (including the aluminum purchases in January 2016) is

¥1,700,000. Allied sells the cans in **July 2016** for ¥2,000,000, and records this sale as follows.

EXAMPLE			
	I/B	DR	CR
Cash	B	2000000	
Sales Revenue	I		2000000

EXAMPLE			
	I/B	DR	CR
Cost of Goods Sold	I	1700000	
Inventory (Cans)	B		1700000

Since the effect of the anticipated transaction has now affected earnings, Allied makes the following entry related to the hedging transaction.

EXAMPLE			
	I/B	DR	CR
Unrealized Holding Gain or Loss—Equity (OCI) ([¥1,575 - ¥1,550] x 1,000 tons)	I	25000	
Cost of Goods Sold	I		25000

Photo: Karl Skaar

The gain on the futures contract, which Allied reported as part of **other comprehensive income, now reduces cost of goods sold**. As a result, the cost of aluminum included in the overall cost of goods sold is ¥1,550,000.

IASB, eIFRS, states that:

2 This Standard shall be applied by all entities to all financial instruments within the scope of |FRS 9:

(a) IFRS 9 permits the hedge accounting requirements of this Standard to be applied

(b) financial instrument is part of a hedging relationship that qualities

In the next article (January 18, 2019) we will move onto IAS 39.

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Mr. Peter Welch, CEO of GlobalCfo.LLC

GlobalCfo.LLC is expert at developing entrepreneurs and building 3-5 year business plans and cash flow projections as a prerequisite for accessing financing sources. GlobalCfo.LLC targets accounting standards compliance and theory, sound infrastructure /process mapping and COSO 2013-17/solid internal controls, ERM, and last but not least documentation / Policy and Procedures and other manuals. Additionally interim CFO services (or Rent-a-CFO by the hour/day) are offered locally or remotely as well as training at all levels and all functions not just accounting; e.g., management and leadership skills. Pre/Post-M&A is also offered. (http://www.GlobalCfoLLC.Com).

Lucubrate Magazine

The Artificial Intelligence in Education will expand

Enabling more fluid interactions between people and promising AI technologies also remains a critical challenge in Education, which has seen considerable progress in the same period. Though quality education will always require active engagement by human teachers, AI promises to enhance education at all levels, especially by providing personalization at scale. Interactive machine tutors are now being matched to students for teaching science, math, language, and other disciplines. Natural Language Processing, machine learning, and crowdsourcing have boosted online learning and enabled teachers in higher education to multiply the size of their classrooms while addressing individual students' learning needs and styles.

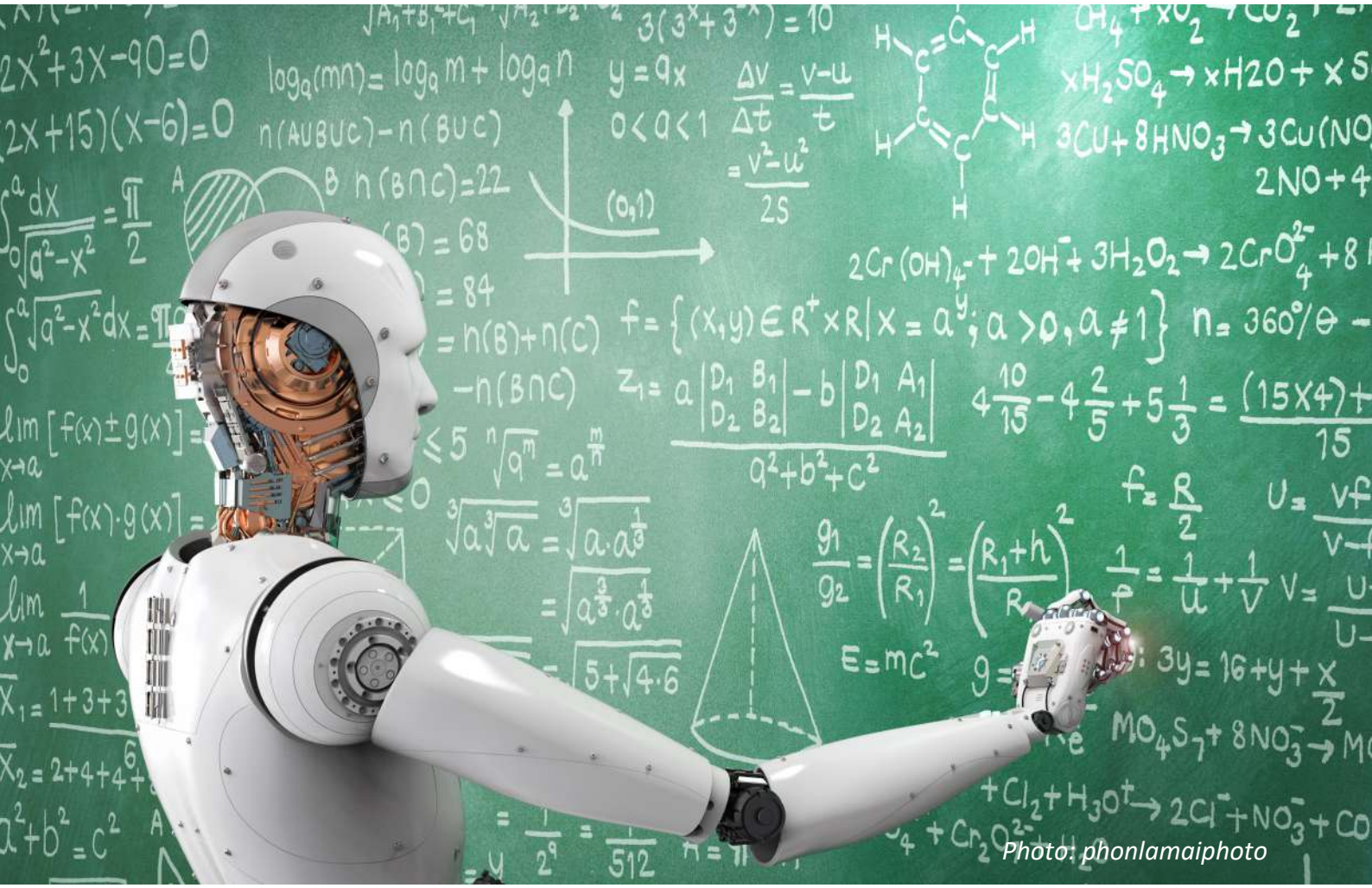
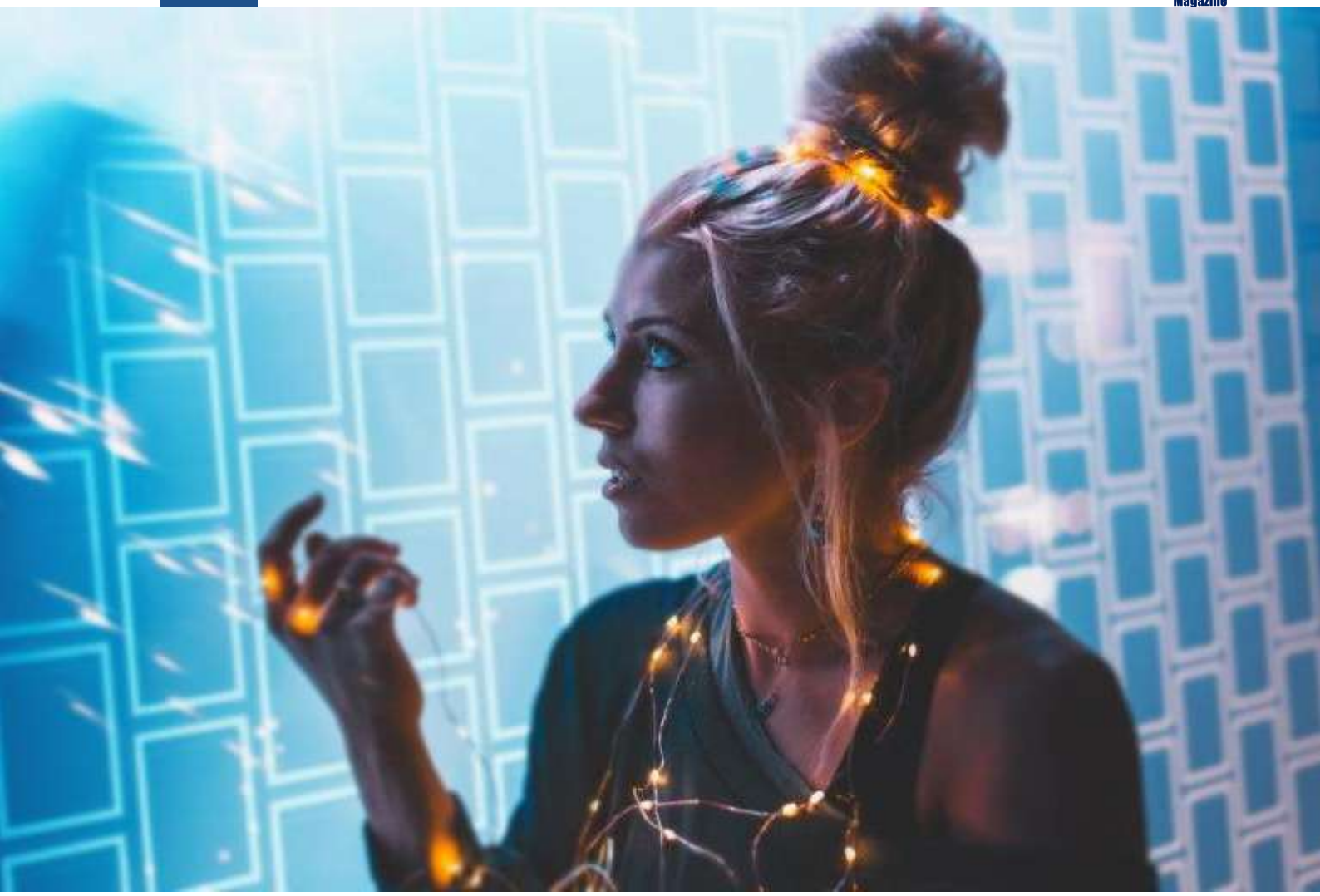


Photo: phonlamaiphoto

The past fifteen years have seen considerable AI advances in education. Applications are in wide use by educators and learners today, with some variation between K-12 and university settings. Though quality education will always require active engagement by human teachers, AI promises to enhance education at all levels, especially by providing personalization at scale. Similar to healthcare, resolving how to best integrate human interaction and face-to-face learning with promising AI technologies remains a key challenge. Robots have long been popular educational devices, starting with the early Lego Mindstorms kits developed with the MIT Media Lab in the 1980s. Intelligent Tutoring Systems (ITS) for science, math, language, and other disciplines match students with interactive machine tutors. Natural Language Processing, especially when combined with machine learning and crowdsourcing, has boosted online learning and enabled teachers to multiply the size of their classrooms while simultaneously addressing individual students' learning needs and styles. The data sets from large online learning systems have fueled rapid growth in learning analytics. Still, schools and universities have been slow in adopting AI technologies primarily due to lack of funds and lack of solid evidence that they help students achieve learning objectives. Over the next fifteen years in a typical North American city, the use of intelligent tutors and other AI technologies to assist teachers in the classroom and in the home is likely to expand significantly, as will learning based on virtual reality applications. But computer-based learning systems are not likely to fully replace human teaching in schools.



Teaching robots

Today, more sophisticated and versatile kits for use in K-12 schools are available from a number of companies that create robots with new sensing technologies programmable in a variety of languages. Ozobot is a robot that teaches children to code and reason deductively while configuring it to dance or play based on colour-coded patterns. Cubelets help teach children logical thinking through assembling robot blocks to think, act, or sense, depending upon the function of the different blocks. Wonder Workshop's Dash and Dot span a range of programming capabilities. Children eight years old and older can create simple actions using a visual programming language, Blockly, or build iOS and Android applications using C or Java. PLEOrb is a robot pet that helps children learn biology by teaching the robot to react to different aspects of the environment.

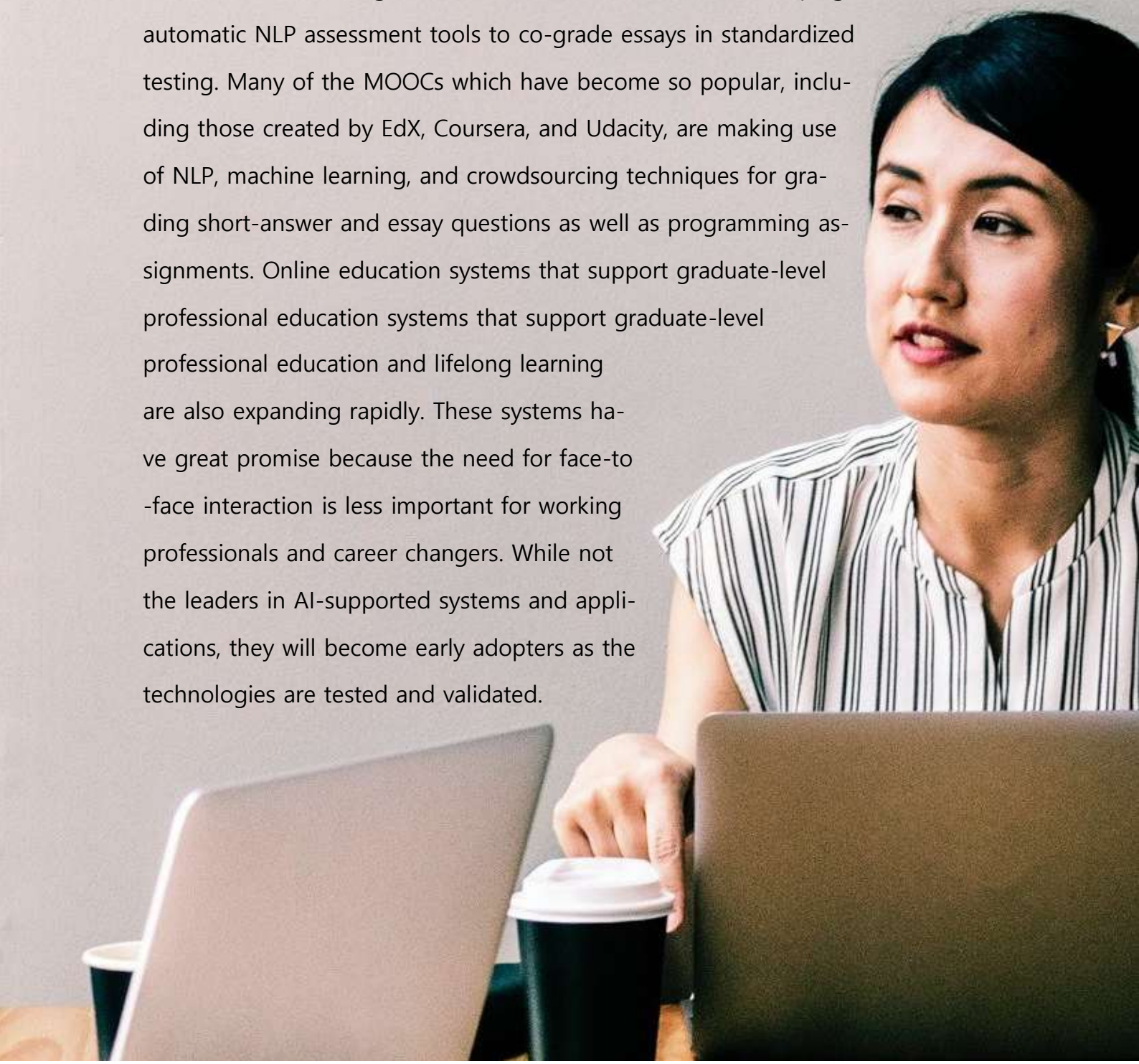
However, while fun and engaging for some, in order for such kits to become widespread, there will need to be compelling evidence that they improve students' academic performance.

Intelligent Tutoring Systems (ITS) and online learning

ITS have been developed from research laboratory projects such as Why-2 Atlas, which supported human-machine dialogue to solve physics problems early in the era. The rapid migration of ITS from laboratory experimental stages to real use is surprising and welcome. Downloadable software and online systems such as Carnegie Speech or Duolingo provide foreign language training using Automatic Speech Recognition (ASR) and NLP techniques to recognize language errors and help users correct them. Tutoring systems such as the Carnegie Cognitive Tutor have been used in US high schools to help students learn mathematics. Other ITS have been developed for training in geography, circuits, medical diagnosis, computer literacy and programming, genetics, and chemistry. Cognitive tutors use software to mimic the role of a good human tutor by, for example, providing hints when a student gets stuck on a math problem. Based on the hint requested and the answer provided, the tutor offers context-specific feedback.

Applications are growing in higher education. An ITS called SHERLOCK is beginning to be used to teach Air Force technicians to diagnose electrical systems problems in aircraft. And the University of Southern California's Information Sciences Institute has developed more advanced avatar-based training modules to train military personnel being sent to international posts inappropriate behaviour when dealing with people from different cultural backgrounds. New algorithms for personalized tutorings, such as Bayesian Knowledge Tracing, enable individualized mastery learning and problem sequencing.

Most surprising has been the explosion of the Massive Open Online Courses (MOOCs) and other models of online education at all levels—including the use of tools like Wikipedia and Khan Academy as well as sophisticated learning management systems that build in synchronous as well as asynchronous education and adaptive learning tools. Since the late 1990s, companies such as the Educational Testing Service and Pearson have been developing automatic NLP assessment tools to co-grade essays in standardized testing. Many of the MOOCs which have become so popular, including those created by EdX, Coursera, and Udacity, are making use of NLP, machine learning, and crowdsourcing techniques for grading short-answer and essay questions as well as programming assignments. Online education systems that support graduate-level professional education systems that support graduate-level professional education and lifelong learning are also expanding rapidly. These systems have great promise because the need for face-to-face interaction is less important for working professionals and career changers. While not the leaders in AI-supported systems and applications, they will become early adopters as the technologies are tested and validated.



It can be argued that AI is the secret sauce that has enabled instructors, particularly in higher education, to multiply the size of their classrooms by a few orders of magnitude—class sizes of a few tens of thousands are not uncommon. In order to continually test large classes of students, automated generation of the questions is also possible, such as those designed to assess vocabulary,86 wh (who/what/when/ where/why) questions, and multiple choice questions, using electronic resources such as WordNet, Wikipedia, and online ontologies. With the explosion of online courses, these techniques are sure to be eagerly adopted for use in online education. Although the long-term impact of these systems will have on the educational system remains unclear, the AI community has learned a great deal in a very short time.

Learning analytics

Data sets were collected from massive scale online learning systems, ranging from MOOCs to Khan Academy, as well as smaller scale online programs, have fueled the rapid growth of the field of learning analytics. Online courses are not only good for widespread delivery but are natural vehicles for data collection and experimental instrumentation that will contribute to scientific findings and improving the quality of learning at scale. Organizations such as the Society for Learning Analytics Research (SOLAR), and the rise of conferences including the Learning Analytics and Knowledge Conference and the Learning at Scale Conference (L@S) reflect this trend. This community applies deep learning, natural language processing, and other AI techniques for analysis of student engagement, behaviour, and outcomes.

Current projects seek to model common student misconceptions, predict which students are at risk of failure, and provide real-time student feedback that is tightly integrated with learning outcomes. Recent work has also been devoted to understanding the cognitive processes involved in comprehension, writing, knowledge acquisition, and memory, and to applying that understanding to educational practice by developing and testing educational technologies.

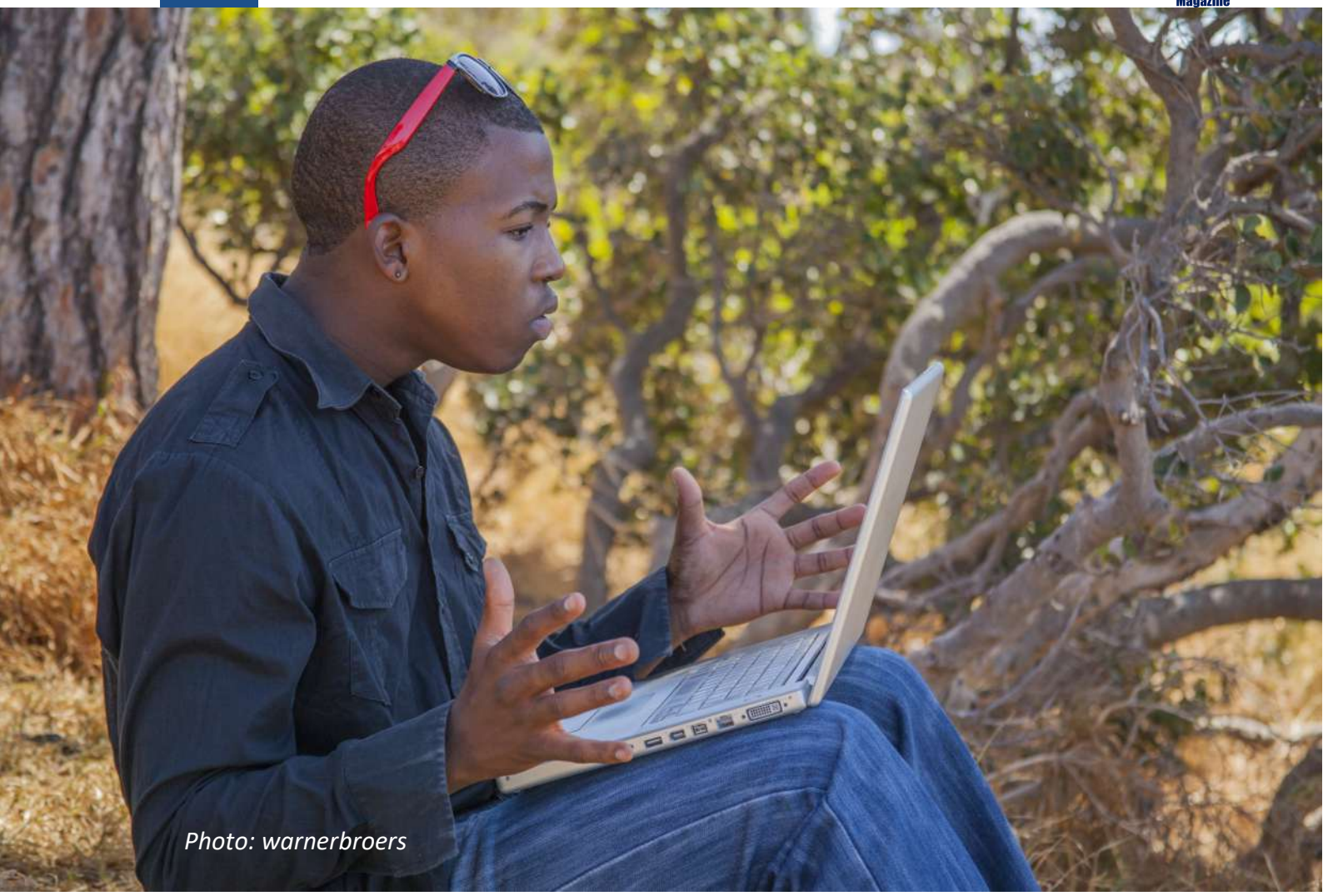


Photo: warnerbroers

Challenges and opportunities

One might have expected more and more sophisticated use of AI technologies in schools, colleges, and universities by now. Much of its absence can be explained by the lack of financial resources of these institutions as well as the lack of data establishing the technologies' effectiveness. These problems are being addressed, albeit slowly, by private foundations and by numerous programs to train primarily secondary school teachers in summer programs. As in other areas of AI, excessive hype and promises about the capabilities of MOOCs have meant that expectations frequently exceed the reality. The experiences of certain institutions, such as San Jose State University's experiment with Udacity, have led to a more sober assessment of the potential of the new educational technologies.

In the next fifteen years, it is likely that human teachers will be assisted by AI technologies with better human interaction, both in the classroom and in the home. The Study Panel expects that more general and more sophisticated virtual reality scenarios in which students can immerse themselves in subjects from all disciplines will be developed. Some steps in this direction are being taken now by increasing collaborations between AI researchers and researchers in the humanities and social sciences, exemplified by Stanford's Galileo Correspondence Project and Columbia's Making and Knowing Project. These interdisciplinary efforts create interactive experiences with historical documents and the use of Virtual Reality (VR) to explore interactive archaeological sites. VR techniques are already being used in the natural sciences such as biology, anatomy, geology and astronomy to allow students to interact with environments and objects that are difficult to engage in the real world. The recreation of past worlds and fictional worlds will become just as popular for studies of arts and other sciences.

AI techniques will increasingly blur the line between formal, classroom education and self-paced, individual learning. Adaptive learning systems, for example, are going to become a core part of the teaching process in higher education because of the pressures to contain cost while serving a larger number of students and moving students through school more quickly. While formal education will not disappear, the Study Panel believes that MOOCs and other forms of online education will become part of learning at all levels, from K-12 through university, in a blended classroom experience. This development will facilitate more customizable approaches to learning, in which students can learn at their own pace using educational techniques that work best for them. Online education systems will learn as the students learn, supporting rapid advances in our understanding of the learning process. Learning analytics, in turn, will accelerate the development of tools for personalized education.

The current transition from hard copy books to digital and audio media and texts is likely to become prevalent in education as well. Digital reading devices will also become much 'smarter', providing students with easy access to additional information about the subject matter as they study. Machine Translation (MT)

technology will also make it easier to translate educational material into different languages with a fair degree of accuracy, just as it currently translates technical manuals. Textbook translation services that currently depend only upon human translators will increasingly incorporate automatic methods to improve the speed and affordability of their services for school systems.

Photo: GF days

Online learning systems will also expand the opportunity for adults and working professionals to enhance their knowledge and skills (or to retool and learn a new field) in a world where these fields are evolving rapidly. This will include the expansion of fully online professional degrees as well as professional certifications based on online coursework.

Broader societal consequences

In countries where education is difficult for the broad population to obtain, online resources may have a positive effect if the population has the tools to access them. The development of online educational resources should make it easier for foundations that support international educational programs to provide quality education by providing tools and relatively simple amounts of training in their use. For example, large numbers of educational apps, many of them free, are being developed for the iPad. On the negative side, there is already a major trend among students to restrict their social contacts to electronic ones and to spend large amounts of time without social contact, interacting with online programs. If education also occurs more and more online, what effect will the lack of regular, face-to-face contact with peers have on students' social development? Certain technologies have even been shown to create neurological side effects. On the other hand, autistic children have benefited from interactions with AI systems already.

Do you have a comment or do you want to give your feedback on this article? Do you want to write letters to the editor? Please use the link https://lucu.nkb.no/feedback/

The article is the chapter called "Education" of the report: "One Hundred Year Study on Artificial Intelligence (AI100)," Stanford University, accessed August 1, 2016, https://ai100.stanford.edu. The Lucubrate editor has added on the pictures for the article.

What are your reasons for choosing a course?

Some people take a course because they are looking to sharpen their expertise in a particular subject. Others take a course to broaden their knowledge about something they have limited knowledge on or know nothing about.

The best way to choose a course is to ask yourself a few questions:

- Are you taking a course for fun or a professional reason?
- Do you want to attend a class physically or would you prefer an online course?
- What course topic is going to benefit you in the long run?
- Are you going to enjoy learning the particular subject?

Once you have established the course subject, you need to consider course duration.

Short term courses allow you to quickly learn a skill, which is beneficial if you need a certification for work. Long-term courses provide an in-depth understanding of a subject, making it ideal for those looking to become experts in a subject.

You also want to consider which type, of course, you want to take: online courses, university courses, or job courses. The best one for you depends on your intentions for taking the course.

Lucubrate Courses On-Site

You Can Start as an Entrepreneur

Entrepreneurship refers to the concept of developing and managing a business venture. This in order to gain profit by taking several risks in the corporate world. Entrepreneurship means different things to different people. One understanding of entrepreneurship can be a commitment to turning an idea into a profitable business.

Entrepreneurship has been described as the "capacity and willingness to develop, organize and manage a business venture along with any of its risks in order to make a profit". An Entrepreneur is an entity which has the ability to find and act upon opportunities to translate inventions or technology into new products: "The entrepreneur is able to recognize the commercial potential of the invention and organize the capital, talent, and other resources that turn an invention into a commercially viable innovation."

Lucubrate offer courses in entrepreneurial skills both on-site training and eLearning or a combination of those two.

The Lucubrate eLearning course discusses different important issues for an entrepreneur. The course is made for people that want to start or just have started their own business. However, also people running their own business can benefit from the course.

The course expects much activity from you; follow the steps, videos, quizzes, and tasks. The more you work with the course the more you will benefit from it.

See more: You Can Start as an Entrepreneur

Lucubrate Magazine

Digitalization and eLearning for the Educational System Workshop February 4th-6th, 2019: Uganda

Multimedia-based electronic learning has become a tool used to provide access to education for multiple segments of the population, which otherwise would have little to no access to it. While eLearning is integrated it into curricula early in the digital revolution, in many countries, it is just beginning to address the opportunities and challenges web-based learning may bring.

Photo: Rawpixel.com

Digitalization and eLearning for the educational system; How can the Government, School owners, Schools, Colleges and Universities benefit?

This is a training program for people working in governmental positions both central and in the districts, school owners, schools leaders, teachers and staff from colleges and universities. The program goes over three days from February 4th to February 6th 2019.

The development of multimedia and ICT technologies have created opportunities for traditional or classroom-based learning notions to be developed into eLearning notions. The paradigm of eLearning is as effective and has numerous benefits as compared to classroom-based learning. Educational institutions could use online eLearning methodologies for the education of their staff without having to spend for their travel elsewhere. The universities could reach out to a wider audience globally and implement these technologies, therefore offering a remarkable development chance.

eLearning is learning to utilize electronic technologies to access the educational curriculum outside of a traditional classroom. In most cases, it refers to a course, program or degree delivered completely online. eLearning is an Internet-based teaching system, a teaching system consisting of video, audio, and written material designed for a person to use in studying a subject at home.

Web: https://lucubrates.nkb.no/

For more information, go to Lucubrate Events

Who Should Attend the Training Program for Digitalization and eLearning?

This course both theoretical and extensively interactive is designed for middle and senior business and administrators professionals who need to understand and embrace the disciplines of eLearning, pedagogy, blended learning, digital develop-

- Leaders of departments in the Ministries
- Leaders in Districts
- Governmental staff
- School owners
- Owners of Colleges and Universities
- Administrators at Schools, Colleges, and Universities
- Teachers
- Lectures
- Professors
- Strategy Directors and Managers
- Project Managers
- Heads of Business Units and Business Planners
- Individuals with just digital background but understand they need more
- Individuals who understand that success cannot be relied upon by just going in a single direction and may need to combine success with both bricks and mortar business and full utilization of virtual technology

Web: https://lucubrates.nkb.no/

Trainer Mr Karl Skaar

Mr Karl Skaar is a highly successful professional, with a high degree of entrepreneurial flair, demonstrated through an outstanding record of achievement in formulating business strategies and spearheading complex projects.

Details for the Training Program for Digitalization and eLearning

The table under gives an overview of the main elements for the three days training program;

Day	Elements	Web: https://lucubrates.nkb.no/
Day 1	What is Digitalization?	
	The digitalisation of the Educational System	
	Digitalisation and changes in society and the politics	
	Connecting Students With Their Educators	
DAY 2	What is eLearning?	
	Open Distance Flexible Learning	
	eLearning pedagogical principles	
	eLearning will change the education	
DAY 3	Methods of eLearning	
	Microlearning	
	New technology for eLearning	
	How to create eLearning using LMS	

Venue: Uganda: Kampala Road, Kampala

For more information, go to Lucubrate Events

THE TVET EXPERT OF THE WEEK

Mr Patrick Ekezie Egbule

Patrick Ekezie Egbule is a Professor of Vocational and Workforce Education and has been an active and engaged teacher at Delta State University, Abraka, Nigeria since 1994. He obtained his PhD in Agricultural Education from the University of Nigeria, Nsukka in 1995, a Post-Doctoral Masters degree in Industrial and Labour Relations in 2003, and was promoted to a full Professor in 2007.

He has published widely in both national and international journals and currently the editor/reviewer of the renowned journals such as the Nigeria Vocational Association Journal (NVAJ) and the Association of Agricultural Educator's Association of Nigeria Journal (AEANJ). He is the author of several books including Fundamentals and Practice of Agricultural Education; and Entrepreneurship in Theory and Practice. He has served as Chairman/Member of several course accreditation teams for the National Universities Commission (NUC), and consultant to Senate of the Federal Republic of Nigeria on Agriculture and Rural Development. He served as President, Nigeria Vocational Association (NVA), now Association of Vocational and Technical Educators of Nigeria (AVTEN) between 2012 and 2017.

Mr Patrick Ekezie Egbule, PhD, Nigeria.

Mobile:+2348033943903

Email:egbulepat@gmail.com, egbulepat@yahoo.com

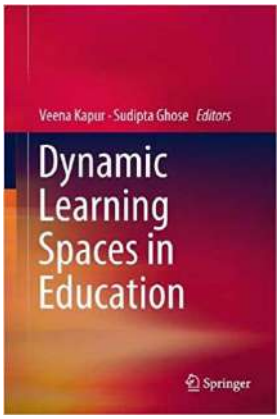
LinkedIn: https://www.linkedin.com/in/egbule-patrick

Suggested and Presented by Igberadja Serumu Igberadson

Book

Dynamic Learning Spaces in Education

By Veena Kapur and Sudipta Ghose



Dynamic Learning Spaces in Education

This volume discusses the need for a major paradigm shift in educational practice in the current digital and globalized world. It establishes a bridge between theory and praxis and revisits the objectives of learning and its modalities within the context of a rapidly evolving global world order. This volume includes perspectives from different countries on creating a dynamic and adaptive education system that encourages creativity, leadership, flexibility, and working in virtual as well as inclusive environments. The four sections include chapters that discuss creating meaningful learning environments, preparing teachers for new age classrooms, the digital learning space, fostering change in classrooms, and importantly also includes cases and experiments from schools. The authors are teacher educators, teachers and researchers, and each chapter, while being deeply rooted in theory, is juxtaposed with informed practice, making the suggestions easy to implement in different settings. This is an important resource for researchers and practitioners associated with education systems in creating engaging, meaningful and future-ready education practices.

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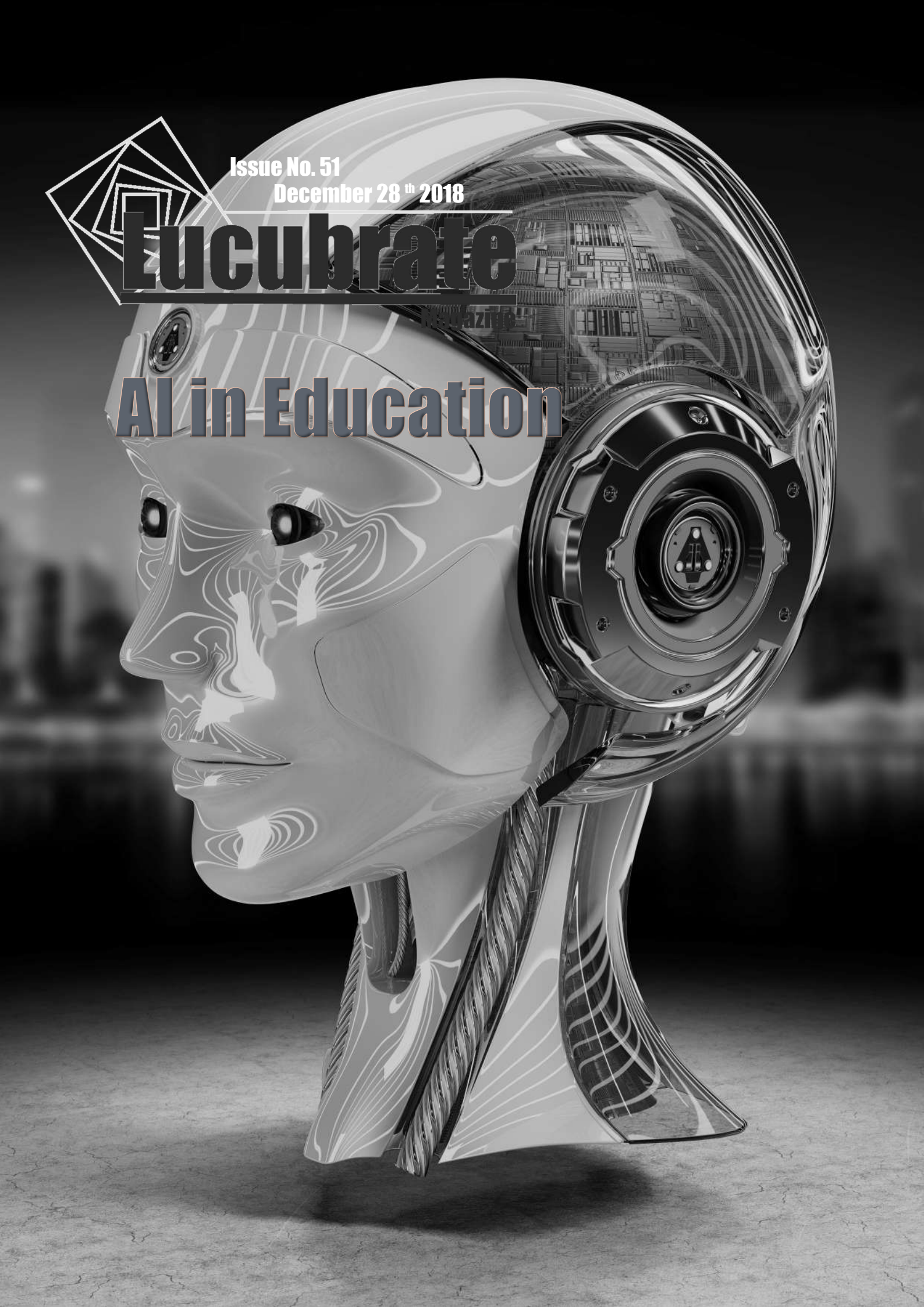
AI in Education