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Balance Point



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inside



"I believe that the school must represent present life – life as real and vital to the child as that which he carries on in the home, in the neighborhood, or on the playground." *John Dewey*

LUCUBRATE MAGAZINE

The world is changing all around us. A skilled population is the key to a country's sustainable development and stability. We know that obtaining a quality education is the foundation to improving people's lives and sustainable development. To contribute to skill people over the next ten years and beyond, we must look ahead, understand the trends and forces that will shape our business in the future and move swiftly to prepare for what has to come. We must get ready for tomorrow today. We will make it possible for youth and young adults all over the world to gain skills they can use in the labour market or to create their own jobs. We will make it possible for every person to have lifelong learning opportunities to acquire the knowledge and skills they need to fulfil their aspirations and contribute to their societies.

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Climate Tipping Points

By Karl Skaar

Evidence suggests that several elements of the climate system could be tipped into a different state by global warming, causing irreversible economic damages (1).



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«With scientists warning that the window to prevent the Earth's climate hitting irreversible tipping points is fast closing, an increasingly strident activism movement says a strong signal from the summit is the only acceptable outcome.»

Reuters December 13, 2019



Karl Skaar, Editor

Is a highly successful professional, with a high degree of entrepreneurial flair. Among the many different roles, he is the chief editor of the Lucubrate Magazine.

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What are Climate Tipping Points?

The phrase “tipping point” passed its own tipping point and caught fire after author Malcolm Gladwell’s so-named 2000 book. It’s now frequently used in discussions about climate change, but what are “climate tipping points”? (2).

The literature on the costs of climate change often links climatic “tipping points” and large economic shocks that are often called “catastrophes”. The phrase “tipping points” in this context can be misleading because the subsequent changes can be either abrupt or slow. If the lag between crossing a critical threshold and an impact is too long, we may not notice until it’s too late to do anything about it. If we notice that we’ve done something wrong, it may be possible to intervene and limit the damage (2).

From “Critical Phenomena” to “Tipping Points”

Until about the year 2004, climate scientists used the phrase ‘critical phenomena’ to describe dynamics associated with threshold effects which would lead to qualitative changes in the system state such as deglaciation. This concept of a critical phenomenon is reasonably well defined in physics, where it has a meaning distinct from its usage in social sciences. In physics, a system becomes ‘critical’ if it is on the cusp of transforming into a new condition. ‘Critical thresholds’ identify system states or forcing levels which are about to trigger a critical phenomenon. Since 2005, however, prominent climate scientists have used ‘tipping point’ to evoke the prospect of accelerated, or irreversible, global warming. The phrase, mainly used first in the mass media, has since permeated the mainstream academic literature, the language of politicians and funding agencies. (3).



Photo: Adobe Stock

Should we Use the Terminology of Tipping Points?

The concept and terminology of tipping points have been widely used to invoke the danger of passing thresholds of irreversible and/or abrupt change in the near-immediate future. But how helpful is this metaphor for climate science and for climate change communication? There are different views on how helpful is this metaphor is. One view argues that the tipping point concept may have some limitations as a description of the mathematical behaviour of Earth system models trying to simulate the world's climate. But its use can alert decision-makers to the possibility of some rapid and/or serious changes in the climate system which need attention as part of responsible and accountable policymaking. In contrast, others argue that the concept risks exaggerating the immediacy and severity of climate change and offers a false prospectus of there being a 'cliff-edge' within the climate system. Climate change is primarily a problem of incremental cumulative harm and the concept of tipping point offers a false emphasis on abruptness and harms the public understanding of climate science. (3)

Some are pointing out that if the system has already moved past a tipping point, a full recovery can occur. There may be a recovery point in the aftermath of a tipping point that can be predicted (4).

The concept of a tipping point is nevertheless helpful for describing and communicating possible climate futures. It bridges knowledge established with climate models with the concerns of climate governance and accountable risk management.

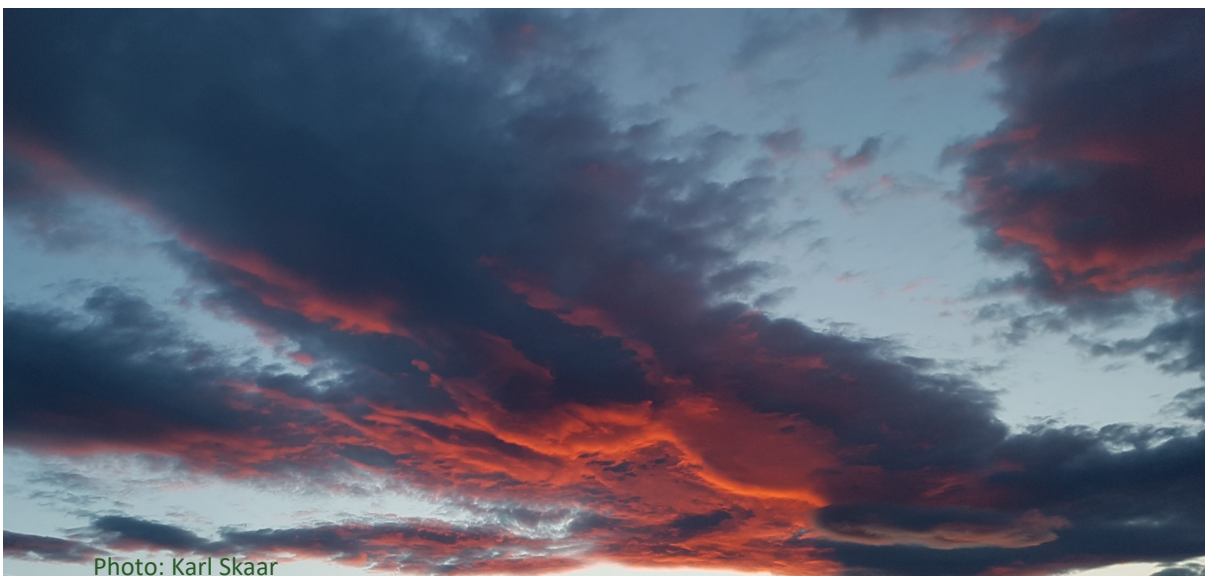


Photo: Karl Skaar

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Nine Active Tipping Points

Nine crucial tipping points in Earth's climate are now "active" and in danger of being crossed thanks to warming global temperatures caused by human activity.

The nine active tipping points are (5):

1. Arctic sea ice
2. Greenland ice sheet
3. Boreal forests
4. Permafrost
5. Atlantic Meridional Overturning Circulation
6. Amazon rainforest
7. Warm-water corals
8. West Antarctic Ice Sheet
9. Parts of East Antarctica

The collapse of major ice sheets on Greenland, West Antarctica and part of East Antarctica would commit the world to around 10 meters of irreversible sea-level rise.

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Reducing emissions could slow this process, allowing more time for low-lying populations to move.

The rainforests, permafrost, and boreal forests are examples of biosphere tipping points that if crossed result in the release of additional greenhouse gases amplifying warming.

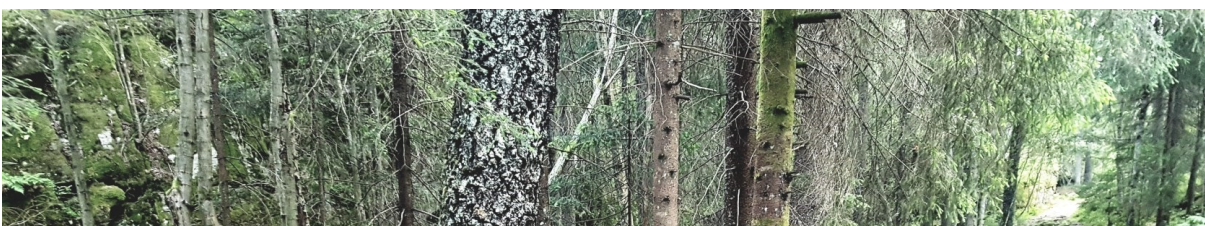
These climate thresholds, such as the decline of ice sheets and loss of biodiverse habitats, could cumulatively trigger a global tipping point that would be “an existential threat to civilization”.

«Climate science is clear: the world faces a massive ecological and humanitarian crisis. The climate emergency is the defining and most urgent issue of our time, and it cannot be avoided without a global shift away from fossil-fuel dependency.»

The UN Climate Change Conference – COP 25 – Madrid, Spain, December 2019

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5. Nine climate tipping points now ‘active,’ warn scientists, University of Exeter, Science Daily. November 2019



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Why is Ocean Important?

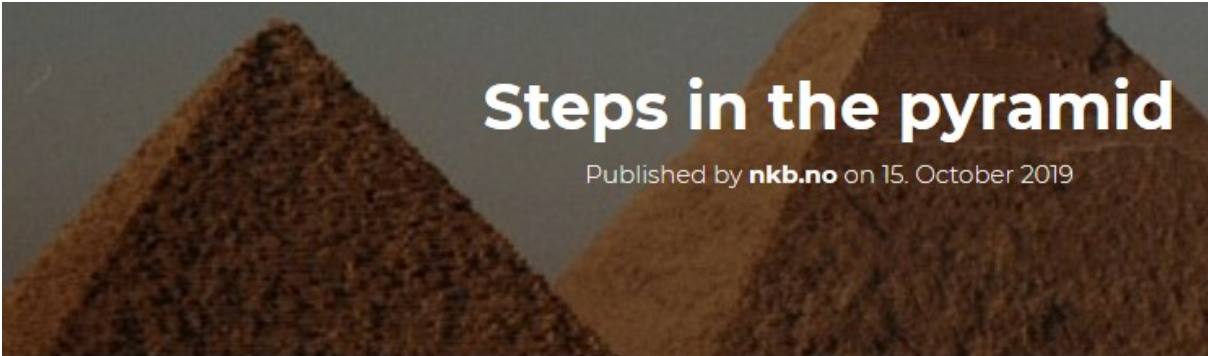
A changing climate means a changing ocean. While the full impacts of climate change on the oceans are unclear, studies predict increasing temperatures, rising sea levels and changes to the ocean chemistry, such as ocean acidification, among others.



The ocean and coasts provide critical ecosystem services such as carbon storage, oxygen generation, food and income generation.

As the ocean absorbs carbon dioxide (CO₂) released into the atmosphere by human activities, the carbonate chemistry and acidity of seawater is modified in a process known as ocean acidification. While this leaves less carbon dioxide in the atmosphere and substantially limits climate change, ocean acidification, which is sometimes referred to as the "other CO₂ problem", has emerged as a key global issue in the last decade because of its potential to affect marine organisms and biogeochemical cycles. (1)

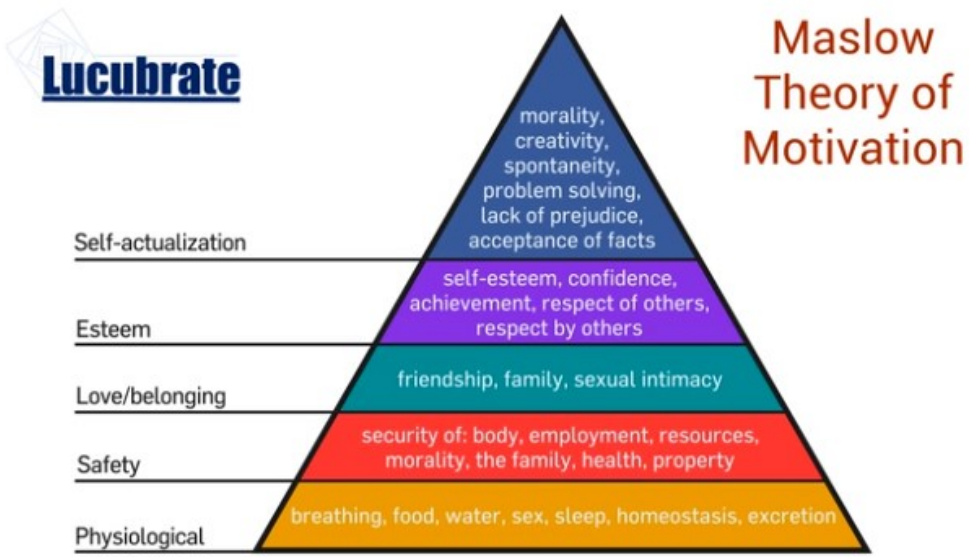
Coastal ecosystems like mangroves, salt marshes and seagrasses play a vital role in carbon storage and sequestration. Per unit of area, they sequester carbon faster and far more efficiently than terrestrial forests. When these ecosystems are degraded, lost or converted, massive amounts of CO₂ – an estimated 0.15-1.02 billion tons every year – are released into the atmosphere or ocean, accounting for up to 19% of global carbon emissions from deforestation. The ecosystem services such as flood and storm protection that they provide are also lost. (2).



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The impacts of ocean warming and acidification on coastal and marine species and ecosystems are already observable. For example, the current amount of CO₂ in the atmosphere is already too high for coral reefs to thrive, putting at risk food provision, flood protection and other services corals provide. Moreover, increased GHG emissions exacerbate the impact of already existing stressors on coastal and marine environments from land-based activities (e.g. urban discharges, agricultural runoff and plastic waste) and the ongoing, unsustainable exploitation of these systems (e.g. overfishing, deep-sea mining and coastal development). These cumulative impacts weaken the ability of the ocean and coasts to continue to perform critical ecosystem services. (2)

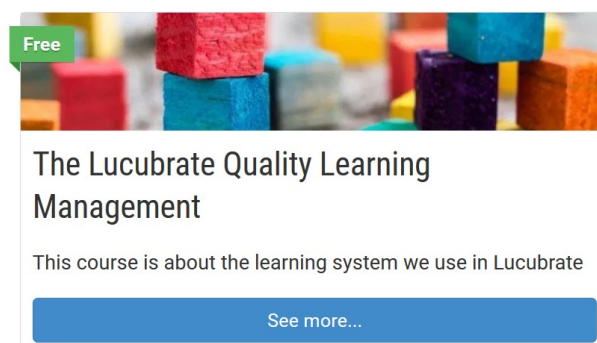
The degradation of coastal and marine ecosystems threatens the physical, economic and food security of coastal communities – around 40% of the world population. Local fishers, indigenous and other coastal communities, international business organisations and the tourism industry are already seeing the effects of climate change particularly in Small Island Developing States and many of the Least Developed Countries (2).

Weakened or even lost ecosystems increase human vulnerability in the face of climate change and undermine the ability of countries to implement climate change adaptation and disaster risk reduction measures.

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An advertisement for a course titled "The Lucubrate Quality Learning Management". The background image shows colorful wooden blocks stacked on top of each other. A green "Free" badge is in the top left corner. The text reads: "The Lucubrate Quality Learning Management", "This course is about the learning system we use in Lucubrate", and a blue button with the text "See more...".

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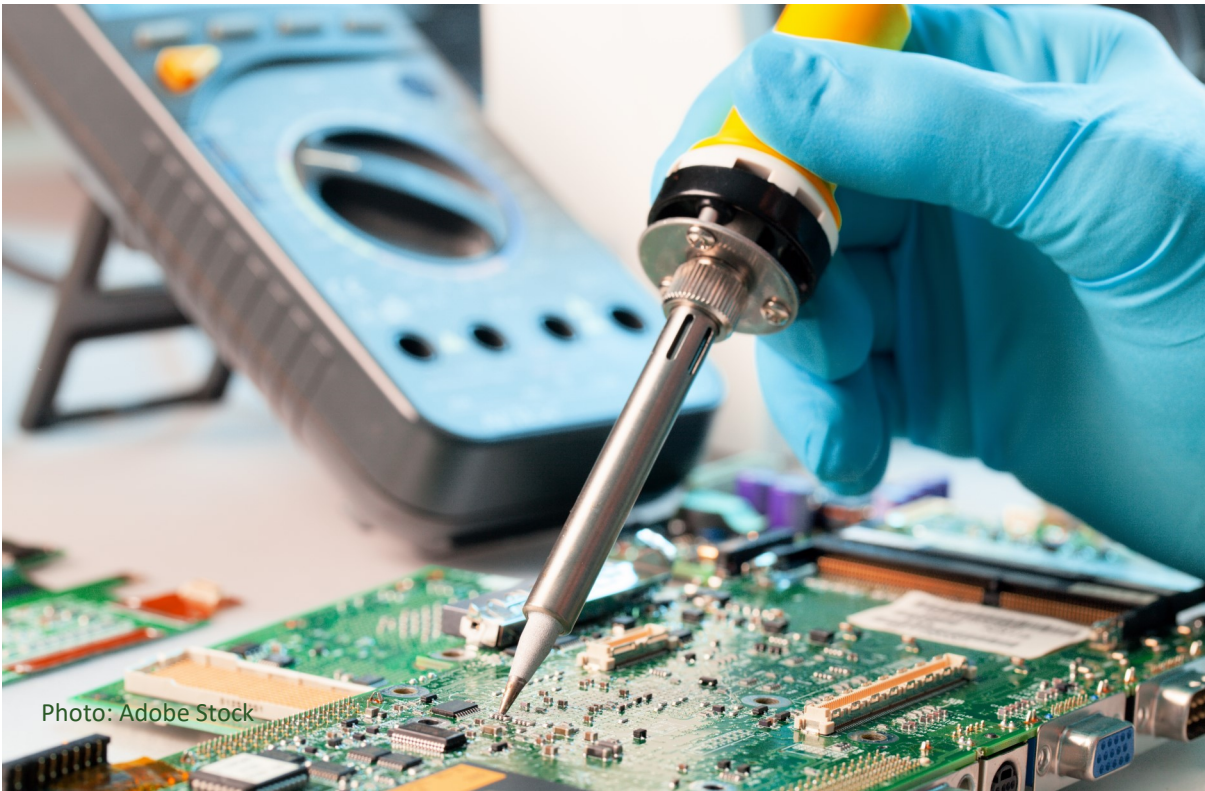
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University or Technical Vocational Education and Training

Technical and vocational education and training (TVET) institutions play an important role in equipping young people to enter the world of work and in improving their employability throughout their careers. Tvet institutions were established to produce the skills required by the economy. Tvet institutions are an alternative study path that can be very beneficial to the right student. TVET has become a vital component of many educational systems due to its importance in helping students to develop the technical and practical skills needed to improve their livelihood and to be competitive in today's ever-changing world.



Over the years many have believed that if you study at a university you will have more opportunities than people who have studied at TVET programs. This has caused confusion amongst young people. To separate the two and how they function we can see TVET offer more practicals than universities. TVET puts more emphasis on practical experience and after ended education, you are skilled and you can easily start working. University generally offers an 'academic' education experience. 'Academic' education is normally defined as education with learning as its primary purpose. An academic education explores the theoretical and hypothetical but is not necessarily practical, realistic or directly useful.

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Which Kind of Secondary Education Produces the Greatest Benefits for Individuals and the Economies?

Which kind of secondary education – general/academic or TVET – produces the greatest benefits for individuals and economies? Global perspectives on this question have changed in line with the evolving skills needs of businesses. Until recently, general education was considered the more lucrative track, since it teaches transferrable skills that can be applied across a range of occupations and tends to offer greater access to decent, well-paid jobs. However, the recent surge in global youth unemployment has been found to stem from ‘skills mismatches’ produced by an overly theoretical approach to education that does not supply the specific technical and vocational skills increasingly demanded by employers. Hence, in many countries, there is high youth unemployment at the same time as there are skills shortages in key sectors of the economy.



Universities or Technical Vocational Education and Training for the Student

There are a huge variety of courses and subjects in both the University and TVET systems today. If you are a student, the most important factors to consider are your strengths and your interests. You'll always find it difficult to really apply yourself to something you hate doing.

University courses commonly have a long-term payoff – it might be several years before you can use your qualifications to start earning an income. Even if you're not necessarily interested in going to university, some careers do require you to earn a degree – for example, school teachers need to complete a teaching degree in order to work in Australian schools.

Vocational education can be a great way to get fast-tracked into a well-paying skilled job, can be one of the quicker ways to change your career path, and is ideal for those starting tertiary education as an adult. Some vocational qualifications are mandatory to work in certain industries and roles.

References:

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Skills and Achievements for the Future

By Karl Skaar

We need skills in addition to the professional and technical skills. The more jobs become automated, the higher demand we will see for other kinds of skills.



The changes to the labour market driven by advanced technologies will require considerable investment in retraining and developing skills that are transferrable across industries. Employers are seeking better information about students' abilities to work in teams, use technology, communicate, solve problems or learn on the job.

While technology has replaced many jobs that can be automated, it has created far more jobs that focus on higher value-added tasks that require higher-order thinking skills and core competencies. Skills that are currently not part of the curriculum in the education will increase in demand – such as empathy, adaptability, entrepreneurship, initiative-taking and the ability to negotiate. Human skills like creativity, care for others and collaboration are what the future of work and society will be built upon.

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The New Skills

Many skills we need at work can be characterised as life skills. That is skills a person learns through his or her life in the meeting with others. These are skills you need in the community and in the workplace. These are the kind of skills the future will require. However, it is not easy to find much about it in the curriculum in education. Under we have made a list of this kind of skills. The list can be longer and include more important skills.

- Empathy
- Adaptability
- Entrepreneurship
- Initiative taking
- Ability to negotiate
- Creativity
- Care for others
- Collaboration

In the following, we will look at these skills.

Empathy

Empathy is the visceral experience of another person's thoughts and feelings from his or her point of view, rather than from one's own. Empathy facilitates prosocial or helping behaviours that come from within, rather than being forced, so that people behave in a more compassionate manner. Empathy stands in contrast to sympathy which is the ability to cognitively understand a person's point of view or experience, without the emotional overlay. It should also be distinguished from compassion, even though the terms are often used interchangeably. Compassion is an empathic understanding of a person's feelings plus a desire to act on that person's behalf (1).

Simply put, empathy is the ability to step into someone else's shoes, be aware of their feelings and understand their needs.

Adaptability

Adaptability is a necessary quality in an ever-changing work environment (2). Adaptability is a skill refers to the ability of a person to change his actions, course or approach to doing things in order to suit a new situation. Adaptability is not just about changing something or adjusting to a situation. It encompasses being able to effect changes in a course of action with smoothness and time-liness, without any major setbacks.

Adaptability is important at the workplace because as new technology evolves, companies established in the "old ways" may have difficulty competing with major players in their industry. Employers are looking for employees who can demonstrate strong adaptability skills and become company leaders.

A worker must be able to learn quickly and put that learning into practice. Additionally, he or she must be able to recollect what is discovered. This can be used to identify trends and make decisions accordingly.



Entrepreneurship

Entrepreneurship has a crucial role to play in modern societies due to its contribution to the generation of new ideas, innovation, job creation and economic growth.

Entrepreneurship is 'an individual's ability to turn ideas into action. It includes creativity, innovation and risk-taking, as well as the ability to plan and manage projects in order to achieve objectives. It is seen as vital to promoting innovation, competitiveness and economic growth. Fostering entrepreneurial spirit supports the creation of new firms and business growth. However, entrepreneurship skills also provide benefits regardless of whether a person sees their future as starting a business. They can be used across people's personal and working lives as they encompass 'creativity, initiative, tenacity, teamwork, understanding of risk, and a sense of responsibility. (3)

To successfully start-up and operate a business, entrepreneurs need to use a wide range of skills. This skill-set includes skills that are required from employees in any workplace, but also those skills needed to respond to the additional demands of running a business. While some of these skills may not be absolutely necessary for successfully operating a business, possessing them is likely to increase the quality of an entrepreneur's business and the chances that it will be sustainable and grow. (4)

In the table, we have listed a set of skills that reflect entrepreneurial skills. The skill-set is listed in three different categories; Technical skills, Business management skills, and Personal entrepreneurial skills.

Technical skills	Business management skills	Personal entrepreneurial skills
Written and oral communication	Planning and goal setting	Self-control/discipline
Environment monitoring	Decision making	Risk management
Problem solving	Human resource management	Innovation
Technology implementation/use	Marketing	Persistence
Interpersonal	Finance	Leadership
Ability to organise	Accounting	Change management
	Customer relations	Network building
	Quality control	Strategic thinking
	Negotiation	
	Business launch	
	Growth management	
	Compliance with regulations	

Source: OECD 2014



Initiative taking

Initiative taking is about beginning a task or plan of action. When you show initiative, you do things without being told; you find out what you need to know; you keep going when things get tough, and you spot and take advantage of opportunities that others pass by. You act, instead of reacting, at work (5).

The initiative has become increasingly important in today's workplace. Organizations want employees who can think on their feet and take action without waiting for someone to tell them what to do. After all, this type of flexibility and courage is what pushes teams and organizations to innovate and to overcome competition.

Proactive workers are in high demand, and it's easy to understand why. When it comes to creating positive change, these employees don't need to be told to take initiative. Research confirms that, compared with their more passive counterparts, proactive people are better performers, contributors, and innovators (6).

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Ability to negotiate

Negotiating is a part of everyday life, but at work, it is critical to your success. Poor negotiation can cripple a company just as quickly as losing key customers. While most negotiating strategies seem like common sense, it's not uncommon for people to get caught up in the emotion of the moment and ignore their basic instincts. Emotion, luck and magic have no place in a successful negotiation.

To negotiate is bargaining (give and take) process between two or more parties (each with its own aims, needs, and viewpoints) seeking to discover common ground and reach an agreement to settle a matter of mutual concern or resolve conflict (7).

Negotiations occur frequently within the workplace and may occur between coworkers, departments or between an employee and employer. Professionals may negotiate contract terms, project timelines, compensation and more. Negotiations are both common and important, so it's helpful to understand the types of negotiations you might encounter as well as how to improve your negotiation skills.

Creativity

Creativity involves transforming your ideas, imagination, and dreams into reality. When you're being creative, you can see the hidden patterns, make connections between things that aren't normally related, and come up with new ideas. Creative ability depends on creative thinking which is part of hard work but largely creative problem-solving.

Creativity is an important subject in business management, economics, psychology, sociology and philosophy, fields that deal with creating and identifying new ideas. Each of these disciplines uses a discipline-specific language and theoretical framework. The entrepreneur applies these new ideas to innovation in products, services, organizations and markets (8).

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Care for others

People are social beings. Human connection is a basic need, and relationships matter. Because people spend so much of their time at work, a caring workplace –an environment of understanding, community, and support can nurture positive relationships. This social aspect of work is vital to building a workplace where employees are engaged. Providing a workplace that offers caring, encouragement, and support can be highly engaging. When employees know that their managers and leaders believe they will do good work, the energy to accomplish the workflows. A caring workplace is one where the colleagues genuinely care about each other.

When team members are motivated more to help others, even at the expense of their own performance, their teams perform better. This type of behaviour is defined as prosocial motivation, which highlights the social aspect of work by emphasizing individuals' concerns about how their actions can affect others' well-being. Prosocially motivated individuals are described as givers who are primarily concerned with contributing benefits to others, rather than calculating personal returns, the research said (9).

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Collaboration

Collaboration is said to take place when two individuals or a group of people work together towards achieving a common goal by sharing their ideas and skills. It can happen in traditional as well as virtual teams. With advancements in technology, using cloud-based programs to share files and communicate has become commonplace.

Collaboration is a working practise whereby individuals work together to a common purpose to achieve business benefit. Collaboration enables individuals to work together to achieve a defined and common business purpose.

One of the biggest factors that contribute to the success of any business is whether or not its employees are able to perform together with a team. With increasing competition, it has become extremely important to encourage creativity in the office, in order to improve productivity and promote healthy employee relationships. Working in teams enables employees to be quicker and more effective in their work, as compared to people who work on projects on their own. Collaborating also makes employees more responsible, which goes a long way in raising their motivation levels, especially when teams work virtually (10).

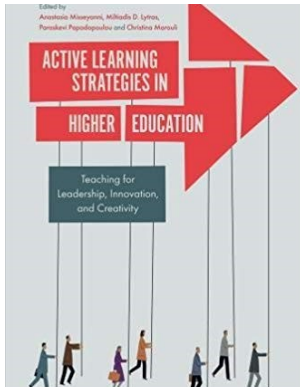
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Book

Active Learning Strategies

By Anastasia Misseyanni, Miltiades D. Lytras, Paraskevi Papadopoulou, and Christina Marouli



Active Learning Strategies in Higher Education: Teaching for Leadership, Innovation, and Creativity

In the era of the 21st century knowledge society, higher education can play an important role as a driver for innovation, leadership and creativity, as it helps develop not only well informed and knowledgeable citizens but also responsible and creative individuals. The challenges of globalization, tightly linked with rapid developments in Information and Communication Technologies (ICT) and the need to address issues of quality and inclusiveness for a better quality of life and a sustainable future, have become drivers of change in higher education institutions. We are experiencing a shift towards more interdisciplinary curricula and a more integrated and student-centred approach to teaching. Instructors increasingly use active learning and other pedagogies of engagement as a means to increase learning and improve student attitudes. This book explores best practices for effective active learning in higher education. Experienced instructors from different disciplines and countries share their experiences and reflect on best practices, as well as on the theoretical underpinnings of active learning. Contributors share their thinking on strategies based on different active learning methods such as the use of ICTs, collaborative learning and experiential learning, as well as their implications for teaching, assessment, curriculum design and higher education administration. Active learning provides skills for real life problem solving and prepares students to become responsible and active citizens. This book will be a very significant resource for educators who are interested in making a difference in students' lives.

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A black and white photograph of a young child walking away from the camera on a large, weathered log in a park. The child is wearing a dark hoodie, a light-colored quilted vest, and dark pants. The background is a blurred park setting with trees and a fence.

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