



The Role of Higher Education: A Global Common Good?

H. Ahmad and K. Thambiratnam

Photonics Research Center, University of Malaya, 50603 Kuala Lumpur

IAU International Conference, 13th to 15th November 2018

Education as a Public Good

Higher Education in the 21st Century

Education as Common Good

The Malaysian Education Blueprint

The Challenges for the Future

Education as a Public Good

Education as a Public Good

- Traditionally, public good has been linked to the functions and role of the State towards the people as per modern Western societies.
- According to economic theory¹, there are two distinguishing properties that define public goods:
 - Firstly, one person's consumption does not diminish other people's consumption levels of the same good (non-rivalry), and secondly,
 - to exclude someone from consumption is costly, if not impossible (non-excludability).
- Public goods are available to all, and not subject to market competition. Traditional examples include clean air, lighthouses, national security, street lights, and railroads.

Education as a Public Good

- Higher education as a public good centers on issues of funding and on the function of higher education institutions, rather than on questions of delivery and ownership¹.
- State funding and regulation are a key component towards ensuring equitable and affordable higher education opportunities².
- However, the application of the public good in education needs to be re-examined due to increasing private involvement, a shift from the focus of policy and decision-making at different levels, and by the impact of commercialization/marketization.

Privatization of Education

- An outcome of the public good in education is privatization.
- Gaining popularity in the late 70s and early 80s, privatization is understood “as the process of transferring activities, assets, management, functions and responsibilities relating to education from the state or public institutions to private individuals and agencies”¹.
- In the drive towards Education for All (EFA), the trend towards privatization has further intensified .
- As such, education as a public good becomes increasingly more difficult to define since the State is no longer identified with the ‘public’².

1. UNESCO, 2015b, p. 73

2. Rizvi, 2016

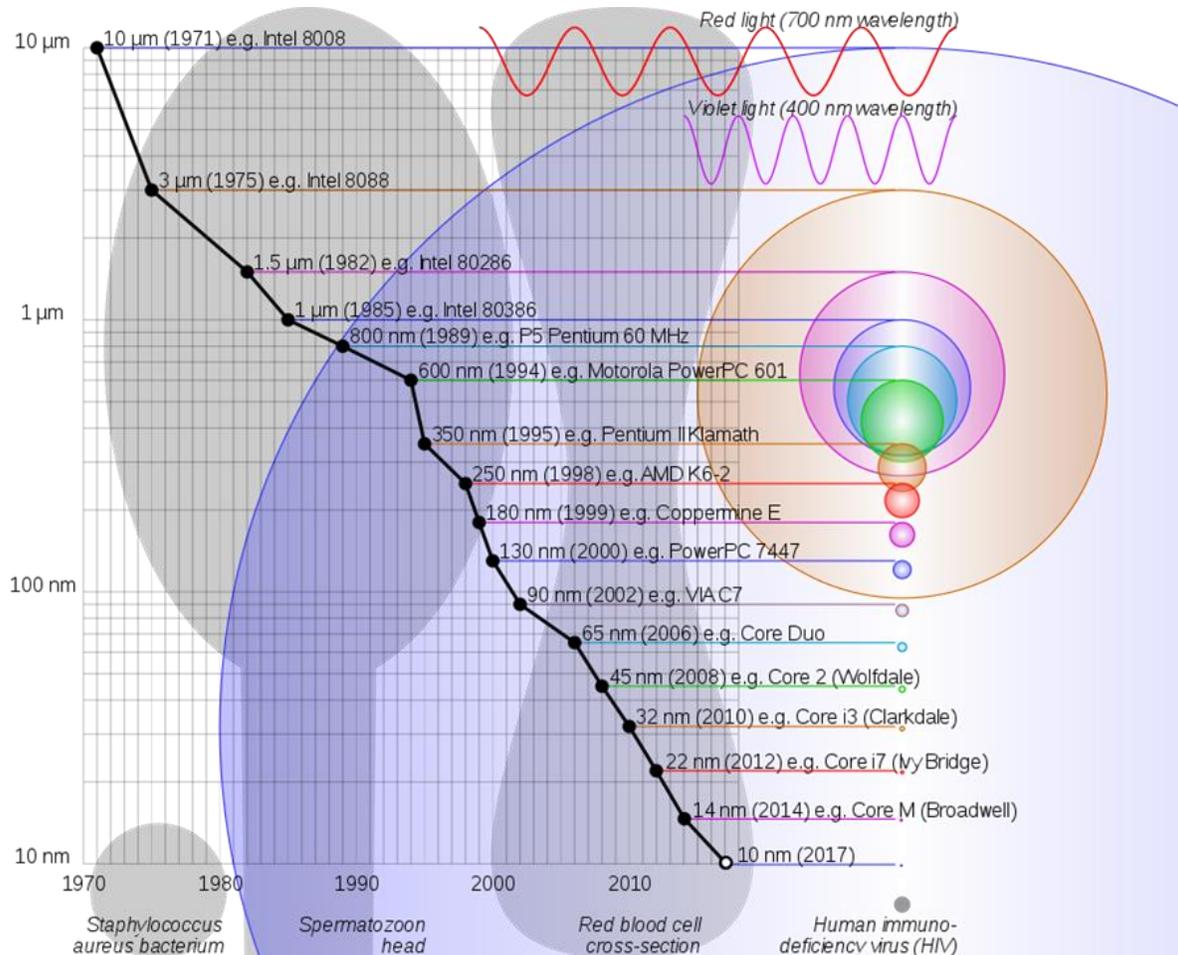
Higher Education in the 21st Century

The Shape of Things to Come – Disjoint from the Industry

- Currently, there is a disjoint between the university and the industry in the development of technology.
- In the early 20th century, developments in the industry and universities were on par, but that gap has widened significantly in the 21st century, with the industry leading.
- A good example is the transistor – in the early days, the development of the transistor by the industry went hand in hand with the university.



The Shape of Things to Come – Disjoint from the Industry



- But as time passed, the industry gained a significant lead.
- Early works on microchips were limited to 10 μm, while now chips are routinely built smaller than 10 nm, about a thousand times smaller.
- However, the curriculum in universities are still focused towards the original technology based at 10 μm.
- This results in students who reach the market having a significant disadvantage – students have no hands-on experience.
- This can only be overcome with the support of the government to help bring the universities forward.

Education and the Industry - Silicon Valley

- Graduates from **Stanford University** and its affiliates have played a major role in the development of this areas. During the 1940s and 1950s, Stanford's dean of engineering, Frederick Terman, encouraged faculty and graduates to start their own companies. He is credited with the nurturing Hewlett-Packard, Varian Associates and other high-tech firms that leads to the grew up of Silicon Valley around Stanford campus.
- To address the demands of Stanford's growth requirements and to provide local employment opportunities for graduating students, Frederick Terman proposed the leasing of Stanford's lands for use as an office park, named the Stanford Industrial Park (later known as Stanford Research Park) in the year 1951.
- One of the major success for civilian technology start-ups was Hewlett-Packard that founded in Packard's garage by Stanford graduates, William Hewlett and David Packard. Hawlett-Packard offices moved to Stanford Research Park shortly after 1953.

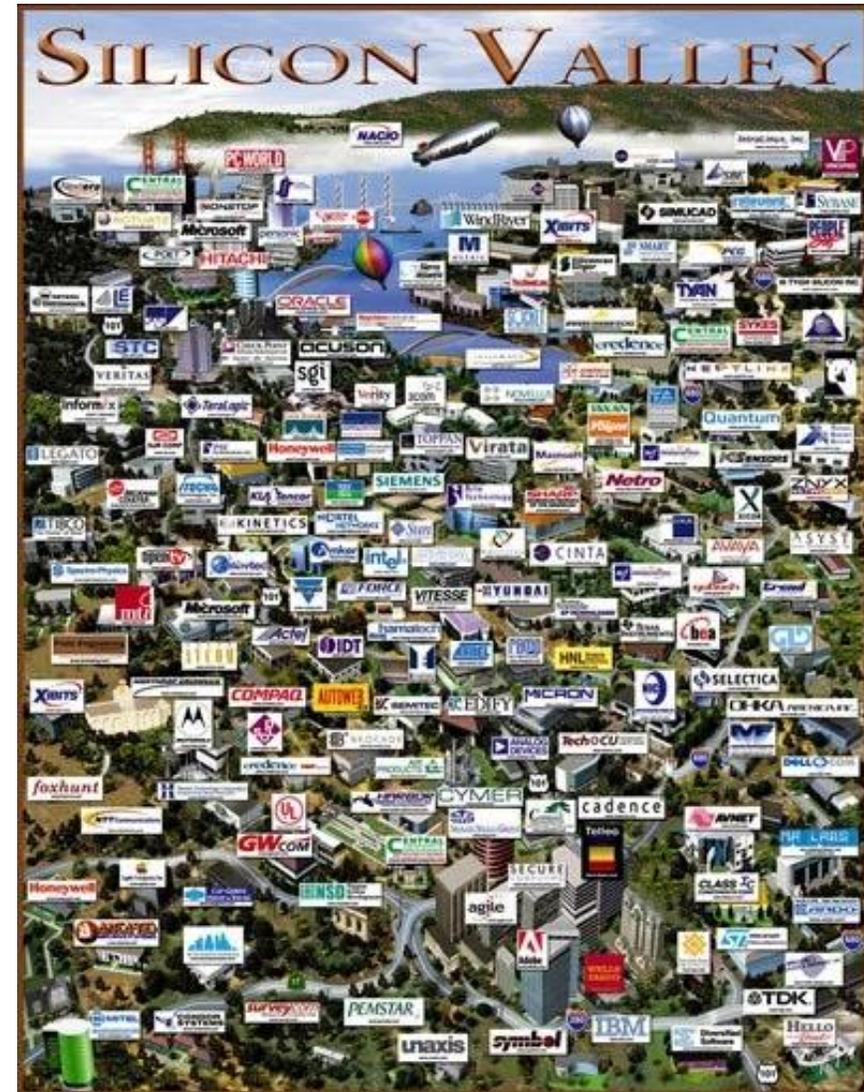


Garage where HP was started



HP HQ today

Education and the Industry - Silicon Valley



The Shape of Things to Come – Challenges in the 21st Century

- Education is increasingly seen by governments as a major contributor to national wealth and economic development.
- As such, the internationalisation of both teaching and research have become critical objectives for most tertiary institutions.
- These include raising quality standards and global relevance, attracting the best students and staff, generating revenue, pushing the frontiers of knowledge through research and promoting internal diversity.
- According to UIS data¹, the distribution of destination countries for mobile tertiary students is concentrated in the US, UK, Australia, France, Germany, Russia, Japan and Canada. Together these countries account for 60 per cent of total international students. Other countries play an important and increasingly large destination role at regional level: South Africa (Sub-Saharan Africa); Singapore, Hong Kong and **Malaysia** (South East Asia); and South Korea (North East Asia).

The Shape of Things to Come – Challenges for the 21st Century

- Globally, there is a change in the way things are done. Economic activities are no longer repetitive as before, but now require high levels of skill and intelligence.
- Manufacturing itself has evolved to become "advanced manufacturing," which relies on the heavy use of technology with a focus on innovation, solution design, agility to respond quickly to changing markets and opportunities, global and national supply chains, and more.
- This requires a new breed of graduates who are comfortable working with emerging technologies, with leadership abilities, advanced conceptual skills, technology-enhanced learning, and high-value professional capabilities.
- Higher education is broadly defined as one of key drivers of growth performance, prosperity and competitiveness.

The Shape of Things to Come – Challenges for the 21st Century

- The need to achieve more effective forms of capacity building for twenty-first-century workers and citizens requires that graduates acquire a broad base of skills from across the disciplines that can be flexibly deployed in different work environments across a lifetime.
- As a result of this, there is a **need for graduates to be adaptable, lifelong learners**
- Collaborative, critical thinking, and communication skills are valuable in an enormous range of professional domains, particularly in an era where jobs are rapidly changing. One could argue that today, more than ever, graduates need to be adaptable and lifelong learners. Memorization and long-term retention of knowledge hold less of a premium when all content knowledge is ostensibly accessible in the mobile devices in our pockets. In addition, students need to learn how to learn.

The Shape of Things to Come – Challenges in the 21st Century

- Graduates need the critical thinking, logical reasoning, and lifelong learning attitudes required to determine whether a news headline on social media is fake and misleading or whether it offers valid and useful information upon which to base a decision.
- Moreover, graduates should be prepared not only to take a job that does not directly relate to their college major but also to change jobs and careers often throughout their working years, particularly in the years just after graduation.

The Shape of Things to Come – Challenges in the 21st Century

New Skill Sets Desired in the 21st Century
Knowledge of science
Knowledge of mathematics
Knowledge of humanities
Knowledge of global world cultures
Knowledge of social science
Knowledge of the arts
Knowledge of technology
Knowledge of languages other than English
Knowledge of sustainability

Education as Common Good

Education as a Common Good

- Education as a common good takes the transformation of public institutions from greater participation of citizens and communities to introduce viable policies and practices in order to overcome more utilitarian and individualistic approaches and build more democratic education systems
- The concept of education as a common good highlights education as a collective societal endeavor¹.
- But the common good is not just limited to the community and the institution of higher education. It also involves the industry and more recently, entrepreneurs.

The Common Good of Higher Education

- **The most important roles of higher education in the new economy:**

Creating a quality workforce

- Higher education gives a person an opportunity to succeed in today's global economy.
- Allows people to keep pace with changes in the global economy and changes in the innovation process.

Supporting business and industry

- There are a lot of jobs today that failed to exist several decades ago.
- Higher education institutions build the right skills that can help countries improve economic prosperity and social cohesion.
- Help the workforce to adapt to the changing demand for new skills, develop relevant skills, and thus support improvement in productivity and growth.

The Common Good of Higher Education (Cont.)

Carrying out research and promoting technologies

- Higher education is an innovation driver towards the development of new technology.
- A key mission of modern universities is finding solutions to big challenges and conducting research within global priority areas as well as contributing to social outcomes such as health and social engagement.
- Focused towards designing technologies that result in new products and supplying advanced technology for use.
- However, knowledge is the true basis of higher education: its production via research, its transmission via teaching, its acquisition and use by students.
- Countries are putting knowledge at the forefront to create a better world. This can be achieved through the training of first-class minds, through major advances in science and technology and by encouraging an interest in learning.

The Common Good of Higher Education - Holistic Education

- Education as a common good questions the current model which sees education as an individual socio-economic investment.
- Education as a common good instead favors a humanistic approach which places people and their connections with the community at the center.

Albert Einstein once said, “all religions, arts, and sciences are branches from the same tree.”¹

- This is a holistic view in which all human knowledge and inquiry are fundamentally connected
- This vision implies the enhancement of the cultural, social and relational dimensions of each educational process, grounded in social relationships more than in economic transactions and profit-making purposes².

The Malaysian Education Blueprint

The Malaysia Education Blueprint

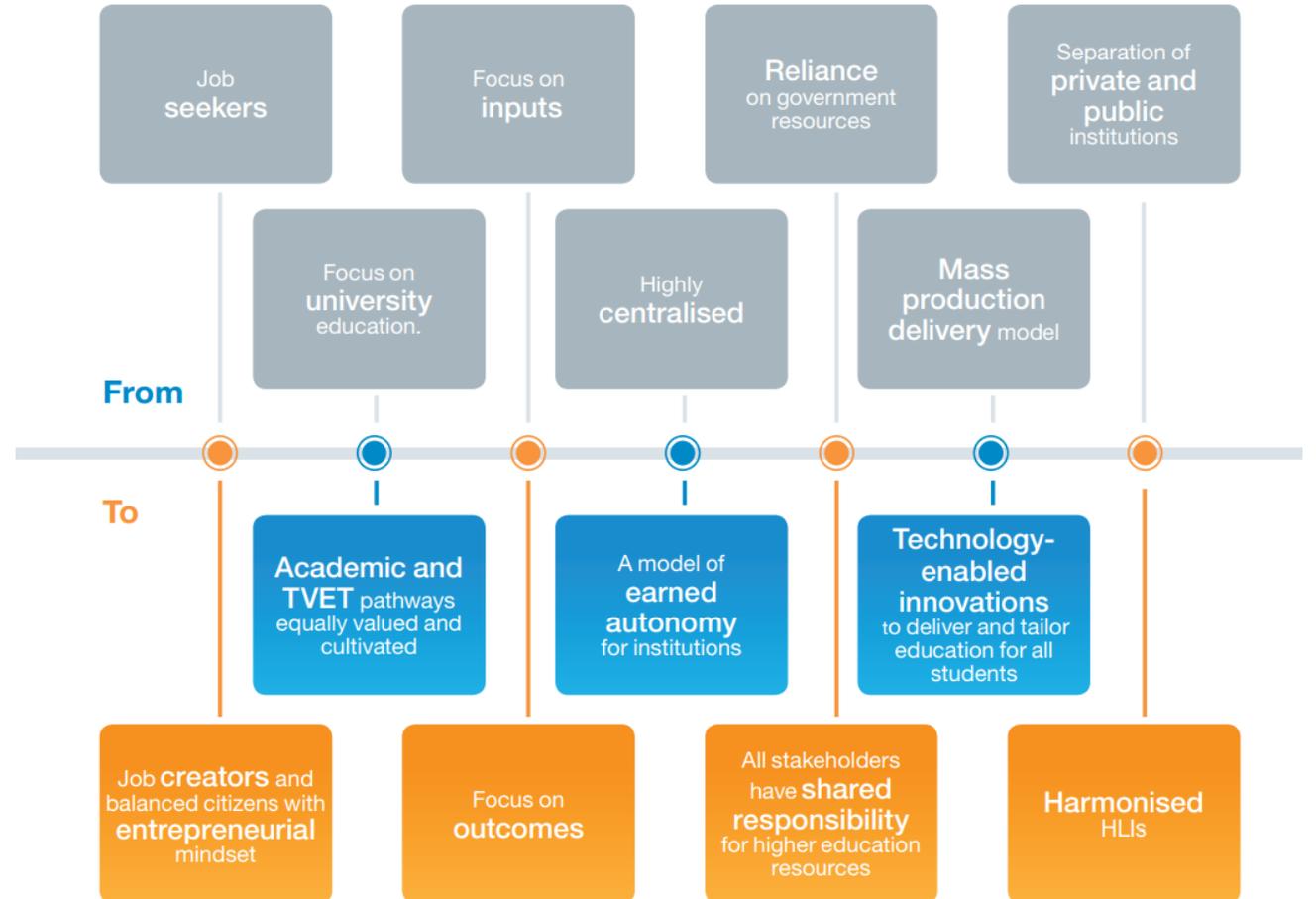
There are five outcomes that this Blueprint aspires to for the Malaysian education system as a whole: access, quality, equity, unity, and efficiency :

- **Access:** The Ministry thus aspires to increase access to and enrolment in higher education by 2025. By successfully improve tertiary enrolment rates from 36 % to 53 %, this will bring Malaysia on the highest enrolment level in ASEAN. The exact pace and nature of the expansion plan will be determined in close collaboration with industry to ensure supply matches demand.
- **Quality:** On quality of graduates, the Ministry aspires to increase the current 75 % graduate employability rate to more than 80 % by 2025. The Ministry aim to place one of the University in Asia's Top 25, two in the Global Top 100 and four in the Global Top 200 by 2025. Whereby, on quality of the overall system, the Ministry aspires to raise its U21 ranking for research output from 36th out of 50 countries to the top 25 by 2025.
- **Equity:** Ministry aims to ensure that all Malaysians have the opportunity to fulfil their potential regardless of background.

The Malaysia Education Blueprint

- **Unity:** The Ministry is committed to ensuring that enrolment in HLIs reflects the mix of Malaysia's ethnicities. The aim is to create an education system that provides students with shared values, shared experiences, and common aspirations by embracing diversity.
- **Efficiency:** The Ministry aims to maximise the return on investment in higher education and to maintain the current levels of Government expenditure per student across public institutions.

The Malaysia Education Blueprint



The Challenges for the Future

The Student of the 21st Century

Future students aren't just knowledgeable. They are also skilled:

- **Communication Skills.** This includes cooperation, problem-solving and listening skills. In addition, students learn how to deal with conflict situations.
- **Social Awareness Skills.** Students learn how to consider other peoples' opinions and show empathy.
- **Emotional Management Skills.** The students learn how to manage stress and motivate themselves to work towards particular goals.
- **Self-Awareness Skills.** Throughout the process of collaborating, students learn how to identify and express their own feelings.
- **Decision-Making Skills.** When students work in a group, they have to make reasonable choices that everyone agrees with.

The Student of the 21st Century

Tomorrow's students will also have enhanced their social-emotional skills, including:

- **Self-awareness.** First of all, the students should always recognize and control their own emotions. They should understand how their actions affect the people around them. Leadership positions demand authority, but they also call for humility.
- **Accountability.** When something goes wrong, a true leader doesn't blame others. They make a commitment to admit their mistakes and face the consequences. Teamwork and collaboration activities teach students how to feel responsibility for the input they have on the overall result.
- **Self-motivation.** An emotional skill that pushes successful leaders towards their goals.
- **Collaboration** A successful leader needs to showcase masterful collaboration skills. They know when to praise others and how to resolve conflict situations within the team through proper communication. The classroom can be the place where they develop the foundation of this skill.

Thank you