The Hybrid Education Model: Evolution of the Higher Colleges of Technology, UAE

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The "Applied" or "Professional" Higher Education (HE) institutions across the world are engaged to explore new, innovative educational models to address the expectations of the labour market. This has been triggered by the intensive globalization emphasizing the institutional need to streamline the mission and clearly define the identity, which would be recognised by concerned external stakeholders.

Since established in 1988, the pedagogy at the Higher Colleges of Technology (HCT), the largest public HE institution in the UAE, has evolved from the "Learning by Doing" concept towards the progressive and innovative "Hybrid Education" model, comprising together elements of academic, professional and vocational learning approaches. The HCT 2.0 Strategy prioritizes continuous innovative transformation towards needs of the knowledge economies of the future. In order to achieve the development goals, HCT focusses on partnership with the industry and provision of the real-life and real-work learning experiences.

Applied or Professional Higher Education: An identity crisis

Regardless of the geographic context, the positioning of the "Applied" or "Professional" Higher Education (HE) is dependent on interpretations and perceptions rather than standard definitions. Skolnik (2016: 364) states that "The distinction between applied and academic orientations of higher education institutions is admittedly a simplification, and one that has been difficult to explicate." One of the reasons is that in number of countries same post-secondary/tertiary educational institutions offer both academic and applied programs. For example, most of the community colleges in the USA offer both types of programs where the

majority of students choose applied programs (Cohen et al., 2014). In some Canadian provinces, colleges and institutes are approved to offer "applied" bachelor degrees (Parry et al., 2012) and a similar practice has been recently adopted in Australia and New Zealand. European practice is quite diverse, in the UK, further education colleges, similar to community colleges in the USA, offer academic and vocational programs (Dougherty, 2009). In Poland, universities may offer professional programs while in France and Slovenia, applied programs are offered by specialized institutions within universities (Camillieri et al., 2014). Dual systems, which tend to distinguish between academic and applied stream-oriented institutions are in place in a number of European countries such as Germany, Finland, Netherlands, and Belgium as well as (Camillieri et al., 2014).

The contemporary applied or professional HE sector has evolved mostly from the vocationally oriented (VET) post-secondary institutions (Grubb, 2003; Teichler, 2008; Wheelahan, 2016). The reasons for such evolution varied from the need to diversify and enhance the qualification level for industry professionals, address the social inequality (Wheelahan, 2016) or institutional aspiration (Levin, 2004). On the other hand, traditional comprehensive academic research intensive universities, driven by economic factors (Camillieri et al., 2014), have started to recognize the need for a change and began to shift towards expectations of the labor market and industry.

Camillieri et al., (2014) provides the following definition of the Professional Higher Education (PHE): "Professional higher education is a form of higher education that offers a particularly intense integration with the world of work in all its aspects, including teaching, learning, research and governance". This is usually reflected through the specific teaching approaches including real-work experience, strong focus on employability and applied research. Figure 1 shows the extent of the common differences between academic and professional HE:
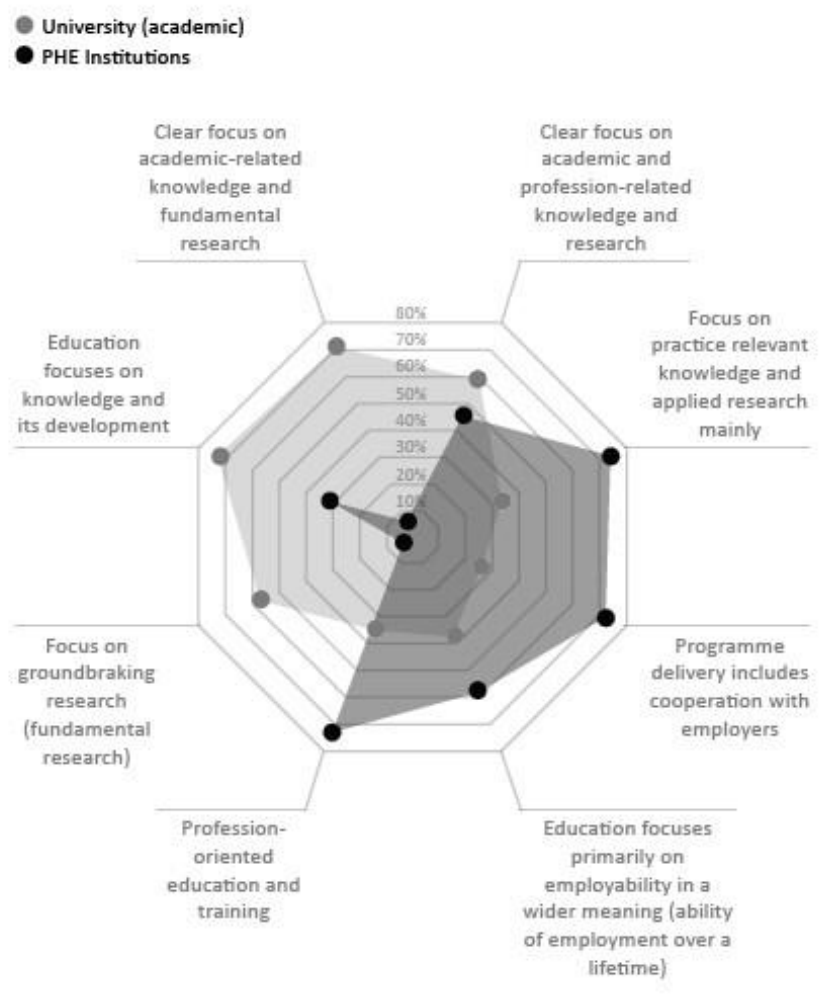
Figure 1 – Self-image of academic and PHE (Camillieri et al. 2014)

Context - The UAE HE Ecosystem

The United Arab Emirates is a relatively young country, evolved from the barely inhabited desert to one of the most advanced economies in less than 50 years. One of the pillars of the country development was the constant strategic focus on the development of its human capital through major investments in education and technology. Between 1977 and 1998, three federal public Higher Education institutions (UAE University 1977, HCT 1988, Zayed University 1998) have been established to support that the UAE' human capital investments. The tertiary education enrolment rose from 1.3% in 1979 to 30% in 2009 (Crown Prince Court 2011). In 2007, UAE Ministry of Higher Education and Scientific Research launched the new Master Plan (MoHESR, 2007) stressing the importance of the technical literacy, necessity of contribution to the UAE economic development and cooperation between HE and private

sector. In addition, federal HE institutions have been obliged to streamline their missions and define their position within the HE ecosystem.

Further developments in the tertiary sector have brought additional diversity. The number of regional public institutions, semi-government and private universities and branch campuses of international HE institutions from 13 different countries (QAA, 2017) continued to grow. Due to the country's federal organization, their operations and external quality assurance are regulated by several federal and regional entities (Jose & Chacko, 2017), led by the Commission for the Academic Accreditation (CAA), established in 1999. According to data available on major regulators' websites (www.caa.ae, www.khda.gov.ae), at present, in the UAE operates more than 100 tertiary HE providers, with different backgrounds, in different statuses, and covering different territories.

In 2010, UAE government has established the National Qualifications Authority, with a mandate to establish and deploy a national qualification framework (NQA, 2012). This led to the development of the Qualification Framework Emirates (QFEmirates) formally announced in 2012, recognizing three major educational sectors: General Education, Higher Education (HE) and Vocational Education and Training (VET).

HCT Mission and Aspirations in Alignment with the National Development Strategies

In 1985, Sheikh Nahayan Mabarak Al Nahayan, Chancellor of the United Arab Emirates University, made a commitment to establish a new system of post-secondary education for UAE Nationals that would reinforce the ideals of productivity, self-determination, and excellence. In fulfillment of that vision, the Higher Colleges of Technology have been established in 1988, by the Federal Decree issued by UAE President Shaikh Zayed bin Sultan Al Nahyan. The mission of HCT is to provide applied higher education to equip generations with knowledge, skills and competencies that meet international standards and the future needs of the UAE industry and society.

In between 1988 and 2013, HCT system has grown from 4 to 16 modern campuses geographically dispersed across the country with more than 18.000 students. The original HCT education model was very much applied in nature with emphasis on Learning by Doing. The majority of HCT faculty had relevant industry experience. During that period all federal

institutions including HCT were not required to comply with the national accreditation standards.

In 2014, the UAE Government has launched its strategic National Agenda for the year 2021 addressing six pillars, two of which were directly related to the educational sector. These are: A Competitive Knowledge Economy and a First Grade Education System.

In accordance with the National Agenda and QFEmirates, two federal regulatory bodies – The Commission for the Academic Accreditation (CAA) and Vocational Education and Training Awards Commission (VETAC) have been mandated to assess the quality of the post-secondary and tertiary providers and accredit them accordingly. Since 2015, HCT has been required to comply with the CAA regulation.

Due to the already discussed diversity of the tertiary providers, CAA has developed a very robust set of standards and procedures to ensure that every student in the UAE will be able to gain the sought competencies with adequate academic depth and breadth. The issue with HCT was that programs in its' character were more hands-on, and that faculty has been majorly recruited with the industrial experience but without terminal degrees. Both facts conflicted with the CAA criteria, and initiated intensive debate over the identity of HCT within the UAE education ecosystem.

HCT 2.0 and the Evolution of the Hybrid Education Model

The new regulatory requirements coincided with the economic challenges triggered by the drop of the oil prices at the global market. The UAE economy started to slow down leading to a greater demand for high-skilled Emirati workforce than ever before. HCT as the largest federal tertiary provider in the UAE has been recognized as one of the driving forces in this quest.

Between 2013 and 2015, a new Chancellor and Vice Chancellor were appointed to lead HCT through a transformational journey with a new vision and strategic aspirations that is aligned with the UAE National Agenda and focused on providing the UAE labour market with work ready skilled Emirati professionals enabled to contribute to the UAE' aspired sustainable knowledge-based economy.

The new vision of HCT branded as HCT 2.0 (to imply the second generation of HCT) was further translated to a set of five strategic goals as follows:

1. Empowering students with 21st century skills in a vibrant campus environment engaged with their local communities.
2. Continuous improvement of academic programs, faculty and scholarship activities to meet high quality standards and industry requirements.
3. Engagement of strategic partnerships to foster strong connections with industry, higher education institutions, alumni and high schools.
4. Provision of quality and efficient administrative services with effective governance.
5. Embedding an innovation culture in the institutional environment.

The intention of the listed goals were to maximize the student engagement and employability rate of HCT graduates by offering them to gain life-core skills and applied academic grounding required to support 4th industrial revolution, to ensure that all HCT programs are internally and externally quality assured and aligned with regulatory and professional requirements, to embed applied research an innovation culture into the HCT core activities, to foster partnership between internal and external stakeholders on national and international level, to support development of communities hosting HCT campuses, to attract, develop and retain best faculty and staff, and to develop governance and operation model that can support sustainable institutional growth.

HCT 2.0 centres around an increased focus on Graduate Employability in several dimensions including private sector employment, entrepreneurial graduates, and employment in field of specialization. One of the major shifts towards such increased focus on graduate employability was the evolution of HCT's Hybrid Education model. A model that introduced a major reform to all HCT program offerings to ensure sustainable alignment with industry requirements while maintaining the academic rigor. A model that centres on student success through timely career counselling and academic advising while blending traditional and innovative teaching and learning methods throughout the curriculum, including major-related compulsory internship at all study programs. A model that recognizes industry and job specific professional certifications by ensuring alignment with its bodies of knowledge that

have been recognized by the industry over the years for credibility and improved performance. Figure 2 shows a schematic diagram of HCT's Hybrid Education Model.
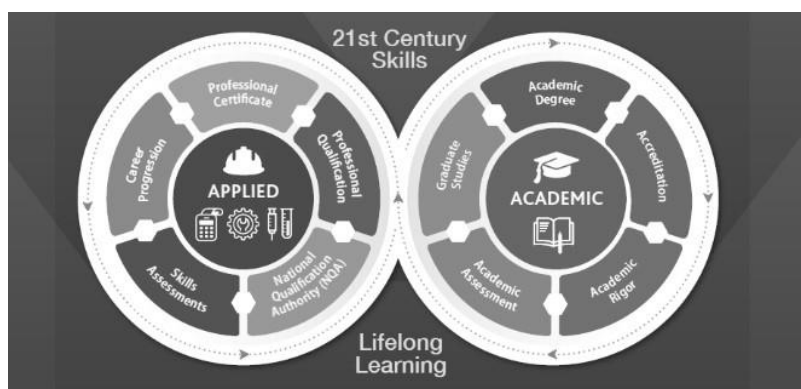

Figure 2 – HCT Hybrid Education model

Industry Partnership: A Key Success Enabler for the Hybrid Education Model

The Hybrid Education Model was founded on a number of key success enablers, one of which is the reinforcement and maintenance of industry partnerships. The notion here is that employers from different industries should not be treated as end users of our product (students), but rather as partners throughout the entire student journey from enrolment to employment. HCT intends to provide all students with the substantial learning dimension related with real-world and real-work experience. The additional presumption is that industry partners would also benefit from such collaboration (ETF 2013). Accordingly, HCT has defined a set of strategies and intended benefits in a win-win model of partnership between itself and its industry partners. Those strategies and foreseen benefits defined seven activities to be enacted as the core of the relationship with the industry partners. Figure 3 shows the set of seven activities and a brief description of each.
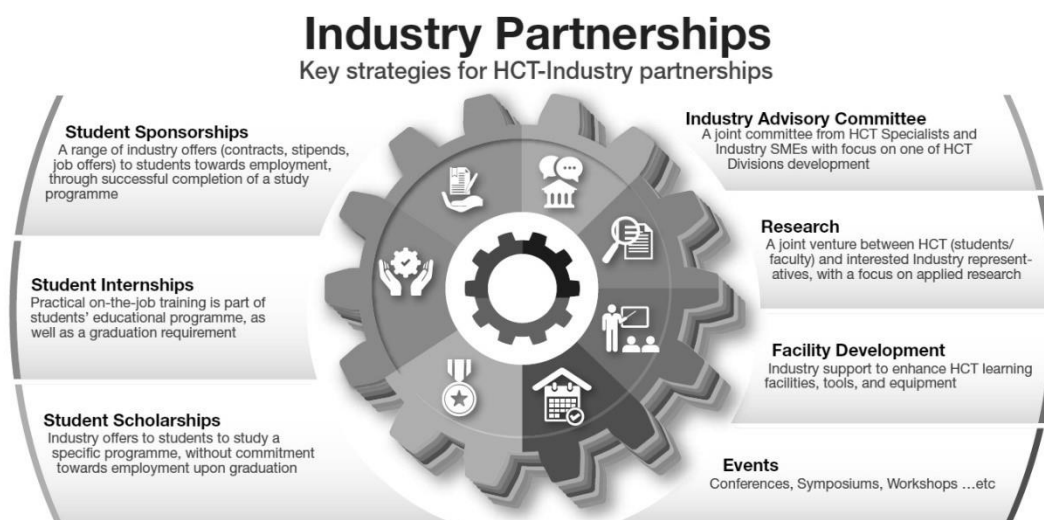
Figure 3 – Key HCT strategies for partnership with industry

Following the model, HCT students are being exposed to the real-life and real-work experiences before graduation. The early exposure to job-related situations supports the career choices. In addition, employers get the opportunity to appraise their work-related skills and competences and target the potential recruits. The scholarship and sponsorship schemes enhance the students' motivation and shorten the duration of studies.

However, like in similar learning ecosystems (Jackson et al., 2017), there is still quite shallow understanding of the work-integrated learning on both sides (colleges & industry). As mentioned in thorough study by Inceoglu et al. (2018), potential negative effects may also occur due to lack of supervision or extensive workload during the work-placements. Therefore, current engagement at the HCT focuses on capacity building of the sustainable internal and partnership-related operating models.

Results and Challenges

The Hybrid Education model of HCT is driven by the views of HCT's customer groups: students, industry, corporates, and community. Through its transformation journey, HCT has realized that its mission must evolve to become more of an entrepreneurial character of opportunities with a clear focus on its core business areas: teaching and learning, applied research and innovation, and community outreach and services.

Several initiatives were launched to strengthen the Hybrid Education model to deliver real value to the different customer groups while maintaining the academic rigor and industry relevance of HCT's program offerings. This in turn introduced a practice at HCT that aims at developing "Strategic Learning Alliances" between HCT and its strategic industry partners. A practice is driven by a solid definition of HCT's program offerings that are centred on internal and external stakeholders' needs and requirements while maintaining consistent open channels of communication throughout the industry partner journey with HCT.

Recognizing that the introduction of a new framework for higher education takes at least a full graduation cycle to assess its results and outcomes, however, results to date indicate that HCT is on the right track towards making a real difference in the lives of its students and the relationships with its industry partners. Such results were exemplified in improved satisfaction levels amongst its students and industry partners with their relationships with HCT. On the academic and professional education side, HCT was successful in achieving full international accreditation for all its eligible programs and full alignment in its entire program offerings with the bodies of knowledge of internationally recognized professional certifications in all disciplines offered by HCT.

Despite the abovementioned, positive results and outcomes and as with any transformation journey, face challenges. Change management in particular with HCT's faculty and middle management was recognized as the most critical internal challenge to address and cope with to ensure successful adoption and application of the Hybrid Education model.

Conclusion

Contemporary tertiary education is transforming quickly, with graduate employability taking central stage (Griffith 2017). Recognizing the significance of such momentum, applied / professional HE seeks new models to address the latest industry developments. As industry constantly changes, requirements of the knowledge economy – highly skilled and work-ready, innovative and creative graduates may be acquired only through the transformation of the pedagogies.

The Hybrid education model, launched by HCT in 2017, is one of the variations of applied HE pedagogies which are highly relying on partnerships with industry throughout the full educational cycle. To ensure the success of the new education model, HCT has initiated

establishment of the Global Applied Education Network (GAEN), seeking to find peer institutions from all around the world to join the initiative and become partners in:

1. Showcasing Best Hybrid Education Practices;

2. Employability-related Research (Labor Market needs, Future Jobs, Employability Skills);

3. Building International Partnerships in Industry-Centered Applied Research & Innovation, and

4. Defining Global identity of Applied / Professional / Hybrid Education institutions.

The process is on the way, first initial agreements with eight peer institutions (founding partners) are already signed, and launching conference is planned for the second part of the 2019. With this resource, HCT expects to become the regional leader and the global hub in Hybrid education development.

In 2018 HCT has celebrated 30th anniversary. Keeping the promise stated in its' mission statement, college will continue with transformation in order to equip young Emirati generations with knowledge, skills and competencies needed to support UAE economy and society through the Industry 4.0 era.

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