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Building a Case of Diverse Knowledge Transfer in Higher Education between Finland and Dubai to Facilitate Sustainable 21st Century Learning and Better Engagement of Emirati Students

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Authors Background

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Dr. Krista’s has prior experience and expertise in using the Service Design Approach in higher education using Learning by Developing (LbD) philosophy at Laurea University of Applied Sciences (Laurea University) in Finland and researching co-creation, service design, and service innovation at the University of Cambridge in UK.

Abstract

The article makes a comparison of learning models implemented at Al Dar University College, Dubai and Laurea University, Finland while trying to synthesize post-secondary education’s (PSEs) functions and their role in enabling student success; against a backdrop of PSEs social and economic impact on 21st century learning skills around the world. This article explores different elements required for student success such as teaching, learning models and education technologies within UAE, Finland and around the globe focused at 21st century. This article also attempts to derive a common language around concepts such as PSE and 21st Century Learning Skills that are understood using different terminologies in these countries. The article also sets some action plans for further development as future goals of learning development, research and policy advocacy / recommendation, to draw a future map on how education in the Emirates should be built by benchmarking best practices from around the world.

Key terms: Learning Models, Post-Secondary Education, Student Success, 21st Century Learning Skills

1. Introduction

The aim of the article is to do a case analysis of learning models used at Laurea University, Finland and Al Dar University College, UAE and to evaluate the effective transfer of some of these models in undergraduate classrooms in Dubai for better engage Emirati and other students for effective transfer of 21st Century learning skills into today’s workplaces. The article attempts to explore the current situation,
including strengths and barriers to learning in Post-Secondary Education (PSE) today. It looks at these through the framework of 21st Century Learning Skills, lens of Emiratization and some learning methods used in Higher Education in Finland.

1.1 Scope and Limitations
The research has three related mandates addressing several levels of student engagement through 21st Century learning models and its potential for facilitation of sustainable Emiratization in the UAE: learning development, research, and policy advocacy / recommendation. The current paper focuses at various teaching perspectives and good learning practices adopted at both Al Dar University College (Al Dar) and Laurea University (Laurea), since the authors believe it would be really valuable to learn from each other, while adopting the best from both systems and to integrate the best of both learning methods to enhance sustainable student learning.

Based on this understanding there is great scope for best practice research and to integrate within each other’s systems’ different global learning models and to begin drawing a future map on how higher education in the Emirates may be built by benchmarking these best practices from worldwide.

1.2 Significance of the Study
The paper aligns strategically with UAE’s national educational agenda of Emiratization through sustainable higher education and both institutions’ academic and strategic goals. “The Emiratization plan is primarily based on training and qualifying UAE nationals, equipping them with all necessary tools and competencies and supporting them to confidently compete in the job market.” HE. Sheikh Mohammed bin Rashid, Prime Minister of the UAE, 2009 (as quoted by Gallaher, David, 2009, p. 18). This includes, providing academic excellence and innovative learning experience for a diverse student body; enabling graduates to pursue life-long learning and developing their careers; contributing to sustainable development of UAE and the region through knowledge-driven partnerships; collaboration with local and regional communities; maintaining and enhancing commitment to recruit and retain diverse faculty and staff within a supportive and collegial work environment; and providing an environment and resources to nurture and support research activities that address the comprehensive needs of a growing population of professionals in the Arab world.

1.3 Operational Definition of Terms in the Study
An attempt is made here to derive a common language since concepts such as Post-Secondary Education (PSE) and 21st Century Learning Skills are depicted using different terminologies in different countries.

- **Post-Secondary Education**: Any type of education after high school, which is considered secondary education, offered by colleges, universities, vocational schools and any other educational facilities that provide an academic degree or certificate.

- **21st Century Learning Skills**: Four critical areas for development, namely: collaboration and teamwork, creativity and imagination, critical thinking and problem solving, which are needed extensively in business today.

- **Learning Methods**: Principles of instruction implemented by teachers to achieve the desired learning by students.

- **Learning Models**: ‘Conceptual frameworks that describe a systematic procedure in organizing learning experiences to achieve specific learning objectives and serve as a guide for learning and helps teachers in implementing learning activities’. Winataputra in Sugiyanto (2008)

- **Service Design Approach**: Internally focused on tools, processes and systems that support to deliver competitive user experiences by engaging users into a collaborative design process.

- **Learning by Developing**: A learning approach that incorporates student into the center of learning and is an important part of an organization’s overall business strategy that aims at developing workforce's capabilities, skills and competencies to create a sustainable and successful organization.
2. **Literature Review**

Post-Secondary Education has a social and economic impact on 21st Century learning and skills. Universities and colleges build the talent and skill of tomorrow’s workforce. Universities have helped generate $55 billion in economic activity and succeeding in the job market by creating 700,000 direct and indirect jobs (Ontario Universities, 2017, online). UAE currently has the 19th highest per-capita GDP in the world, estimated at US$40 000 as quoted by Gallaher, David, 2009, p. 10 (Porter & Schwab, 2008). However, despite UAE’s rapid economic expansion, transformation and success of the Emirati society into one of the world’s richest nations, there is persistent unemployment among Emiratis, which is only likely to get worse as more young people enter the workforce (Gallaher, David, 2009, p. 8). Livingston et al studies have shown that further education remains to be job-oriented, so as adults leave active labour force further education drops off rapidly to around 15% or less (Livingstone et al. 2013, p.13).

![Figure 1: UAE Unemployment Rate](source: Central Bank of the United Arab Emirates, Trade Economics.com)
Therefore, PSEs globally are today focused more at building entrepreneurship and potential actualization skills rather than narrow skills within their learning communities, leading to job creation triggering economic development. Thousands of students learn how to create jobs for themselves as well as for others as a result of entrepreneurship skills and networks built in institutions of higher learning, as economic growth depends on startups and innovation. PSE closer to home need to embrace technological innovations and cutting edge digital media in their learning spaces to stay ahead of their competition. PSE’s need to respond to both short-term and long-term needs of their local and global communities by designing courses, degrees and structures that meet the changing needs effectively and efficiently. There is a great role that technology and the internet play in enabling innovation in teaching and learning, shown by the emerging teaching strategies in PSEs today and the models being adopted by top Universities in developed economies of the world such as Canada, Finland, USA, UK and others. Institutions are also providing for environmental sustainability through various green initiatives by students and management (Ontario Universities, 2017, online). Institutions are promoting environmental sustainability by fostering and building entrepreneurship.

A 21st Century PSE institution is diversified and innovative in its curriculum offering, mode of knowledge creation such as experiential learning and real world projects and infrastructural capacity and resources (Goddu, 2012, p.169-173). With relation to diversification, Dubai’s economy is highly diversified while the overall UAE economy is reasonably diversified. PSE must make use of this diversification and follow the example of other diversified economies such as Canada, Bahrain closer to home, Germany and other European nations.

There is an environmental shift in student demographics due to this diversification and 21st century learning skills must adapt to these changes. There is also an increasing need for mental health and learning
support in PSE today due to the changing demographics (Fisher, 2011, p.13). However, today learning is no longer occurring merely within classroom but across countries virtually and among diversified demographics, enriching knowledge with tacit experiences to make it more time valuable (Palmer, 2015, online). A 21st century learner is one who learns within and outside the classroom using various tools of technology using both formal and informal learning to solve problems at the community, regional, national and global levels (Livingstone et al. 2013, p.). Massive Open Online Courses (MOOCs) provide institutions with different models of revenue generation, access to world-class professors at unbeatable prices and enable students to acquire skills and get jobs for a fraction of what colleges cost today.

![Figure 3: Education level among Emiratis 10 years and older, by gender](image)

**Source:** (Tedad, 2006). Retrieved from Gallaher, David, 2009. P.18

Growing in an interactive, socially interconnected technology environment, as compared to such passive activities as watching television or listening to a lecture can cause a huge change in the demographics, interests, needs, expectations and work habits of today’s student population. ICT’s have both positive and negative impact. Some of the positive of ICT are they help in managing limited space, help in creating icloud libraries, provide for economies of scale, enable cost savings to the institution, provide for effective return on investment and knowledge sharing among different participants, enable adapting and sharing best practices, reduce time and effort, enable physical resource economization, accelerate the rate of change and provide new skills for learners as per needs of the emerging labor market. While, negatives of ICT include new project risks, heavy initial cost investment, risks that need to be managed effectively, and ICT delivery platforms being under constant strain. A PSE needs to maximize positive impact of ICTs while minimizing ICT’s negative impact for the learner.

The Institute of the Future has also identified 10 work skills of the future: "Rather than focusing on future jobs, this report looks at future work skills proficiencies and abilities required across different jobs and work settings:

- sense-making,
- social intelligence,
- novel and adaptive thinking,
- cross-cultural competency,
- computational thinking,
new-media literacy,  
transdisciplinarity,  
design mindset,  
cognitive load management,  
virtual collaboration”  
(Staley, 2016, p.25-26).

Figure 4: Skills considered important for new graduates by CEOs in the Arab region,  
Most of who were in the private sector

Communication skills  
Teamwork  
Analytical / critical skills  
Initiative / proactiveness  
Language skills  
Creative / innovative thinking  
General flexibility  
Management / leadership  
IT awareness  
Memorization skills


Learning is no longer subject matter based, but encompasses learning about diverse cultures,  
competencies, languages, religious beliefs, various perspectives gained through collaborative work teams and social groups. Student success is a complex combination of personal, institutional, and social/societal factors that modulate over time and under certain circumstances (Chambers, 2012, p. 2). Prior learning therefore needs to be assessed in a structured and formal way due to the demands placed by adult learners on the learning environment and also to align knowledge to institutional credit based curriculum (Canadian Council of Learning, 2010, online).

PSE today are as much knowledge creation centers, as they are knowledge dissemination centers providing innovative learning and problem solving. Classroom discussion is a collaborative activity that requires students to actively participate, apply critical thinking to their questions and responses, and “negotiate meaning across texts and in relation to their individual experiences... fulfilling adult learners’ need to find relevance in their studies” (Davis, 2013, p.68-76). Learning is not merely subject matter based but is about diverse cultures, competencies and languages while encompassing various perspectives and experiences of diversified learners, gained through collaborative work. Sugato Mitra founder of SOLE believes that students learn socially before internalizing knowledge and that the most effective educators are great witnesses, supporters, and structure providers, but not answer-suppliers (Mitra, 2015. p.10).

Teaching strategies must continuously be reinvented and reviewed. Recently, social networking applications such as blogs, wikis, and twitter have seen an unprecedented uptake by many people, especially by the youth. Gaming through role-play and other strategies used is making achieving learning outcomes for students more interesting and engaging. One must try to integrate as many models in their teaching as possible to meet diverse needs of all learning communities, as there can be no one-size-fit all model (Ceciles, 2015). Experiential learning and working on real projects that add value to organizations is the trend; using
technological innovations and latest digital media in the physical and virtual academic space is the norm and using cutting edge research to enhance theory and application is the standard. Experiential techniques, such as discussion, simulation, case method, and problem solving, tap into the experiences of the learner, engaging adult learners (Caminotti & Gray, 2012, p. 230-238). Principles and Processes of Adult Learning and Learning Considerations for Young Adults (18-25 year olds) must be understood if PSE have to be successful today. PSE around the world must become proactive and must not fear active experimentation, balancing between the global, national and regional needs.

2.1 Theoretical Framework

There is a difference between a traditional and non-traditional learner. A non-traditional learner is returning to school after a long gap one who may have attended college in their early twenties and is now returning is early 50's to formal education through an classroom - physical or an online environment. A traditional learner is continuously learning – going to college after high school, graduation after under graduation and so on.

Expertise is also no longer demonstrated by remembering information (knowledge) and in recalling it (comprehension) since focused from the times of Baby Boomers and the Generation X. Finding information - the path forged by and arriving at practical solutions (analyzing), being able to create structures and concepts out of that information (evaluation) and creating a new and unique product (synthesis) is where teaching and learning emphasis is moving towards in this new Knowledge age. Emerging adulthood today is different from what it was yesterday (Arnett, Jeffery, 2014, p.3-16). Needs-meeting learning environments promote engagement and retention as students feel connected, that they have something to contribute, and feel safe to question, criticize and vocalize (Arnett, Jeffery, 2014, p.3-16).

VAK learning style model looks at learners from the auditory, visual and kinesthetic perspectives. The Experiential learning style looks at learners as conceptual thinkers, realistic doers, concrete experiencing and active experimentation (Brainbox, 2016, online). Jeffery Arnett in his book speaks about how to handle emerging adults and about their shifting priorities, their experimentation with life and their delayed settlement as a norm rather than as an exception. There are also other families of teaching-learning models – social, behavioral, personal, information processing and constructive, that fit into 2 main models of teaching and learning and each of these schools' focus on different aspects of student learning and the methodology to be adopted in teaching, such as classical and hybrid models.

2.2 Conceptual Framework

The segments of learners in PSE today are: 18-25 year olds - emergent adulthood / X generation; 25-50 year olds - later adulthood / Y generation and 50+ age group of learners - the adults / Baby Boomers. The characteristics of these 3 groups of learners are very different from each other as per the findings of MIT’s ‘Young Adult Project’ (Simpson, 2008, p 4-9).

- **Emerging Adulthood (X generation)** 18-25 year olds - is marked by:
  - More complex thinking and understanding of abstractions;
  - Appreciation of diverse viewpoints;
  - Understanding that relationships are mutual and give & take;
  - Ability to control emotions and risk taking & decision making.

- **Later Adulthood (Y generation)** 25-50 year olds - is marked by:
  - A new level of abstract analysis and conceptual thinking;
  - Ability for more complex problem solving and articulation;
  - Improved leadership capability of creating and following rules;
  - Self-regulation and;
  - Intrinsic commitment to work and relationships as a result of more self-awareness.

- **Adulthood (Baby Boomers)** 50+ age group - is marked by:
  - A more selective approach in everything including learning;
  - Being more self-directed in identifying and setting their goals;
  - Bringing years of tacit knowledge and experience along with a well formed system of values and beliefs;
  - Being problem-centered in their approach where solutions are applied to real life, and;
Anxiety prone with low self-esteem as a result of being away from formal schooling and;

Developing technological trends around them.

Young Adult Development Project
Source: MIT’s ‘Adult Project’ (Simpson, 2008, p 4-9)

2.3 Synthesis

Teaching and Learning Models and Education Technologies used in UAE and Finland are aimed at student success today, determined by student goals of employment. A subsequent promotion after education more often than not is driven by this fundamental goal. However, education must develop critical skills of self-evaluation, critical thinking, analysis, synthesis, reflection and ultimately the ability to transfer those skills to the workplace.

Since the beginning of 2000 and based on the results of Dr Katarina Raij’s doctoral thesis Learning by Developing (LbD) learning model has been one of the corner stones of education at Laurea university of Applied Sciences (Raij, 2014. p.10-22). Laurea has been awarded several times by the Finnish Higher Education Evaluation Council for assessment as a centre of excellence in education. Moreover, LbD model has found to be good and functional in international assessments.

3. Methodology

3.1.1 UAE’s Learning Models (Al Dar as a Case)

Commissioner for Academic Accreditation’s (CAA) Standards, UAE specifies parameters of student engagement, teaching and technological innovation and learning impact for the program and courses. CAA guidelines focus on procedures related to institutional review and guidelines on accreditation processes (CAA, 2011) including details of quality standards to be followed for different levels of courses to ensure student-learning outcomes.

Courses combine a range of teaching and learning methods consisting of classroom based teaching technique involving assignments, classroom discussions, problem-solving activities, videos, audio talks, experiential problem solving, group discussion, question and answer sessions, role play exercises, business games sometimes and examinations. Classroom teaching sessions are facilitated with the help of multimedia resources such as power point, videos and specific software as per course requirement, websites etc.

3.1.2 The Experiential and other Pedagogies used at Al Dar:

One of the experiential concepts used at Al Dar is that of SpeedChange pioneered by Mubeena Mohammad, a framework that believes that development needs lies within people. Change and a paradigm shift is the primary outcome of any learning and development journey. Performance follows naturally. In this methodology, focus is on the group as no individual works in isolation. The act of the team is to co-create one’s own learning and change journey is vital for implementation and application back on the job. So, with this in mind, the dullest of topics are tackled and applied by the student through the process of SpeedChange to explore:

1. Whether students could get engaged in the topics?
2. Whether they could learn on their own in groups better when facilitated than in class as in a lecture form of teaching?
3. Whether this would enable transfer of learning from one group to the other?

The method is adopted by formation of groups of 3-4 members of students in each group and distribution of the topics given – a different topic to each group and 3 questions given to each group as listed in the class plan.

1. “What does the checklist topic) state”? The student uses his / her own words to explain this.
2. “Find a blog, article or video of an international case, or related topic or news story. How does that country’s topic compare to the UAE’s”?
3. “If you were an employee affected by this topic, what questions or arguments can you raise to clarify the topic’s meaning? Are there any grey areas of interpretation or multiple meanings”? (This is an advanced level question, a real test of critical thought.) A time to 30 minutes is given to each student to come up with creative way to answer the above and make a presentation to the other teams in class and to show a video etc., and an award is offered to the best team at the end.

**Outcome –**
- All team members participated and presented for 30 minutes and showed videos and reported and made comparisons from other countries’ and showed grey areas of UAE for their topics.
- They had very lengthy discussions engaging with other teams and there were lot of questions and cross-questions and probing and adding to the answers and examples from their jobs and real lives.
- Even those students who were shy and not very participative generally spoke out and shared their personal experiences.
- All were very engaged and excited. They liked the experiential class experience very much.

On the other hand, group assignments used at Al Dar require each group to evaluate real business company clients and make recommendations. The instructor facilitates by giving suggestions as class progresses on how to identify a good potential assignment. Student groups are required to use materials covered in classes as well as additional material uploaded on the school management system. The instructor evaluates work in two stages: within a final presentation, and in a final report. Details on how to carry out the steps are provided to the student in a prior-facilitated assignment brief. Students may also submit a proposal summary and a group contract defining group members, name of the firm to be consulted, with a brief description of the business, its products, and clients. The contract document details each group member’s responsibility and is signed by all group members. Students are thus encouraged to apply various tools learnt to understand the dynamic business environment and suggest an appropriate strategic solution to a real business problem.

**Figure 5: Bloom’s Taxonomy of Learning that Al Dar Follows**

*Source: Taylor & Hossam, 2013, Adult Learning Theories, p.e1565*

At Al Dar, the particulars of the case study would include students introducing and defining the problem, collecting and analyzing information and making recommendations. The majority of
questions require students to analyze a particular business situation in depth. Topics and instructions on the case study are announced in the class by instructors or may be given as pre-work. The emphasis is on analysis of issues, while selecting facts from Case and not merely a summarization of the case. Assignments include readings of particular writings, answering questions given in the assignments and solving problems or other practitioner activities. Group assignments are also given to cover higher course learning outcomes of synthesis and evaluation and involve teamwork, problem solving and collaboration skills where students get an opportunity to demonstrate application of tools learnt during the course. Midterm assessments emphasize on application and analytical skills through questions that require illustration and examples of concepts and their application. The final assessment usually consists of structured/subjective questions requiring applicative, analytical and evaluative skills and examines students’ acumen about the subject’s contents (Al Dar Uni. College, shared drive).

3.1.3. Explaining and rationalizing the Pedagogical approaches used at Al Dar:

Students undertake case studies to enhance their independent learning, analysis, and evaluations skills to evaluate a real business company client and make recommendations. The instructor may facilitate the process. Each session is an interaction between the instructor and the student, focusing on the understanding of theories, concepts and application of tools, inferring from examples and referring to the additional material. The instructor distributes additional study material as per the requirement of time. The instructor may ask students to read theories, applications and examples from research journals, online resources and other library resources. Student are evaluated using 4 to 5 types of assessments covering quizzes, case studies, group projects, in-class and take home assignments, presentations, journal articles’ reading and discussions, midterm essay and short exam and final exam, final and internship projects consisting of a variety of question types – cases, multiple choices etc., aligned to assess different course learning outcomes of analysis, application, synthesis, evaluation, knowledge and comprehension areas at the appropriate course level. Assessments help in developing students’ critical thinking skills.

3.1.4 Finland’s Learning Model (Laurea as a Case)

Laurea University of Applied Sciences, the fourth largest University of Applied Sciences in Finland, has defined that it has selected a pragmatic philosophy of education as the basis of its pedagogic strategy. The philosophy has been implemented in the form of the Learning-by-Developing (LbD) action model. (Raij 2014, p. 11) At Laurea, the starting point of LbD is the ability to function in a constantly changing world; hence, acting in the context of change is a natural approach to teaching. A working life-oriented R&D project is seen as a learning environment, which enables the formation of new habits of actions. The progress of a R&D project opens new doors and creates situations where previous ways of action are not any more sufficient and must be replaced by new ones. Partnership is built on trust and is characterised by equality. It enables continuous interaction with the learning environment. Joint efforts require that the involvement and different competences of each participant enable the formation of new habits of action and the discovery of solutions that transform practices. Experiencing can be understood from different viewpoints. Firstly, experiences with giving meanings construct competence. Secondly, experiencing can be examined on the basis of processes that lead to new ways of action. As the consequences of established ways of action turn out to be insufficient in a new situation, the need arises for reflecting on personal experiences and creating new habits of action. Creativity is vital for bringing forth something new.

3.1.5 The LbD Method Developed at Laurea:

At Laurea, on a practical level LbD allows an educator to work together with his or her students in projects where everyone is a learner.
Figure 6: The characteristics of the Learning by Developing Model

Source: Raij, Katariina (2014, p. 16, Learning by Developing Action Model)

The role of an educator changes from being an ultimate author and knowledge distributor to someone where the educator works as a facilitator of a learning, taking care that the students do not slip away far from the topic, that they find the right resources, that they are all able to share the knowledge among each other, that they will learn to work in teams rather than individually and they will learn to evaluate their own work.

As a result, students devise new ways of action and facilitators in a participatory setting that require creative and curious involvement in activities, which renew the world of work. The requirement for a research orientation arises from a higher educational context. In a pragmatic approach, truth is linked to inquiry, as it transforms in the course of the study. At Laurea, the mission of universities of applied sciences is seen integrating the tasks of pedagogy, regional development and research and development as a comprehensive whole.

3.1.6 Explaining and rationalizing the LbD method used at Laurea:

The LbD model incorporates five different viewpoints to how we think about pedagogy and learning: authenticity, partnership, experiential nature, creativity, and research oriented approach. Authenticity refers to a genuine working life connection. As it comes to results of the LbD model there can be seen several strong indicators that demonstrate… such as: first of all there are currently nearly 30 new businesses established among the students yearly. For many years Laurea has been one of the top universities whose students get employed right after graduation. Laurea has also been
one of the most awarded university, among the universities of applied sciences in Finland. The LbD is values driven and takes a more holistic view of students than would be the case where projects or problems are the focus. The LbD is also focused on ensuring that students can ‘do things’ rather than just be able to repeat answers in exams. LbD recognizes the need to enable students with investigative and social skills, alongside providing them with knowledge expertise in their chosen fields of study (Raij 2014, p. 18).

4. **Findings and Conclusions**

Both institutions use frameworks of knowledge, skill and application competencies. Thus, there is scope for transfer of learning pedagogies between Al Dar and Laurea. Of Al Dar incorporating Laurea’s LbD philosophy and learning model of integrating pedagogy, regional development and research and development as a comprehensive whole, where student’s learn by doing and through experience. Laurea may get inspired by Al Dar’s quality assurance frame work where program level outcomes and course level learning outcomes are aligned to enable students to achieve different levels of competencies of knowledge, skill and critical thinking.

The article analyzed key learning models used at Laurea University, Finland and Al Dar University College, UAE and evaluated some of these models recommending the effective transfer of the LPD model into the undergraduate classrooms in Dubai for better engaging Emirati and other students at Al Dar for effective transfer of 21st Century learning skills into today’s workplaces in the UAE. The article also attempted to explore the current situation, including strengths and barriers to learning in PSEs today. It looked these through the framework of 21st Century Learning Skills, lens of Emiratization and some learning methods used in Higher Education around the world.

4.1.1. Conclusions

Future scenarios indicate an increase in student mobility, expanding student choices and increasing participation rates in PSE. A student will be looking for several criteria in a PSE institution in 2020: safer campuses, an improved student life, paper based electronic systems, reduced energy footprints, students gaining transferable skills, institutions that enable students to be job ready, higher return on investment, higher skills suited to the relevant job market, ability to integrate within an export and growth oriented diversified economic climate, modern infrastructure, strong innovative agenda, institutions that invest in students' talent and skills, open, transparent and accountable systems, student focused learning outcomes and many more.

The PSE landscape in 5 years may have: Increased student mobility; diversified choices of courses for students including climate change and environmental awareness courses. A PSE institution that is more aligned to the job market within a dynamic, transforming economy with governments funding critical priorities in PSE to achieve sustainable outcomes may be in demand. Reduced skills mismatch, highly skilled labor, decreasing income inequalities through education, emergence of more institution supported SME’s, seamless intra-institutional technology and common platforms across regions and strong innovative agenda is what 21st century learners may be aspiring for.

5. **Recommendations**

“Having the skills and abilities to apply knowledge and act and manage situations in an ever changing world of work are of crucial importance” (Raij 2014, p. 12). Aligning PSE to the needs of the transforming economy and funding critical priorities to achieve sustainable outcomes is going to be very important. The education consumer in 2020 will need, demand and pay for a diversified bundle of service offering (Levy, 2015). ICT’s impact on PSE and on learning styles and variety of face-to-face, online, blended and virtual classrooms will be both positive and negative. Competency-focused course bundles are emerging, which provide certifications more relevant to vocations to supplement a degree. Action plans needs to be set for future development.
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