Teaching Students to Learn and to Work Well with 21st Century Skills: Unpacking the Career and Life Skills Domain of the New Learning Paradigm

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Abstract

In *Do You Want Your Students to Be Job-Ready With 21st Century Skills?* Kivunja (2014a) draws on the work by the Partnership For Teaching 21st Century Skills (P21) reported by Trilling and Fadel (2009), to articulate that the skills that young people need to succeed as individuals, citizens and workers in the 21st century fall into four domains. As reported by Trilling and Fadel (2009) those four domains are the Traditional Core subjects and Skills domain, the Learning and Innovations Skills domain, the Career and Life Skills domain, as well as the Digital Literacies Skills domain. The pedagogical move from teaching the traditional core skills of literacy and numeracy to include these additional themes and skills of the 21st century is characterized by Kivunja (2014a) as the pedagogical shift that is needed to ensure that on graduation, students will be job-ready with the skills most in demand in the 21st century workplace.

Arguing that the components of the Traditional Core Skills domain such as the orthodoxy 3Rs of reading, -riting and rithmentic are well known, Kivunja (2014b) in *Innovative Pedagogies in Higher Education to Become Effective Teachers of 21st Century Skills,* draws on the excellent work of the Partnership for 21st Century Skills (P21, 2008) and on the *Framework for 21st Century Learning* (P21, 2011) to unpack the skills of the Learning and Innovations Skills domain (LIS). In that discussion, Kivunja (2014b) argues strongly that it is essential that students be explicitly taught the skills of critical thinking and problem solving, effective communication, collaboration, as well as creativity and innovation, so as to make sure that they are well equipped with the Learning and Innovation Skills (LIS).

This article, builds on the work of Kivunja cited above, (Kivunja, 2014a and 2014b), to extend an understanding of the new learning paradigm by discussing its Career and Life Skills (CLS) domain. The article explains what the skills in this domain involve and discusses how the relevant skills can be taught to help prepare students for success in whatever workplaces, trades, occupations or professions they will join on their graduation into the 21st century Digital Economy.

Keywords: The new learning paradigm, 21st century skills, Career and life skills, Leadership, Initiative, Flexibility, Accountability, Adaptability, Social and cross-cultural skills, Productivity and efficiency

1. The New Learning Paradigm Re-visited and Its Rationale Explained

1.1 What is the New Learning Paradigm?

To contextualise this article, it is helpful to explain briefly, what is referred to as the new learning paradigm. There is an understanding "that whereas every educated person should have an appreciation of core skills in literacy and numeracy (e.g., the 3Rs of reading, -riting and –rithmetic), to succeed in the 21st century, an educated person must also have skills that enable him or her to think logically and to solve problems effectively and independently" (Kivunja, 2014a, p. 85). Referring to those skills as the 21st century skills, Trilling and Fadel, (2009) propose that those skills comprise a domain of a core of skills, which they call the Traditional Core Skills, plus three other

domains of skills, which they call the Learning and Innovations Skills, the Career and Life Skills, and the Digital Literacies Skills. Taken together, these four domains of skills comprise what Kivunja (2014a, p. 86) calls "The New Learning Paradigm." To simplify an understanding of the new learning paradigm, Kivunja (2014a) captured its essence in this formulation:

JR21CS = f(TCS + LIS + CLS + DLS). Kivunja (2014, p. 86) then explains that in this formulation:

> JR21CS = Job Readiness With 21st Century Skills
>
> f = is a function of
>
> TCS = Traditional Core Skills
>
> LIS = Learning and Innovations Skills
>
> CLS = Career and Life Skills
>
> DLS = Digital Literacy Skills.

1.2 What is the Rationale for the New Learning Paradigm?

As the world has transitioned from the 20th century Industrial Age to the 21st Information Age, there is an increasing awareness that the skills that led to success in the 20th century are no longer sufficient to lead to success and prosperity in the 21st century. Aware of the need for change in teaching, learning, assessment and work so as to be effective participants in the 21st century conditions, driven by information and fueled by technology, a movement called the Partnership for 21st Century Skills (P21), comprising public and private organizations, was started in 2002 in the USA with the explicit mission to bring the power of technology to all aspects of teaching and learning, and in particular, to serve as "a catalyst to infuse 21st century skills throughout primary and secondary schools by building collaborative partnerships among education, business, community and government leaders" (P21, 2008, p. 4). Thus, "P21 conceptualized the new learning paradigm as the vision for students' success in the new global economy" (Kivunja, 2014b, p.40). Accordingly, P21 designed what they called the *Framework for 21st Century Learning* (P21, 2011), which stipulates that:

> Every 21st century skills implementation requires the development of core academic subject knowledge and an understanding among all students. Within the context of core knowledge instruction, students must also learn the essential skills for success in today's world, such as critical thinking, problem solving, communication and collaboration. Those who can think critically and communicate effectively must build on a base of core academic subject knowledge. (P21, 2009, p. 1)

Thus, the rationale for the new learning paradigm is the understanding that the core academic subject knowledge and skills need to be supported with the essential skills for 21st century success from the Learning and Innovations Skills (LIS) domain, the Career and Life Skills (CLS) domain, and the Digital Literacies Skills (DLS) domain. The first of these three essential skills domains (the LIS) was discussed by Kivunja (2014b). This article discusses the CLS domain.

2. The Career and Life Skills (CLS) Domain of the New Learning Paradigm

P21 proposes that life and work environments in the 21st Digital Age are so complex and so competitive that students need far more than simple thinking skills and an understanding of content knowledge. In addition, "the Information Age requires students to pay rigorous attention to developing adequate life and career skills" (P21, 2009, p.6). So, which skills comprise the Career and Life Skills (CLS) domain and how can they be taught? This section outlines the skills that make up the CLS domain, and discusses how those skills can be effectively taught, to prepare students for success in the Digital Economy, which they are about to enter.

2.1 Components of the Career and Life Skills Domain

The *Framework for 21st Century Learning* (P21, 2011), identifies five elements of skills that comprise the CLS domain. They articulate those elements as:

  i.   Flexibility and adaptability skills

  ii.   Initiative and self-direction skills

  iii.   Social and cross-cultural skills

  iv.   Productivity and accountability skills; and,

  v.   Leadership and responsibility skills.

Let's take a closer look at each of these sets of skills.

2.1.1 Flexibility and adaptability skills

In the 21st century workplace, working conditions are changing at a very fast and increasing pace. As a result, employers actively seek out graduates that are not only resourceful and adaptable, but also able to be flexible and have the ability to adapt to changing circumstances and environments and to welcome new ideas, and new ways of completing tasks. The fundamental understanding is that flexibility and adaptability lead to success whereas the lack of these skills leads to stagnation and failure. This is not a new idea since it was highlighted early in the 20th century when American sociologist and philosopher Eric Hoffer (1902 – 1983) admonished, "In times of change, learners inherit the earth, while the learned find themselves beautifully equipped to deal with a world that no longer exists" (Goodreads, 2014, n.p. para. 1). However, it is even more significant today than it was then because of the greater speed and magnitude of flexibility and changes occurring in the Information Age fuelled by technology.

P21 emphasizes that the two essential aspects of the flexibility and adaptability element are adapting to change and being flexible. Adapting to change means that an employee is able to "adapt to varied roles, jobs responsibilities, schedules and contexts. [She or he is able to] ..work effectively in a climate of ambiguity and changing priorities" (P21, 2009, p.6). Being adaptable means that you can thrive on change and can manage unexpected events without fuss or getting upset. It means that if your role's routine is suddenly altered you can quickly adjust to the new requirements, and execute your role effectively. In contrast, being flexible requires the ability to "incorporate feedback effectively, deal positively with praise, setbacks and criticism, understand, negotiate and balance diverse views and beliefs to reach workable solutions, particularly in multi-cultural environments" (P21, 2009, p. 6).

Following the aftershocks of the global crisis, today's workforce in the Digital Economy is fraught with volatility and uncertainty, and so it is expected not only to be resilient but also to be able to quickly react to the ever-changing market demands of the Information Age. This was well demonstrated in a recent study by the Right Management Group in the UK (RMG, 2014) which found that "in five years' time, 91% of HR decision-makers think it is likely that people will be recruited on their ability to deal with change and uncertainty" (RMG, 2014, p. 6), i.e., their flexibility and adaptability. What's more, the same study also found that flexibility and adaptability are not elements of future success, but they are needed now since "80% of today's line managers agree that they have had to learn more and develop faster to succeed in their role, compared to five years ago" (RMG, 2014, p. 9). As Trilling and Fadel (2009) rightly say, "we are in a time of great change. Flexibility and adaptability are now essential skills for learning, work, and citizenship in the 21st century" (p. 75). They add, "Adjusting and adapting strategies to accommodate new circumstances is an essential 'flex-ability' that everyone must develop in fast-changing times." (Trilling & Fadel, 2009, p. 76). So, how can flexibility and adaptability skills be taught?

How to Teach Flexibility and Adaptability Skills So Students Graduate Ready With These 21st Century Skills
P21 (2008) outlines a number of strategies that can be used to teach students so that on graduation they will be able to exercise flexibility and adaptability in the workplace. One of the strategies is to teach students how to appreciate feedback and how to respond to it in a positive manner. This strategy is dealt with very well, by many leaders in the field of the CLS domain, including Peter Senge (1999), Askew (2000), as well as O'Connor and McDermott (1997). For example, O'Connor and McDermott (1997) say that feedback consists of loops, because the consequences of what is done bring back to the doer new consequences which influence his or her next course of action. Thus feedback can be seen as some kind of return of information which influences the next step in what needs to be done to accomplish a goal. It is therefore a good way to teach students flexibility and adaptability in two ways. Firstly, they learn to use feedback to reinforce what they are doing so as to improve productivity through finding new and better ways of completing the task as indicated by the feedback. This is called the *reinforcing feedback loop* (O'Connor & McDermott, 1997). Secondly, students can use the feedback as a balancing strategy. In this case, they use it to see where they were making mistakes and so correct their approach so as to improve productivity and effectiveness. This is called the *balancing feedback loop* (O'Connor & McDermott, 1997). The way these two feedback loops teach students flexibility and adaptability is illustrated in Figure 1.
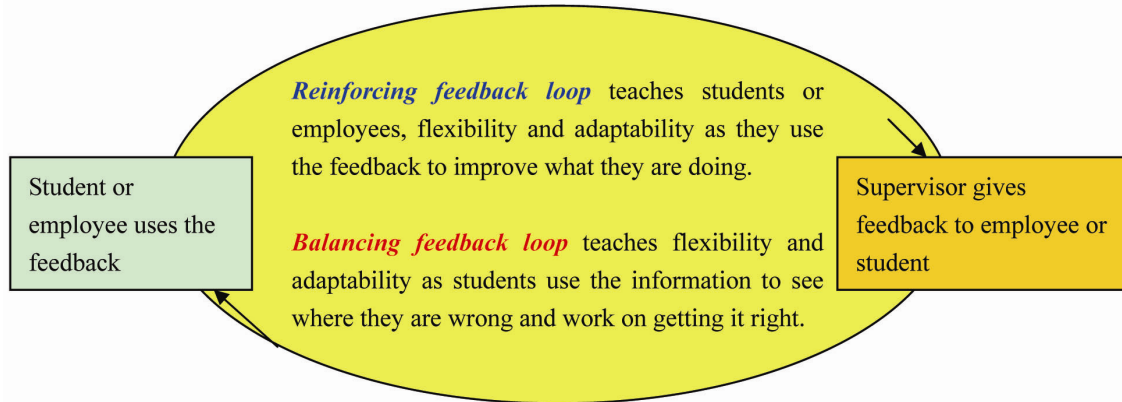
Figure 1. Teaching flexibility and adaptability through feedback loops

Many experts in the area of CLS, including Hargreaves, McCallum and Gipps (2000), Angelo and Cross (1993), Black and Wiliam (1998), discuss a wide range of strategies that can be used to teach students how to appreciate and to use feedback effectively. The strategies include:

- o Deciding on whether your feedback will be informal or formal, individual or generic and formative or summative.

- o Providing feedback as an ongoing, formative process, which gives students the opportunity to monitor their progress, take more responsibility for their learning while reflecting on their performance and how they can improve it as indicated by the feedback loop.

- o Expressing approval (or disapproval) of a student's performance either verbally, or through non-verbal forms such as nodding or making eye contact, or in writing.

- o Indicating clearly if a response was right or wrong, or what the student has achieved or not, and articulating why the answer was correct or wrong; and then indicating what the student needs to do to get it right or to improve the response and achievement.

- o Including comments that give the student an opportunity to suggest ways they can improve their performance.

- o Identifying common weaknesses across students' responses, and preparing a one page summary of comments addressing the common misunderstandings. You can then use this summary to tell the whole class what they needed to understand to address the relevant criteria correctly and what they should do to improve performance on a similar task.

- o Preparing examples of what good responses will look like, at different levels of meeting the criteria, and sharing these with the students before they do the assessment and then referring to them in the assessment feedback. This strategy gives students the opportunity to understand how the different criteria are addressed and to complete their tasks using this feedback formatively.

- o Commending students on their achievement. However, praise should be used sparingly because research (e.g., Black & Wiliam, 1998) shows that it could have negative effects on attitude and performance if it comments on aspects of a student's self-esteem. If you decide to use praise in the assessment feedback, make sure you target the student's performance and not the student.

- o Being specific and exact in how you word the feedback so students understand how they can use it to improve their work.

- o Giving the feedback as comments rather than marks. Comments can guide students in trouble-shooting their own performance to correct it. This encourages flexibility and adaptability. Marks alone do not.

- o Observing what your students do right and wrong and providing the appropriate reinforcing or balancing feedback immediately. This encourages flexibility because it helps the student to focus on what is needed to complete the task correctly, increases confidence and improves performance more quickly, while saving time and the frustration of completing a task that is wrong.

- o Including in the feedback, some questions which encourage a student to think rather than comments which simply tell what should be done.

o   Exercising empathy by trying to read meaning into what a student's response is saying. Try to understand his or her reasoning, motivation, concerns and needs. Try to get inside the student's mind and see his or her explanation from his or her perspective. Allow these perceptions to inform your feedback comments, so that you can help the student to think correctly in his or her own way, rather than think your way.

o   Being realistic in your comments by directing the feedback to what the student can realistically achieve through improvement rather than an ideal outcome beyond his or her reach.

o   Striking a balance in your feedback between encouraging and critical comments.

o   Making comments that converse rather than preach. This strategy works best when you frame your comments like a dialogue or conversation with the student in a rather friendly manner on a topic of mutual interest.

o   Involving students in decision-making about feedback by asking them to select a topic or an area of their work on which they seek quality feedback. This motivates students and encourages them to take greater interest and to put a higher quality effort into the task of their own choosing, and to show greater ownership and responsibility for the assessment process and to attend to the feedback comments more seriously.

o   Requiring students to reflect on the feedback you have just given them and to use it to improve their response and re-submit it for re-grading. This encourages flexibility because it gives students the opportunity to use your feedback targeted at their particular areas of need and to apply it when and where it is most likely to have the greatest impact.

o   Following the return of an assessment task, ask students to review the feedback you have written on their assignments and to draw up a list of three to five things they are going to work on following the advice or guidance contained in the feedback. This teaches them adaptability and flexibility.

o   Structuring the feedback comments with scaffolding which prompts the student to think of the right answer or the right way to complete a task, or to add an explanation.

o   Making sure that your comments that call for improvement provide specific advice on exactly where the improvement is needed and the steps or measures that the student needs to take to achieve the learning outcomes. This requires that your feedback be sufficiently clear so that it can enable the student to 'close the gap' between his or her current position and the desired level of achievement called for in your feedback.

o   Trying to use feedback to close the feedback loop. You do this by returning the feedback and giving students the opportunity to use it in their learning. As Sadler (1998) says, the only way you can tell if feedback results in learning is for students to make some kind of response to complete the feedback loop. Similarly, Boud says: "Unless students are able to use feedback to produce improved work, through, for example, re-doing the same assignment, neither they nor those giving the feedback will know that it has been effective" (Boud, 2000, p. 158). It is this opportunity to re-do what they had done that trains them in flexibility and adaptability.

2.1.2 Initiative and self-direction skills

Whereas educational institutions can help equip students with some of the skills that are essential for success in the 21st century workplace, graduates cannot rely on the skill sets they were taught for their continual success at work. This is mainly because the working conditions of the fast-paced, technology driven, 21st century Digital Economy, are always changing and doing so at an increasingly fast rate. This means that for workers to continue to be productive in the 21st Digital Economy, they must be ready to take initiative to learn new ideas, concepts, processes, and applications, which augment their efficiency and effectiveness. Self-direction, not only to cope with change, but to also discover how organizational effectiveness and productivity can be improved has become an essential skill for success and continued employability in the 21st century workforce.

In the 20th Industrial Age workplace, specialization meant that a worker could perform in the role in which they were expert and thus maximize their contribution to their organization's total physical product. Continuation in the specialized role increased their marginal physical product and so their efficiency contributed significantly to the success of the firm. As they continued in that role, they achieved some sort of productive equilibrium at which they performed very well and there was neither the need for change nor the urge for initiative. If a change to the process

were needed, it was initiated by the manager and the worker simply implemented it. In the 21st century workplace, there is an entirely new ball game, so to speak. Management are looking for employees who are not only highly motivated but "ready to use their initiative to get things done, and prepared to be highly self-reliant" (Trilling & Fadel, 2009, p. 78). So, how can students be taught initiative and self-direction skills that are so essential for success in the 21st century workplace?

How to Teach Students Initiative and Self-direction Skills for the 21st Century Digital Economy

The *Framework for 21st century Skills Learning* (P21, 2011) outlines three strategies which can be used to teach students initiative and self-direction skills. Those strategies involve teaching students:

- o   How to manage goals and time,
- o   How to work independently; and,
- o   How to be self-directed learners.

Management of goals skills and how to teach them

An effective management of goals starts with learning how to set goals. Peter Ferdinand Drucker (1909 – 2005), an outstanding Austrian-American management consultant, in *The Practice of Management* (Drucker, 1955), proposed a strategy for teaching students how to set goals. The strategy, which has withstood the test of time, comprises five steps that are easily memorized with the acronym SMART. SMART stands for Specific, Measurable, Achievable, Realistic, and Timely.

Briefly, teaching students how to set *Specific* goals means that they should state their goals precisely, define them clearly and as simplistically as possible. Teaching them how to set *Measurable* goals means that they should include a target or a measure which they can use as tangible evidence or point of reference as to whether they have achieved what they set out to do or not. Teaching students how to set *Achievable* goals means that students should be taught how to set goals which challenge them to pursue their personal best, but which are not beyond their current capabilities. Teaching them how to set *Realistic* goals means that they should learn how to work towards achieving relevant outcomes or results, not just completing tasks. Teaching students to make their goals *Timely* means that they should be taught that what they are seeking to achieve needs to be achieved within a given timeframe, which has a set date, agreed time or deadline. For this purpose, they should be introduced to Parkinson's Law of Time Management which states, "Work expands to fill the time available for its completion" (Parkinson, 1955, p.8). It is important to alert students to this Law because it means that if they don't set deadlines, and stick to them, they are not likely to complete tasks on time. Setting deadlines creates pressure which encourages people to accomplish tasks on time. Without setting timely goals, tasks can take forever and never get completed. Students should therefore be taught to set themselves targets for what they do and to put pressure on themselves to work against time so as to complete assignments at the set times. Following Parkinson's Law means that the shorter the deadlines set for tasks the greater the likelihood that they will be completed on time because the short time allocated to the task forces doers to put pressure on themselves to complete the task. It also means that they cannot put off the task till the last minute, simply because they do not have the luxury of that extra time.

Working independently skills and how to teach them

Working independently is highly valued in the 21st century workplace because it represents the ability to use initiative to manage situations that might arise, without relying on other employees or supervisors. This is much more important in the 21st century workplace because the Information Economy thrives on change. Workers can therefore not afford or be expected to wait for the manager or supervisor to tell them how to respond to the changed circumstances. The employee has to be able to respond to that change as needed when it occurs and this requires personal initiative or an independent response to changed working conditions. Thus working independently is a highly valued attribute because it is the essence of managing change. It is also indicative of an employee's self-motivation.

To teach students how to work independently, they should be encouraged to prioritize tasks that they face, without waiting to be told how to proceed with the different tasks. They should be alert to the changes taking place and decide by themselves on how best to respond to each change as it arises. They should be taught to be flexible so that they can quickly turn their attention to the new change that has occurred, with minimal or no supervisory directive. They should be encouraged to assume responsibility for managing change and to monitor and evaluate their own progress as they manage the change. They should be taught not to wait for their manager or supervisor to give them a list of what to do but to independently come up with proposals of what they think needs to be done and to justify why

their proposals are good for the firm's success.

Becoming self-directed learners

Managers and supervisors will still play a vital role for success in the 21st century workplace, to mentor, advise and scaffold the workers. However, workers with initiative and self-direction not only follow such support but they use the scaffolding to build new structures for the growth of the firm. As P21 put it:

> self-directed learners go beyond mastery of skills and/or curriculum to explore and expand one's own learning and opportunities to gain expertise. Demonstrate initiative to advance skill levels towards a professional level. Demonstrate commitment to learning as a lifelong process. Reflect critically on past experiences in order to inform future progress. (P21, 2009, p. 6)

Students should be taught that engaging in self-direction has risks of making mistakes and even failure at times. However, they should be taught that they need to be persistent and resilient to keep motivated and driven to try out independent initiatives, because in the end they gain self-confidence and work with even greater conviction about their potential for success. Success motivates them to work even harder towards greater success in achieving production and productivity goals of the organization. They should be taught that trial and error are essential ingredients of self-directed learning and they should never be discouraged by occasional failure. They must be prepared to try out different or new ways of doing things and to try remedies as need arises. Such teaching students initiative and self-direction is not simply telling them what to do.   Rather, it involves creating opportunities for them to use their higher-order cognitive processes (Bloom, 1956) and to be proactive rather than reactive to change or instructions (Bruner, 1966).

2.1.3 Social and cross-cultural skills

Social and cross-cultural skills for success in the 21st century workplace require participants to be able to interact effectively with people that they work with or come in contact with, and to work effectively in diverse teams, not only in their own physical workplace, but also in the virtual community of the Digital Economy in which they are immersed.

The tyranny of distance and separation of economies that slowed social, economic and political cross-fertilisation in the 20th century Industrial Age has been shrunk by computers and web-based, Internet-driven, electric technologies that have contracted the 21st century Digital Economy into what Canadian communication expert Herbert Marshall McLuhan (1962) called the global village. In the global village of the Digital Economy, driven by information, and interconnected by technology, understanding other nations and their social-cultural ways, including the use of languages other than English, has emerged as an essential skill for success. Success in the Information Age workplace requires that participants have social and cross-cultural skills, which enable them to learn from and to work collaboratively with people representing diverse cultures, religious beliefs and lifestyles, in a spirit of mutual respect, trust, and transparency. The importance of such social and cross-cultural skills has been well recognised by the United Nations which has set up *TeachUNICEF* (teachunicef.org) whose aim is to provide educators and youth service professionals with resources that help "to support and create well-informed global citizens who understand interconnectedness, value diversity, and have the ability to take action in meaningful ways" (UNICEF, 2014, p. 1).

Skills for learning how to interact effectively with others and how to teach them

As world-renown cooperative learning expert Dr. Spencer Kagan (1994) points out, social skills are essential for harmonious cohabitation among humans; and particularly so in the workplace. He says, "it is hard to imagine a job today which does not involve some cooperative interaction with others. The most frequent reason individuals are fired from a job is not lack of job related skills, but rather lack of interpersonal skills" (Kagan, 1994, p. 1:1). Students need to be taught social skills so that they can communicate effectively with each other, and interact with one another using words, or non-verbal ways such as gestures, facial expressions, body language or personal appearance. In his seminal book, *Cooperative Learning,* Kagan (1994) has carefully designed over 250 structures that can be used to teach social skills. Essentially learning to interact effectively with others requires the ability to judge when to talk and when to listen. This is called being an active listener that is able to determine when to talk and when to pay attention, without interrupting the speaker. Examples of Kagan's (1994) structures which can be used to teach students to be active listeners include team interview, three step interview, give one-get one, relay review, who am I, listen right, listen triads, envoys, match mine, and round table, to name just ten. A comprehensive array of excellent structures and activities that can be used to teach students effective interaction with others is given in chapters 8 to 13 of Kagan's book in which he discusses them under the headings of, "Teambuilding, Classbuilding, Mastery, Thinking Skills, Information Sharing and Communication Skills" (Kagan, 1994, p. 8:10 – 13:19). While engaging in these activities, all of which give

students opportunities to interact effectively with others, students also learn to respect each other's point of view and to respect themselves.

Working effectively in diverse teams

The 21st century skills required to work effectively with diverse teams extend beyond being able to work with several people in a group that might be a homogeneous team to working with people of different ethnicities, races, social and cultural backgrounds. In the electronically interconnected Digital Economy, workplaces have become rather ubiquitous, and workers in one country often have to deal with others in far away countries they haven't met face-to-face but whose religions, social and cultural backgrounds they have to understand and respect to be able to conduct business with them. This is a challenge that has amplified as the commercial world has shrunk into the global village.

Students need to be taught how to handle themselves and how to deal in such an international arena with an open mind that is receptive to different ideas and values; in consideration of the other person's ethnicity, social and cultural differences. They need to be taught that their own ideas are not necessarily superior to those of the people they are dealing with, whether those people happen to be in one of the so called under developed countries or not; and irrespective of whether the other person speaks broken English or doesn't speak any English and uses some language translating software from Google such as http://www.translate.google.com to conduct the conversation. They should be taught to appreciate that the diversity among people creates opportunities for new ideas, new concepts and new markets; all of which are essential for success in the 21st Information Age.

2.1.4 Productivity and accountability

The 21st century skills of productivity and accountability focus on three interrelated elements, namely, efficiency, effectiveness and high quality goods and services, or as stated by Trilling and Fadel (2009), "producing results" (p. 83). Efficiency is a term which has its roots in economics where what is called the principle of *Pareto Efficiency* (Balasko, 1988), means that the maximum amount of goods or services that can be produced from a given amount of resources are being produced at the lowest possible cost per unit produced. The production process is therefore said to be efficient because it maximizes output per unit of resource used while minimizing the cost per unit produced. It is said to be the economic equilibrium point at which resources are allocated to production in the most efficient manner, or the optimal allocation of resources. When *Pareto Efficiency* is reached, it represents the optimal level of production and the firm should aim to sustain that level of production because any efforts to increase output beyond the *Pareto Efficiency* level would add more to costs per unit produced than to profits. As economists would put it, (Samuelson, 1976), the marginal cost would exceed the marginal revenue and the firm would incur losses. So, efficiency is related to how much is produced per resource used and it is generally referred to simply as productivity. Effectiveness, on the other hand, is simply a measure of whether a business, firm or organization, is doing what it is supposed to be doing. In other words, is the firm achieving its mission, goals or objectives? Or as P21 put it, does the firm "manage work to achieve the intended result? [Does it] set and meet goals, even in the face of obstacles and competing pressures?" (P21, 2009, p, 7).

Teaching productivity and accountability skills

Teaching students to maximize productivity or efficiency involves teaching them to prioritize the tasks they are required to complete, to set goals that are SMART, as we saw earlier, and to plan well and to allocate and manage time according to the demand imposed by the task to be completed. If students learn these skills, they become good at managing projects. Good project managers are in high demand in the 21st century Information Economy.

Trilling and Fadel (2009) say that teaching students to work so they produce results or high quality products involves teaching them how to:

- o   Work positively and ethically
- o   Manage time and projects effectively
- o   Multitask
- o   Participate actively, as well as be reliable and punctual
- o   Present oneself professionally and with proper etiquette
- o   Collaborate and cooperate effectively with teams
- o   Respect and appreciate team diversity; and
- o   Be accountable for results (Trilling & Fadel, 2009, p. 83).

2.1.5 Leadership and responsibility skills

It is difficult to appreciate the leadership skills required in the 21st century without a firm grasp of what we mean by leadership and the responsibilities that go with that role. Difficulties arise mainly because, in spite of leadership being a very common term, it is a slippery concept that has eluded precise definition over many generations. This is well illustrated by Bernard Bass when he asserts, "There are almost as many different definitions of leadership as there are persons who have attempted to define the concept. … Moreover, … many of the definitions are ambiguous" (Bass, 1990, p. 11). This problem is not new. For example, many decades before Bass's remark, Bennis was of the same understanding when he said:

> Always, it seems, the concept of leadership eludes us or turns up in another form to taunt us, again with its slipperiness and complexity. So we have invented an endless proliferation of terms to deal with it … and still the concept is not sufficiently defined. (Bennis, 1959, p. 259)

What appears to be consensus among the many scholars that have offered a definition of leadership is that "leadership is a matter of personality, it is the ability to induce compliance by followers, the exercise of influence, a form of persuasion, an instrument to achieve goals, an effect on interactions among people" (Bass, 1990, p. 11). In fact, many scholars argue that leadership is a combination of all these.

Teaching leadership and responsibility skills

From these definitions we see that leadership involves a high level of interpersonal skills that can be applied to influence the behaviors and actions of others. These skills include the ability to persuade followers, to motivate them to work towards the achievement of organizational goals and targets, to influence the human interactions and relationships that build the culture of the organization, to solve problems that arise in the workplace, to inspire others to excel at their personal bests; and above all, to demonstrate foresight, vision, determination, "integrity and ethical behavior in using influence and power" (P21, 2009, p.7). This is why filling the role of leadership carries with it the responsibility for others, not only to exert intentional influence to guide and structure how activities are to be completed, but to also facilitate those activities and the relationships in the organization that promote harmonious relations in the workplace, and increase effectiveness, efficiency and productivity (Yukl, 2006).

Leadership skills are not innate or hereditary. Many experts in the field explain how they can be taught. For example, students can be taught how to direct the activities of others towards stated targets (Hemphill & Coons, 1957). Students can be taught how to give instructions and directives that lead to progress. They can be shown how to use psychological approaches to motivate others and to get them engaged with the firm's activities (Burns, 1978). They can be taught how to define clearly what people are required to do (Richards & Engle, 1986). They can be taught how to step outside the norm, or culture, and start change processes that lead to better performance of organizations (Schein, 1992). They can be taught problem-solving strategies. They can be taught how to leverage strengths of others to accomplish a common goal and lead by giving examples (Trilling & Fadel, 2009). They can be taught how to articulate visions, missions and organizational values so as to create the environment within which followers would be happy to accomplish tasks (Richards & Engle, 1986). They can be taught how to act responsibly taking in consideration the interests of others, of the firm, and of the community as a whole (Trilling & Fadel, 2009).

3. Conclusion

The discussion presented in this article clearly shows that what P21 (P21, 2008) characterize as the Career and Life Skills domain (CLS) comprises sets of skills that are essential for success, not only in the classroom or lecture theatre of tertiary institutions, but also in the workplaces that students graduate into, after college or university. The skills discussed here, – flexibility and adaptability, initiative and self-direction, social and cross-cultural skills, productivity and accountability, as well as leadership and responsibility, – are not new in society. However, most of them have not been included in the core curricula taught to students in most institutions of higher education. In the 21st century curriculum and workplace, they have gained higher priority because of the dynamics of the Information Age, coupled with the need for multitasking, versatility and speed, and they therefore form an essential component of the new learning paradigm.

It is therefore of the utmost importance that education providers, particularly those in the higher education sector most directly responsible for preparing students for employment on graduation, seriously consider giving every one of their students the opportunity to learn these skills, along with those of the other domains of the new learning paradigm. Equipping them with these skills will help not only to make them better educated individuals but also better citizens who will be able to make a greater contribution to commerce and to civil life in the Digital Economy of the 21st century. As firms in the Information Age look for well educated employees at competitive wages,

employees that can demonstrate mastery of skills of the CLS domain will have a competitive advantage over those that will lack these skills. The digital power that drives the Information Economy has made workplaces more flexible and more competitive, not less. All institutions and their graduates therefore need to give themselves the best possible chance to be competitive in the 21st century Digital Economy, by including these skills in their curricula.

References

Angelo, T. A. & Cross, P. K. (1993). *Classroom Assessment,* 2nd Edn. Jossey-Bass, San Francisco.

Askew, S. (2000). *Feedback For Learning,* Routledge, Oxon.

Balasko, Y. (1988). *Foundations of the Theory of General Equilibrium,* Academic Press, New York.

Bass, B. M. (1990). (Editor). *Bass and Stogdill's Handbook of Leadership: Theory, Research, and Managerial Applications,* 3rd Edn, The Free Press, New York.

Bennis, W. G. (1959). Leadership Theory and Administrative Behavior: The Problem of Authority, *Administrative Science Quarterly,* Vol. 4, pp. 259 – 260. http://dx.doi.org/10.2307/2390911

Black, P. & Wiliam. D. (1998). *Inside the Black Box: Raising Standards Through Classroom Assessment,* School of Education, King' College, London.

Bloom, B. H. (1956). *Taxonomy of Educational Objectives, Handbook 1: Cognitive Domain,* David Mackay Co, New York.

Boud, D. (2000). Sustainable Assessment: Rethinking Assessment for the Learning Society, *Studies in Continuing Education,* Vol. 22(2), 151-167. http://dx.doi.org/10.1080/713695728

Bruner, J. S. (1966). *Toward a Theory of Instruction*, Harvard University Press, Cambridge.

Burns, J. M. (1978). *Leadership,* Harper & Row, New York.

Drucker, P. (1955). *The Practice of Management*, Harper & Row, New York.

Goodreads. (2014). Change management learning: Goodreads. Accessed online on 13 September 2014 at: http://www.goodreads.com/quotes/10562.

Hargreaves , E., McCallum, B. & Gipps, C. (2000). Teacher Feedback Strategies in Primary Schools: New Evidence. In S. Askew (2000). *Feedback For Learning,* pp.21-31. Routledge. Oxon.

Hemphill, J. K. & Coons, A. E. (1957). Development of the Leader Behavior Description Questionnaire. In R. M. Stogdill & A. E. Coons (Eds.), *Leader Behavior: Its Description and Measurement,* Columbus Bureau of Business Research, Ohio State University, pp. 6 – 38, Ohio.

Kagan, S. (1994). *Cooperative Learning,* Resources for Teachers, Inc., San Clemente, CA.

Kivunja, C. (2014a). Do You Want Your Students To Be Job-ready With 21st Century Skills? Change Pedagogies: A Paradigm Shift From Vygotskyian Social Constructivism To Critical Thinking, Problem Solving And Siemens' Digital Connectivism, *International Journal of Higher Education,* Vol. 3(3), 81 – 91. http://dx.doi.org/10.5430/ijhe.v3n3p81

Kivunja, C. (2014b). Innovative Pedagogies In Higher Education To Become Effective Teachers of 21st Century Skills: Unpacking The Learning And Innovations Skills Domain Of The New Learning Paradigm, *International Journal of Higher Education,* Vol. 3(4), 37 – 48. http://dx.doi.org/10.5430/ijhe.v3n4p37

McLuhan, H. M. (1962). *The Gutenberg Galaxy: The Making of Typographic Man*, University of Toronto Press, Toronto, Canada.

O'Connor, J. & McDermott, I. (1997). *The Art of Systems Thinking*. Thorsons, England.

Parkinson, C. N. (1955). Work Expands To Fill The Time Available For Its Completion, *The Economist*, 1955.

P21. (2008). Partnership for 21st Century Skills (P21). Moving Education Forward. Author, Tucson, A.Z. Available online at: www.21stcenturyskills.org/documents/p21_brochure_-final14.pdf. Access date: July 12, 2014.

P21. (2009). P21 Framework Definitions. Partnership For 21st Century Skills (P21), December 2009. Accessed online at : http://www.21stcenturyskills.org on 15 September 2014.

P21. (2011). Partnership for 21st Century Skills (P21). Framework for 21st Century Learning. Available online at: http://www.P21.org Access date: July 10, 2014.

Richards, D. & Engle, S. (1986). After the Vision: Suggestions to Corporate Visionaries and Vision Champions. In J. D. Adams (Ed.), *Transforming Leadership,* Miles River Press, Alexandria, VA, pp. 199 – 214.

Right Management Group-RMG. (2014). The Flux Report: Building a Resilient Workforce in the Face of Flux, January 2014. Accessed online at www.rightmanagement.co.uk on 13 September 2014.

Sadler, D. R. (1998). Formative Assessment: Revisiting the Territory, *Assessment in Education,* Vol. 5(1), 77-84. http://dx.doi.org/10.1080/0969595980050104

Samuelson, P. A. (1976). *Foundations of Economic Analysis,* Harvard University Press, Cambridge.

Schein, E. H. (1992). *Organizational Culture and Leadership,* 2nd Ed. Jossey-Bass, San Francisco.

Senge, P. (1999). *The Fifth Discipline: The Art and Practice of the Learning Organization*, Griffin Press, Adelaide.

Trilling, B. & Fadel, C. (2009). *21st Century Skills: Learning for Life in Our Times,* Jossey-Bass, San Francisco, CA.

UNICEF. (2014). Global Awareness. United States Fund for UNICEF, Maiden Lane, New York. Accessed on 16 September 2014 at: http://teachunicef.org/about-us.

Yukl, G. (2006). *Leadership in Organizations,* 6th Edn. Pearson Education, Upper Saddle River, NJ.