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Videography in the 21st Century Higher Education: Insights and Propositions from the Entrepreneurship Discipline

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Abstract

The generation "Z" was born into the digital information society, with smartphones, tablet PCs and social media replacing a huge chunk of the traditional learning tools and earlier forms of educational enquiry. As this generation of "virtual learners" is entering into both the workplace and the higher education classrooms, the yesteryears traditional teaching and learning methods have become obsolete. Learner-centered instruction designs enabled by modern ICT are taking preference over expository teaching methods. However, at the same time, most of the educational sectors have surprisingly lacked behind compared to how modern day ICT have infiltrated into every sphere of the larger society. In this study, we contend that even though most academic curriculum has arguably remained the same since the 1950s (Gonzalez et al., 2000), there is a looming change that will befall on how the 21st century education is organized. We use arguments for the adoption of videography in business education and the entrepreneurship discipline in particular to elucidate the challenges and competitive landscape of ICT infiltration into the mainstream academia.

Keywords

Videography, ICT, Higher Education, Entrepreneurship Discipline, Generation "Z", 21st Century Education

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1. Introduction

Today's world is dynamically globally connected beyond prior imaginations (Adler, 2006); and information and communication technologies (ICT) in particular have dramatically changed different aspects of the everyday life (Hidalgo & Albors, 2008; Proserpio & Gioia, 2007; Tejeda, 2008). Some scholars have opined that the "internet" in fact does "modify our brain" (Hidalgo & Albors, 2008; Schinzel, 2013; Vesper & Gartner, 1997) while some other scholars have provided various empirical evidence on how ICT have transformed the work environment, education, and the way people interact (Proserpio & Gioia, 2007; Clemens & Hamakawa, 2010; Baker & Baker, 2012).

Higher education is known to be one of the key sectors that have been significantly influenced by the global ICT trends (Cheng et al., 2009; Hunt, 2001). Learning processes in higher education has been impacted by modern developments in ICT (Hobbs, 2006; Starr & Fernandez, 2007), however, the world of higher education has also asserted its own "footprint" on the evolution of the digital era (Cheng et al., 2009; Caldwell et al., 2010). Yet many paradoxes abound (Hunt, 2001) as the 21st century higher education embraces eminent transition from the traditional learning approaches enshrined in the old/existing academic conventions, towards a new horizon of digital learning enabled by advancements in educational technologies (Cheng et al., 2009; Hobbs, 2006; Hunt, 2001; Starr & Fernandez, 2007).

Considering that change is inevitable, and yet different facets of our institutions and educational disciplines are "foot-dragging" when it comes to the adoption and usage of technology in the learning process, it is thus fair to argue that the circumscribed methods of yesterday will no longer be effective (Gonzalez et al., 2000) for the development, dissemination, and absorption of knowledge in the tomorrow's higher education environment (Proserpio & Gioia, 2007).

Computer assisted learning and the use of multimedia in the classrooms are nothing new (Berk, 2009; Kennedy et al., 1997). For instance, scholars have documented teachers' use of technology in the classrooms during the 20th century and its impact on the learning process (Cuban, 1986); more recently, scholars have illustrated how technology in business education "*dates back to prehistoric times when cave instructors used* 16 mm *projectors to show cave students examples of insurance company marketing commercials in business courses*" (Berk, 2009: p. 1). It is evident that today's educational technology has moved beyond transparency-slide beamers, and overhead projectors, however, despite the growing number of publications assessing the adoption and application of technology in different fields of education (Belk, 2006); the concept of how the deployment of modern ICT tools in entrepreneurship discipline could interplay with learning outcomes and effective learning experiences has surprisingly been ignored. This paper aims to [at least] initiate a scholarly debate on the proactive use of different digital tools in entrepreneurship education. Secondly, this paper uses videography as a concrete example to illustrate how systematic analysis and presentation of relevant information about the potentials for appropriation of different ICT tools in educational classrooms could help move the disciplines forward towards harnessing the synergy between modern technologies, instruction design and societal trends, for more impactful 21st century education process.

2. A Looming Change

2.1. Study Background

The 21st century educators are faced with an interesting group of learners. Different terms and/or phrases such as: virtual learners, virtual generation, digital natives, cyber natives, and generation "Z" has been used [among others] to describe the 21st century learners. For the purpose of this paper we adopt the terms "*generation* 'Z'" and "21st *century learner*" to refer to the group of educational audience/learners born between the year 1995 and 2009 (see, Geck, 2007).

It has been argued that the higher education system and today's culture are in conflict (Barry, 2003). Many universities nowadays seem to be filled with students who have little interest in learning—that is, from the traditional expository learning point of view (Proserpio & Gioia, 2007; Cuban, 1986) and faculty who have too many service and research traditions to comply with. However, the key interest for both parties is to find ways to teach and learn effectively (*cf.* Le Roux, 2002).

Some analysts have stated that the teaching techniques in higher education seem to be developing at pace with the general world's technology advancement (Starkey & Tempest, 2009), however, on the other hand, different

studies have argued that the diffusion of technologies into the higher education system is still very much in its infancy (Garrett, 2010). In terms of common identifiers, it is common knowledge that the generation "Z" grew-up with tablet PCs, Smartphones and Social media; thus, even though the venerated school blackboards and overhead projectors may have been to some extent overtaken by electronic platforms (Berk, 2009). And, online education/distant learning are also becoming commonplace within the present day education systems. However, at the same time, it seems that the process and standards of learning have stayed merely unchanged within the vast majority of schools over the years (Gonzalez et al., 2000). For instance, a very small percentage of Business major course teachers allow their students to submit term-papers in other form(s) but the traditional written documents (Belk & Kozinets, 2005), also, social media and new interactive digital platforms are still seen as unwanted distractions in the educational environment (Brown 1992; Vie, 2008). Le Roux (2002) have argued that effective education is a culture relevant education! Thus, if the modern cultural milieu of the generation "Z" is one dominated by visual culture and social media trends, then shouldn't the 21st century educators be deeply concerned about the divergent interests between today's culture (Barry, 2003) and the conventional (Proserpio & Gioia, 2007; Cuban, 1986) means of instruction delivery? Considering the fact that effective education should be culturally relevant (Le Rousx, 2002) in order for it to better serve the socioeconomic and intellectual needs of the society which it is supposed to serve (see, Reiser, 2001; Zaltman, 1997); it is thus safe to contend that change is inevitable at different levels of educational systems for it to carter for the needs of the 21st century learners. Therefore, in view of the eminent change in the society, business schools' instruction design in particular and methods of delivering the content of the curriculum needs to be redesigned otherwise it faces the danger of losing its relevance to generation "Z" and the needs of tomorrow's society (Starkey & Tempest, 2009).

According to Reiser (2001) technology has a strong role in the field of instructional design and it encompasses the analysis of learning, design, development, implementation, evaluation and management of learning in educational institutions (p. 53 & 54). Thus, it has many implications for our teaching pedagogies. Therefore, if the role of technology is brushed aside from instructional design, then we are potentially undermining a crucial influencer of the entire learning process.

In the following subsections, we will take a closer look at the context of this paper—that is, an overview of entrepreneurship educational context is provided and then we go further to elaborate on the power of videography which is the exemplary educational technology used as the basis for our analysis and discussions.

2.2. The Need for Entrepreneurship Education to Adapt

Entrepreneurship education has experienced rapid development from the few courses taught in US about 60 years ago (Gartner & Vesper, 1994; Katz, 2003) into a distinctive discipline taught in most universities around the world (Gartner & Vesper, 1994). In addition to business schools, entrepreneurship courses are now offered in various levels such as: high schools & colleges; and specializations such as: medical, engineering, art, law schools [among others] (Katz, 2003; Ronstadt, 1987). Entrepreneurship is considered as one of the most practice-oriented disciplines, where the merger of emotions and interactivity play very important role. It has been opined that learning methods are often more important than learning specific content. In an ever-changing world, we need to teach with methods that stand the test of dramatic changes in content and context (Starkey & Tempest, 2009; Neck & Greene, 2011).

For entrepreneurship students, trying to create own venture could be likened to a theater production process where the information should be scripted, captured and edited in order to convey the most appropriate message to the audience; and for it to be understood just right (Cope, 2005). Entrepreneurs are often both actors and script directors on the business stage—they are expected to create a business plan, implement it and hope for the outcome to be well-received by the society. Multimedia is considered by Gartner and colleagues (1994) as a powerful storytelling tool providing entrepreneurs with a possibility to include the visual environment of a story behind the idea, and as such activating additional senses of the audience. Entrepreneurship is both art and science (see also, Honig, 2004; Swap et al., 2001). Relating to the Le Roux (2002) argument about cultural relevance of education, it is also evident that entrepreneurs and entrepreneurship aspirants are indeed keen on acquiring not only economic recipes (Garavan & O'Cinneide, 1994) but also they seek for technological and social behavioral competencies (Garavan & O'Cinneide, 1994; Kirby, 2004; Peterman & Kennedy, 2003) that ensures relevance and befitting value propositions to the business needs of the modern society. Hence from this perspective, the relevance of visual culture, social media and modern technology trends to entrepreneurship education cannot be over-emphasized (*cf.* Erez, et al. 2013; Cheng et al., 2009).

For the entrepreneurship discipline, videography is an easy and good initial point for testing the waters in the use of technology in education. The use of videography in entrepreneurship education embodies both the science and the art part of entrepreneurship as it not only is a befitting step towards the adoption of technology into the discipline's instruction design and dissemination, but more so it at the same time serves as an avenue for the development of artistic skills which the entrepreneurs need in different aspects of the venture process such as scenario planning, pitching, and improvisation, etc. (e.g. Larkin & Simon, 1987).

According to videography pioneers (Belk, 2006; Starkey & Tempest, 2009; Honig, 2004) videography can be used by both teachers and students as complementary or even a substitution for written term papers, reflections, reporting and evaluation of learning. In the entrepreneurship discipline, allowing students the option of videography which entails anything from ad hoc video recording on their smart phones; to "scripted" event-capturing, editing and presentation as part of enterprise education, especially brings out the art side of entrepreneurship (details regarding how and why will be presented in the brief case example on the next chapter). Zaltman (1997: p. 425) tells that: "*A common rule of thumb is that approximately* 80 *per cent of human communication is non-verbal*". Visual representation is a helpful approach for capturing mental constructions that cannot be verbalized. It is excellent method for unveiling more copious and meaningful information that people cannot communicate in spoken or written words because it is implicit, tacit, or hard to define (Erez et al., 2013; Cheng et al., 2009).

2.3. The Power of Videography

Belk (2006) in his paper has described the proactive use of video by students during his classes. Their higher involvement in the learning process was emphasized as being especially activated through the use of videography and this is highlighted when talking about students' reflection (Belk, 2006). The following quotation from Belk's paper illustrates.

> For the past six years I have given students the option of producing a ten-minute video instead of a written term paper in my classes. I have accumulated enough camcorders, microphones, tripods, and editing equipment; so that a class of thirty students can all focus on making videos in small groups of two or three students. Increasingly, I find that students have their own equipment as well. Although they end up spending more time than they would on a written paper, they get much more highly involved and report learning a great deal in the process (Belk, 2006: p. 200).

This has captivated our attention to the aspect of use of videography as the educational tool which can and should be developed from both; teaching and learning perspectives.

The following points substantiate this view:
- From the TV generation to the YouTube generation (Hunt, 2001), videos and motion pictures has consistently proved to be effective means of conveying knowledge and information.
- Videography allows learning and dissemination of knowledge through reflective double-loop feedback process. It engages the emotional and visual senses in addition to the cognitive involvement of both students and the instructors or vice-versa (i.e. both the actors and the audience) (Ayas & Zenuk, 2001; Erez et al., 2013; Cheng et al., 2009).
- Almost all current mobile phones and cameras have video capturing and viewing capability. Also, the most [if not all] existing classroom multimedia equipment have good video streaming possibilities. So the students and teachers are in fact already equipped for videography in their everyday activities. Therefore, the switching cost is very minimum or even non-existent in some cases (see, Berk, 2009; Hooper & Reiber, 1995).
- Videography allows for capturing of non-verbal cues that enriches the learning experience (Zaltman, 1997).

Video has the multisensory capacity (Starr & Fernandez, 2007) that no other learning tool provides (Berk, 2009). Video has been proven to by intelligence experts perhaps be more than 70% more efficient compared to physical observations in capturing emotions and subtle messages expressed through small gestures, facial expressions and eye movements (Burgoon et al., 2005; Belk & Kozinets, 2005; Garrett, 2010). Similarly, there can be many instances in the learning process where written records and even the traditional lecture (i.e. speech and lecture slides included) do not provide the full meaning of all embedded lessons (*cf.* Garrett, 2010). For instance, when students provide written course feedback or reflection papers, a significant portion of their message could be lost because most of the emotions and body languages cannot be expressed in writing (Zaltman, 1997). The same goes for the course instructors. Now, in such instances, videography is the most powerful instrument for

augmenting the traditional approach where the goal is to capture important subtle communication elements (e.g. "*body language... proxemics, kinesics, and other kinetic forms of body expression.*" Belk & Kozinets (2005: p. 129) "*the sequence, timing, and spatial occurrence of behaviors*". Starr & Fernandez (2007: p. 179) that enriches the understanding of the message conveyed and provides a higher level frame for interpreting a learning interaction (Barry, 2003; Zaltman, 1997).

Videography also allows for the gamification of the learning process and study tasks. It thus, facilitates the enjoyment of course work, and elucidates fun or the entertainment aspects of otherwise mundane learning routines (Caldwell et al., 2010). To a great extent, videography has the ability to bring to us many intangibles, different things that may have slipped from our learning experiences otherwise (Garrett, 2010). Having made the preceding arguments, it is also important to underscore the fact that videography adoption entails certain degree of challenges, as is often customary with most technology adoption in education.

3. Some Challenges

Adapting higher education systems to the current developments in the society might not be an easy jump, however, it is a necessary undertaking that will not only make it more relevant to the needs of the generation it is supposed to serve, but would help eliminate its potential obsolescence or boredom to the tomorrow's society (Hobbs, 2006). Below we highlight some of the key challenges facing the adoption of modern technology into the classrooms.

Indeed, certain educators look askance at the use of video in the classroom, feeling that some teachers use films to fill class time to overcome a dearth of course content or attempt to compensate for poor preparation (Hobbs, 2006; Clemens & Hamakawa, 2010; Hunt, 2001). Yet, many stakeholders are concerned that teachers might use videos for reasons other than knowledge acquisition and skill development (Hobbs, 2006).

A common key challenge that has faced the adoption of modern technology in classrooms is the age-old debate about what science entails and what does not count as "scientific methods" of learning (Piccinini, 2003). The history of higher education tells us that university as the highest seat of learning in the society must utilize rigorous proven scientific approaches in the creation and dissemination of knowledge (*cf.* Bloland, 1995). Therefore, higher education practices across the globe are rooted in century old "scientific" ideologies, traditions, and academic conventions that have since the emergence of universities dictated what appropriate form of academic learning should be (Bloland, 1995; Cross, 1999). Thus, the question of how to assess the academic quality and intellectual merits of any educational endeavour that deviates from these long established traditions becomes a very complex nightmare for many educators (Trow, 2000). The consensus on the assessment and justification of assessment given to any video material is far from realization. Apart from the problem of *path dependency*—defined as: a paradigm or base of common knowledge developed over time, which creates ideological "lock-in" that restricts what can be done (Håkansson & Waluszewski, 2002: p. 561) and other forms of resistance to change; the traditional view of many educators has been that social media is an unwanted distraction in the classrooms; and that the use of multimedia (Berk, 2009) attracts high degree of vulnerability to technical challenges (see e.g. Hobbs, 2006; Hooper, S., & Rieber, 1995). Therefore, they postulate the view that both social media and multimedia must be avoided in order to have effective classes (Vie, 2008; Brown, 1992).

A relevant and most noteworthy example of path dependency can be found in the famous case of the "QWERTY" keyboard, originally developed in 1870s by Christopher Latham Sholes (see Wilfred, 1974). QWERTY's design was to ensure that typists using typewriters would type as slow as possible to avoid the jamming of the several pieces of metal typebars moving up and down. While the use of typewriters is almost non-existent in modern times, however, QWERTY was adopted as an international standard for multitudes of computer keyboards and touch pads of mobile devices which functional designs and operating mechanisms have nothing to do with the complicated mechanics of yesteryears typewriting machines. Nowadays, even though we know of many other keyboard layouts that would increase efficiency and ease of using various ICT gadgets, yet we are locked-in with "QWERTY" for different reasons (*cf.* Håkansson & Waluszewski, 2002). Such path dependency reflects various institutionalised practices and academic conventions that are locked-in to several centuries of academic past.

Considering that the above highlighted concerns are valid and in most cases, these are not something that can be easily brushed away. However, it is well known that one of the common goals of higher education is to produce well-equipped individuals who will take care of the industrial and economic needs of the society as an integral part of having an enlightened society (Brown, 1992; Smith, 2012; Zaltman, 1997). In view of this impor-

tant mission, educators and managers of our higher education institutes should perhaps be asking whether adherence to the circumscribed tools of yesteryears and/or age-old academic traditions are the most relevant instruments for solving the socio-economic (and even intellectual) challenges of the generation "Z". If we restrict the proactive use of videos and social media in the classrooms for fear of distraction, then we might actually be setting up for the negative usage of these tools.

4. Learning through and with Video Reflections: Case UniEE

Please bear in mind that in presenting the disjointed accounts in the following case example, the authors' intention is not to show a best-practice or bad case scenario. But rather, the goal is to use the example to illustrate discipline-based videography adoption and its impact on the learning process of the 21st century learners. While the case is real, however, many of its elements have been either disguised and/or identities twisted to maintain certain level of anonymity. Also, one of the co-authors of this study has been involved in the UniEE program in different capacities and at various points during the past three years.

Between 2011 and 2013 a [re]designed entrepreneurship master's program (which we refer to as UniEE program) adopted the use of learning reflections instead of the traditional written exams at the end of their courses. Additionally, for some of the courses, the UniEE program leaders and instructors allowed the students the possibility to submit their reflection assignment either in written or video format. Evidence gathered and interactions with a faculty member and some students [even though this was meant for a different study] revealed that:

a number of the students accepted videography with excitement to break the tradition of essay-style document submissions (participants E).

However despite the seeming easiness of the video reflections, it was gathered that many have undermined the complexity of the video process, and as such some students have switched back to the traditional reflection technique; while a few other students has been eager to continue and developed their videography-related skills throughout the whole period of the study process. In fact, a student informed that:

"[…] *based on our program experience, I have also been requesting from other lecturers* [i.e. referring to lecturers of courses outside the entrepreneurship master's program] *to allow me submit some assignments in video format when possible…, and often a couple of them have allowed it. Although the reception is still a bit strange for most of them*"—(student B).

It was also observed that interestingly the final submissions of video reflections were deeper, better analyzed and better planned compared to their essay document counterparts.

Parallel to the UniEE Entrepreneurship major, an unconventional course titled: "License to Act Different" which is organized in another unit of the same institution and also accepted as part of the minor subjects for the UniEE entrepreneurship master's program even took videography to a different level. Again, this particular course has no written exams, rather, all the studies were applied learning in which the students in small groups created solutions for solving own chosen community, institutional, business and/or social problems. In the very first assignment for this course, students were asked to create a one minute video introduction of themselves. Two of the participants described the experience as follows:

[...] *this was both exciting and challenging task because one had to…, basically put everything considered important about em'self in one minute…, or let's say you present your life so far in one minute video!*"—(student C).

The other participant asserted:

"*man, the main challenge was the fact that we were not allowed to use words* (i.e. whether verbal or written words) *in that video presentation…, so of course we had to use pictures, motions and body language to tell about ourselves*"—(student D).

In the remainder of this course, videography was extensively used in both instruction delivery and the real case projects which the students worked on. It was understood that many of the deliveries in the projects were done in video format and also it was possible for the final solutions by a group to be presented in video format. Finally, there was consensus by the students that "*even though there were frustrations in the beginning, however,*

the entire exercise ended up being much fun at the end, at least for most of us" (course participants).

The following excerpts are some of the description of the process and experiences by the students who had embraced videography in the major program at UniEE:

"*It was similar to movie making: I first brainstormed with ideas in my head putting them to the paper, then I built a framework out of them and started to—'put some flesh on the bones'—developing each of my ideas further. After that it took me a while to figure out the sequence I was planning to explain my thoughts to the viewer. I did a trial video-shooting and thought of switching back to the Word, since seeing that the story sucks and my presentation skills are as terrible as they were two years ago. So I went back to my script and thought a little more on how my ideas contributed to each other. It was like a weird puzzle: […] I had an approximate picture I want to create in my mind and hundreds of puzzle pieces on the paper in a state of creative mess… The challenge is that most pieces don't fit with each other rather well and the picture itself constantly changes the shape… So I first recorded each of my ideas separately and then started playing with them. Having them performed "live" I started to literally combine them into the groups, replaying them, deleting some parts and creating the new ones. In total it took me over 30 hours to create the 15 minutes video and I just had to give up on developing it further due to the time issues. Every time replaying it I came up with additions, recorded and tried to for them to my story again and again*"—(student A).

The experience of "Student A" as evident from the above extract illustrates most of the practical challenges and the initial confusions from the students' perspective. However, it is also to note that the assumed challenges play different roles in the overall learning experience and development of the students, as highlighted earlier by Belk (2006). When we interviewed another student about the overall experience about videography, the following was said:

"[…] *I found myself looking through all reflections I submitted and analyzing the difference between my ideas in different stages. Ironically the two years of my studies at the uni were presented in a series of short films with me as a leading actor, director, and editor. I wonder what I'll think about it let's say in ten years from now… I caught myself planning to make a reflection of my current stage to have a possibility to see myself and hear today's ideas in the future. When doing these reflections I didn't consider them any special. Now they appear to be turned into a diary and I feel kind of addicted to continue with it*"—(Recent graduate B).

When were compare the extracts presented above against the experience described by Belk (2006) regarding the experience of his students who were allowed to submit course assignments in video format during a six years experimentation period, we see some similarities in the experiences and yet both empirical accounts highlight the facts that 1) both learners and instructors do not require any special skills in handling video materials in order for it to be successful, 2) the assumed challenges on the other hand increases the student's commitment and learning development during the process even though not everyone will be comfortable with it [at least at the beginning], 3) discipline based or single course based approach of videography adoption is an easy and good way for the introduction of new educational technology—this minimizes the danger of revolt and other challenges of path dependency. The cost involved is also minimal until perhaps a broader acceptance of the new learning technology; then the educational institute decides whether or not to have mass implementation of the technology.

5. Discussion

Many scholars conclude that learning by doing and especially learning by doing mistakes are the crucial parts of the entrepreneurial learning (Cope, 2005; Kuratko, 2005). Among others Cope (2003; 2005) has discussed the critical role of entrepreneurial failures to the learning process pronouncing "learning by failing" as a critical aspect of entrepreneurial learning (Honig, 2004; De Tienne & Chandler, 2004). However failure itself does not bring the desired result: the experience becomes critical only after being reflected (Kyrö et al., 2011; Neck & Greene, 2011). This makes reflections an important part of the entrepreneurial learning process.

Many entrepreneurship programs make students to reflect own experiences during the whole education process. This enables both students and teachers to follow one's development providing both parties with the ex-

tremely valuable material. Our experience shows that despite such good intentions and profound gains from this exercise majority of students' reflections get lost along the way due to the multi-layer structure of the educational programs and inability/unavailability of coordinated platforms for chronicling patterns and progress in students' various course reflections—turning it into one bigger reflection matrix. And even if succeeding, this creates a lot of materials put into the same place. We mean to say that, this will result in enormous amount of archiving (whether digital or non-digital) of paper and texts that contains only a fraction of the overall reflections—i.e. because emotional expressions, body language, and other implicit language cues are lost. Perhaps, the brief case of UniEE illustrates the advantage of videography and the ease of utilizing popular media channels such as Vimeo and Youtube for organizing personal reflections by each student. The student can choose whom and when to give access to others to their reflection log, but more importantly, having all the reflections in one place provides the added advantage of following own development over time and thus also providing a unified overview of the overall learning journey (including emotional aspects) in just a few clicks.

As discussed in the previous chapters, generation "Z" students largely prefer to seek for knowledge and learning from alternative sources of ICT media channels. Our experience shows that giving them the possibility to do reflections in a video-format provides them with excitement to do something new and enables students to reflect more deeply—thinking about the red line of their stories—enabling them to emphasize on specific details both verbally and non-verbally. Current technologies (such as Youtube or Vimeo channels) provide students with the opportunity to upload all personal reflections into one folder giving the possibility to view them whenever they wish and share if needed. This enables students and further graduates to take a look at themselves retrospectively often launching the additional reflection from their side and extremely positive feedback even in regards to the previous failures, since now considering them as a valuable part of a learning process.

It is also important to notice, that this exercise does not require any specific skills for handling the camera nor cutting. Being unsure, fragile and doing mistakes while speaking is all part of the learning process helping to capture the essence of one's feelings and emotional reaction to the topics being reflected upon. Examples show that being unsure and doing mistakes while doing the video reflection is much in line with the "learning by failure" experience we emphasized earlier.

According to Cornelissen et al. (2012) "*the arguments each entrepreneur… [makes] are not words on a page; they are 'pitches', which are presented in real time and real space…*" (p. 235). Pitching is the second aspect we advocate as getting a positive impact from the use of videography. Often, practicing pitches within the classroom is a teaching method used by many entrepreneurship educators to train students to formulate and present ideas in a very short time [usually less than one minute]—concentrate on the essentials. We argue that the videography provides students with a unique opportunity to see themselves performing the pitch, analyze it alone or together with a teacher (or the whole class) and improve own performance based on the received feedback and own observations. When polished and finalized, these pitches can be further used in their future entrepreneurship career to attract potential customers, partners and investors.

As we highlighted in the UniEE reflection examples, the initial proficiency in the use of video equipment nor own presentations skills do not play any important role in the initial stage of the learning exercise. The main purpose of it is to give students a possibility to observe his/herself from the side, and as such enabling one to reflect on own performance. This in turn provides students with a deeper understanding of their strengths and points to improve—elaborating their willingness for development. As they progress, also their proficiency in handling video equipment and/or videography materials improves tremendously. Despite the observed progress in handling video equipment, however, and most importantly, our interest rests on the ability of videography to provide a holistic learning experience that resonates with the visual culture of the modern generations.

6. Concluding Remarks

Higher education has come a long way; and the entrepreneurship discipline in particular has made tremendous progress despite being a young scholarly field of study. Technology has long been part of the higher education process and has contributed immensely to the various developments in the area of learning, and knowledge dissemination. However, both analysts and skeptics agree that today's fast-paced digital evolutions present both significant opportunities and serious challenges for instruction design.

The main objective of this paper was to systematically argue for the proactive use of videography in higher education and we have used the entrepreneurship discipline as a context for our discussion. The preceding dis-

cussions have identified some of the major advantages as well as potentials of videography application in the entrepreneurship discipline. Yet, we did not shy away from the issues often considered as the stumbling blocks for the adoption of technology in educational environments. Path dependency is in a nutshell the key issue hindering progress in the use of modern technology in the 21st century education systems.

Members of the generation "Z" were born into the digital information society where smart phones, tablet PCs and social media play significant roles in everyday life. Thus their learning style and approach to knowledge acquisition significantly differ from the traditional modes of expository learning system that has been the predominant form of instruction design in many higher education institutes and disciplines across the globe. Therefore, there is a need for educators to embrace new digital tools and societal trends that are both familiar to this generation and most importantly relevant to their future work or socio-economic environments.

The goal is not for the use of videography to replace the conventional written texts and venerated academic traditions, however; we contend that the use of videography brings significant additional value to conventional learning and education techniques. Multimedia information inquiry is able to capture various aspects of human behavior. It is not only the human actions, but a large variety of external factors, which are precisely captured by the videography (Starr & Fernandez, 2007). Widening the students' field of freedom in choice of academic work format encourages them to test their limits in discovering novel approaches to knowledge acquisition and problem solving (Larkin & Simon, 1987). Such skills are also transferable in the working life where those individuals who have been accustomed to the proactive use of solutions outside the boundaries of the conventional approaches are often the ones who exhibit more entrepreneurial competencies and effectuation logic in the work situation (Munoz et al., 2011).

For culture relevant education (Le Roux, 2002), video is a particularly effective teaching tool, principally because visual culture is a dominant aspect of modern society. Human abilities to recognize information are highly sensitive to the exact form in which the information is presented to the senses (Larkin & Simon, 1987). Camera gives voice to the informant beyond what is imaginable with written documents (Garrett, 2010). Therefore, the proactive use of virtual pedagogical tools not only helps to tailor our instruction design to the generation "Z" learning styles, but also broadens the boundaries of our "teaching space" (Proserpio & Gioia, 2007). Thus, efficient use of digital media provides both students and educators with possibility to strongly include the experiential and emotional factors into the educational work. Modern ICT provides value-added tools for (re)framing the learning experiences into playful, fun-filled and exciting journey instead of work—as such creating positive impact on students' increased motivation and learning outcomes (Caldwell et al., 2010).

In comprehending "how" entrepreneurs learn, there is a common recognition that entrepreneurs are action-oriented and much of their learning is experiential. Therefore, entrepreneurship students appreciate the hands-on experimentation with coordination of technologies doing videography learning or reflections.

Visual culture would play a powerful role in shaping the 21st century learning. As tomorrow's digital landscape unfolds, educational disciplines and institutions that are left behind will arguably struggle for relevance to the needs and ways of life of the future society. Videography is not a challenge, but rather an opportunity for the reinvention of the established higher education paths.

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