Sustainability, Social Networks, and Teaching Offer

Angela Dettori
Department of Business Economics
University of Cagliari (Italy)
email: angela.dettori@unica.it

Ernestina Giudici
Department of Business Economics
University of Cagliari (Italy)
email: giudici@unica.it

Abstract

Firms working in the third millennium have to face the challenge of being more sustainable. The complexity and the multidisciplinary nature of sustainability also requires new and specific knowledge. This means the necessity of a critical rethinking of the education system (universities and particularly business schools) in the way to provide the cognitive tools and applications needed for new generations to address environmental, economic, and social challenges.

In this perspective, the role of universities is crucial, especially in encouraging the attention to insert sustainability as the topic on didactic programs, focusing on the promotion of its multiple dimensions; the challenge is to prepare managers (or citizens) to work and live with respect for sustainable development.

As a consequence of the previous considerations, some questions can be posed: What kind of changes in the teaching style are necessary to adopt? What universities offer teaching on the "sustainability" topic? What kind of teaching methods can be adopted to stimulate students' involvement?

The aim of this work is to find answers to the above questions with an online survey. This is directed to one University of Poland, one of the USA, and one of Italy, with the perspective to enlarge the survey to other universities.

Keywords
sustainability; teaching offer; teaching methods

1. Introduction

Education and training have the responsibility to play a key role in the transition process towards sustainability (Vare and Scott, 2007); in fact, this shift will be possible if the concept of sustainability will become an integral part of the teaching offer.

The necessity of a more central role in developing a sustainable consciousness in managers is suggested by the continuous disaster that affects each part of the world and that often are not caused by a "nature stepmother". Are teachers aware that nowadays managers are yesterday's students? (Giudici et al., 2011). Are they conscious of their responsibility to instil in their students seeds able to create a sustainable and ethical consciousness?

In a broad sense, business schools and universities as institutions, should play a leading role in the implementation of sustainable awareness, even if studies show that the implementation of sustainability is highly demanding for teachers and that it requires specific knowledge and skills (Summers et al., 2004).

The modern world - so dynamic, complex, and uncertain - asks for new challenges that the education world, and specifically teachers, cannot fail to undertake. However, accepting the challenge, what changes must teachers pursue to create managers that work in respect of sustainable development? What kind of tools should they adopt to guide business students in acquiring the skills to successfully manage organizations in the 21st century?

Given this premise, the aim of this study is to understand: 1) What kind of changes in the offer training of universities it is necessary to adopt; 2) which are the universities that offer teaching on the "sustainability" topic; and 3) what kind of teaching methods can be adopted to stimulate students' involvement. In order to find answers to the above stated research questions, we conducted a survey involving teachers of one university in Poland, in the USA, and in Italy to highlight if something is changing in the teaching offer.

The paper is organized as follows: First, we will provide a literature review, followed by a presentation and discussion of the survey. Finally, we will draw some remarks and conclusions.

2. Literature Background

The increasing rate of information and communication technologies development and their widespread implementation across all sectors of the economic and social life bring about radical changes in the way we work, think, learn, and communicate (Pedrò, 2006).

Today's generation begins to live and study in a technologically connected world (Carstens and Beck, 2005; Oblinger and Oblinger, 2005; Pedrò, 2006; Prensky, 2001; Rideout et al., 2005; Tapscott, 1999). To synthetize in few words the description of the main character of this generation, scholars used "the net generation" (Tapscott, 1999), "digital native" (Prensky, 2001), and "the gamer generation" (Carstens and Beck, 2005).

Already familiar with the digital world, young people are able to easily shift from one tool to the next, are used to performing several tasks at the same time, have a limited capacity for paying attention to the same thing for a prolonged amount of time, prefer multimedia to written texts, and are able to obtain knowledge by processing discontinuous and non-linear information (Sànchez et al., 2011; Pedrò, 2006; Prensky, 2001; Rideout et al., 2005).

For teachers (though not considered "old" per se, but clearly of previous generations), the above mentioned young people characters are not so "intuitive" and may not be clearly or easily perceived.

This highlights the core of the problem: different generations may have different speeds with which they accept and use the Net and its related tools (Kirkpatrick, 2005; Lee, 2005).

Although this discontinuity may not have dangerous effects in general, effects on teaching and learning were not taken adequately into account. Teaching and learning may not progress at the same pace or, worse, can be disconnected (Proserpio and Gioia, 2007). The meaning of the previous reflection is that the most important field to improve humanity – education – suffers from difficulty in keeping up with the digital revolution. Moreover, this technological phase is not only new, but also completely different from previous phases. In other words, it is difficult, if not impossible, to adapt existing teaching styles; rather, it is imperative to discover new teaching methods altogether (virtual and beyond).

Because teachers and students may not "speak the same language," teachers must be the ones to overcome this barrier and join the virtual world with the rigor of theories and basic scientific knowledge. Teachers have the responsibility to quickly get in tune with social media, adopting them as teaching tools, to reach the goal of interacting with their students and of transferring them into the culture of sustainable behaviours.

An answer to the question "What do today's students want?" emerges from a survey (Prensky, 2010) involving almost one thousand students from all over the world, studying across different fields (e.g., economic or social fields). More precisely: They do not want to be lectured; they want to be respected, trusted, and they want to have their opinions heard and valued; they want to follow their own interests and passions; they want to create using the tools of their time; they want to work with their peers on group work and projects (and prevent slackers from getting a free ride); they want to make decisions and share control; they want to connect with their peers to express and share their opinions, both in the classroom and around the world; they want to cooperate and compete with one another; and they want an education that is not just relevant but *real* (Prensky, 2010).

Moreover, Tapscott (2009) underlines that the Net generation exhibits specific traits as they prefer conversation over reading, they are interested to learn more about organizations, they insist on integrity, and they want to have fun at work and at school.

If educators do not understand that it is essential to adopt a teaching style (Kock et al., 2004) that enables progressive learning, with active participation in order to encourage learning, it is impossible to draw interest or motivate students, and it is impossible for them to internalize the importance of being sustainable and ethical managers as vital for the entire society.

In relation to sustainable development, there is extensive literature on what should be taught and learned in terms of knowledge, skills, and values associated with sustainable development (Seitz and Schreiber, 2005; De Haan, 2006; Makrakis et al., 2012). It is viewed as a dynamic, evolving, and contested concept and practice for and within education, but, as Vare and Scott (2007) suggest, "Whether we view sustainable development as our greatest challenge or a subversive litany, every phase of our education system is being urged to declare its support for education for sustainable development" (p.1).

Education for sustainable development (Makrakis, 2011) was also defined as the learning needed to maintain and improve our quality of life and the quality of life of generations to come. It is about equipping individuals, communities, groups, businesses, and government to live and act sustainably, as well as giving them an understanding of the environmental, social and economic issues involved (Makrakis, 2011). Education for sustainable development represents a new vision of teaching and learning, a vision that helps people reconnect with nature, by addressing the complexity and interconnectedness of sustainability issues such as poverty, peace and international understanding, sustainable consumption and production, environmental degradation, climate change, water protection, and health (United Nations Educational, Scientific and Cultural Organisation - UNESCO, 2005). This vision of education emphasises a holistic, interdisciplinary, and cross-disciplinary approach to developing the competencies needed for building a sustainable future (Makrakis, 2011). However, education

for sustainable development, as a cross-curricula theme, is often marginalised in national curricula, which in turn reproduces and perpetuates academic divisions of knowledge that separate the natural and social sciences and the humanities and fails to acknowledge lay and tacit knowledge (Huckle, 2008).

Along these lines, the purpose of this study is twofold: First we trying to understand how teachers stimulate students; and second, we analyze the challenge of teaching and learning to prepare managers (or citizens) to work and live with respect for sustainable development, by presenting the findings of a survey which aims to highlight the point of view of teachers from different universities in order to understand if this change is perceived, correctly evaluated, and consequently, if educators are adequately preparing themselves for this new challenge towards a world more "digital and sustainable".

3. Methodology and Survey

To understand if teachers are aware that they must frequently adapt their teaching methods to suit student interests and to comprehend if universities offer teaching on the "sustainability" topic, we conducted a survey using an online questionnaire made with Survey Monkey software and sent via e-mail (in February 2014) to teachers of Clemson University – Department of Management (USA), Wroclaw University of Economics (Poland), and University of Catania – Department of Economics and Business (Italy).

The questionnaire (composed of 26 questions) was designed to collect a wide range of information, including socio-demographic characteristics, general teaching information (department, courses taught, years of teaching, number of students for class), teaching techniques used, propensity to change teaching styles, level of awareness about the need to update teaching techniques and use of new technologies, utilization of social networks, and teaching offer on sustainability.

A total of 77 teachers completed our questionnaire, which included 37 females (48%) and 39 males (52%) with an average age of 40 years. With regard to the number of years of teaching, the average was approximately 15 years; this means that they aren't young teachers. Between teaching methods, case study is the most used technique (79.71%), as shown in Table 1.

Table 1. Teaching techniques employed (percentage)

Drama	11,59
Digital storytelling	15,94
Cartoons	20,29
Role play	21,74
Social networks	24,64
Current Films	24,64
Digital case study	33,33
Educational films	37,68
Documentaries	43,48
Storytelling	43,68
Brainstorming	55,07
Case study	79,71

Source: Authors' elaboration

Teachers stated that they stimulated student involvement primarily through study groups as shown in Table 2. Although the use of study groups can be considered positive, it is a traditional tool. The percentage regarding teachers' use of social networks and virtual worlds

was comparatively low. On the contrary, students are better at using social networks and other virtual worlds as learning tools (Sànchez et al., 2011). Moreover, an exceptionally challenging teaching method, such as outdoor lessons, is able to actively involve students, but it is not frequently used.

Teachers' choices are not in line with what has been observed by Proserpio and Gioia (2007): "This is not a passive generation, but one that fully expects to interact with and participate in their culture" (p. 72).

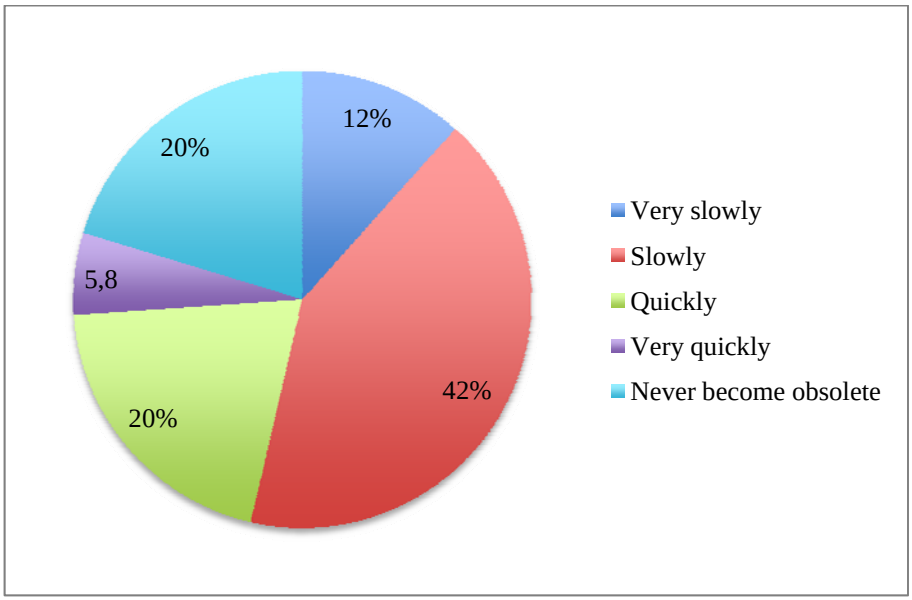
Table 2. How respondents stimulate student involvement (percentage)

	Never	Less than once a month	At least once a month	At least once a week	At least once a day
Study groups	21.43	25.71	21.43	25.71	5.71
Forums	57.35	17.65	13.24	7.35	4.41
Social networks	60.29	13.24	10.29	11.76	4.41
Virtual worlds	75.76	9.09	6.06	9.09	0.00
Outdoor lessons	72.31	20.00	6.15	1.54	0.00

Source: Authors' elaboration

With reference to the assessment of teachers' awareness of the need to continuously update their teaching techniques and use new technologies, we first considered opinions on teaching techniques and obsolescence during the last 10 years.

Graph 1. Opinions about teaching techniques obsolescence



Source: Authors' elaboration

As clearly shown in Graph 1, a high percentage of respondents (42.03%) supports that teaching methods become obsolete slowly, and only a low percentage of respondents express the opinion that teaching techniques become very quickly obsolete (5.80%). It is surprising that in an era characterized by fast changes, teachers do not correctly perceive (or perhaps do not deem it necessary) that the continuous changes and the dynamics that characterize the present era do not also involve the teaching activities and those that ask for changes in their teaching style.

The perception of the time of obsolescence of teaching methods has a direct influence on the way that teachers choose to modify their teaching style. Analysis of Table 3 clearly demonstrates a strong link between the adoption of new teaching styles and previous teaching styles. In fact, 85.29% of respondents stated that they created a mix between old and new styles, 8.82% adapted to old styles, and only 4.41% created a style completely different from the old one. Because this new generation of students is completely different from the previous, it is preferable that educators discover new ways to teach rather than simply adapting existing styles.

Only by comprehending the specificity of today's students can teachers "speak the same language". The development of new technologies never ceases; the ability to adopt new teaching methods based on them will therefore provide teachers a way to be better connected with both present and future students.

Table 3. Adopting a new teaching style (percentage)

I create a style that is completely different	4.41
I adapt to old styles	8.82
I create a mix of old and new styles	85.29
I adopt a new style, but I keep the old one as "fifth wheel"	1.48

Source: Authors' elaboration

The low rate in the adoption/creation of a teaching style completely different from the previous style can be considered as the result of unfamiliarity with social networks. In fact, the majority of respondents of the survey never use the social networks (Table 4) in their private life, for teaching, and for occupational activity. More exactly, the highest percentage of non-use concerns the adoption as a teaching tool.

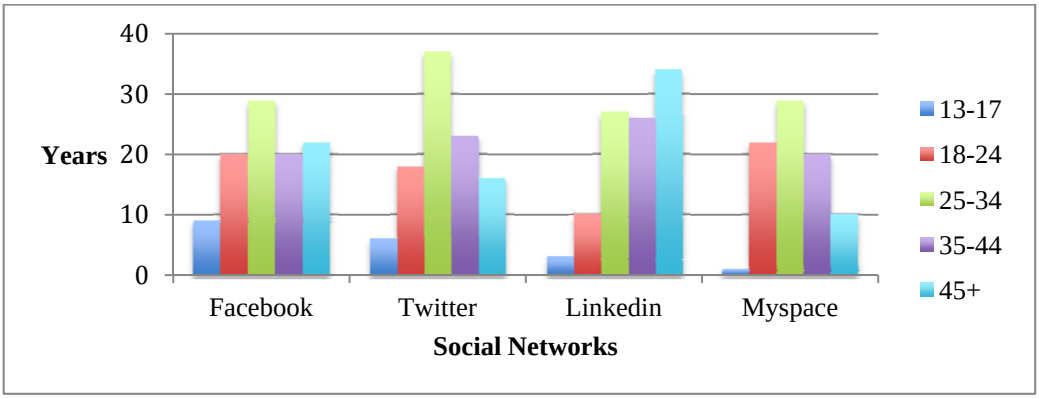
Table 4. A comparison of the "never" use of social networks

Social Networks	Use in private life	Use in teaching	Use in occupational activity
Facebook	22.86	72.06	43.94
LinkedIn	34.29	89.55	38.24
Twitter	61.19	86.36	72.73
Google+	47.76	70.15	58.21
Podcast	77.94	80.60	84.62
Blog or Wiki	55.88	69.70	60.00
You Tube	23.88	27.94	55.38
Other streaming platform	57.35	73.13	71.43
Research Gate	57.35	88.06	60.00
Academia.edu	79.10	93.94	78.46
Slideshare	67.65	79.10	77.27

Source: Authors' elaboration

To better appreciate the different familiar approach to social networks between teachers and students, one useful support derived from the data is shown in the following Graph 2. Young people are in the classes of age of 18-24 (actually business students) and 25-34 (probably people that are still at university or have just finished) that jointly are the biggest users of Facebook 49%, Twitter 55%, and MySpace 49% in respect of the 35-44 and 45+ classes of age. The last two classes of age are realistically those of university teachers. It may be useful remember that our respondents have an average age of 40.

Graph 2. Use of social networks per age

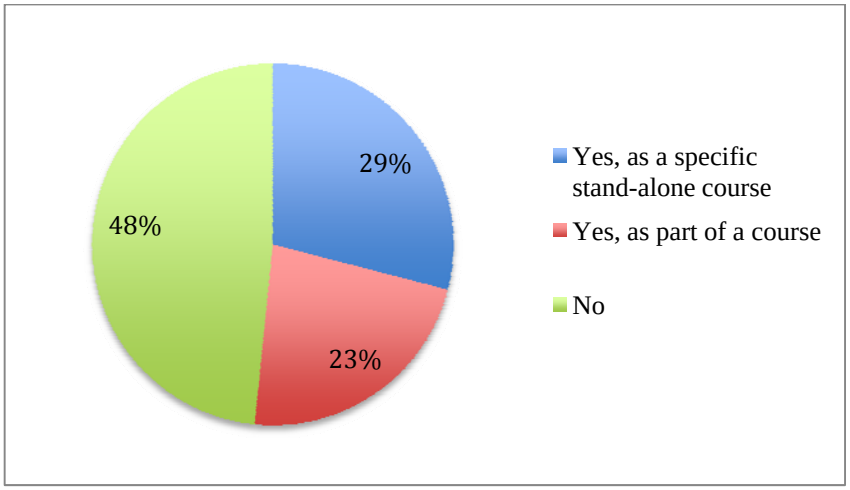


Source: Authors' elaboration on Nielsen data, 2011.

The previous considerations corroborate the different teachers' and students' approaches on social networks. The implication can be a reduction in the effectiveness of the teaching activity and, as a consequence, less resiliency in the learning. In relation to this state of the reality, it is not surprising that today's managers perform poorly in the realm of ethics and sustainability. .

Moreover, if the analyzed situation is added to the fact that the teaching offer on sustainability was not diffused (48,39%), as shown in Graph 3, it is really difficult to suppose a high level of sustainable managers.

Graph 3. Teaching offer on sustainability



Source: Authors' elaboration

Though education and training play a key role in the transition process towards sustainability, the heritage of knowledge has not yet become an integral part of the teaching offer. Today, business schools contribute to create this kind of awareness with the inclusion of some pills of sustainability in their courses and few whole courses in their curricula. This kind of offer is not adequate to meet the urgent need to provide business students all the tools they need to successfully manage organizations in the 21st century, demonstrating that the implementation of sustainable development does not receive due attention and the commitment of teachers and universities' decision-making bodies.

4. Conclusions

Teachers undervalue the extent of change in which they are immersed. As this trend of changes is completely different from each previous, more extraordinary efforts are needed to keep pace with technological progress, particularly in the education field.

Future students will continually become more immersed into the digital world and will be able to better organize their learning with greater autonomy.

Educators must therefore quickly understand and be aware that a new world has started, that is, a world where students may be guided to follow their interests and passions, and in particular, to express their skills using several technologies to meet each other in a network that fosters continuous learning. “If a teacher truly encourages each student to discover his or her passion and understands deeply what each student’s passion is, that teacher can provide a learning path for each student that is maximally beneficial and can enable each student to achieve and go as far as he or she is capable”.

Teachers must transfer to students the awareness that they can operate to create a more sustainable future world. To achieve this goal, it is necessary for students and teachers to speak the same “digital language” and expand the teaching offer towards topics on sustainability.

Learning and behavioural change are essential for achieving sustainable thinking and living (learning to live sustainably), which is inextricably connected to transformative perceptions of learning (Makrakis, 2012).

Our research – whose first step (February 2013) was limited to the universities of Sardinia (Italy) – exhibits also with this second step a limitation due to the number of teachers involved. Therefore, our subsequent step is to increase the number of universities involved in the survey.

However, also taking the remembered limits into consideration, it clearly emerges that teachers have to take up the challenge they face and become as digital as their students are.

References

Carstens S., Beck J. (2005). “Get ready for the gamer generation”, *TechTrends: Linking Research & Practice to Improve Learning*, 49(3): 22-25.

De Haan G. (2006). “The BLK ‘21’ programme in Germany: A ‘Gestaltungskompetenz’ – based model for education for sustainable development”, *Environmental Education Research*, 12(1): 19-32.

Giudici E., Varriale L., Floris M., Dessì S. (2011). *Teaching business students to be passionate about ethical sustainable development*, in Charles Wankel, Agata Stachowicz-Stanusch (eds), Management education for integrity. Ethically educating tomorrow’s business leaders, IAP-Information Age Publishing Inc., Charlotte, North Carolina.

Huckle J. (2008). “An analysis of new labour’s policy on education for sustainable development (ESD) with particular reference to socially critical approaches”, *Environmental Education Research*, 14(1), 65-75.

Kirkpatrick G. (2005). “Online chat facilities as pedagogic tools: A case study”, *Active Learning in Higher Education*, 6(5): 145-159.

Kock A., Sleegers P., Voeten M.J.M. (2004). “New learning and the classification of learning environments in secondary education”, *Review of Educational Research*, 74(2): 141-170.

Lee H. (2005). “Implosion, virtuality and interaction in an Internet discussion group”, *Information, Communication and Society*, 8(1): 47-63.

Makrakis V. (2011). *Strategies for change towards sustainability in tertiary education*

supported by ICT. In ICT in teacher education: Policy, open educational resources and partnership (pp. 152–166). Moscow: UNESCO Institute for Information Technologies in Education.

Makrakis V. (2012). *Critical issues for the course curricular design and development of post-graduate programmes*. Proceedings of International Forum "Modern Information Society.

Makrakis V., Kostoulas-Makrakis N., Kanbar N. (2012). *Developing and validating an ESD student competence framework: A Tempus-RUCAS initiative*. In S. A. Anwar (Ed.), Proceedings of the 5th Conference on eLearning Excellence in the Middle East – Sustainable Innovation in Education (pp. 585–594). Dubai, UAE: Hamdan Bin Mohammed e-University.

Oblinger D., Oblinger J. (2005). *Educating the net generation*. Educase: Washington, DC.

Pedrò F. (2006). *The new millennium learners: Challenging our views on ICT and learning*. OECD-CERI: Paris.

Prensky M.R. (2001). "Digital natives, digital immigrants", *On the Horizon*, 9(5): 1-6.

Prensky M.R. (2010), *Teaching digital natives: Partnering for real learning*. Corwin, Sage Company: Thousand Oaks, California.

Proserpio L., Gioia D.A. (2007). "Teaching the virtual generation", *Academy of Management Learning & Education*, 6(1): 69-80.

Rideout V., Roberts D., Foehr U. (2005). *Generation m: Media in the lives of 8-18 years olds*. Henry Kayser Family Foundation: Menlo Park, CA.

Sànchez J., Salinas A., Contreras D., Meyer E. (2011). "Does the new digital generation of learners exist? A qualitative study", *British Journal of Educational Technology*, 42(4): 543-556.

Seitz K., Schreiber J.R. (2005). *Towards sustainable development – learning for a world qualified for the future.* A discussion paper of the Association of German development non- governmental organisations (VENRO) on the UN Decade of Education for Sustainable Development 2005–2014. VENRO-working paper No. 15.

Summers M., Corney G., Childs A. (2004). "Student teachers' conceptions of sustainable development: the starting-point of geographers and scientists", *Educational Research*, 46: 163-182.

Tapscott D. (1999). *Growing up digital: the rise of the net generation.* McGraw Hill: New York.

Tapscott D. (2009). *Grown up digital*. McGraw Hill: New York.

United Nations Educational, Scientific and Cultural Organisation – UNESCO (2005). *Guidelines and recommendations for reorienting teacher education to address sustainability,* UNESCO education for sustainable development in action. Technical Paper No. 4. Paris: UNESCO.

Vare P., Scott B. (2007). *Learning for a change: Exploring the relationship between education and sustainable development*. Bath: Learning South West.