Preface

STUDENT REACTIONS TO LEARNING WITH TECHNOLOGIES

Ours are the times of technology. Technologies have grown tremendously and have permeated all areas of our lives. The educational sector however, is somewhat lagging behind other sectors, and seems to limit technology use. Yet many researchers are convinced of the vital role that technologies can play in learning and teaching. The purposes, theories and ways in which learning with technologies can be conceptualized and operationalized is generating an increasing body of literature, but there is still a lot to be examined. With the arrival of Web 2.0 and the Semantic Web for instance, not enough is known about the ways in which these online technologies interact, and may interact, with students’ formal and informal learning. Anytime, anywhere delivery of content and the opportunities for pedagogical interaction seem to be powerful options with mobile devices. But there are gaps in our knowledge. Furthermore there is little published research about listening to students’ views about learning with technologies. This book contributes to rectifying this omission by bringing together some recent research findings about the views and expectations of students when including technologies in their studies. Throughout this book the phrase “student voice” is used to refer to research studies in which the views of students, irrespective of their age, form the primary data for the research being reported.

LISTENING TO STUDENTS’ VOICES

The reader of this book will find different types of contributions: some of them more reflective, bringing together a range of student voice research initiatives, while others are more focused on reporting the collection and analysis of primary research data. We see these different approaches as a strength of the book as it captures different “voices” about the educational uses of technologies by students from around the world.

To establish a foundation upon which to contextualize the various chapters, the book commences with a review of peer-refereed research, published since 2005, that specifically sought students’ voices as primary sources of data. The chapters that follow are global and varied. Chapters include studies from the USA, Canada, Europe, Australia and China. The participants in the studies are predominantly located in schools and universities. The studies set out to investigate different issues concerning teaching and learning with technologies from the students’ points of view. The authors have used a range of research methods to collect and analyze their data. The findings in several chapters show some consistencies of themes, with the students recognizing the benefits of learning with technologies, yet feeling that the full
potential of technology-use in classrooms is not consistently being realized. Given these characteristics, the forthcoming discussion is structured using the following headings:

- Global and varied;
- Themes and methodologies; and
- Students’ views and feelings.

**Global and Varied**

All the chapters in this book pay attention to diverse learning and teaching situations in various parts of our globe with students voices reported from varying ages and stages of development. In Alberta, Canada, Gray, Andrews and Schroeder outline how the K-12 school community is engaged in a variety of multifaceted research projects and stakeholder consultations that are giving voice to school students’ views about learning with technologies. The Australian chapter by Brown also reports the views of school students, from a study involving interviews with students at two co-educational senior school colleges in Canberra: one in a Catholic school and the other in a Government College. The chapter from Johnson, Dyer and Lockyer presents findings from research projects conducted with young people aged between 14 and 21 at risk of leaving school early, in the United Kingdom Austria, Ireland, Sweden and the USA.

In the Netherlands the chapter by Bottema & Swager reports a national survey with students in primary and secondary schools, vocational education and training institutions, teacher training students and early career teachers. In another Dutch chapter by Fransen & van Goozen five case studies are described: one in a Flanders (Dutch Belgium) primary school, and the other four in the Netherlands: one in a vocational school, two in universities and one in a “learning company”, outside of formal university education.

Campbell outlines her research with a group of Chinese post-graduate students in education, located in a typical medium-size provincial city in North-Eastern China, and their research with undergraduate students located in 12 Chinese universities in this rural province. In the United States, Spires, Zheng and Prudent take us into a graduate education course as part of a New Literacies & Global Learning master’s degree program at North Carolina State University. This US study investigated students’ ability to integrate content, pedagogies and technologies flexibly during their teaching and learning, referred to as students’ Technological Pedagogical Content Knowledge (TPACK) development. Students in the course were teachers acquiring a master’s degree while simultaneously teaching in a K-12 classroom. In Ireland, students of two higher education institutions, both in Dublin, informed the research study by O’Donnell and Sharp. An Australian chapter by Gregory involved a group of higher education students who were enrolled at a regional university and were located either on or off-campus. In this chapter, Gregory reports how these students used the virtual world Second Life to overcome barriers of distance in their learning. Another Australian contribution by Beckmann involved students in city-based master courses in development and museum studies, where about a third of the students were located outside the city, and were taking the courses through distance education. Two Flemish (Belgium) chapters by Bruneel, Elen, Wit & Verhoeven and Decuyper & Bruneel respectively, focused their research on Flemish students at a Catholic University.
Themes and Methodologies

Research methods described in the chapters in this book are multi-various and include surveys, interviews, electronic focus groups, pilot studies and the development of case studies to enable both quantitative and qualitative analyzes to be undertaken. As part of the graduate course on new literacies and media, participants at that university were required to design and implement lessons that incorporated a range of technologies, produce written reflections about their experiences, and engage in online interactions with participants in the class. Qualitative results from the participants’ written reflections revealed four themes relative to TPACK. The four interpretive themes that emerged from the online reflection data were newly acquired knowledge, newly acquired confidence, navigating technology problems and being motivated and excited by student responses to technologies.

The studies informing two chapters, one from the Canadian province of Alberta and the other from The Netherlands, set out to gain an improved understanding of the expectations and experiences of school students, about how technologies may be utilized to improve learning outcomes, and to develop a better understanding of students’ requirements regarding technologies in education and training. In Alberta the early findings of two current research projects and two recent stakeholder consultations were examined. Surveys, interviews with the researchers, and jurisdictional case studies were used to capture students’ views about learning with technologies. A mixed method case study approach was used to answer questions concerning the effective use of a variety of technologies for learning in the “Technology and High School Success Project” (2007-2010). Online surveys probed a range of students’ views about their education in the “Speak Out: Alberta Student Engagement Initiative (2008-2010)”. The Canadian “Speak Out National Research Project (2009)” also provides a snapshot of students’ views about how technology is currently being used in schools and classrooms.

In the Netherlands data were gathered from over 2000 students using online questionnaires, adapted to the various target groups, and by means of qualitative research through focus groups, using the electronic tool Zing systems (Moyle & Fitzgerald, 2008). The other Dutch chapter comprises five case studies about innovative learning and teaching practices in which Web 2.0 tools were used. This study examined which factors contributed to their success as learning environments. A cross-case analysis was carried out to gain an insight from students’ perspectives into the similarities and differences of learning in these modes, and the transferability of these practices between formal and informal learning contexts.

University teachers studying in a post-graduate degree in education in China surveyed their own undergraduate students to identify the ways in which their students used technologies for learning in formal contexts (related to their university studies) and in non-formal contexts (related to their personal interests). This approach provided data from 1,740 undergraduate students from 12 universities and colleges throughout the province. These data were supplemented by an analysis of student responses to learning with technologies in a classroom context using visual ethnography. The views of students’ identified as marginalized from school were also collected using ethnographic research methods.

At an Australian university, three pilot studies were conducted with university students enrolled in Information Technology Communication (ICT) in Education subjects. The students participated in virtual world sessions during their studies. The researcher set out to investigate whether a virtual world is engaging for the students; whether real life workshops can be replicated and improved using a virtual world; and comparing interactive tools for enhancing quality assessment responses. In each of the pilots, students were requested to complete end of semester surveys and the online conversations were recorded.
The other chapter outlining research conducted with students in an Australian university describes the responses of students to compulsory online discussions. Discussion-based learning is often a crucial element in postgraduate professional development. Educational technologies provide unparalleled opportunities to encourage such discussions in courses with distance or blended delivery. But how do students regard online forums? Do students regard online discussions as equivalent to face-to-face experiences? Moreover, do educational technologies have a role to play in facilitating discussions even when students are meeting face to face? These questions are discussed in this chapter.

The third Australian contribution broadens discussion about the nature of digital technologies policies within Australian schools by listening to students’ voices regarding ethical concerns and policy regulations issues. Ethical issues associated with the use of digital technologies have been of increasing concern in the Australian media and wider public. Issues discussed in this chapter include cyber-bullying; accessing content of a violent or sexual nature on the Internet; and the use of mobile phones to film and photo incidents and then the transmission of them to a wider audience. This study uses interpretative and critical theories to inform the research and the data were collected using in-depth, semi-structured interviews.

The first of the two chapters from Belgium raises the question: “How do “living technologies” relate to “learning technologies” concerning frequency, time and educational use from the students’ perspective?” In this study “living technologies” refer to technologies currently and actively used for living purposes such as Facebook and mobile phones. “Learning technologies” refer to technologies designed specifically for educational purposes such as learning management systems. To collect data about the daily use of technologies by students, and their perceptions and opinions, data were gathered in two ways. Firstly, 15 randomly selected students from different programs at the Catholic University in Belgium were interviewed several times in depth during the academic year 2009-2010. The second part of the data collection consisted of the students completing two online surveys.

The second Belgium chapter deals with the questions: “Are there any educational possibilities of using Facebook for educational purposes from students’ perspectives and if so, which?” “Are students themselves inclined to recognize and utilize any educational possibilities of Facebook, or do they use Facebook only in leisure time? And finally, “Are students willing to add faculty members as Facebook friends? Why (not)?” In this chapter these research questions were examined and answered through a systematic reporting of interviews conducted with 15 participants.

The chapter outlining a study conducted in two higher education institutions in Ireland provides the findings of a survey about students’ perspectives on the academic use of technologies, particularly the two universities’ learning management systems. The survey responses received from three hundred and twenty students are analysed and discussed.

Together this suite of chapters, takes “student voice research” beyond simple quantitative questions of “how much”, to more complex and sophisticated questions concerning students views about why they do or do not learn with the use of technologies. The research questions have moved from questions that can be answered using survey tools, to questions that require not only quantitative, but also qualitative, interpretative and critical analyzes.

**Students’ Views and Feelings**

So, what do the chapters in this book tell us? What are students saying about learning with technologies? Overall, the findings from the respective studies discussed here suggest that students want more reliable and less restricted access to a wider variety of technologies including personally-owned devices.
Students also want to use technologies in more interesting, motivating and challenging ways to enhance their learning. They are frustrated with restrictive technology policies, inadequate access to technologies in classrooms, ineffective integration of technologies by teachers, and confusing online learning environments.

Important conditions for justified use of technologies in learning and teaching are largely dependent on the learning preferences and prior knowledge of individual students; on the teachers’ effectiveness in integrating technologies into meaningful teaching and learning activities; on the teachers’ understanding and application of pedagogical practices that foster 21st century learning; on the available levels of access to technologies; and on the reliability of technologies, online resources, and technical supports available to students.

But when reading the chapters of this book, many other interesting opinions and ideas manifest themselves about issues and themes that are in the spotlights of the present-day playgrounds of education and research. These themes include how formal and informal learning could complement each other; the role that Web 2.0 applications can play in learning and teaching; the input that students should have into decision-making about education policies; about co-ownership of students in their own learning and teaching practices; and about the redesigning of electronic learning environments at school and universities. Many questions often generate similar answers, but sometimes as a result of different opinions, depending on the circumstances and contextual differences, like cultural disparities and different educational views.

The graduate student teachers at North Carolina State University became aware of the power of technology tools when they were used appropriately. This study shows that these student-teachers understood that as a teacher they have to be sure that students are engaged in learning and not just having fun with a new technology. These students indicated that they realize integrating technologies into the curriculum is not a choice anymore; it is a requirement. These students realized too, that time constraints, too few resources and restrictions and limitations on the use of technologies for teaching and learning purposes can be frustrating. Nevertheless these students also indicated that they realize those problems are part of the work, and they have to overcome such obstacles.

Alberta school students when asked how they might use mobile devices to help with their schoolwork, offered suggestions that often mirrored their current uses of technologies in the classroom. For example, students indicated they would use these devices to access online textbooks and social networking sites; communicate with peers and teachers; create and share documents, videos or podcasts; organize their work; coordinate their calendars; look up information on the Internet, receive alerts and reminders about homework and tests; take notes or record lectures; upload or download information; and work on projects with classmates.

The Australian university students who participated in the virtual world pilots stated on a regular basis that a virtual world is engaging. They indicated they believe that communication is a very important component of learning and teaching in a virtual world, and that anonymity enabled quieter students to speak out in ways that they would not do normally. A majority of the Australian school students interviewed in Canberra felt that the rules and guidelines set out in their respective schools’ policy documents, and the filtering and blocking software used, were not in themselves adequate to maintain compliance and foster ethically responsible behavior. The students in this study recognized that education could play a viable role in preparing children in schools to practice responsible social behaviors when using the Internet combined with some type of reasonable framework of restrictions. However, several students
pointed out that the education had to be meaningful and cohesive and start from a young age, rather than wait until students were in their teenage years.

The students enrolled in the distance provisions offered by an Australian University reported that they acquired valuable experiences through participating in online discussions. Furthermore, the findings from this study suggest that such an approach to student learning can help lecturers to shape their use of technologies to support students to use reflective, experiential and peer-responsive learning that fosters professional engagement with current debates. These Australian students frequently reported that the ideas expressed online enhanced their learning, and encouraged deeper critical reflection on the materials presented in lectures or for reading. But the students reported also that “an assessable online discussion generally involves more work than most other forms of assessment”. This finding was something neither the researcher nor the students expected. Nonetheless, students’ initial concerns about both the medium and their ability to do the task appeared to be effectively countered by their experiences.

In China, students are rapidly becoming as familiar with technologies as are their peers in Western countries. The students in the study outlined in this chapter, like their Western counterparts, use a wide range of technologies, although mobile phones are by far the most ubiquitous, with a 100% saturation level. This degree of use of mobile technologies has resulted in a situation where many university and college students in China are far more familiar with the use of these technologies, than are their lecturers. Similar situations are not unfamiliar in Western countries, but this situation is exacerbated in China where there are many older academics who believe in the efficacy of the Confucian teacher-centered approach to education. Another factor limiting the widespread use of the Internet for educational purposes in China is the strict Government control over the media and the Internet. This condition means that Chinese educators have only limited access to the wide range of online resources relevant to teaching and learning; a situation not uncommon to teachers, students and parents in Western countries such as the UK, USA and Australia. The high levels of mobile phone saturation among university students and teachers however, and the increasing range of applications suggests that this mode of delivery has the potential of changing the ways in which students learn and provides increased access for lifelong learning.

The Irish students felt that the use of technologies in higher education could beneficially transform learning and make a positive difference to studying; however, the students also insisted that technologies would never replace their lecturers. The students indicated that technologies have to be properly integrated with an approach to teaching, not just be used for the sake of technology.

At the Catholic University in Belgium, students made a clear distinction with respect to the frequency and reason of using “living technologies” and “learning technologies”, finding that students barely used “living technologies” like Facebook and mobile phones for educational purposes. The students reported they want to avoid an overlap in terms of the use of particular applications for particular reasons. For example, the students indicated they visit Facebook just for fun such as to check friends’ photographs, or to post messages on their wall, not for educational purposes.

In the case studies examined from the Netherlands, the students highlighted the importance of different learning practices for fostering their enthusiasm for learning. All the teaching and learning practices studied showed that a certain degree of co-ownership of the content and direction of the learning processes meant that the learning approaches fitted the interests and learning preferences of all students to some degree. The students had a say about their learning, and felt they were taken seriously; conditions that resulted in the development of co-responsibility between the students and their teachers, for the learning practices used. Similar views were expressed by the students marginalized from schools, in each of the countries in which the research was undertaken.
The case studies undertaken in The Netherlands also identified success factors for teaching and learning with Web 2.0 technologies. The findings indicated that the students seemed motivated using the technologies; a core concept in all learning practices, and as such it was considered a success factor. Another success factor was whether, in the students’ opinions, they had enthusiastic teachers. They identified such teachers as being capable of inspiring people, and knowing how to challenge students to be active learners. These kinds of teachers offered learners room to co-own the content and learning processes. The students also indicated that such teachers have innovating attitudes, dare to experiment, and know how to find the right balance between directing, and facilitating in relation to the learners’ demand for structure and supervision. Another success factor identified in all the studied learning practices that emerged from the case studies conducted in the Netherlands was the place for rich and attractive learning environments. Such environments are rich and attractive because of the interactions possible between the physical environment, the technologies available within them, and the links between the learning practices and the local surroundings which often involved collaborations with real individuals, companies and organizations.

In conclusion then, the chapters in this book suggest that the use of technologies in teaching not only make learning more interesting because of the availability of various types of media, but by listening to students’ voices about the use of technologies also offers possibilities for variations in the learning processes, and for their adaptation to personal learning preferences. While this book does not offer irrevocable opinions and definitive views or insights, we hope that you will find it a useful lens through which to view the world of students, and to provide insights into the possibilities for accessing and conducting similar research.

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REFERENCES


KEY TERMS AND DEFINITIONS

**Blended Learning:** Learning that is facilitated by the effective combination of different models of teaching, styles of learning and modes of delivery including with technologies.

**Distance Learning:** The process of transferring knowledge to students who are separated from the instructor by time and physical distance, and who are making use of technology components, such as the Internet.
**Formal Learning:** Learning that takes place within a teacher-student relationship, such as in a school or educational institute, and which implies the design and delivery of learning programs.

**Informal Learning:** Learning that occurs through the experience of day-to-day situations, and is often unintentional learning.

**Learning Company:** Enterprise aiming to develop professional expertise with a focus on the integration of practical knowledge and professional skills while carrying out realistic professional tasks.

**Personalization:** Individual learning and demand-driven education, in which a student chooses and plans learning activities according to his or her personal needs and ambitions.