

FOREWORD

InScience Press is delighted to publish this book entitled *Education Applications & Developments II* as part of the Advances in Education and Educational Trends series. These series of books comprise authors and editors work to address generalized research, albeit focused in specific sections, in the Education area.

In this second volume, a dedicated set of authors explore the Education field, contributing to the frontlines of knowledge. Success depends on the participation of those who wish to find creative solutions and believe their potential to change the world, altogether to increase public engagement and cooperation from communities. Part of our mission is to serve society with these initiatives and promote knowledge, therefore it requires the reinforcement of research efforts, education and science and cooperation between the most diverse studies and backgrounds.

Contents show us how to navigate in the most broadening issues in contemporary education and research. In particular, this book explores four major divisions within general Education, corresponding to four sections: “Teachers and Students”, “Projects and Trends”, “Teaching and Learning”, and “Organizational Issues”. Each section comprises chapters that have emerged from extended and peer reviewed selected papers originally published in the proceedings of the International Conference on Education and New Developments (END) conference series (<http://end-educationconference.org/>). This meeting occurs annually with successful outcomes. Original papers have been selected and invited to be extended significantly, reviewed, and authors of the accepted chapters requested to make corrections and improve final submitted chapters. This process has resulted in the final publication of 25 high quality chapters organized into 4 sections. The following sections’ and chapters’ objectives provide information on the book contents.

Section 1, entitled “Teachers and Students”, provides studies within educational programs and pedagogy for both tutors and students. Each chapter is diversified, mainly addressing thematic in teacher education, programs, curriculum and practice, continuing education, student affairs (learning, experiences and diversity) and assessment.

Chapter 1: *An Alternative Model to Professional Development in Multilingual EFL Classrooms: Cooperative Management & Residual Practice*; by Sibel Ersel Kaymakamoğlu and Çağda Kıvanç Çağanağa. Many higher education institutions worldwide require that all academic staff have a professional development plan. Teacher professional development has been regarded as one of the most important

factors for improving the quality of both teaching and learning. Therefore it is imperative to use a solid framework evaluating professional development. This chapter aims to provide cooperative management as a comprehensive framework for evaluating the impact of professional development on classroom management. Cooperative management is a voluntary, collaborative process in which a school leader, a teacher and a colleague explore and reflect on learning and teaching practice. Specifically, the suggested model emphasizes the dialectic process with a teacher, a school leader and a colleague that represents the core features of effective classroom management. In this process the teacher, the school leader, and the professional colleague act as feedback receivers and providers. In the suggested model cooperative management has described the residual practice as the core feature of the effective classroom management. The residual practice is the experience or practice left over at the end of the teaching process. The suggested model also fosters the members of the learning community because a residual outcome stays with the school leader, the teacher, and the professional colleague for the rest of their lives. In this study the designed model was implemented and the semi structured interviews were given to five EFL teachers who taught in multilingual classrooms as follow-up. The findings indicated that the suggested model helped the participant EFL teachers develop new perspectives in their classroom management strategies and contributed to their professional development. Furthermore, some implications were provided for school leaders as well as for teachers in Cyprus.

Chapter 2: *"Fatherhood in the Classroom": When Life as a Father meets the Teaching Profession*; by Ina Ben-Uri. The current chapter deals with male-teachers perceptions of the meaning of being a father, in the teaching practice. The research is based on the reports of 43 Israeli teachers-fathers, using semi-structured interviews. The participants ages ranged between their early 30's and up to 60 years old. The age of their children ranges between children of a few months of age through adult children. Findings indicate that the main interviewees' perception, sees fatherhood as a significant experience regarding the teaching practice. The study presents 4 major ways these male-teachers see the use of their parenthood experience in their practice as teachers: 1. Recognizing different characteristics of their students; 2. Accomplishing better empathy toward the students; 3. Implementing parental personal-interaction experience with the students; 4. Understanding the students'-parents point-of-view. Implications for teachers'-training and counseling are discussed.

Chapter 3: *Gender Differences in the Implementation of School-Based Assessment in a Malaysian State*; by Arsaythamby Veloo, Ruzlan Md-Ali and Hariharan N. Krishnasamy. This study aims to identify the differences in assessment knowledge, school support, teacher readiness, teacher skills and challenges faced by male and female Grade 8 teachers who are involved in implementing School-Based Assessment (SBA) and the interrelationship among

these five factors. In addition, this study explores the teachers' views with regards to these five factors. This study uses a quantitative questionnaire designed by the researchers, and a total of 243 Grade 8 teachers answered the questionnaire. Qualitative data was then collected via semi-structured interviews which were conducted with 20 teachers. The findings show that male teachers are more ready to implement SBA compared to female teachers. Compared to the female teachers, the male teachers view school support as more important. In terms of knowledge, skills and challenges towards the implementation of SBA, there are no gender differences. The findings also show that there exist significant relationships among the five factors except between school support and challenges faced in SBA. Although male and female teachers share many similar views, the predominant view among female teachers when compared to the male teachers is that many challenges and issues need to be addressed in the implementation of SBA. The findings from the interviews also suggest that male teachers are more willing to accept changes when compared to the female teachers. This study has implications for the implementation of SBA in Malaysia because 63% of the teachers implementing SBA are females.

Chapter 4: *Inquiry-Based Science Education Modules and their Effects on Teacher Education*; by Josef Trna and Eva Trnova. Inquiry-based science education (IBSE) is currently rated as a promising educational method in science education. Science teachers should be provided with specific IBSE teaching/learning methods, techniques and tools, especially as teacher education for the implementation of IBSE in instruction is not yet sufficiently provided. The objective of this research is the development of an IBSE teaching method, based on modules in IBSE. The second objective is the implementation of this educational method into science teacher education. This research was conducted within the PROFILES project in the European 7th Framework Programme. The basic methods of the research were design-based research and the curricular Delphi study. The outcome of the PROFILES curricular Delphi study is a set of concepts in science education which were used as the theme for the overall design-based research. The main outcomes of the design-based research are the IBSE modules, which were used as the basis for training teachers in IBSE implementation. Emphasis was given to the teacher ownership and creativity. These modules were verified by teachers in practice through their action research. The PROFILES module "Safety of the human body: swimming and diving" is shown as a specific example of the research outcomes. An important research finding is that teachers educated in this way continue to implement this innovative educational method, which they acquired during their specific training in the project.

Chapter 5: *Process of Continuing Education in the Program School Managers of Public Basic Education*; by Rita Márcia Andrade Vaz de Mello, Leililene Antunes Soares, José Márcio Silva Barbosa and Maria das Graças Soares Floresta. This study aimed to understand the meaning and importance of training under the

National Program School Managers of Public Basic Education for the participant teachers from the perception and reflection of each other on their practice. We tried to understand how this training is manifested during the course and at the end, in practice teachers, but especially as these teachers participate, through their reflection on their practice as agents acting within their classroom, the school and the community. This field research was carried out with five tutors and ten course participant teachers of that program and engaged in the teaching profession, particularly, the educational coordination in public schools in cities of Minas Gerais - MG enrolled at the Federal University of Viçosa, using one semi-structured interview and document analysis. We concluded that the participant teachers have done and still do a brainstorming exercise on their training and on their practice in the classroom, and in the pedagogical actions at school, in view of what was proposed by the course, the development in the practice of action-triad reflection-action.

Chapter 6: *The Realities of Teaching Adult Learners at the Higher Education Level*; by Jane Iloanya. Teaching adult learners, though challenging, can also be exciting and fulfilling when the right teaching methods are applied. This chapter discusses the issue of lifelong adult education in Botswana's institutions of higher learning. It goes on to examine the challenges and the nature of the teaching and learning process in adult education, while also examining the experiences of adult learners and the teachers of adult learners. The chapter further discusses the methods which can be used to enhance the teaching of adults. A qualitative research approach was used in this research. With the use of semi-structured interview questions, ten teachers of adult learners were interviewed, while twenty adult learners were interviewed through the focus group discussions. Adult learners come to class with a wealth of knowledge, life experience, and some challenges too. The teachers of adult learners should therefore, embrace and apply the right teaching methodologies in order to overcome the challenges of teaching adult learners so as to facilitate effective teaching and learning in an adult education class.

Chapter 7: *Evaluating Programming Competence from Explanations*; by Edward Brown. With a prolific amount of computer code available on the web, students are able to use the Internet as a compendium of solutions to computer programming problems. Web search is not only a problem-solving strategy with which students are familiar with and have highly developed skills from years of practice and implicit cultural knowledge, it is also an approach anticipated in real-world contexts for computer programming (Treude, Barzilay, & Storey, 2011). This chapter is an account of the author's transition from pedagogy disallowing the use of solutions copied from web pages to a pedagogy which encourages students to incorporate found solutions into their work. Instead of penalizing students for "cheating" when they adopt other programmer's solutions

to computer programming problems, emphasis is instead placed on student's explanations of the solutions they provide regardless of their origin. The effectiveness of this approach is predicated on the idea that the ability to produce comprehensive explanation of a programming solution is a good indicator of programming competency. Otherwise, there is no reason to think adopting someone else's code is a valid learning activity. There is literature to support the idea that explaining and studying (sometimes characterized as reading) existing solutions and program code significantly improves students learning and development of problem-solving strategies (Corney et al, 2014). This chapter suggests similar benefits may accrue from code that is not selected as part of the curriculum, but found by the individual students. More speculative aspects of the approach are the absence of specific instruction in specific problem-solving skills, and absence of a requirement that students eventually shift to independent composition of code as a later stage of demonstrating programming competence. Emphasis is shifted away from the text of computer code solutions, towards student description and assessment of computer code solutions. Students provide their descriptions in a combination of natural language and Unified Modeling Language. Thus design and implementation is separated as advocated by Falkner, Vivian, and Falkner (2014), and the Internet no longer serves as a compendium of pre-packaged solutions. Informal observations regarding a one semester application of this approach conclude the chapter. This chapter is an extended version of Brown (2015).

Chapter 8: *The Quality Chain in Education – A Grid Approach*; by Dimitrios A. Giannias and Eleni Sfakianaki. The increasing demand to provide students-and learners in general-with an effective and motivating educational environment has increased the demand for quality management to deliver high-quality results and thereby meet the growing requirements of “customers”. The adoption of total quality management in education is a relatively recent manifestation and has been treated with enthusiasm by a number of researchers and with scepticism by others. One of the difficulties in a service-oriented environment such as education is the complexity of its stakeholders, process and, consequently, the definitions and interpretations of different relationships within the educational organization. The present review defines the quality chain in education by examining the basic stakeholders of the educational sector: the teachers and the learners. It then proposes a methodology based on the managerial grid model developed by Blake and Mouton (1964a), which is based on a concern for people as well as for production. Additionally, it explores the ways in which this model can be applied in the quality chain of education while using basic principles of total quality management. Ultimately, the aim is to examine the potential for improving the educational quality chain and also to provide a personal improvement tool and thereby enhance the overall concept of continuous improvement.

Section 2, entitled “Projects and Trends”, delivers chapters concerning, as the title indicates, education viewed as the center for innovation, technology and projects, concerning new learning and teaching models. Knowledge in different usabilities, communication, software and new methods of teaching and learning are used to compile these works.

Chapter 9: *Hybridizing L2 Learning: Affordances of the Inverted Class Approach with Online Tasks*; by Nádia Silveira and Kyria Rebeca Finardi. Based on the assumption that both knowledge of English and digital literacy are important to access information online (Finardi, Prebianca, & Momm, 2013), the present study investigated the impact of a hybrid approach to English as a foreign language teaching in an intact class in Brazil. Hybrid approaches have been described as the combination of face-to-face classes with online instruction, (Graham, 2005), and in this study it was operationalized as an inverted class approach, that is, the combination of face-to-face classes with computer-mediated activities performed in an online environment, outside the class. Twenty male participants were recruited in an intact class in the Brazilian Navy Academy Boarding School to participate in the study. Data includes class observation, questionnaires and interviews, analyzed qualitatively to evaluate the impact of online tasks in L2 learning, as well as in the development of students’ autonomy and digital literacy. Three tasks adapted from Finardi and Porcino (2013) using different sites on the internet were administered, followed by a questionnaire after each task. Overall results of the qualitative analysis of students’ perceptions of the tasks performed in the online environment revealed that the L2 hybrid approach used may contribute to the development of students’ autonomy, motivation, digital literacy and L2 development through extended contact with and in the target language.

Chapter 10: *Engaging the Heterogenous Urban Classroom in an Integrated STEM Course Using Science Research Methods to Develop Apps*; by Ingrid Montealegre, & Randi M. Zimmerman. As educators we struggle to motivate students and to provide individual attention. By combining app development with classic research methodology, we were able to engage students in collaborative learning and higher-level research, thereby providing students the benefits of individualized learning and motivation in the classroom setting. Each of the four STEM fields (science, technology, engineering, and math) was highlighted during this full year course. Science: Students generated authentic questions and created experiments in which they worked as research teams learning to formulate valid hypotheses. Technology: Students were particularly engaged with the online and offline technology aspects of this process, requiring them to play games, and read and write code using NetLogo and Moodle. Engineering: The course began with students’ hands-on practice in computer hardware design and the creation of electrical schematics leading to their understanding of the value of accurate

documentation. Math: Students worked to solve classic unsolvable math problems to learn about critical thinking and perseverance in an academic setting. This class was particularly successful in the integration of students with various abilities and interests to work together towards a common goal.

Chapter 11: *Mobile Learning in Hong Kong Teacher Education. Pilot Implementation and Evaluation*; by Irene Chung Man Lam, Chi Ho Yeung and Yau Yuen Yeung. To align with the international trend on using information and communications technology in education, the Hong Kong government has recently announced a policy to broadly implement e-learning in schools through a more pervasive use of mobile devices (such as smartphones and tablets) and electronic textbooks to support classroom teaching and students' self-regulated learning. However, many local schools and their teachers are not yet ready and confident enough (in terms of their teaching methods, strategies, and approaches) to adopt mobile devices in their classroom activities. The present chapter reports a few case studies showing how a team of teacher educators initiated a pioneer e-learning project to support the education sector, by offering relevant training to pre-service student-teachers and in-service teachers. The team designed, developed, and applied a number of innovative mobile learning activities in five different classes of undergraduate teacher education courses. A total of 364 undergraduate students completed a survey collecting information on their prior experiences, attitudes, and views on mobile learning, in order to evaluate their learning effectiveness in technology-enhanced lessons. To illustrate the educational implications of the present study, selected qualitative and quantitative findings will be presented together with some examples on the implementation of innovative mobile learning activities in some classes of teacher education courses.

Chapter 12: *Gamification and Technological Literacy. Educating Electricity Users*; by Aphrodite Ktena. The staggering technological advances of the last decades and rapid changes in the engineered world surrounding us have led to the emergence of technological illiteracy as a major social challenge threatening to create outcasts. Informal education, a path typically chosen by those who feel marginalized by the formal school system, may be more appealing to children and adults alike since it takes away the pressure of school performance and the stigma of failure. The challenge in creating content for informal learning lies in engaging and retaining the learners in an active mode, in making them truly interested in their learning process and achievements. Gamification technology has been proposed for developing engaging informal education programs targeting technological literacy. A novel methodology for developing gamified applications is proposed which is based on a well established behavioral model. It uses the cognitive model to develop the individual's knowledge base and skills and gamification mechanics

for emotional engagement and triggering. This methodology has been used to develop a pilot application targeting electricity users which aspires to educate them in electricity saving, consumption, production and markets in line with the emerging smart grid paradigm.

Chapter 13: *Speech and Language Software in the Intervention of Oral Motor Functions in Autism Spectrum Disorders*; by Kateřina Vitásková, & Alena Říhová. Aim and objectives: The research focused on the analysis of speech (oral) motor abilities of children with autism spectrum disorder (ASD) using the special speech and language therapy (SLT) software. The relations to dyspraxia, as well as the early educational correlations with the development of speech, and early speech vocalization including complex motor difficulties, are mentioned. The grounds stemmed from our wider focus on the assessment of pragmatic language level, since the ability of facial expression gestures represents one of the most important pragmatic, nonverbal communication activities. Methodology: We mapped the oral motor abilities of children with ASD in the initial and final stages of the examination, applying the software programme FONO 2, a multimedia programme intended for individuals with impaired communication ability. We used the observational numerical scale evaluation followed by comparison of the inter-stage differences within longitudinal observation. Conclusions: The results show that it is possible to achieve positive outcomes by applying a systematic SLT approach based on using the SLT software in the intervention focused on the development of the oral-motor activities in children with ASD. We put forward a discussion on the possible exploitation of the results for assessment in the sphere SLT intervention.

Chapter 14: *Time and Innovation at School. The Efficacy of Space Learning Method in Classroom*; by Giuseppina Rita Mangione, Maeca Garzia and Maria Chiara Pettenati. The concept of *teaching competence* challenges today pedagogical research in the effort of finding new ways to organize the curriculum and to design learning activities in classrooms. EDOC@WORK3.0 project deals with the need to rethink the dimensions that characterize an educational practice, with specific regard to the dimension of “time”, so as to adapt it in order to favor a differentiation in disciplinary teaching. This project supported teachers in acquiring competencies in new methodologies related to *time scheduling* and accompanied them in its design and application in their classroom. In this chapter we will present the didactic methodology known as *Spaced Learning*, inside the theoretical framework of adaptive teaching and allocated time. We will describe the results of the experimentation conducted by the teachers who attended the PON EDOC@WORK3.0 project and the training experience made in such an innovative educational method.

Chapter 15: *Electivity and Education: An Emotional Way to Learn Significantly*; by Elena Visconti. Many contemporary scholars talk about emotion, learning and education. This chapter tries to understand if it is possible to learn through emotional observation and if learning can become significant and effective. In our daily lives, there are many experiences that challenge us emotionally. Being aware of our own emotions and our own ability to solve difficulties, helps both adults and children in a growth phase and in school-age. Authors ranging from Montessori to Piaget, Maturana, Varela to Putnam, from Hillman to Dennett and Damasio, to Karmiloff-Smith, reflect on this topic. This chapter aims to study the phenomenology of the development and of educational experiences. We tried to find the emotional dynamics of adolescents. The analysis of neuro-cognitive and learning processes, which will be called elective, allows a recognition of those dynamics, related to the various self areas, which need strengthening and enhancement and which may become an educational and transformational choice for future generations.

Section 3, entitled “Teaching and Learning”, offers research about foundations in the education process itself, in various contexts, both for educators and students.

Chapter 16: *Promoting Mathematical Modelling as a Competence: Strategies Applied in Problem Solving Activity*; by Cristina Cavalli Bertolucci and Paolo Sorzio. Current international documents claim that schools should enhance mathematical modelling competencies in students, as part of an instructional approach that can be considered suitable for the 21st century learners and problem solvers. The objective of this paper is to identify high-school students’ initial conceptions and strategies in mathematical modelling that can be taken into consideration when teachers work out educational activities. A clinical interview approach is applied to understand the modelling strategies that are used by nine students during their three problem solving activities proposed in this research. Students showed different approaches in: their use of algebraic symbolism, the justification of their reasoning, representing their ideas mathematically. The findings can help teachers design school activities that are sensitive to the students’ initial conceptions, in order to promote their mathematical modelling competencies.

Chapter 17: *Social Competences and Organizational Devices in their Relationship to University Students Retention: A Study at UNCUYO*; by Miriam Aparicio, Graciela Rodríguez and Mirta Rena. This project – which has been included among the priorities of the University Policies Office – is the extension of a research programme developed by Aparicio (1995-2005). It includes three central projects: 1) An analysis of the factors that impact the university graduates’ achievement (two universities, 1980-2014); 2) dropouts within the same period were considered; and 3) students who have been studying longer than expected participated.

This project deals with the academic units that show results about retention and performance above the medium rate, including not only basic socio-cultural and psychosocial factors but also aspects related to the psycho sociology of the organizations which have an impact on their organizational quality. The methodology is quantitative and qualitative (semantic associations). A semi structured questionnaire and interviews were applied. It is expected, at a theoretical level, to contribute to the understanding of factors that have a positive impact on the students' achievement as well as on the academic units in which they are inserted. At an applied level, it is expected that this study allows us to know the distinctive profiles and common aspects of these micro institutions so that they are transferred to decision makers and can afterwards lead to programmes for ongoing improvement.

Chapter 18: *The Research on Mothers' Opinions about School Readiness of their 66-72 Month-Old Children*; by Devlet Alakoç Pirpir, Çağla Girgin Büyükbayraktar, Canan Yıldız Çiçekler, Rukiye Konuk Er, & Banu Uslu. The present research was aimed at studying mothers' opinions about school readiness of their 66-72 month old children receiving and not receiving pre-school education. The scope of the research consists of mothers from Konya -Turkey whose children receive pre-school education and do not receive any pre-school education. The sample of the research consists of 120 mothers in total- that is, 60 mothers having 66-72 months of children that receive preschool education and 60 mothers whose children do not receive preschool education. "Mother's View of Child's School Readiness Scale" was employed as data collection tool. It was found that there was a significant difference between mothers' opinions about school readiness of children and the condition of receiving-not receiving preschool education in terms of readiness from mother's viewpoint, intellectual-linguistic development, social-emotional development, physical development and the general total points. The same difference was not observed in the self-care skills.

Chapter 19: *Teaching and Learning in Technology Rich Schools: Traditional Practices in a New Outfit*; by Catarina Player-Koro, & Dennis Beach. Twenty-five years ago an educational project was carried out in a school class in Melbourne Australia using one-to-one laptop computing for educational purposes. The project took place well before initiatives by global hard and software corporate giants to develop one-to-one computer actions as a global venture in the pursuit of profit. A discourse of technology optimism has worked as a driver in these developments, particularly at school levels. In it computer technology is claimed to solve problems and create educational change and effectiveness when it actually can't and above all doesn't. In the chapter we examine aspects of the discourse at work through critical ethnographic research.

Chapter 20: *Effects of Real-Word Versus Pseudo-Word Phonics Instruction on the Reading and Spelling Achievement in First Graders*; by Jihan H. Khalifeh Mohamad and Ahmad Oweini. This study compares two methods of phonics instruction: real-words versus pseudo-words, on Lebanese first graders to determine the approach that will yield better reading and spelling achievements. To that end, two mixed level groups of three students each were selected. Students' achievement in reading and spelling both real-words and pseudo-words was tested before (pretests) and after (posttests) the intervention using four subtests of the Woodcock-Johnson-III Tests of Achievement. The intervention consisted of a total of 20 sessions (30 minutes each) of phonics instruction based on the Recipe for Reading program. Both groups received the same intervention and followed the same lesson plan. The only difference was in the type of word lists provided for each group. One group was exposed to real words only and the other group to pseudo-words only. Results showed that the phonics instruction based on real-words was more effective in improving decoding of real words, spelling of real-words, and spelling of pseudo-words. The effectiveness of the real-word method was very significant especially with at-risk students. On the other hand, the pseudo-word instruction showed slight improvement with average students in reading real words and pseudo-words, and spelling pseudo-words.

Section 4, entitled "Organizational Issues", gives a glance on tools for implementing organizational learning and change. Themes vary from economic and social programs, as well as equity and values for the educational environment.

Chapter 21: *Need for a Democratic Approach to Social Justice in Education and Training*; by Anne Grethe Sønsthagen. This chapter underlies the theory of justice as fairness along with certain capital ideas, such as social and cultural capital. The chapter also highlights the culture of silence and the issue of Western hegemonic discourse. The objective is to look at the connections between the findings collected from five high schools with diverse socioeconomic, cultural and racial backgrounds in South Africa, and the experiences from the work with refugees with a Norway residence permit. The author opts to find similarities between a well-resourced country and a country with an emerging economy. In addition, considering the current refugee problems, it is crucial for the critical examination of the current training and education of refugees in Norway. The research employed a mixed-method research strategy, integrating both qualitative and quantitative methods. The study showed that when focusing on social justice, similarities can be found in the two contexts, and this is the focus of the present chapter. The research about the South African education system indicated that the current approach to social justice was limited by a narrow interpretation of the country's present social inequalities, failing to consider

the hegemonic nature of Western knowledge in the education system. This chapter argues that the current situation of training and preparation of refugees in Norway shares related limitations and calls for a democratic approach to social justice.

Chapter 22: *Leadership and Applied Ethics in Education: A Mencian Approach*; by Hua Hui Tseng. Applied ethics is focused on issues in private or public life that are subject to ethical judgments. Based on how conflicts between personal and professional values in recent legal cases (e.g., Keeton vs. Anderson-Wiley, 2010; Ward vs. Wilbanks, 2010) have interfered with ethical decision making, a question raised in applied ethics is whether integrating personal values and professional ethics in ethical decision making affects the morality of ethical decisions. The purpose of this chapter is to use the three-part division of traditional normative ethical theories identified by researchers at Brown University for making ethical decisions to describe and explore consequentialist and deontologist forms of ethical reasoning for deciding matters of morality in education. A literature search identified published frameworks that define the components of ethical decision making. Using these frameworks, a new framework, called the personal and professional values-integrated framework, is constructed. Consideration is given to areas and practices in the guidelines or rules for the process of forming ethical reasons and variations in reasons that are less easily accommodated by conventional ethical frameworks. The description of Will by the Chinese philosopher Mencius (371-289 BC) is used to gain insight into some of the implications of ethical decisions. It is demonstrated that leadership rules in education are realized by acknowledging the reasons for an action, and ethical decision making is defined as conforming to the criteria pertaining to these considerations as well as the professional conduct expected.

Chapter 23: *Financial Education and its Policy in Japan*; by Suguru Yanata, Kaori Ishibashi and Takao Nomakuchi. Some developed countries conduct financial education in primary school. Financial assets which individuals can access increase and they are more and more necessary for individuals to have financial asset, so financial literacy for individuals is also needed to protect them. Accordingly, the importance of financial education from younger age is more and more necessary. However, the international standards and method of financial education haven't been established yet. That's why they differ from countries. Buy the way, financial education has been conducted in Japan, and it shows great result these days. This study shows problems that financial education in Japan has had, and what is financial educational innovation that shows great result by international comparison. The result of this study can be a good example for countries that will conduct financial education in the future. This study surveys financial education policy in Japanese government, then, previous studies, investigation reports and interviews about financial education cases that are done in Japanese educational institutions. Specifically, this study

surveys financial education in U.S., U.K., Australia, and compares Japanese one with them. Also, this study surveys examples of financial education by public institutions and international institutions such as financial education project by OECD. This study shows as below.

- Financial education in Japan has problems about teacher's financial acknowledgement, educational materials and lack of relationship between actual life and financial economy.
- The collaboration between government and educational institution to solve problems above may cause financial educational innovation.
- The development of financial education in Japan can be a good example for countries which need financial education in the future.

Chapter 24: *Education and Transition to Work: Promoting Practical Intelligence*; by Giuditta Alessandrini. This chapter considers a number of questions in the current discussion on the transition to work, most notably the definition of the pedagogical approach by which the issues at hand are investigated, the review of the relationship between education and development in reference to employability, and the interpretation of the right to education in light of the precarious nature of the productive processes. This contribution also points to the relevance of the notion of "human development" as explored by Martha Nussbaum, professor of Politics and Philosophy at the University of Chicago, and Amartya Sen, who was awarded the Nobel Prize in Economics. It ends with a reflection on a welfare model supported by people empowerment that enhances individual capability. The argument put forward is that major shortcomings can be found in welfare systems in terms of employability. Against this background, the author welcomes a system which enables the full development of human development. In this sense, social scientists should engage in pursuing new avenues for creativity in order to build a new approach to social responsibility.

Chapter 25: *A Study of the Effect of a Computer Environment Business Game*; by Takao Nomakuchi, Suguru Yanata and Kaori Ishibashi. In Japan, entrepreneurs are expected to have the ability to produce new business model ideas based on innovation and their capability as entrepreneurs. However, teaching methods in higher education institutions that offer Business management education programs have yet to be established. Business management education that motivates university students to be entrepreneurial and innovative is required for the development of society. A business management educational program is implemented in the School of Economics of a National University in Japan. In this program, a business game was implemented based on a business-game computer environment. The purpose of this study was to verify the effects of a computer environment business game by analyzing 24 student comments via

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e-mail after the experiment of business game running using a text mining analytics tool. Therefore, this chapter reviews the previous research on entrepreneurs and business-game-based education and the ability of entrepreneurs. Our analysis confirmed that a various virtual experiences of entrepreneurship could be provided by playing the business game. A regular business management education program conducted in the classroom cannot provide the virtual experience feature. The introduction of this business game into business management education serves to nurture entrepreneurship skill: Associating skill, Questioning skill, Observing skill, Networking skill, Experimenting skill. This chapter examined the educational effect of a business game on the perspective of entrepreneurship in order to clarify whether a business game would be effective for nurturing strategic entrepreneurs.

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Mafalda Carmo
World Institute for Advanced Research and Science (WIARS)
Portugal