Editorial

This issue of the JTEFS consists of ten papers that demonstrate the range of methodologies which can be applied to studies in teacher education for sustainability and provide ideas and results from a number of different national and cultural perspectives. I would like to thank all the members of the Editorial board for their hard work reviewing and commenting on the articles that we receive. My thanks are also due to the contributors to this issue for their hard work in the long process of preparing articles for publication.

The first paper in this issue by Buchanan and Griffin focuses on students’ views of opportunities and barriers with regard to maintenance of grounds and management of resources in a tertiary institution context. A cohort of approximately 140 third year primary teacher education students were surveyed to ascertain their views on the value of, barriers to and opportunities for practical sustainability projects conducted by students in their tertiary context.

The paper by Kostoulas-Makrakis investigates the discrepancy between the teachers’ constructivist conceptions and the actual practice. The identified discrepancy seemed to be an outcome of the difficulty in translating constructivism into teaching practice, but also of the misleading conception of constructivism as a homogeneous philosophy. Through reflective practice, the participants were able to deconstruct and reconstruct their theories and practices of teaching in more emancipatory ways addressing issues of education for sustainable development.

Inclusion of Roma students in general classrooms at an early age is the focus of the paper by Zaķe. The present paper deals with the development of intercultural learning and anti-bias classroom organization in order to prevent institutional discrimination and promote the benefits of a culturally heterogeneous society.

The paper by Strode focuses on teacher training, highlighting the teacher’s profession as an attractive choice of one’s career that permits to ensure the development of general and professional skills and an opportunity for new specialists to align with the labour market. As a result, a framework of pedagogical practice organization was created in order to form students’ independent professional activity.

The paper by Luik highlights the implementation of information and communication technology in education via the use of many educational software programs, which every teacher can use with their students. Some learning materials are produced by individuals who are not aware of the pedagogical principles and do not know how to produce effective educational software.

The paper by Kuurme and Carlsson focuses on the factors of well-being in school as a living environment according to students’ evaluation. Theories of the quality of school life and authentic identity constitute the theoretical background of this study. The school experiences of 185 Estonian and 161 Finnish students of different school types were studied by a semi-structured open questionnaire. The answers were analysed by a qualitative phenomenological method.

The paper by Talts and her colleagues seeks to highlight teachers’ views on the sustainability of general competences of children who have completed the language immersion group in the kindergarten. The present study reveals that language immersion
methodology favours applying child-centred pedagogy in the teaching and learning process and supports the sustainability of children’s linguistic and social development.

The paper by Inman and her colleagues discusses and evaluates the experience of the UK Teacher Education Network for education for sustainable development and global citizenship as a community of practice dedicated to introducing education for sustainable development and global citizenship in teacher education in the UK. The article sets out the global and UK policy context and outlines the differing government support and guidance for education for sustainable development and global citizenship in teacher education across the four nations of the UK.

The paper by Mifsud attempts to highlight the main processes of the acquisition and development of various environmental perspectives and puts forward suggestions on how youth can be better addressed in the light of the research findings. The research results indicate relatively low positive behaviour towards the environment.

The paper by Margo Egne investigates the washback effects of handouts on the teaching and learning process in the higher education institutions of Ethiopia, particularly in Adama University. A descriptive survey and analytical research methods were employed in the present study. The research results reveal that the way handouts are being prepared and used in higher education institutions of Ethiopia does not encourage active and independent learning. Some recommendations which are deemed crucial for alleviating the problem are suggested.

Finally, it is worth reiterating to potential contributors that strict adherence to the Notes for contributors, published on the back cover of every issue of the JTEFS, is essential if the assessment, acceptance, editing and publication of articles is to proceed smoothly and in timely fashion. The relevant information can also be found at: http://versita.com/science/education/jtes/

Astrīda Skrinda
FINDING A PLACE FOR ENVIRONMENTAL STUDIES:
TERTIARY INSTITUTIONS AS A LOCUS OF PRACTICE FOR
EDUCATION FOR SUSTAINABILITY

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Abstract

Education for sustainability involves not only curriculum, but also demands responses in terms of management of resources and of grounds. It is asserted here that inclusion of education for sustainability in the curriculum, whether in a school or university context, is hollow and insincere in the absence of practical and social action on site and perhaps beyond. The present study focuses on students’ views of opportunities and barriers with regard to maintenance of grounds and management of resources in a tertiary institution context. A cohort of approximately 140 third year primary teacher education students were surveyed to ascertain their views on the value of, barriers to and opportunities for practical sustainability projects conducted by students in their tertiary context. Such projects are a precursor to similar endeavours that could be undertaken in the students’ school contexts.

Key words: sustainability, education, environment, engagement, students’ consultation

Introduction

Education for sustainability (EfS) has become a common mantra of recent times. However, we know relatively little about the extent to which practice matches rhetoric in terms of EfS or about cause and effect. This paper reports on one aspect of a larger study carried out at our university that mapped the current extent, nature and depth of education for sustainability in the bachelor of education programme. It investigated barriers, opportunities and potential entry points for increasing and enhancing EfS in this programme. The broader project involved interviews with staff members on the inclusion of EfS in their teaching and critically investigated related existing university policy documents. The component of the project being reported on here set out to inform and enhance the learning experiences of students, through investigation of a hypothetical in-service context, thereby better preparing students to understand and deconstruct the opportunities and barriers that might exist for them in schools. The project also set out to investigate and enhance a sense of ownership of the environment among students. It is
exploratory in nature and will inform the content and assessment regime of an elective subject currently under development.

**Conceptual framework and research questions**

The research seeks to answer the following questions:

1. What are students’ perceived consonances and dissonances between espoused and practised pedagogy and primary and tertiary loci of practice?
2. What contributions can a student-driven approach offer?

Table 1. Outlines the context pairs of question 1, above

<table>
<thead>
<tr>
<th>Espoused versus actual pedagogy in the pre-service context</th>
<th>Consonances</th>
<th>Dissonances</th>
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<td>Primary versus tertiary teaching/learning loci of practice</td>
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Given that there also may be a dissonance between teachers’ espoused and actual practices. This means a ‘double dissonance’ between what is expected at the university and what is practicable and practised in primary schools, as outlined below. In other words, there exist additional degrees of separation between a beginning teacher’s recently-formed pre-service views and their actual practice. Given that the beginning years of teaching are such a demanding period, in a context of negotiating a multiplicity of new circumstances: cultural, structural, personal and professional, there needs to be increased an opportunity for pre-service teachers to reflect upon and question related assumptions. University should provide an opportunity for this to take place.

![Double dissonance framework](image)

If graduates do not develop an awareness of the dissonance between their own ideals and practice, they enter the workforce unprepared to interrogate and deconstruct this mismatch in their new situation, the workplace. All pre-service experiences should be aimed at and focused on improving in-service practice.

**Review of the literature: Education for sustainability**

The importance of sustainability education has been acknowledged for some time. At the time of writing it is ten years since the Australian Ministers of Education’s *Adelaide*
Declaration asserted the necessity for school leavers to have “an understanding of, and concern for, stewardship of the natural environment, and the knowledge to contribute to ecologically sustainable development” (DEEWR, 2009b).

Henderson and Tilbury (2004) focused on five international programmes in 2004. They noted a number of features common to effective education for sustainability programmes. These include whole-school participation, community and other partnerships, cross-curricular integration, professional development and a mechanism for monitoring, evaluating and reflecting on programmes. In 2005, The Department of Environment and Heritage (p. 7) observed that “environmental education for sustainability pervades all aspects of the school operations, curriculum, teaching and learning, physical surroundings and relationships with the local community … environmental education for sustainability is a core feature of the school ethos – the value structure of the school”. The same document advocates education about, in and for the environment.

EfS is both a means to an end and an end with a number of means. The cognitive and affective abilities that contribute to and derive from EfS include investigation and research, lateral, analytical and creative thinking, collaboration, communication, literacy and reflection. It also develops traits, such as courage and perseverance (Cheong, 2005). In addition, it ‘recruits team members’, in that it helps people identify with and subscribe to the membership of those who actively care and speak out for the environment. In regard to sustainability, UNESCO noted “a common consensus that education is a driving force for the change needed” (2004, p. 11).

In an adaptation of the mantra ‘act local, think global’, Cheong (2005) has devised an educational approach she calls Community Problem Solving (CPS), which is described as “resolving or improving local [environmental] issues through a problem solving process” (p. 98). This contributes to students’ agency and their awareness thereof. A further adaptation of the above mantra might be ‘act local, think systemic’. Sterling (2004), for instance, points out the limitations associated with the tradition of breaking systems down into their constituent parts, at the expense of identifying connections and thinking holistically or systemically. A systemic approach is also one of Hunting and Tilbury’s (2006) six insights, the others being a clear, shared vision for the future, team building, critical thinking and reflection, transcendence of stakeholder engagement and linear pathways. It would seem, then, that while deconstruction of phenomena into their constituent parts is helpful in terms of enhancing understanding thereof, a corresponding holistic or systemic approach is also needed in order to understand their totality.

A number of barriers to changed environmental attitudes and behaviours, that is, learning, have been identified. These include the pressures of time on teachers and teacher educators (Scott & Gough, 2007; Paige, Lloyd, & Chartres, 2008), competition among multiple priorities (Moore, 2005), the siloing of subject areas (Dale & Newman, 2005) and the crowded curriculum (Pearson, Honeywood, & O’Toole, 2005). With regard to the siloing of subject areas, it should be noted that the Australian National Curriculum is currently increasing the division of subjects, particularly in the primary years, with the introduction of discrete history and geography and civics and citizenship subjects to replace what is known in NSW as HSIE (Human Society and Its Environment). In any case, studies of environment are currently and will remain an important component of school curricula in
the foreseeable future. It may be that teachers’ claims of time pressures serve as a smoke screen for other excuses for inaction (ARIES, 2009b). Nevertheless, behaviour conducive to environmental sustainability must itself be sustained and sustainable and requires sustenance.

Approaches to EfS include intra-subject delivery, usually in geography and science, cross-curricular delivery and delivery via ‘special events’. Hill (2005) points out that within and beyond educational contexts, environmental concerns are seen as an add-on and advocates the development of holistic, integrated and complex solutions to complex problems. There is an argument for a ‘natural curricular habitat’ for EfS. Arguably, some subject areas constitute a relatively unnatural site for the promotion of EfS. Summers, Childs and Corney (2005) advise that EfS, at its best, entails “concepts, evidence, controversy and values – in an integrated, non-fragmented way” (p. 627). They point out, however, that this is at odds with the balkanised structure of many school curricula referred to above. Hill, Wilson and Watson (2004) speak of a learning ecology, a particularly apt term in this context. Survey and questionnaire responses gathered by Summers et al. (2005) illustrated that “while theoretical arguments for interdisciplinary implementation are strong ... such approaches are problematic for both schools and teacher education” (p. 624).

Summers et al. (2005) raise the dilemma of a locus or ‘habitat’ for EfS, outlining its limitations if closeted in a subject of its own, or in only one or two subject areas, as opposed to its infusion throughout the curriculum, in which it might be owned and claimed by everyone and no one. They observe that a pan-curricular approach to education for sustainability presents “immense challenges” (p. 642). The objection to the crowded curriculum is arguably undefined, in that there seems to be no such thing as an uncrowded curriculum.

Summers et al. (2005) used a framework devised by the Sustainable Development Education Programme (Council for Environmental Education, 1998) that identified seven components of education for sustainability: interdependence; citizenship and stewardship; needs and rights of future generations; diversity (cultural, social, economic, biological); quality of life, equity and justice; sustainable change; uncertainty and precaution in action. ‘Interdependence’ was noted as the most common framework aspect of sustainable development. The only other two dimensions that scored significant responses were ‘sustainable change’ and ‘needs and rights of future generations’. Among their findings, it emerged that pre-service teachers had more highly developed conceptions of sustainable development than did their supervising teachers in schools. While at one level this is discouraging, in that one might expect experienced teachers to be more grounded in sustainability than their neophyte counterparts, it does offer the hope that the ‘new blood’ entering the profession ensures a greater capacity to address these issues. Geography teachers and pre-service teachers identified more facets of sustainable development than did their counterparts in science. Their small sample of geography teachers was also more likely to identify active and participatory teaching and learning methods and was more confident than were their science counterparts in teaching sustainable development. This lends weight to the argument that geography is an appropriate locus for education for sustainability. On the other hand, a potential lack of understanding of the processes involved on the part of geographers as opposed to scientists is a possible cause for concern.
Teacher leadership is also important in the development of EfS. Just as Ramsden (1992) and others speak of deep and surface learning, Hill (2005) uses the dichotomy of deep and shallow leadership, or leadership characterised by depth as opposed to management, which is vapid in nature.

Tertiary institutions present particular challenges to education for sustainability. Summers et al. (2005) identified a number of barriers to EfS, including the crowded curriculum/time constraints, under-resourcing, marginalisation of education for sustainability and conceptual misunderstandings on the part of stakeholders. A further potential constraint emerged from limited competencies on the part of supervising teachers in professional experience (practicum) schools. According to Scott and Gough (2007), the imposition of a policy on universities could be interpreted as a compromise to their intellectual freedom, “a special case of a wider process in which the university curriculum is subordinated to a kind of instrumentalism which is at best simplistic, and at worst self-defeating” (p. 112). Convergent or coercive leadership do not appear to be highly conducive to systemic change. Leaders, “destabilize rather than stabilize” according to Plowman, Solansky, Beck, Baker, Kulkarni and Travis (2007, p. 354).

Despite and because of some of the concerns mentioned above, the mandate remains for education for sustainability. Bliss (2008) observes the need for “local–global citizenship that lays the foundations for lifelong engagement in contributing to the sustainability of the Earth” (p. 304). Citing Tilbury and Cooke (2005), Reynolds (2009) refers to the agency potential of education for sustainability, saying that related research indicates that EfS, “is about empowering people to contribute to a better future through mindset changes, critical reflection and building new skills” (p. 109). Mezirow, Taylor and associates (2009) use the term ‘transformative learning’ to describe that which fundamentally overturns our beliefs. Learning, in this instance, is transformative in a number of senses, however, in that it has the potential to transform our world, as well as ourselves – both the external physical environment and the inner cognitive and affective one.

The ‘site university’ and sustainability

The University of Technology, Sydney is a signatory to the Talloires Declaration, having signed up in 1998 (UTS, 2009a). The website asserts that “UTS is committed to sustainability and embedding it in our teaching and learning, research and throughout its operations” (UTS, 2009a, p. 1).

The University has working groups, dedicated to each of the following six domains: energy, planning and design, procurement, transport, waste and water (UTS, 2009a).

The University has an Institute for Sustainable Futures, whose mission is “to create change towards sustainable futures through independent, project-based research” (ISF, 2009, p. 1). The University’s aims, with regard to sustainability are set out in its Environmental Sustainability Policy (UTS, 2009b). These include demonstrable leadership, partnership with other universities, industry partners and others towards sustainability and the development of environmentally sustainable campuses. These aims, while lofty, do not appear to be supported by a statement of optimal practice in the achievement of these aims.
The Kuring-gai campus on which this study took place is a campus of about 5000 students, of whom about 1000 study education in Sydney’s northern suburbs, on or near the borderlands of the Gurringgai and the Kameraigal peoples. The campus takes its name from the former of these groups. The site is virtually surrounded by bushland. The award-winning building, considered ugly by some, is tapered into the hillside and so is masked by trees from most vantage points, even though it comprises six storeys and sits atop a ridge. It is located within the catchment of Turrumburra/the Lane Cove River, which flows into Sydney Harbour.

**Conduct of the study**

All five third year primary teacher education classes (approximately 140 students) were surveyed to canvass their views about the campus as a locus of practice for EfS and related projects. Possible examples were provided verbally, including regeneration of a tract of land, water, paper or electricity audit and/or an education campaign. This preamble included an assertion that most of us might consider it entirely appropriate for primary school students to engage in environmental projects. If this is the case, does it equally apply to tertiary students?

The students worked in groups of 5 or 6, generating 26 response sheets. The students were offered two suggested models for reporting their responses, either listing pluses and minuses with regard to the scenario, or a PMI (Plus, Minus, Interesting, de Bono, 1992) (Appendix). They were free to respond in any form they chose, however. The anonymous sheets were placed in a box rather than handed to the lecturer. The responses benefited from the group discussions that took place.

The documents produced by groups of students were analysed for patterns and outlying responses and as part of a systemic analysis of the enablers and constraints with regard to EfS projects on campus. The response sheets were codified and the codes tallied to illustrate frequency and patterns of responses.

**Findings and discussion**

Many groups saw the importance and value of conducting an EfS project on campus. None of the groups seemed to indicate that this would simply be, ‘doing the University’s work’. There was a widespread view among the students that they have responsibilities to the environment in which they learn.

Two major outcomes clearly emerged, that of the projects’ contribution to learning and to the environment itself. The most commonly cited advantage of such a project is its practical nature in terms of hands-on learning. This was nominated in one form or another by 20 of the 26 groups and was expressed in a number of dimensions. Most commonly, it was conveyed in terms that assist students with their preparation for being teachers. References included “hands-on”, “relatable and useful”, “practical skills”, “future teaching strategies about protecting and sustaining the environment”, “ideas of how to implement in
the classroom”, since the “knowledge is transferable to the practical setting of schools”. Another group observed that such a project “promotes the values you want teachers to have, for instance, environmental awareness and involvement in community…” One group indicated that the projects would “open up people’s minds and give a great insight into the particular environmental issue”. Other comments included “increase awareness” and “a way of expanding your knowledge of relevant issues”.

Other groups seemed to identify the practicality in terms of relative enjoyment and engagement of such a project, their comments including “being outdoors” and “better than sitting in a classroom”. One group indicated that this would be a valuable addition to a CV, and another said that it might be an attraction for matriculation students contemplating teacher education at the University. The collaborative nature of such a project was seen as another benefit. This could also be seen as another avatar of its practical nature. One group said that this would “give an understanding of how to organize and undertake a major project”.

In the second outcome, the practical assistance to the environment featured prominently. One group responded, “If we did something ‘real’, it would feel important … it would be good if you’re learning about the environment to actually help the environment”. Another response described it as a “feel-good cause” and later referred to the “future generation”. One group couched this in terms of service to the environment. Four of these groups referred to the benefits for the campus and/or the University, but it was unclear in most cases whether this was environmental or in terms of prestige. In all, 13 groups (half of the cohort) made reference to one of this pro-environmental aspect.

Four groups referred to the projects’ potential for engendering agency; in that such an approach “gives power to make change”. Another group referred to an associated sense of achievement, a third observing “small steps can be taken to make a difference”. Other positive aspects of this proposal included choice of projects on the part of students and the student-directed nature of the projects.

The students also identified a number of disadvantages and limitations to the proposal. The most commonly-cited obstacle to such a project was time. This was referred to by 16 of the 26 groups. One group observed that, “Tertiary students already have quite a lot on their plate”. One of the groups indicated that these projects should be completed within formal class time, and this is another consideration. This has implications not only for students, but also for staff if projects need close supervision, especially so in the context of a highly casualised teaching workforce.

Several groups referred to the difficulty of assessing such a project. Subjects in this course are graded, rather than assessed on a pass-fail basis in the BEd course. Conceivably, a project such as this could be an exception. Nevertheless, the scope of various projects could cause difficulty in terms of assessment equity. It would be problematic to evaluate the relative merits and work input of, for instance, an energy audit, care for a tract of land, an educational or political campaign. Both inter- and intra-group equity are problematic, with responses indicating that the workload would reflect an individual’s level of care and would be uneven; “not everyone would feel that passionate”, “not everyone pulls their weight” and “some students may see [it] as an opportunity to bludge”. Another response indicated, “We are over [have had too much of] group work”. In all, five responses referred to an
aversion to group work. Achieving consensus within group work was another issue identified in one of the responses.

One group asked if it was the process and/or the outcome that would be assessed. This is a pertinent observation in that if only the outcome is assessed, students may opt for less risky, less imaginative, less effective projects that are more containable and easier to manage. While one group observed that “some students are desensitised”, nobody appeared to suggest that a compulsory project of this nature would galvanise them into indifference or worse with regard to the environment. Nevertheless, this possibility should not be lightly dismissed.

The scenario did not prescribe whether the task would displace an existing assessment task or would be supplementary, but left either option open for students’ discussion. Formal recognition of the work in the form of a subject accreditation was a sine qua non for five of the groups. In various ways, they indicated that their approval for such a project would be contingent on its being part of their current credentialing, rather than as a supplementary obligation, with some groups adding that in the absence of this, there may be limited student interest. As one group observed,

_A negative viewpoint would be ‘what’s the point? It’s not going towards our grades, therefore it is time being wasted on something that does not directly affect us’._

Finding a ‘place’ and status for the projects was mentioned by four of the groups, in terms of integrating them with other subjects and with the degree as a whole. Linking with school subjects was another potential problem raised.

Under the heading of ‘interesting’, three groups of students suggested that this could be carried out in the students’ own areas of residence. One student added that the reason for suggesting this is that he lives two hours’ travel away from the University. While a ‘home-based’ undertaking would conceivably add to students’ ownership of projects, it would render assessment even more problematic. Moreover, the benefits and learning outcomes deriving from collaboration would no longer accrue. A one-site locus of operation also allows for synergies between projects to emerge and be discussed, and the campus arguably offers optimal parallels with a school-based project. It might also be possible to showcase some of the students’ projects to schools and their students, virtually or otherwise. A virtual approach might also alleviate some of the assessment- and dissemination-related difficulties.

Seven groups referred to the cost and resourcing of such projects, with one group asking, “Who pays for it?” Most simply wrote the word ‘cost’. A budget would need to be established for such a programme to take place.

The sustainability of maintaining such projects was raised by six of the groups. One group observed that such a programme would necessitate personnel “to coordinate and maintain it for the future years”. One group asked on their response sheet,

_Would the project just be a project or would it be an ongoing thing? Why do all this work on the environment if it is not going to be sustained and maintained, may be_
viewed as pointless. If it was ongoing then that would be a great motivating force that could inspire students to do more.

Two of the groups asked how projects would be maintained once the students graduated. Other groups raised the difficulties of concluding the project or doing so satisfactorily in a short timeframe, such as a semester. One group suggested a year-long project. All of the Faculty’s education subjects are currently of one semester’s duration. As time goes by, it may also become difficult for students to devise a project that hasn’t already been undertaken. Still, maintenance of a previously-established project may be one response to this and would address the problem of sustaining existing problems, which were raised above.

Lack of knowledge was identified by one group, who observed that it “needs a high level of guidance and structure”. This is of particular significance in the context of a short time frame for planning, conducting and evaluating a project. The students and their supervisors would need to be confident that the chosen project had environmental merit, and the time to research the comparative merits of various projects may be considerable. Ensuring academic rigour was another concern for one group. While finding enough staff with sufficient knowledge to be supervisors would be difficult, the undertaking would also contribute to staff members’ environmental knowledge and understandings.

One group suggested that this process might displace more fundamental literacies. Presumably, though, these projects would also serve as a vehicle for supporting, being supported by and demonstrating the value of English literacy and numeracy.

For some groups, the exercise highlighted some of the current environmental deficiencies on the campus, including the need for more rubbish bins and “better technology in all rooms so that handouts don’t have to be given”.

None of the groups raised a straight question: Why don’t staff have to take on an environmental project? Nevertheless, this would be a valid question and adds insights and a new perspective to some of the concerns raised by the students.

Conclusions and implications for future practice and research

Our students have identified a number of enablers and constraints with regard to the possibility of campus-based research projects. It certainly appears that a large number of students are willing to be involved in practical on-site sustainability projects. The students constitute a vast repository of energy to carry out such projects.

Among the constraints are those issues that would divert our attention and energy from such projects. These include an increasing preoccupation with basic skills testing at school level and regimes, for instance, ‘league tabling’ that might replace teacher collaboration with competition.

One major constraint as far as students are concerned is time. As the students pointed out, the projects also need time and energy on the part of staff for their coordination. Staff knowledge and expertise also need to be called on to evaluate the merit of projects, both in the planning and in the assessment stages. Many of the projects need a budget, as they
would require materials. Occupational health and safety issues need to be considered as well. None of these issues is insurmountable and most currently exist in relation to one or another aspect of academics’ work, such as assessment or field trips. The budget issue could be justified in various ways: environmentally, aesthetically, fiscally (a reduction in utility costs) and in terms of staff and student morale and ‘ownership’, in a context where environmental concerns are assuming a higher profile in our thinking.

Returning to our double dissonance framework, the authors have shed light on the first element, that is, the students’ espoused views and, to a certain extent, the second one, in terms of espoused in-service views – many of the students observed the potential for these projects as preparation for school teaching. Undertaking these projects will expose these espoused views to the stark light of practical reality. A longitudinal study with students who undertake such projects will test the theory further and investigate effects on their subsequent teaching with regard to school-based projects, as well as their attitudes towards sustainability.

References:

Finding a place for environmental studies: Tertiary institutions as a locus.


Appendix

Scenario for student responses

On-campus environmental projects

Imagine Education students were required to undertake an environmental project on campus. How would you feel about this?

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Acknowledgement:

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DEVELOPING AND APPLYING A CRITICAL AND TRANSFORMATIVE MODEL TO ADDRESS EDUCATION FOR SUSTAINABLE DEVELOPMENT IN TEACHER EDUCATION

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Abstract

A reflective case study approach, including focus interviews, reflective/reflexive journals and analysis of project-based works of 30 pre-service teachers participating in an undergraduate course was employed to investigate the discrepancy between the teachers’ constructivist conceptions and the actual practice. The identified discrepancy seemed to be an outcome of the difficulty in translating constructivism into teaching practice, but also of the misleading conception of constructivism as a homogeneous philosophy. Through reflective practice, the participants were able to deconstruct and reconstruct their theories and practices of teaching in more emancipatory ways addressing issues of education for sustainable development. The present case study helps understand the nature of change process towards teaching and learning for more sustainable future.

Key words: education for sustainable development, teacher education, transformative learning, action research, teaching methodology

Background

Two of the major forces shaping and driving education in the last two decades are: 1) the shift from instructivism to constructivism and 2) the quest for re-orienting teacher education for sustainability. UNESCO (2005), as the lead agency spearheading the United Nations Decade of Education for Sustainable Development (2005–2014) defines Education for Sustainable Development (ESD) as the promotion of values and ethics through education at different levels to make an impact on people’s lifestyles and behaviours and help build a sustainable future. ESD is more than just environmental education; it encompasses values and attitudinal changes, as well as environmental, economic and socio-cultural perspectives. However, discourse over the meaning of sustainability uncovers its complexity, multidimensionality and contextual relevance. Two contrasting meanings often debated refer to mainstream and radical paradigms (Webster, 2001, as cited in Huckle, 2006). The dominant or mainstream meaning of the term represents a reformist orientation and seeks to balance economic growth with social welfare and environmental protection. It
obsures the need to develop the economy or society within ecological limits and fosters reductionist rather than holistic or systemic thinking. The radical view in contrast generates economic welfare and social justice within ecological limits. Although these two paradigms simplify the complex, multidimensional and contextual relevance surrounding debates on sustainable development, they do help to see the different pedagogical perspectives underpinned by each one. The radical view of sustainable development asks for an education that integrates reflective, systemic, emancipatory constructivist and critical transformative thinking, while the reformist view is being framed within the instructivist and moderate constructivist pedagogy (Figure 1).

![Diagram: The mainstream or reformist view vs. The radical view of sustainable development](image)

Figure 1. The reformist and radical view of sustainable development

A re-orientation of teaching and learning practices towards transformative pedagogy is often called as the most needed to make an impact on people’s lifestyles and behaviours and help build a sustainable future (Sterling, 2001). Transformative and critical constructivist learning inherent in radical views of sustainable education is a shift of consciousness that can change one’s unsustainable way of thinking, being and acting. Such a shift involves an understanding of one’s self in the world; of relationships with other humans and the natural world; of the relations of power; of alternative approaches to living; and of the possibilities for social justice, peace and personal joy (O’Sullivan, 2003). A critical constructivist perspective of learning incorporates not only the notion of “social negotiation” which “recognises that learners learn by challenging their thoughts, beliefs, perceptions and existing knowledge through interacting with other learners and with the course presenters” (Hedberg, 2003, p. 176), but also an emancipatory conception of knowledge construction (Makrakis, 2004). In teaching and learning, the critical and emancipatory conception of knowledge construction underlies reflexive and reflective practice. “Reflexivity involves more than reflection on one’s own practice; it also involves reflecting on the broader context of that practice, and it’s shaping influences, asking questions such as “Where are we going? What lies behind our understanding that this is the
Developing and applying a critical and transformative model to address education...

way to go?” (Rosenberg, 2005, p. 106). It is a very powerful and useful principle that we should apply most of the time to the way we teach. Such a kind of transformative teaching practice is less evident in schools. Thus, it is critical to find out pedagogical frameworks to integrate curriculum, teaching and learning in ways that promote a radical view of ESD. Curricula are also usually decontextualised, focusing on knowledge without a “real life” meaning to students (Makrakis & Kostoulas-Makrakis, 2005). These discrepancies seem to be not only an outcome of the difficulty translating constructivism in curriculum development and teaching practice, but also of the misleading conception of constructivism as a homogeneous philosophy (Dancy & Henderson, 2007; Barak & Shakhman, 2008).

The view that constructivism is synonymous with approaches to teaching that are learner-centred based on the utilisation of previous knowledge is misleading. Constructivism may take many forms, even within one type. Broadly, constructivist pedagogy reflects two schools of thought: the one based on the principles of neo-positivist and interpretive pedagogy and the other on critical and emancipatory pedagogy. Emancipatory constructivism is best seen as a reaction to positivistic and interpretative conceptions of knowledge construction. Such an orientation merges knowledge with transformative action, which is highly needed for learning-based change, which in turn is considered essential of reorienting curricula and teaching methods to education for sustainability. It is time to explore across disciplines, sectors and cultures, seeking other models that might help us to engage in deep change towards sustainability (Wheeler, 2007). There is also a continuing pressure for curriculum changes involving broad-scale, cross-disciplinary reorganization to facilitate education for sustainability (Fien, 2002a, 2002b; Fien, 2003; Tilbury & Wortman, 2004). This article presents a case study that aims to enhance pre-service teachers learning through the introduction of ESD teaching methods in an under-graduate level teaching methods course and attempts to answer the following questions.

How can we enable teachers to experience emancipatory education for sustainability knowledge construction? In other words, how can we enable teachers to deconstruct and reconstruct their personal theories and practices of teaching in more emancipatory ways? How can we construct a pedagogical environment in which teachers can experience the power of constructing critical knowledge addressing issues of education for sustainability?

Methodology

Research on teacher education over the last two decades reflects a growing focus on reflective teaching (and reflective teacher education) as opposed to a tradition of technical rationality. Despite the diversity of approaches to teacher reflection, teaching and learning can be thought of as “reflective conversation with the situation” and school is assigned a transformative role in society (Schön, 1987). Teachers and learners are supposed to develop an attitude of inquiry-based learning and a holistic view of how learning activities can be organized to advance learning for sustainability (ibid.). A reflective case study approach based on action research methodology was employed using focus interviews, reflective/reflexive journals and analysis of project-based works (Table 1). In this study, 30
pre-service teachers took part in the context of an undergraduate course entitled “Teaching methodology and education for sustainable development” offered in the Department of Primary Education, University of Crete during the academic year 2008/2009.

Table 1. Data collection and analysis framework

<table>
<thead>
<tr>
<th>Method</th>
<th>Aim</th>
<th>Process</th>
<th>Categorisation and analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participant</td>
<td>The aim was to uncover factors important for a thorough understanding of education for sustainability.</td>
<td>Throughout the action, research intervention, the instructor was taking notes on how participants responded to the activities.</td>
<td>The observations, recorded as field notes, were used to triangulate our findings about the impact of the intervention on shifting paradigm regarding personal theories and didactic approaches.</td>
</tr>
<tr>
<td>observation</td>
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</tr>
<tr>
<td>Focus groups</td>
<td>The aim of the focus groups was to gauge the pre-service changes as a result of the intervention. The focus interviews also sought feedback on the teaching intervention for formative assessment.</td>
<td>It started with asking participants to discuss what education is for and define what learning is and how they perceive instructional design, as well as articulating their beliefs, values and practices.</td>
<td>Data from this process was collected using written statements by the participants in the course and field notes taken by the instructor. The categorised data was analysed for key themes related to the changes they considered happening as a result of the intervention.</td>
</tr>
<tr>
<td>Reflective</td>
<td>The aim was to encourage participants to think and critique their personal theories and practices.</td>
<td>Each participant in the course maintained a journal during the project work to capture their learning journey.</td>
<td>Journals were described in their personal assignments. Data was analysed to provide insights into the changes occurring as a result of the intervention.</td>
</tr>
<tr>
<td>journals</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Project works</td>
<td>The aim here was to develop projects dealing with sustainability issues applying new knowledge and practices.</td>
<td>The project works were carried out in groups of two or three utilising various resources.</td>
<td>The content of the project works was analysed, searching for categories that revealed or described the transformations into the desired outcomes and pedagogies.</td>
</tr>
</tbody>
</table>

The main framework of the action research process, as depicted in Figure 2, consisted of four interactive stages: 1) getting started (reflection, activation, problem identification and problematisation, disorienting dilemma); 2) de(re)construction (reflection, reformulation, reassessment); 3) getting involved (reflection, knowledge construction, transformation); 4) learning-based change (learning by action, change). Following a radical sustainability perspective, the person is viewed as an active agent in a change process. In this process, participants were engaged in discourse and critical self-reflection, using some activating events and disorienting dilemmas, through which they come to critically examine their personal views, teaching practices and learning theories, open themselves to alternative views and practices and consequently drive them to change the way they view
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curriculum, teaching and learning. According to Mezirow (2000), it often follows some variation of a number of phases, such as: 1) a disorienting dilemma; 2) self-examination with feelings of fear, anger, guilt, shame; 3) a critical assessment of assumptions; 4) recognition that one’s discontent and the process of transformation are shared; 5) exploration of options for new roles, relationships and actions. As Cranton (2000) suggests, this kind of transformative learning is recursive: individuals must first think about change and see the purpose for change before change occurs.

Disorienting dilemmas evoke every conceivable emotion in learners. Our emotions and our feelings provide both the impetus for us to critically reflect and the gist of which to reflect deeply (Taylor, 2000). Examining their perspectives is one way people are able to transform their paradigms and practices and, as a consequence, grow professionally (Henderson & Hawthorne, 2000; Murphy, 1999). Transformative learning is a shift of consciousness that can dramatically and permanently alter one’s way of being in the world. Such a shift involves an understanding of one’s self; of relationships with other humans and the natural world; of the relations of power in interlocking structures of class, race and gender; of body awareness; of alternative approaches to living; of the possibilities for social justice, peace and personal joy (O’Sullivan, 2003).

Figure 2. A methodological approach to infuse a radical view to education for sustainability

Implementing the critical reflective and transformative model

The participants were first challenged to discuss the questions: What is education for? and What is teacher education for? These questions stirred discussion and helped the group to reflect on their assumed beliefs and practices. Content analysis revealed that the prevailing beliefs were associated with a kind of instrumentalism that was largely expressed in views that “education is for preparing learners to meet the society’s demands”. When it comes to teacher education, instrumentalism was associated with the increased employment
prospects of the teaching profession in Greece, which has placed teacher education among the three most demanded academic fields (medicine, engineering and pedagogy). Whilst these are clearly important, there was a need to reverse participants’ instrumental views by asking the group to question what such an education is leading to from a sustainability perspective. In fact, there was an attempt to create a sense of dissatisfaction with regard to participants’ prevailing instrumental views regarding education that are contradictory to education for sustainability.

The preparatory process paved the way to the de(re)construction stage, defined as a process to demonstrate that pre-service teachers’ personal theories in teaching and learning, beliefs and knowledge are not discrete wholes. They contain several irreconcilable and contradictory meanings. To empower pre-service teachers in the constructing process, a heuristic devise in the form of a table with two columns termed sustainability in the growth mode (reformist view) and sustainability in the development mode (radical view), based on Huckle and Martin’s (2001) assumptions on these two polar modes was introduced. If a group of participants held values that were eco-centric and weakly anthropocentric (strong sustainability), they advocated the inextricable dependence and well-being of human and non-human nature and that knowledge is constructed, rather than being “found” out there in the world. If a group of participants believed that sustainability can be realised along with continued capital accumulation or economic growth (weak sustainability) without requiring a radical restructurings of current socio-economic social relations, they advocated more instrumental conceptions of teaching, learning and curriculum. The large majority of participants exhibited views related more to the reformist polar mode rather than to the radical one. This was consistent with their views concerning “deep” and “surface” learning. By posing a number of questions reflecting these two learning approaches, it was revealed that while the large majority of participants viewed learning as a process of knowledge construction on the basis of previous experiences, their instructional design views tended to reflect a linear rather than a constructivist model. There was an attempt to decentre their instructivist approaches by challenging the identified contradiction and to help them consider carefully the reasoning behind such a contradiction.

This was tackled by asking the questions: How is a linear (surface learning) conception of teaching related to weak sustainability? and How is a constructivist (deep learning) conception of teaching related to strong sustainability? This type of problematisation was used as the means of empowering pre-service teachers moving away from instructivist conceptions of teaching and learning for sustainability to more constructivist and ultimately transformative approaches that make learning motivating, engaging and situated in authentic contexts. In an attempt to enlighten participants’ understanding of the two modes of sustainability in relation to teaching and learning, the researchers discussed three different types of curriculum: 1) transmission or technical (curriculum as a product); 2) transactional or practical (curriculum as a process); 3) emancipatory or transformational (curriculum as praxis), following Grundy’s (1987) typology. This heuristic devise reinforced the de(re)construction of instrumentally-held and instructivist beliefs that were elicited at the starting phase. Through this process and the enlightenment provided through readings and discussions, a paradigm shift was occurring,
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moving pre-service teachers towards a better understanding of their role as change agents. The following quotations reveal student-teachers reconstructions.

*The role of education is more complex than I have thought before this intervention and more critical for the development of conscious and active future citizens. I have heard of the need to transform students into active citizens several times, but never of how to achieve it.*

In a considerable number of learning-based change statements, participants revealed that this discrepancy was changed largely due to the methodological approach implemented in the course and the values inherent in the concept of education for sustainability. The statements like the following give support to this assumption: “I realised that the role of education is to connect school with society and its problems”. “Education should give children the skills that are necessary in order to undertake social action, to recognise problems and issues and to be able to work with others”. “The aim of education is to create capable, responsible and conscious citizens that fight for social justice”.

By means of the above activities, the participants reached the expected level to start merging transformative learning strategies in designing lesson plans dealing with sustainability issues. In getting involved, working in groups of two to three, the participants were engaged in the development of 12 lesson plans dealing with a variety of sustainability issues, such as hunger, poverty, children’s rights, AIDS/HIV and environmental depletion. To facilitate this process, the participants were introduced to a number of writings elaborating the social, cultural, environmental and economic dimensions of sustainability and the possible sustainability issues that may arise in each of these dimensions. These problems reflect the complexity of real world problems. They are also relevant to the pre-service teachers’ situations. In addition, they require them to explore open education resources and to draw on knowledge from various subject areas, such as mathematics, geography and science. During the inquiry process, the participants went through to develop solutions, they communicated information, expressed opinions and negotiated with the instructor. The analysis of participants’ dialogues and inputs from the developed lesson plans can be interpreted in the following summarised points: 1) they enjoyed acquiring new knowledge and experience in tackling sustainability issues from a transformative learning perspective; 2) they had taken responsibility and control of their learning and became actively involved in managing their learning process; 3) they were more motivated to take risks and initiatives in discovery learning and active citizenship; 4) they integrated social, environmental, cultural, ethical and economic sustainability conceptions in lesson planning; 5) they recognised the value of ecological modernisation, the role of human agency and reflective learning in empowering learners for sustainability knowledge construction. Given the space limitation and focus of this paper, a summary of the impact of the action research intervention to transform pre-service teachers’ instructivist conceptions of teaching and learning to methods that are more conducive to teaching and learning for sustainability is provided in Table 2.
Table 2. An overview of pre-service teachers changes as a result of the critical transformative model

<table>
<thead>
<tr>
<th>Categories</th>
<th>Indicators of change before the intervention</th>
<th>Indicators of change after the intervention</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learning definitions</td>
<td>Focus on constructivist definitions</td>
<td>A shift to more critical constructivist definitions</td>
</tr>
<tr>
<td>Instructional design</td>
<td>Linear</td>
<td>Interactive</td>
</tr>
<tr>
<td>Instructional strategy</td>
<td>Fostering mostly lower-order thinking</td>
<td>Fostering mostly higher-order thinking</td>
</tr>
<tr>
<td>Making use of open education resources</td>
<td>Limited</td>
<td>Extensive</td>
</tr>
<tr>
<td>Systems thinking</td>
<td>View phenomena mostly from one side and focus on unrelated parts.</td>
<td>Understand interconnections and make complex choices.</td>
</tr>
<tr>
<td>Articulation</td>
<td>A limited possibility to articulate their personal theories and teaching practices</td>
<td>Realise that through exposing own beliefs and practices and reflecting on them it is possible to become better teachers</td>
</tr>
<tr>
<td>Self-directed learning</td>
<td>More dependent on what instructor asked</td>
<td>Monitor own understanding and learning needs</td>
</tr>
<tr>
<td>Need for change</td>
<td>Seldom felt the need to change conceptions</td>
<td>Exercised a conceptual change as a need</td>
</tr>
<tr>
<td>Collaborative knowledge construction</td>
<td>Less experienced</td>
<td>More opportunities for meaningful learning</td>
</tr>
<tr>
<td>Relevance</td>
<td>Mostly perceived learning in terms of completing the course</td>
<td>Connected learning to personal interest and relevance to sustainability</td>
</tr>
</tbody>
</table>

Concluding remarks

As it is evidenced, the adopted action research framework developed for this case study aims at transforming thinking and action towards sustainability. It encouraged the participants to look back and question assumptions about their teaching practices and personal theories and: 1) understand reflection as an integral part of the teaching and learning process; 2) evaluate and make decisions leading to learning-based change; 3) create conditions for systems thinking when dealing with sustainability issues; 4) be aware of the interrelations between the social, cultural, environmental and economic dimensions of sustainable development; 5) frame local sustainability problems as a part of a global context; 6) create conditions for critical thinking and reasoning when dealing with sustainability issues.

Pre-service teachers by the great majority exhibited constructivist conceptions in their personal theories, but confusion was evidenced in its translation into practice. The identified discrepancy seemed to be an outcome of the misleading conception of constructivism as homogeneous and lack of opportunities in merging theory with praxis. Through reflective practice and action research interventions, pre-service teachers were able to deconstruct and reconstruct their personal theories and practices of teaching in more emancipatory ways addressing sustainability issues. All of sustainability action research
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Contributions developed collaboratively by the participants have been framed within the paradigm of transformative learning.

This case study also helped participating pre-service teachers identify the multidimensionality of teaching and learning and understand the nature of change process towards teaching and learning for more sustainable futures. There was a strong consensus that critical constructivist learning and action research were important to the successful infusion of education for sustainability into teaching and learning. In general, this intervention introduced a range of associated changes to educational theory and practice, such as inquiry and problem-based methods, critical learning opportunities through debates and group work and opportunities for empowering pre-service teachers to shift from instructivist to sustainability knowledge construction and transformative pedagogy in lesson planning.

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QUALITATIVE EDUCATION FOR ROMA STUDENTS: A PEDAGOGICAL MODEL FOR SUSTAINABLE DEVELOPMENT

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Abstract

Inclusion of Roma students in general classrooms at an early age (5–7 years) is the focus of the present research to study the impact of parents and Roma teacher-assistants’ involvement in the learning process of Roma minority students. Though Roma people have inhabited Latvia for centuries, a deeply ingrained prejudice towards Roma is persisting among the population at large, resulting in direct and indirect social discrimination. One of the most odious forms of discrimination against Roma is the practice of consigning Roma students to special schools after ‘their failure’ in the first years of regular elementary schools. Schools, as the primary formal societal institutions that students encounter, have an enormous responsibility in helping to forge a culture of equality, pluralism, tolerance and unity in diversity. The present study deals with the development of intercultural learning and anti-bias classroom organization in order to prevent institutional discrimination and promote the benefits of a culturally heterogeneous society.

Key words: pedagogical model for sustainable development, Roma students, multicultural education, inclusive classroom, Roma teacher-assistant

Introduction

In the context of sustainable education, it is important to solve the exclusion of the students who have been left outside the education system. In a multicultural society, every child has the right to equal and qualitative education; it is prescribed by international normative documentation (for instance, the Declaration of Children’s Rights), as well as that of Latvia.

Schools, as the primary formal societal institutions that young people encounter, have the enormous responsibility of helping forge a culture of equality, pluralism, tolerance and unity in diversity. Inclusive education, along with the active participation of parents and society, offers a greater possibility to provide an education to those who are threatened by ignorance and societal rejection: the Roma ethnical minority.

Inclusive education is one of the models of education in a multicultural society. Its nature is based on human rights and is based on the belief that every child, independently of
his/her, nationality has the right to receive a quality education by studying together with his/her peers. Students are not to be segregated from mainstream schools because of different social reasons, biases or learning difficulties. Mainstream schools are the most appropriate for implementing inclusive education, creating social and cognitive competences, and a positive school atmosphere can promote inclusion best of all. Demands for inclusive education are encouraged by international policy expressed in different international documents: the UNESCO announcement at the Salamanca conference (1994), the European Union Maastricht and Amsterdam anti-discrimination documents, as well as other international documents.

The research provides an analysis about the degree of inclusion of Roma students in the general education system, about the necessity to ensure students’ ethnical needs, about how to promote cooperation with parents, as well as an evaluation of how effectively Roma teacher-assistants work.

The research seeks to:

- find out how 5–7 years old students can be included in a multicultural classroom;
- investigate if and how the ethnical needs are provided during the teaching and learning process;
- analyse the learning and inclusion results of Roma students;
- analyse the specifics of the pedagogical process in a multicultural classroom.

This research focuses on exploring the possibilities for inclusion of Roma students in mainstream classrooms in the context of multicultural education.

**Description of the situation: The Roma people in Latvia**

Though the Roma people have been living in the territory of Latvia for centuries, there is a considerable difference between the desirable and existing attitudes towards this minority. The Roma people live in the poorest social conditions. One of the reasons for that is the low level of education of Roma people. In today’s modern society, it is necessary for every person to have developed social and cognitive skills, which determine the ability or inability to be included socially and technologically. Without quality education, it is impossible to gain access to many aspects of the modern information, technological and economic society. Thus, people start living a vicious cycle: they do not have proper education, they cannot get jobs, they receive inadequate social funding, and this has continued from generation to generation of Roma families.

Even now, the Roma people have limited possibilities of receiving quality education or job. Deeply rooted stereotypes and segregation of the Roma is the reason for direct or indirect social discrimination, which is especially unacceptable in education because the quality of education influences all spheres of a person’s life. However, the Roma themselves point out that their attitude towards education has changed and is becoming more positive. In short, they recognise that they need quality education. The figures
provided in this research show that there is significant discrimination that requires immediate solutions.

The Roma culture is a bright and expressive part of the mosaic of Latvian culture. Society’s negative and contemptuous attitude to the Roma is mainly undeserved. At the moment, one of the most important tasks is to secure their positions as an equal group of people living in Latvia with equal rights in the area of education and human rights.

The school, as the initial formal institution where a child is involved, plays an especially important role in creating a more equal society. School is a model for the relationship which the present students will use in their relationship with their peers in school and later in their work places, as well as in their personal lives. Because of this, it is essential for schools to model what society wants to see in its grown-ups. One of the needs mentioned by teachers and other school workers in schools with Roma and other minority students is that teachers lack knowledge about how to manage the multicultural classrooms and how to use multiculturalism to their advantage.

Study: Model for inclusion of Roma students in mainstream schools

Finding ways to obtain knowledge and experience could promote inclusion of the Roma into society. That is why it is important to evaluate, summarise, investigate and synthesise the study results. One of the essential parts of approving an inclusion model is to research the inclusion of Roma students in mainstream educational institutions. The present study documents the process of change in a classroom, school and society. Moreover, a detailed characterisation of the research process, a description of the organization, methodology and analysis of the results are provided.

Characterisation and organization of the research basis

Methods of study:

1. Theoretical methods: analysis of theoretical literature (pedagogical and psychological literature) and other sources (LR and EU documents, statistic data, strategies, reports).
2. Empirical methods:
   - Data collection methods: questionnaires, self-analysis polls, observation, study of portfolios, non-structured interviews, analysis of artefacts, photo and video records.
   - Data processing and analysis methods.

Processing the qualitative data was performed by applying a content analysis approach, using techniques of content analysis where the basic sections are analysed by categories, describing the meaning of the analysed information; features of categories and context (Cresswell, 2002); qualitative comparison of observations with the assessment and self-assessment of teachers and teacher-assistants. The final assessment of the model includes a summary of expert opinions and a qualitative analysis. The AQUAD 6 data analysis
programme was used to process qualitative data and Microsoft Excel was used to process quantitative data.

From 2005–2009, the projects for the Qualitative Education for Roma Students and Roma Students Welcome in School were realised. One of the main goals of the programmes was to overcome the segregation in schools of Roma students by creating and approving a model of inclusion of Roma students that would promote the successful inclusion of Roma students in mainstream schools. Ethnographic research was done before approving the model of inclusion of Roma students. The study comprised 5–7 years old students from nine different classrooms. Teaching the students in these classrooms was performed according to the demands of the mainstream school syllabus, but was done by using the methodology suggested in the *Step by Step* programme. All classrooms were arranged with the furniture and teaching materials necessary for the teaching and learning process of 5–7 years old students. Simultaneously, nine Roma parents’ support centres were established.

The aim of the model is to stimulate the inclusion and adaption of Roma students in the general school system of Latvia. The direct target group of the model is general school teachers. The indirect target group of the model is Roma students. The model is a synthesis of theoretical ideas on multicultural and inclusive education, international normative basic demands and those in Latvia, what has been done in Latvia and other countries and the peculiarities related to the adaptation of Roma pupils as a specific ethnic cultural group. The model is based on the developmental processes of multicultural settings, the content, methods and motives specific to the Roma ethnic minority.

It is a pedagogical model that corresponds to the concepts of human pedagogy, and it is based on experience and action. It covers contents, processes and results, with emphasis on the procedural aspect of action, which means learning by doing and with due regard to socio-cultural aspects of learning. Procedural structure of the model is illustrated in Figure 1.

To improve multicultural schools and provide equality and availability of education to Roma students, the criteria have been developed to assess the results of the pedagogical model of inclusion for Roma students. The criteria will enable us to identify successful educational processes in a multicultural environment, the integration of the Roma students and their readiness to integrate (or their actual integration) in a multicultural school environment. The analysis of psychological and pedagogical literature and the key features of the Roma as a segregated culture allowed to conclude that the criteria selected were appropriate to the specifics of the model, namely that *interaction, cooperation and communication* constitute the most relevant features indicative of the trend to inclusion.
Inclusion and Adaption of Roma Students

Content
- Inclusion of the basic principles of multicultural, inclusive and child-centred education in curricula
- Respect of Roma students’ socio-cultural experience and their culture values; inclusion of the elements of their culture in the content of education
- Provision of the socialization process of Roma students
- Realization of the principles of social justice and democracy – education of tolerant individuals

Methods
- Developing teachers’ competences on multicultural education and the specifics of Roma culture – the use of different learning styles and methods
- Preparation of Roma teacher-assistants and work in the classroom
- Parents of Roma students as cooperation partners
- Individual goals and assessment of each Roma student – activities suitable for Roma students’ level of development
- Formation of the experience of multicultural behaviour – formation of relations in a classroom

Multicultural Environment
- Positive attitude towards Roma culture – unity of opinions and philosophic principles / totality in school and out of school setting
- Component of the social setting – respect of Roma identity, ethnoculture, self-confidence and cultural values; opportunities of individual self-development for Roma students
- The material component of the setting – cognition of Roma ethnoculture and demonstration of the elements of their culture, unconventional teaching materials

Motives
- Unity of goals and intellectual values
- Respect of Roma students’ cultural values
- Overcoming of Roma ethno-psychological difficulties in the process of education
- Formation of attitudes – development of students and teachers’ cultural awareness

Learning Results of Roma students (knowledge, skills as stated in the standard)

Subjective Individual Achievements of Roma students (attitude, feeling, emotional experience, relations)

Mentoring of the Process

Figure 1. Structure of the pedagogical model
Analysis of the research results

Study and analysis of the model and assessment of its impact included:

1. Measurements of inclusion of the Roma students at the beginning and end stages of the implementation of the model against the developed criteria of cooperation, communication, interaction and their respective indicators;

2. Analysis of the impact of the components of model structure on integration and inclusion of Roma students.

The measurements of inclusion of Roma students against the developed criteria and their indices were taken at the beginning (the academic year 2005/2006) and at the end (the academic years 2007/2008 and 2008/2009) stages of the implementation of the model on 50 Roma students with ages ranging from 5 to 7 years.

The following data collection methods were used in taking these measurements:

- observations;
- checklists to determine the degree of inclusion of the students;
- analysis of the students’ portfolios;
- non-structured interviews and discussions with teachers and teacher-assistants – Roma people and parents;
- video and photo materials;
- assessment by experts.

The indicators of inclusion and adaption of Roma students were assessed on three levels, according to Chapman (1990):

- actual development level: self-regulated attitudes and actions;
- approximate development zone/level: attitudes and actions based on experience;
- frustration level: situation-based attitudes and actions.

The data obtained by comparing the indicators of inclusion and adaption levels of Roma students at the beginning and end of the implementation of the model against the criteria interaction, cooperation and communication demonstrates that all Roma students who started education during the period of study successfully integrated in the overall education, while significant growth of the students, both academic and social, is observed in the social sphere. Assessment of the integration of the students by levels against all criteria, the number of Roma students experienced a significant decrease of their frustration levels and significant growth on the actual development level (Figure 2).
How the ethnic needs of students’ interaction are provided

An important aspect of the project to integrate Roma students is to include elements of Roma culture, language, traditions and history in the classroom environment and in the teaching and learning process. One of the features of an inclusive classroom is that the classroom environment reflects the individualities of all nationalities represented in the class by its students – Latvians, Roma or others. Symbols, art, books, music and other materials reflecting the culture naturally adapt themselves to everyday life and activities of the classroom and school. In the places where the present research was carried out, Roma cultural elements had to be present in the classroom environment.

One of the ways to ensure the ethnic needs of students is to introduce at least some of the cultural elements in the classroom, which reveals that the child belongs to a different ethnical group or nationality. A variety of cultural elements in the classrooms was observed – books, signs and posters in the native language of the students, songs and poems learned in different languages, toys typical to different nationalities sitting in the classrooms, dolls dressed in national costumes, pictures showing national traditions, customs and habits of everyday life. It is impossible to create an atmosphere of an inclusive classroom and promote dignity and respect for the Roma language if the students do not have an opportunity to hear and get to know it. The pedagogues were strong in their opinion about the students’ books in the Latvian and Roma languages, which were translated and published during the project.

The multiethnic classroom environment is also enriched with the teaching materials prepared by parents in parent workshops. These are the materials which reflect peculiarities of Roma culture: Roma national costumes for dolls, self-made books in the Latvian,
Russian and Roma languages, table games reflecting national features, national interior decorations, different signs and posters in classrooms in the Roma language.

According to the observations by inclusive education specialists, elements of multicultural education in all the project classrooms were noticed. Furthermore, the professional level of pedagogues considerably promoted the teachers’ mutual cooperation in providing bilingual education. The observations also reveal the fact that the inclusion of Roma students in mainstream schools must be a complex activity since the following activities must be carried out simultaneously:

- arranging the educational environment to correspond to students’ needs;
- training pedagogues and Roma teacher-assistants to work with Roma students and parents;
- encouraging and training of Roma parents and community leaders;
- creating an anti-bias attitude towards Roma people in the community.

**Roma nationality of the teacher-assistant**

It is essential to involve Roma teacher-assistants in the work of the classroom. The main Roma teacher-assistant is supposed to help 5–7 years old Roma students to overcome difficulties which are caused by entering an unknown cultural environment (different language, new routine and order). At the same time, it is also helpful for the classroom teacher to get the Roma child involved in teaching and learning activities and gain the cooperation of Roma families. Roma teacher-assistants helped the Roma language be heard in the classrooms, and they introduced the specific features of Roma people.

Roma teacher-assistants worked in six mainstream educational institutions in groups with 5–7 years old students. Teachers, having analysed the work of Roma teacher-assistants, pointed out that they have made a considerable progress. Both the class teachers and their new assistants felt confused when starting to do something so unusual. Teachers did not know how to employ their assistants; they were afraid to ask too much of them. However, step by step, they learned to cooperate with productive results. Although the teacher-assistants have a different level of education and different life experiences, they all were willing to participate and help educate Roma students. They have received regular consultations. Their topics were chosen according to the local needs and the local teacher-assistant’s understanding.

To promote the process of change, there were consultations held in schools for all teachers and staff members. It is important to change the attitude of all people working in the school, as well as the environment. It is a significant condition of creating an optimal positive learning experience at an early school age for Roma students.

**Specifics of the pedagogical process in a multicultural classroom**

From the conversation with teachers, the problems which arise when working with Roma students were deduced:
Qualitative education for Roma students: A pedagogical model for sustainable...

- Language difficulties. Though Roma students pick up Latvian or Russian fast, there are some of them that can communicate only in their native Roma language when they start attending school.
- Insufficient cooperation with parents. Parents usually do not understand their role in the process of educating their children. They do not attend parents’ meetings (but they like to participate in the school activities where their students take part).
- Teachers do not feel they are competent to work with minority students.
- Prejudicial attitudes of the staff and other parents to the Roma people.

Teachers recognise that they lack the knowledge and skills to work with students of other cultures and to organize the teaching and learning process so as not to harm the child’s personality. The teachers have realised that, to get the maximum interest of Roma parents regarding the children’s education, they need new cooperative methods when working with Roma parents. Roma people have their own way of solving problems, they have a different understanding about the value and meaning of education provided by educational institutions, and it sometimes causes frustration among teachers. They feel confused and insecure working in a multicultural classroom. The pedagogues are interested in getting to know more about the history, culture and family traditions of the Roma people.

All classroom teachers of this research positively evaluated the Roma teacher-assistants, their role and actions in a classroom. They pointed out that more individualised attention could be paid to Roma students. The assistant is a person who promotes understanding between the teacher and the child. With his/her behaviour and attitude he/she sets an example of how to provide help and support. Teacher-assistants, by observing the actions of the teacher and the students, quickly gain confidence in the importance of regular work and practice. Gradually, they start to realise that it is essential for their students to get a good education.

Roma teacher-assistants are called mediators when working with other Roma parents. They help to explain specific situations to parents from the point of view of the teachers. Roma teacher-assistants are said to be a great support for all students of the group. They love, listen to and care for all students independently of their ethnic or cultural background.

Conclusions

The model of inclusion of Roma students is oriented towards an anti-bias society. It is possible to conclude that all Roma students who started to attend school during the project were successfully included in the social life of mainstream schools. Furthermore, they felt good, and they had improved their social skills. Nevertheless, inclusion in the learning process causes some problems which can be explained mainly by the lack of experience in individualising the pedagogical process.

The research reveals that multicultural education and upbringing of a tolerant personality promotes Roma students’ inclusion in school, which can be provided by meeting students’ ethnical needs and creating an atmosphere of cooperation with parents.
Roma teacher-assistants play an especially significant role in the inclusion of Roma students.

This experience indicates that schools can vitally change the process of inclusion of Roma students in a classroom, as well as the integration of Roma families in the community. In all of the research cases, Roma families felt encouraged to use their Constitutional rights to an equal and quality education for their children. The Roma people are satisfied with the pedagogical process if the pluralistic learning approach is organized in such a way that the ethnical needs of their students are also taken into account.

The research results show that the model of inclusion, which encourages multicultural education, is sustainable. It develops and fosters changes of individual, group and community values and behaviours, thus improving the quality of life. The new approach which is disclosed in this research in the context of sustainable education proposes a way of planning and meeting many burning issues in the future by taking into account the correlation between social, economic and other variables. The research data confirms that this pedagogical model can serve the goals of inclusion and adaptation of Roma students in general education. Thus, the proposed model meets the principles of multicultural and inclusive education, as well as general cultural-educational principles.

The proposed model focuses on the creation of an inclusive and multicultural school, where students of different cultural backgrounds study together successfully, by pointing out that the inclusion of Roma students in the system of general education is not only a legal provision to guarantee them an equal education, but also a manifestation of a democratic society. This model provides a successful example of a best practice that might be useful for teachers, education administrators and education policy makers.

References:


Acknowledgement:

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STUDENTS’ INDEPENDENT PROFESSIONAL ACTIVITY IN PEDAGOGICAL PRACTICE

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Rezekne Higher Education Institution, Latvia

Abstract
The topicality of the present research is determined by the need for changes in higher education concerned with implementing the principles of sustainable education. The article focuses on teacher training, highlighting the teacher’s profession as an attractive choice of one’s career that permits to ensure the development of general and professional skills and an opportunity for new specialists to align with the labour market. The empirical study of students’ understanding of their professional activity and of the conditions for its formation was conducted by applying structured interviews (of practice supervisors, students, academic staff); students and experts’ questionnaire. A comparative analysis of quantitative and qualitative data and triangulation were used in the case studies. As a result, a framework of pedagogical practice organization was created in order to form students’ independent professional activity.

Key words: students’ independent professional activity, pedagogical practice, participatory action research

Introduction
The challenge of higher professional education is to create opportunities for individual development of each personality, to train specialists who are aware of the necessity for professional development and able to develop skills that help to adjust to the changing social environment (Key Competences for Lifelong Learning – European Reference Framework, 2008; New Skills for New Jobs: Action Now, 2010). It is significant to be aware of the link between the social aspect and other dimensions of sustainable development, for instance, ecology, economy and culture (Grabovska, 2006; Jamsa, 2006; Mandolini, 2007; Salīte, Mičule, Kravale, Iliško, & Stakle, 2007). A solution of the sustainability problem in the European strategy is viewed as provision of education–research–novelty in the functioning triangle of knowledge. Regarding teacher training, one of the aims of the European strategic framework for cooperation in the field of education envisages to improve the quality and efficiency of education and studies ensuring a high level of teaching to make teachers get proper initial education, ensure continuous
professional development and make the teacher’s profession an attractive career (Strategic framework for European cooperation in education and training, 2010).

The problem of the research is determined by the contradiction in society between the aims put forward and their implementation in the pedagogical process. The changing social environment, inconsistency and even discrepancy of political decisions reduce teachers’ motivation, feeling of safety and confidence about the sustainability of changes. According to the students’ survey, this has a negative impact on graduates’ desire to work in the teacher’s specialty. The main reasons are students’ unconvincing attitude towards the correspondence between the chosen profession and their interests, concerns about insufficient professional skills upon starting independent pedagogical activity, as well as the high level of work quality and responsibility demanded from a teacher combined with the low prestige of the profession.

The issues related to knowledge-based society and sustainable education are especially essential in teacher training. They determine an objective need to explore the opportunities how students can realise independent professional activity during their pedagogical practice in the context of responsibility, professional knowledge and skills, as well as self-awareness improvement. Special attention should be paid to a purposefully organized student-oriented pedagogical process that brings studies closer to professional activity.

The present research aims to explore the independent professional activity formation process among the students of teacher training study programmes. It seeks to find out an answer to the following question: What determines students’ independent professional activity formation during pedagogical practice at schools and higher education institutions in Latvia in the current changing socio-economic situation under the urgent conditions for a personality’s self-realisation? Hereinafter, the present paper provides the theoretical assumptions of the conducted research, design and analysis of the research and conclusions.

**General context of research**

The philosophical and methodological background of teachers’ professional education and activity is the humane paradigm of education (Rogers, 1969; Maslow, 1998; Knowles, 1968, 1990). In humanism, the emphasis is put on using students’ experience in acquisition of values created by humankind, reflection on personal experience, continuous openness to experience and students’ involvement in the process of changes (Schon, 1987; Marienau, 1999; Moon, 2002; Žogla, 2005, 2008; Salīte, 2009; Salīte, Gedžūne, & Gedžūne, 2009). Attaining learning outcomes is ensured by a student-centred pedagogical process, cooperation and participation in the study process.
Independent professional activity of pre-service teachers is formed during pedagogical practice, which is an organizational form of studies. As a result of theoretical analysis of independent activity (Vygotsky, 1986; Candy, 1987; Gerstner, 1987; Grow, 1996; Rudzītis, 1997; Long & Associates, 2000; Ţogla, 2001, 2005; Maslo, 2003; Salīte et al., 2009) an answer is found to the research question: What determines students’ independent professional activity formation during pedagogical practice at schools and higher education institution in the current changing socio-economic situation under the urgent conditions for a personality self-realisation? The formation of students’ independent professional activity is determined by one’s readiness for professional activity, which is influenced by student’s training, action motives, individual characteristics and work environment (Figure 1).

![Figure 1. Components of student’s independent professional activity formation](image)

Psychologically positive work environment is created by the level of person’s independence corresponding to one’s knowledge and skills, an ability to make decisions independently, a particular sense of significance, awareness, positive social-psychological interaction and support. This environment can also be formulated as the environment encouraging sustainable development, which supports involvement of all subjects in decision-making and each individual’s participation in development.

**Nature and structure of professional development**

In the research on independent professional activity formation, professional development is viewed in several specific contexts of different theories. Explanations of individual’s professional formation in the theories of social psychology (Rogers, 1962; Vygotsky, 1986;
Maslow, 1998) state that professional development and socialisation of a personality are interrelated. Furthermore, humane psychology deals with implementation of personality’s creative skills and potentials, understanding of the meaning of one’s life. The acmeological approach (Деркач, 2001; Анисимов, 2002, Svence, 2003) explores cause-effect relations, tendencies, conditions and factors that influence self-realisation of individual’s creative potential and self-actualisation in reaching the peaks of professionalism. Pipere (2003, 2007a, 2007b) relates the development of a personality to the search for one’s professional identity.

The structure and characteristics of professional development models (Fuller & Bown, 1975; Кудрявцев, 1981; Dreyfus & Dreyfus, 1986; Huberman, 1989; Kagan, 1992; Geidžs & Berliners, 1999; Moir, 1999; Сластенин, Исаев, & Шиянов, 2002; Room–Valickis, Saarits, Sikka, Talts, & Veisson, 2003; Зеер, 2004, 2006) show that the formation of independent professional activity corresponds to the period of professional studies and is related to the development of mechanisms that regulate students’ communication, creativity and self-expression and readiness for professional pedagogical activity. This period corresponds to the personally-productive and subjectively-creatively-professional study level at a higher education institution (Figure 2).

The theories of professional maturity development substantiate the opportunities for development and growth of personality potential. At the initial stage of the process, prospective specialists need time for development of independent professional activity, as well as adequate assistance and open communicative space. Thus, the analysis of theories guides revelation of research questions, stresses the aspect of humane pedagogy – self-
realisation of a personality in action in cooperation with subjects involved in the practice procedure.

Summarising the findings of various researchers (Huber & Senger, 1942; Blank, Race, & Cipparrone, 1998; Pipere, 2003, 2007; Salīte et al., 2009), the structure of professionally oriented personality development is specified and broadened determining the place of student’s independent professional activity (Figure 3).

![Graphical representation of professional development hierarchy]

Figure 3. The hierarchy of professional development

Looking at Figure 3 from the bottom, it can be concluded that students’ independent professional activity is formed on the basis of a set of general and professional knowledge, skills and attitudes, including a skill of phronesis, which forms and develops as a result of professional activity and professional cooperation in open communicative space during pedagogical practice. Students’ independent professional activity forms, at the lowest, for instance, a potential level of professionalism. The transition at the level of professional competence and professional identity and autonomy is related to the proportion of professional experience in a person’s life activity, an ability to determine the general
content of activity, which improves as a result of professional activity and cooperation. The specified structure of professionally-oriented personality development substantiates the role of professional education in formation of initial professional experience, indicates the direction of sustainable professional growth and sketches the definition of the notion of students’ independent professional activity, which entails professional activity during practice characterised by purposefulness and responsibility in execution of practice tasks and teacher’s functions while using the professional knowledge, skills and attitudes, which are analysed, evaluated and developed in the unity of theory and practice, in the process of systematic reflection ensured by regular cooperation of subjects (student–teacher–academic). Independent professional activity is an outcome of the study programme acquisition.

Content and criteria of the notion of student’s independent professional activity

Taking into consideration the tasks of pedagogical practice and peculiarities of teacher’s work for determining the criteria of students’ independent professional activity in the research, a definition of teacher’s professional competence by Markova was used and the indicated groups of professional skills, which describe teacher’s personality and his/her work structure. A teacher’s professional competence is a multi-factor phenomenon that includes the teacher’s professional knowledge and techniques for their application in specific pedagogical situations, A teacher’s values orientation, integral indicators of his/her culture (speech, style of communication, attitude towards himself/herself and his/her activity, fields of related knowledge) (Маркова, 1996). Moreover, a teacher’s professional competence is comprised of functional, reflective, communicative and motivating components (Маркова, 1996).

Students’ independent professional activity is characterised by their ability to perform the teacher’s duties and tasks in the professional environment. Thus, prospective teachers’ readiness for professional activity can be evaluated in comparison to the indicators of teacher’s maturity, which are expressed as student’s general and professional potential in functional, reflective and communicative skills. Action motives influence the implementation of the skills mentioned above (Table 1).

The determined criteria of students’ independent professional activity supplement the focus of the research: How to describe the notion of students’ independent professional activity? This indicates that the precondition for independent professional activity is the implementation of functional, reflective and communicative skills during pedagogical practice.

The criteria put forward for evaluation of student’s independent professional activity include a holistic view on the knowledge and general skills acquired during studies being the basis for development of professional skills while executing teacher’s duties in the professional environment; their application is understood more as a process of creating comprehension, a quality dependant on values. It emphasises prior knowledge and skills, active education in cooperation using reflection.
Table 1. Criteria of students’ independent professional activity and their indicators according to researches of Markova (Маркова, 1996)

<table>
<thead>
<tr>
<th>Criteria of independent professional activity</th>
<th>Indicators of criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Functional component</strong></td>
<td></td>
</tr>
<tr>
<td>Planning, organization of the teaching and learning process. Characterises the features related to the choice of a personality independence algorithm – from the choice of the aim, implementation, drafting a plan for application of organizational forms, structuring of teaching and learning time, evaluation of learning outcomes.</td>
<td>Frequency of applying general skills of work planning and organising, consulting and assisting, teaching, managing, administrating, researching, working out and implementing innovations. Frequency of applying the skills needed at the stages of planning pedagogical work, action and evaluation.</td>
</tr>
<tr>
<td><strong>Reflective component</strong></td>
<td></td>
</tr>
<tr>
<td>Includes skills to control the outcomes of one’s activity, analyse the level of personal development and achievements. Described by conscious aims of students’ independence self-organization vs. internally determined personal motives determining the meaning of action.</td>
<td>Quality of students’ pedagogical thinking, reflection in the records of the pedagogical practice report. Frequency of analytical skills application.</td>
</tr>
<tr>
<td><strong>Communicative component</strong></td>
<td></td>
</tr>
<tr>
<td>Includes skills to express one’s thoughts clearly and directly, persuade, argument, construct evidence, analyse, judge, provide rational and emotional information, establish interpersonal relations, choose an optimal style of communication in various situations.</td>
<td>Frequency of applying verbal, written, non-verbal and interpersonal communication skills.</td>
</tr>
<tr>
<td><strong>Motivating component</strong></td>
<td></td>
</tr>
<tr>
<td>influences the expression of all criteria, substantiates the interest in professional work.</td>
<td>Categories describing the notion of motives in students’ interviews.</td>
</tr>
</tbody>
</table>

The nature of pedagogical practice and the components of students’ independent professional activity (sets of functional, reflective and communicative skills) correspond to the phases of action research, for instance, planning, action, observation and reflection (Lewin, 1946/1948; Kemmis & McTaggart, 1982; Kemmis & McTaggart, 1982). The experience of action research in education in the researchers group at Daugavpils University (Salīte et al., 2007) confirms opportunities for extending individual systems of research activities among prospective teachers creating a personal view on sustainable self-development and sustainable education. It indicates an opportunity to apply the structure of participatory action research for developing an organizational scheme for students’ independent professional activity formation (Figure 4).
Figure 4. Structure of pedagogical practice according to researches of Kemmis (1988)
Research question and methods

The present study focuses on finding an answer to the research question: What determines students’ independent professional activity formation during pedagogical practice at schools and higher education institution in Latvia in the current changing socio-economic situation under the urgent conditions for a personality’s self-realisation?

In order to trace the answer to the research questions, theoretical and empirical research methods have been employed to identify the problems in teacher training and students’ professional activity during pedagogical practice and their solutions. The overview of the research methodology is summarised in Table 2.

215 respondents have been involved in the research on the understanding of students’ independent professional activity during pedagogical practice and conditions for its formation.

Table 2. Research methodology

<table>
<thead>
<tr>
<th>The aim of the research</th>
<th>The issue of the research</th>
<th>Data collection methods</th>
<th>Data analysis methods</th>
<th>The source of the research</th>
</tr>
</thead>
<tbody>
<tr>
<td>Evaluation of the organizational structure of pedagogical practice</td>
<td>What are the strengths, weaknesses, opportunities and threats of practice’s organizational framework to the introduction and implementation process?</td>
<td>Experts’ opinion method (survey)</td>
<td>SWOT analysis</td>
<td>Experts</td>
</tr>
<tr>
<td>Research of students’ independent professional activity comprehension and conditions for its development in pedagogical practice</td>
<td>What is students’ independent professional activity? How do students’ character traits influence the development of independent professional activity? What fosters and what delays the development of students’ independent professional activity in studies and pedagogical practice? How does a student value his/her own independent professional activity development?</td>
<td>Structured interviews</td>
<td>Distribution of frequencies; content analysis</td>
<td>11 students; 7 teachers as practice supervisors; 8 lecturers</td>
</tr>
<tr>
<td>Research of general skills as a precondition for the development of professional skills</td>
<td>What is the potential of student’s general skills correspondent to student’s professional skills like? How do age and study year influence the results of skills development?</td>
<td>Survey</td>
<td>Distribution of frequencies; Student’s t test; Kolmogorov-Smirnoff’s Z criteria</td>
<td>196 students</td>
</tr>
</tbody>
</table>

Sequel to Table 2 see on p. 47.
Data analysis and discussion

Experts' evaluation of the structure of pedagogical practice

In order to evaluate the correspondence of the structure of pedagogical practice to the process of practice and achievement of students’ independent professional activity as a learning outcome, the method of experts’ opinion was used. Four experts from four higher education establishments of Latvia participated in the research (Table 2). The choice of experts was determined by academic and professional competence of the respective respondents, their experience in teacher training at higher education institution and in practice places. According to the principle of SWOT analysis, the experts evaluated internal (strengths and weaknesses) and external (opportunities and threats) factors of the pedagogical practice structure. The experts appreciated the theoretical and organizational standpoints used in developing the structure of practice, for instance, application of a holistic approach and an action approach; a competence approach to the development of students’ independent professional activity; perspective of cooperation context in the pedagogical process; purposeful planning of a student-centred process; orientation to activation of students’ self-experience; respect of aspects of this research in the development of independent professional activity.

The scheme of the pedagogical practice structure was considered to be well understandable as, representing a holistic process, it was structured stressing the relation of individual components, influence and orientation. The quality of practice implementation is facilitated by observation of action cycle, including reflection in each stage, which has a significant role in the analysis of individual professional activity, evaluation of each stage and providing adjustments in further activities. The scheme of practice organization reveals an opportunity to use students’ prior experience in the acquisition of new knowledge and skills; cooperation of subjects involved in the study process and reflection on action and its results to determine new tasks for individual’s development. In general, the implementation of practice provides a link between theory and practice, achievement of students’ individual development and study programme aims. The experts’ evaluation shows concern about the readiness of professional work environment to ensure completely continuous implementation of independent professional action components, which is influenced by
economic and political changes, limit of paid contact hours for students’ pedagogical practice in the workloads of the academic staff and teachers. The procedure of practice can be endangered by an insufficient level of students’ experience and pedagogical skills; inadequate students’ self-evaluation; lack of motivation; insufficient support and encouragement during practice; changes in the individual development and aims of study programmes caused by subjective or objective factors.

In general, the experts see opportunities to improve collegial cooperation (student–teacher–academic) at the synergy level, taking into consideration the peculiarities of students’ independent professional activity formation and in compliance with the aims and tasks of pedagogical practice of the specific academic year, thus enriching students’ professional identity and the professionalism of involved subjects. The cyclical structure gives an opportunity to adjust it to each student’s individuality (subjective and objective factors). Furthermore, the scheme of the model can be creatively supplemented observing its essence. The developed scheme of practice procedure (Figure 4) hints the improvement of methodological guidelines for practice and development of qualitative differences for each stage of practice.

The updated structure of the study procedure and an approach to educational and training processes, which evaluates each person’s individuality and singularity, respects and develops talents, teaches to take risks and learn from one’s own mistakes, leads to a new contemporary quality of the humane pedagogical process, which substantiates the role of human values, self-reflection and cooperation under changing social and economic circumstances.

In order to explore the understanding of students’ independent professional activity and conditions for its formation, the research was conducted to:

- study the understanding of students’ independent professional activity;
- analyse teachers–practice supervisors’ opinions;
- find out views of academic staff on students’ professional training;
- study general skills as a basic condition for formation of professional skills;
- determine the criteria for students’ independent professional activity.

**Empirical research of understanding students’ independent professional activity**

Using structured interviews, the students’ (n=11) opinions were traced about their independent professional activity during pedagogical practice, its dynamics, potential of necessary professional knowledge and skills, procedure of pedagogical practice and its improvement, students’ attitude towards the chosen profession. Evaluating the expressions of independent professional activity formation as reflected in students’ interviews, it can be concluded that the formation of independent professional activity during pedagogical practice is influenced by students’ interest in the chosen profession, interest in the subject, confidence about the suitability of the chosen lesson plan, successful cooperation with pupils and practice supervisor. Students are the least confident about their independent professional activity in formal evaluation of pupils’ works, but they are the most confident about their skills in selection of content and visual aids corresponding to the theme (n=10).
Content units, categories and notions identified during the interviews confirm the individual progress of students’ independent professional activity formation being influenced by the motives for the choice of the profession, character traits, functional and reflective skills in teacher’s work and cooperation.

**Analysis of teachers practice supervisors’ opinions**

Teachers’ interviews (n=7) were conducted to find out the view of practice supervisors on students’ independent professional activity formation during professional practice, the conditions facilitating and impeding it, involvement in practice procedure, suggestions for improvement of professional studies. The method of a structured interview was applied to conduct a qualitative research.

Summarising the opinions expressed by the teaching practice supervisors, it can be concluded, firstly, that the practice supervisors understand students’ independent professional activity as student’s professional activity without the participation of teacher’s practice supervisor at the lesson at the final stage of practice, providing consultations and methodological support in preparation of the lesson upon necessity. Secondly, students’ communication skills have been mentioned as the most significant ones since they facilitate communication with pupils, ensure feedback on learning outcomes at the delivered lessons and solutions of professional activity and development issues significant for students in cooperation with a practice supervisor and facilitate the formation of independent professional activity. Thirdly, practice supervisors acknowledge that the expressions of students’ independent professional activity are related to action motives, determination, responsibility, initiative, skills to plan and implement self-education, skills to summarise the ideas obtained in the process of cognition and action and apply them in professional development.

**Academic staff’s view on students’ professional training**

In the structured interviews, the academic staff (n=8) answered questions about the acquisition of students’ general and professional skills, their evaluation of the study courses they had delivered, compliance of the tasks of a study course to the tasks of practice, their involvement in supervision of pedagogical practice, development of practice tasks and guidelines and participation in practice conferences.

On the basis of the analysis of academic staff’s interviews and suggestions the following conditions for organization of pedagogical practice can be put forward: (1) unity of pedagogical practice; (2) didactic competence of academics-practice supervisors; (3) cooperation between the school and the higher education institution (academic–student–practice supervisor); (4) cooperation of academic staff within the department, faculty: discussion about tasks and guidelines and their improvement; harmonised management of practice stages; participation of academic staff involved in the study programme in the final practice conference.
Research of general skills as a basic condition for the formation of professional skills

Basing on the conclusion that the formation of professional skills is determined by the potential of student’s general skills, the level of general skills significant in the formation of students’ independent professional activity was determined by analysing the influence of internal (age) and external (duration of studies) factors. In order to determine students’ general skills, a questionnaire of transfer skills by Knox and Butzel (Knox & Butzel, 2002) was adapted. 196 students of the Faculty of Pedagogy of Rezekne Higher Education Institution filled in the questionnaire. The compliance of the groups of skills included in the questionnaire to the criteria of independent professional activity is summarised in Table 2.

Table 2. Compliance of general skills to the criteria of students’ independent professional activity

<table>
<thead>
<tr>
<th>Functional skills</th>
<th>Communicative skills</th>
<th>Reflective skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plan and organize</td>
<td>Verbal communication</td>
<td>Analyse</td>
</tr>
<tr>
<td>Train/consult</td>
<td>Non-verbal communication</td>
<td></td>
</tr>
<tr>
<td>Leadership</td>
<td>Written communication</td>
<td></td>
</tr>
<tr>
<td>Management</td>
<td>Interpersonal relations</td>
<td></td>
</tr>
<tr>
<td>Administrative</td>
<td>Counsel and serve</td>
<td></td>
</tr>
<tr>
<td>Research</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Create and innovate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Construct and operate</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Quantitative data processing methods were used in the analysis. The comparison of the arithmetical mean was made by a Student’s criterion (t). The obtained data shows that, from the first to the fifth year of studies, no unequivocal development of the levels of skills can be observed. It is possible that the level of skills is influenced by the obtained education and corresponding work experience because the indicators of skills among Master students significantly differ from the indicators of skills among the students of other study years.

The analysis of variance or ANOVA was used to find out if the variances (for instance, distribution of values) of two samples have statistically significant differences. In this case, the independent variable – the study year, the dependent variable – the indicators of general skills. The obtained results (Table 3) indicate insignificant differences between the indicators 1, 4, 7, 8, 10–15 of general skills. It substantiates the null hypothesis that the indicator of general skills development does not depend on the duration of studies, thereby proving the peculiarity of each individual’s development.
### Table 3. Results of variance analysis of the levels of skill groups and duration of studies

<table>
<thead>
<tr>
<th>No.</th>
<th>Dependent variable</th>
<th>Independent variable</th>
<th>Conclusions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Verbal communication</td>
<td>Year of study</td>
<td>p = 0.491 &lt; α = 0.1, not significant differences</td>
</tr>
<tr>
<td>2.</td>
<td>Non-verbal communication</td>
<td></td>
<td>p = 0.016 &lt; α = 0.05, differences were significant with probability of 95%</td>
</tr>
<tr>
<td>3.</td>
<td>Written communication</td>
<td></td>
<td>p = 0.172 &gt; α = 0.1, not significant differences</td>
</tr>
<tr>
<td>4.</td>
<td>Train/consult</td>
<td></td>
<td>p = 0.476 &gt; α = 0.1, not significant differences</td>
</tr>
<tr>
<td>5.</td>
<td>Analyse</td>
<td></td>
<td>p = 0.007 &lt; α = 0.05, differences were significant with probability of 95%</td>
</tr>
<tr>
<td>6.</td>
<td>Research</td>
<td></td>
<td>p = 0.029 &lt; α = 0.05, differences were significant with probability of 95%</td>
</tr>
<tr>
<td>7.</td>
<td>Plan and organize</td>
<td></td>
<td>p = 0.423 &gt; α = 0.1, not significant differences</td>
</tr>
<tr>
<td>8.</td>
<td>Counsel and serve</td>
<td></td>
<td>p = 0.141 &gt; α = 0.1, not significant differences</td>
</tr>
<tr>
<td>9.</td>
<td>Interpersonal relations</td>
<td></td>
<td>p = 0.007 &lt; α = 0.05, differences were significant with probability of 95%</td>
</tr>
<tr>
<td>10.</td>
<td>Leadership</td>
<td></td>
<td>p = 0.076 &gt; α = 0.1, not significant differences</td>
</tr>
<tr>
<td>11.</td>
<td>Management</td>
<td></td>
<td>p = 0.346 &gt; α = 0.1, not significant differences</td>
</tr>
<tr>
<td>12.</td>
<td>Financial</td>
<td></td>
<td>p = 0.710 &gt; α = 0.1, not significant differences</td>
</tr>
<tr>
<td>13.</td>
<td>Administrative</td>
<td></td>
<td>p = 0.659 &gt; α = 0.1, not significant differences</td>
</tr>
<tr>
<td>14.</td>
<td>Create and innovate</td>
<td></td>
<td>p = 0.201 &gt; α = 0.1, not significant differences</td>
</tr>
<tr>
<td>15.</td>
<td>Construct and operate</td>
<td></td>
<td>p = 0.398 &gt; α = 0.1, not significant differences</td>
</tr>
</tbody>
</table>

A statistically significant difference (probability of 95%) is seen in the groups of skills – non-verbal communication, analysis, research, interpersonal relations. In this case, the null hypothesis can be rejected. The comparison of general skills indicators among the 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup>, 4<sup>th</sup> and 5<sup>th</sup> year and Master students has statistically significant difference in all cases, and it indicates a higher value of the corresponding general skills in the Master students group. Obviously, it is related to these students’ life and work experience because Master students have already received higher education and experience in a certain professional field.

Considering students’ age as an independent variable and analysing differences between respondents’ skill levels in three age groups, p-value exceeds 0.05 meaning in all cases. Thus, with the probability of 95%, it can be acknowledged that the age group factor is not significant among the indicators of general skills levels.

Summarising the empirical analysis of the questionnaire data, it can be concluded that:

- General analysis of variance indicates insignificant differences of the indicators of general skills among the 1<sup>st</sup>–5<sup>th</sup> year students because the dynamics of each individual’s skills development is influenced by his/her prior experience, personal features, peculiarities of understanding the content of studies and interaction of subjects. In some cases, a significant difference is seen among the indicators of master students’ skills. It substantiates the role of education and professional experience in the development of general and professional skills.
Summary of the questionnaire results indicates the necessity to pay attention to the acquisition of students’ problem-solving, project development and management skills in the study process, which facilitates the professional competence of graduates and leads them to sustainable professional development.

**Analysis of a case study on students’ independent professional activity**

The research sample comprises 11 fifth year students of Rezekne Higher Education Institution second level professional higher education study programme *Teacher of Household and Housekeeping and Basics of Business Economics*. In the present research, a document analysis and a questionnaire were used for case studies of independent professional activity criteria identification.

Several cases were analysed, considering each student’s independent professional activity formation. However, since the analysis of several cases was used, it was crucial to observe all these cases as a unity and see the interrelationship.

The case study was conducted basing on the analysis of students’ independent professional activity criteria (functional, reflective, communicative skills and motives for action), taking into consideration the impact of individual psychological peculiarities on the expressions of independent professional activity during pedagogical practice. Determining common trends, it can be concluded that:

- the highest level of the criterion functional skills is characterised by the indicator – planning skills, the lowest level – work organization skills, proving insufficient professional work experience during studies;
- the indicators of the criterion – reflective skills – in the records of the practice portfolio show an insufficient development of students’ reflective skills caused by formal completion of practice documentation, poor cooperation with a practice supervisor to instigate reflection and lack of the tradition of reflection in the process of study organization;
- the indicator – written communication of the criterion communicative skills – has the lowest level, but the highest indicators, for instance, of the fifth level are observed in the group of oral communication skills. The obtained results confirm that students are reluctant to complete the written tasks of practice, prepare lesson plans and engage in profound self-analysis. However, communication, including oral communication, does not pose any difficulties to the majority of students;
- action motives during pedagogical practice – interest in the chosen profession, content of a subject, desire to test himself/herself in a new situation – positively influence the attitude towards the tasks of practice to be completed, the acquisition of professional knowledge and skills and facilitate independent professional activity.
An evaluation of the analysis of individual cases confirms different indicators of independent professional activity criteria in each individual case. It reveals the necessity to implement a student-centred study process in teacher training, highlighting students’ experience and needs. It corresponds to the ideas of humane pedagogy and the designed structure of students’ independent professional activity formation, where independent professional activity is encouraged by the interaction of subjective (student’s motives, personal features, experience, knowledge, skills) and objective (study process organization) components.

**Conclusion**

The guidelines for students’ independent professional activity formation were developed on the basis of value, content, action and structural preconditions of teacher training in the following fields:

- facilitation of student-centred and socially-oriented activities during studies;
- application of an action research approach to the formation of students’ independent professional activity;
- application of the unity of theory and practice in study courses and pedagogical practice.

These preconditions can be used as recommendations for designers and organizers of professional study programmes to facilitate the development of sustainable education.

**Value aspect:**
- Exploration and formation of students’ values determine the content of pedagogical education in the interaction of personal and professional development. Teacher training shall provide the formation of pedagogical values of specific professional activity.

**Content aspect:**
- Students’ general, subject-related and pedagogical-psychological training being the result of the study programme acquisition and academic staff’s work shall ensure not only sustainable teacher education, but also the development of a personality capable of fitting and adapting to the changing contemporary society.
- Observation of the principle of the unity of theory and practice in the context of teacher’s specialisation based on a specific subject(s) shall form students’ professionally-pedagogical position, thereby eliminating detachment of subject-related and pedagogically-psychological study courses.
- As a result of completing problem-solving tasks, knowledge shall be broadened and widened and phronetic skills shall be developed, thus facilitating students’ independent and self-educating activity and creating an optimal programme of students’ independent activity.
- Students and academic staff’s mutual action under the conditions of information exchange and communication creates prerequisites for
professional communication, common teaching methodological activity and transition to a regime of students’ and academics’ activity, as well as facilitates professional development of both parties.

- Under the conditions of democratisation in society and humanisation in education, special attention shall be paid to students’ psychologically-pedagogical training and their readiness to organize pedagogical activities.

- Psychological training content based on the student-centred approach shall envisage:
  - development of students’ reflective skills that facilitate awareness of one’s own individual psychological features and other subjects of the educational process, action procedure and results;
  - exploration and understanding of one’s own psychological resources;
  - conscious use of individual characteristics in further professional activities on the basis of the individual action style formed during studies;
  - skills to interact with all subjects of the educational process.

Action aspect:

- In the professional context, pedagogical training shall envisage optimal harmonisation of theoretical and practice knowledge and, rather than being concerned only with acquisition of knowledge, shall focus of the educational process and the development of thinking, reflective, communicative and functional skills, mastering of technologies using individual and group work in acquisition of professional knowledge and skills, as well as the link between the content to be acquired and pedagogical problems.

- Students’ skills corresponding to the basic skills of social demand in the intellectual, communicative, informative, public and personal field, as well as professional functions related to scientific research, informative and reflective activity shall become the criterion for work effectiveness of academic staff.

- Supervision of pedagogical practice shall be entrusted to professional and competent academic staff who have a high level of knowledge and culture, as well as cognitive scientific activity, works both individually and in teams ensuring support of students and teachers as practice supervisors in practice places and participation on systematic basis in the analysis of students’ professional activity and development of further tasks of their development.

- During pedagogical practice students shall have an opportunity to master behaviour of the professional role, which will be the leading one in their professional activity, as well as an opportunity for self-expression, application of their skills, experimentation and use of a research approach in their work and personal development. It will facilitate the formation of students’ independent professional activity, pedagogical thinking, pedagogical reflection and professional orientation.
Structural aspect:

- The organizational structure of higher pedagogical education shall be improved by ensuring regular cooperation with educational establishments, thereby creating a support network of professional practice supervisors.
- The structure of the study programme shall comply with the principle of regularity and continuity in acquisition of professional knowledge and skills and will provide a link to the tasks of pedagogical practice.

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THE RELATIONSHIP BETWEEN THE TEACHERS’ EVALUATIONS AND THE STUDENTS’ LEARNING OUTCOMES USING MULTIMEDIA DRILLS IN PRIMARY EDUCATION

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Abstract

The present study highlights the implementation of information and communication technology in education via the use of many educational software programs, which every teacher can use with their students. Some learning materials are produced by individuals who are not aware of the pedagogical principles and do not know how to produce effective educational software. Therefore, the question arises: Are the teachers competent in choosing multimedia learning materials? And if they compose multimedia learning materials by themselves, are they aware of the features of multimedia which are effective or which hinder learning? The study was carried out to seek answers to these questions and find out the relationships between the teachers’ evaluation of software used and the learning outcomes by students in primary education. The results are based on a correlation study where 34 multimedia drills and practice materials were used for learning. Each multimedia drill was evaluated by ten primary teachers, who had used these drills with their students and saw how the students managed with each particular drill. The evaluations by the teachers were gathered by means of questionnaires, using a 10-point scale covering 17 aspects of the drills. Each drill was used by 80 students of the 3rd form from the same schools. The learning outcomes provided by the students were evaluated by pre- and post-tests.

Key words: primary education, teachers’ evaluation, learning outcomes, multimedia drills

Introduction

In Estonian schools, the teacher chooses the learning materials for students. Traditional learning materials (printed text-books and work-books) are composed by competent authors. All traditional learning materials go through an evaluation process by experts, and these materials gain approval from the Ministry of Education. With the implementation of computers in schools, a number of different educational software has rapidly increased in Estonia. Different kinds of multimedia learning materials are available from the Internet as well. These kinds of multimedia learning materials are not usually evaluated by experts.
Some learning materials are produced by the individuals who are not aware of the pedagogical principles and do not know how to produce effective educational software.

There are courses on how to technically compose multimedia learning materials for pre-service teachers in different teacher education curricula, but there are few courses where evaluation procedures for such kind of materials are taught. Therefore, the question arises as to whether teachers are competent in choosing appropriate multimedia learning materials. And if they compose multimedia learning materials by themselves, are they aware of the features of multimedia materials which are effective or which hinder learning? This study was carried out to answer these questions and find out the relationships between the teachers’ evaluations and the learning results by students.

**Review of the literature**

There are many studies investigating students’ ratings of educational software (Diederen, Gruppen, Hartog, & Voragen, 2005; Herring, Notar, & Wilson, 2005) and students’ learning outcomes achieved by working with these learning materials (Mikk & Luik, 2003; Jacobson, 2006; Ngu & Rethinasamy, 2006; Luik, 2007). Some handbooks and papers provide suggestions for efficient evaluation of educational software of different types (Boyle, 1997; Phillips, 1997; Hughes, 1998; Higgins, 2000; Alessi & Trollip, 2001). But there are very few studies which deal with the relationships between the teachers’ evaluations of the learning materials and the students’ learning results achieved by working with these learning materials. Nevertheless, it is an important area, because if the teacher composes or chooses ineffective learning materials believing that they are efficient, the students are unlikely to achieve high learning outcomes.

Rana (2002) has investigated primary teachers’ expectations about a Web-Based Learning System. The research questions are the following: *What kind of Web-Based Learning System can be effective according to the opinions of teachers? and How do primary teachers rate navigability, presentation, easiness of use and suitability in teaching?* Rana (2002) found out that the teachers preferred websites with hyperlinks and the colourful nature of the website. But the teachers were of the opinion that the text colour should be balanced against the background colour. Also, the teachers liked clear instructions and easy to follow navigation of the websites. As the learning in primary school should be more like a game, the primary school teachers liked the reward system in the websites.

Nurmi and Lehti (2003) have investigated a little over 500 European teachers’ opinions on the usefulness of digital learning materials. The results indicated that the teachers needed a variety of different kinds of digital materials. The teachers wished to use traditional types (content plus self-test section) of learning materials besides other types of materials. The teachers considered a possibility to choose, (re)use, combine, modify and implement learning materials as very important.

Bos (2003) has carried out research on teacher rankings of several sets of exercises on the basis of the expected effectiveness. She (Bos, 2003) found out that the individual characteristics of the children did not have any influence on the ranking of the exercises.
Kurz and Middleton (2006) studied pre-service math teachers during one course, seeking to find out how they determine the learning and usability afforded by the software as it may possibly relate to students’ learning. The authors used heuristic evaluations of educational software, and they concluded that, after a specific software course, the pre-service teachers were able to distinguish between the features and describe how these features support or hinder the learning process of their future students.

The previous research has examined studies on the teachers’ expectations and rankings of learning materials, but not how these rankings correlate with the students’ learning outcomes. The study objective is to reveal the link between teachers’ valuations and students’ learning outcomes working with educational software. Basing on the results of Rana (2002) and studies of characteristics of software (Mikk & Luik, 2003; Luik, 2007), the following hypotheses are put forward:

1. There is a negative correlation between teachers’ evaluation of aspects, which are inherent only for computer-based learning materials, and students’ learning outcomes.
2. There is a positive correlation between the evaluation of plainness of the content and the students’ learning outcomes and between the evaluation of the effectiveness of the drill, compared with traditional practice, and students’ learning outcomes.

Method

Sample

One-group quasi-experiment was carried out with 37 boys and 43 girls from four Estonian schools. The schools were different. One school was selected from the centre of the county, two schools were from the small towns and one was from the countryside. The students’ groups were of mixed ability. High-achieving and low-achieving students were determined basing on the results of an achievement test. There were 18 low-achievers, 31 middle-achievers and 31 high-achieving students in the study. All the students had experience in learning with computers, and only 14% of the 3rd form students mentioned that their skills in using a computer were not good before the study.

Because drills are considered to be useful for learning basic math skills, foreign language, vocabulary and spelling (Trotter, 1998; Alessi & Trollip, 2001), the studies in basic maths and English as a foreign language were used in the experiment. In total, 15 drills about maths and 19 drills about English as a foreign language were used in the experiment. It was considered appropriate to test the students from the 3rd form (age 9–10), as, in Estonian schools, the multiplication tables are taught in the 3rd form, and many drills are used for learning multiplication tables and arithmetic operations. Also, English as a foreign language is taught from the 3rd form in Estonian schools, and mostly vocabulary is taught in this form.
Each piece of educational software was evaluated by ten primary teachers from the same schools, who had used these drills with their students so that the teachers saw how the students managed with the particular drill. All the participating primary teachers were female – there are very few male primary teachers in Estonia. The age of the participating primary teachers varied from 27 to 49 years (M=37.1; SD=6.3). All participating teachers rated their computer skills at least as fair, and all the participating teachers had graduated from at least one course related to the usage of computers in the classroom. All the teachers in the study had used computers in their classroom activities. Eight of participating teachers had used computer applications for preparing multimedia learning materials for their students.

**Instruments**

The teachers’ evaluations were gathered by questionnaires. The teachers evaluated, on a 10-point scale, 17 aspects of the drills: the effectiveness of the drill comparing with the traditional practice, plainness of the content, pleasantness of the drill, interest of the presentation of the learning material, simplicity of manipulating, design, sounds and colours of drill materials, fitness of feedback, child-friendliness, suitability for students’ age, attractiveness of the drill materials, suitability for students’ computer-skills, appropriateness of pace, playfulness and competition. The reliability of the questionnaire (Cronbach’s alpha) was .87.

The learning outcomes of students were evaluated by means of tests, which were composed by experienced teachers who did not participate in this study. The tests were in two versions, and both forms of the test were in a paper-pencil format. A range of questions about basic skills (multiplication table or adding or subtracting, translating words from English to Estonian and from Estonian to English) were included in the tests. The tests were composed by teachers of the particular subject. As the tests differed in the number of items, the percentage of the student’s score was calculated. The reliability (Cronbach’s alpha) of the tests was .76–.86, and their validity was confirmed by the experts. The experts were two teachers of mathematics, two teachers of English as a second language and four class-teachers. The first expert-teacher of the particular subject and two class-teachers reviewed the tests and made corrections where needed. Then, the second expert-teacher of the particular subject and the other two class-teachers reviewed the tests again.

**Procedure of the experiments**

The students were asked to accomplish pre-tests before studying the particular unit to determine their prior knowledge. After that, the students practiced particular skills using the multimedia software. All the students worked independently with 34 different drills. After completing their practicing, the students filled in the post-tests. All the students were asked to study all drills. Separately, the teachers gave rankings for the different aspects of the same 34 drills.
Data analysis

Statistical package SPSS 11.5 for Windows was used for data analysis. The mean test scores of all students and the mean evaluations of the teachers were calculated in the case of each drill. Also, the mean test scores for the boys and girls and the high- and low-achieving students were calculated. The Pearson correlation analysis revealed a significant relationship between different pre-test and post-test scores. Due to the significant correlations, the co-variation analysis was used in order to calculate the mean adjusted post-test scores. In the co-variation analysis, the theme was as a factor, and the scores from the pre-test – as a covariant.

The data was analysed using correlation analysis in order to test the significance of the relationships between the different aspects of evaluations by teachers and learning outcomes by students. The results from both the mean adjusted post-test score and post-test score were used. The mean adjusted post-test score indicated an increase in the learning, because the pre-test score was accounted for in this indicator. Since assessment is taken according to a post-test rather than an increase in the learning in Estonia, the post-test scores were used as well. Also, the correlation coefficients between the teachers’ mean evaluations and the learning outcomes by boys and girls and high- and low-achieving students were calculated.

Results

The Pearson correlation coefficients between different aspects of mean evaluations by the primary school teachers and students’ mean adjusted post-test scores are provided in Table 1.

Table 1. The Pearson correlation coefficients ($r$) between different aspects of mean evaluations by the primary teachers and students’ mean adjusted post-test scores (MAPTS)

<table>
<thead>
<tr>
<th>Aspect of the evaluation by the primary teachers</th>
<th>$r$ with the MAPTS for all students</th>
<th>$r$ with the MAPTS for boys</th>
<th>$r$ with the MAPTS for girls</th>
<th>$r$ with the MAPTS for high-achieving students</th>
<th>$r$ with the MAPTS for low-achieving students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effectiveness of the drill comparing with the traditional practice</td>
<td>-.44**</td>
<td>-.40*</td>
<td>-.36*</td>
<td>-.23</td>
<td>.15</td>
</tr>
<tr>
<td>Plainness of the content</td>
<td>-.18</td>
<td>-.04</td>
<td>-.20</td>
<td>.30</td>
<td>-.27</td>
</tr>
<tr>
<td>Pleasantness of the drill</td>
<td>-.09</td>
<td>-.10</td>
<td>-.07</td>
<td>-.20</td>
<td>.11</td>
</tr>
<tr>
<td>Interest of presentation of learning material</td>
<td>-.09</td>
<td>.06</td>
<td>-.16</td>
<td>-.20</td>
<td>.12</td>
</tr>
<tr>
<td>Simplicity of manipulating</td>
<td>-.09</td>
<td>.04</td>
<td>-.14</td>
<td>.22</td>
<td>-.05</td>
</tr>
<tr>
<td>Design of drill</td>
<td>-.22</td>
<td>-.14</td>
<td>-.23</td>
<td>-.38*</td>
<td>.20</td>
</tr>
<tr>
<td>Sounds of drill materials</td>
<td>-.17</td>
<td>-.06</td>
<td>-.20</td>
<td>-.39*</td>
<td>.27</td>
</tr>
<tr>
<td>Colours of drills materials</td>
<td>-.25</td>
<td>-.24</td>
<td>-.20</td>
<td>-.41*</td>
<td>.29</td>
</tr>
<tr>
<td>Fitness of feedback</td>
<td>-.08</td>
<td>-.33</td>
<td>.08</td>
<td>-.26</td>
<td>.17</td>
</tr>
</tbody>
</table>

Sequel to Table 1 see on p. 64.
If the teachers evaluated the effectiveness of the drill higher as compared with the traditional practice, all students’, boys’ and girls’ learning increase (mean adjusted post-test) was lower. If the teachers evaluated the drill as more suitable for students’ age, all students’ and boys’ learning increase was lower. If the high-achieving students received low learning increase, the teachers evaluated the appropriateness of design of the drill, appropriateness of sounds of drill materials, appropriateness of colours of drill materials and appropriateness of attractiveness of drill higher. If the teachers’ evaluations about the appropriateness of pace were higher, the low-achieving students’ learning increase was higher, too.

The Pearson correlation coefficients between different aspects of mean evaluations by the primary teachers and students’ mean post-test scores are provided in Table 2.

Table 2. The Pearson correlation coefficients (r) between the different aspects of mean evaluations by the primary teachers and students’ post-test scores (PTS)

<table>
<thead>
<tr>
<th>Aspect of the evaluation by the primary teachers</th>
<th>r with the PTS all students</th>
<th>r with the PTS for boys</th>
<th>r with the PTS for girls</th>
<th>r with the PTS for high-achieving students</th>
<th>r with the PTS for low-achieving students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effectiveness of the drill comparing with the traditional practice</td>
<td>-.23</td>
<td>-.17</td>
<td>-.24</td>
<td>-.33</td>
<td>-.29</td>
</tr>
<tr>
<td>Plainness of the content</td>
<td>.21</td>
<td>.20</td>
<td>.18</td>
<td>.30</td>
<td>.35</td>
</tr>
<tr>
<td>Pleasantness of the drill</td>
<td>-.07</td>
<td>-.32</td>
<td>.09</td>
<td>-.20</td>
<td>-.02</td>
</tr>
<tr>
<td>Interest of presentation of learning material</td>
<td>-.33</td>
<td>-.40*</td>
<td>-.24</td>
<td>-.20</td>
<td>-.17</td>
</tr>
<tr>
<td>Simplicity of manipulating</td>
<td>-.00</td>
<td>-.03</td>
<td>.01</td>
<td>.22</td>
<td>.12</td>
</tr>
<tr>
<td>Appropriateness of design of drill</td>
<td>-.44**</td>
<td>-.39*</td>
<td>-.42*</td>
<td>-.38*</td>
<td>-.20</td>
</tr>
<tr>
<td>Appropriateness of sounds of drill materials</td>
<td>-.43*</td>
<td>-.32</td>
<td>-.45**</td>
<td>-.39*</td>
<td>-.29</td>
</tr>
</tbody>
</table>

* Statistically significant at the 0.05 level
** Statistically significant at the 0.01 level

Sequel to Table 2 see on p. 65.
The relationship between the teachers' evaluations and the students' learning.

Sequel to Table 2.

| Appropriateness of colours of drill materials | -.49** | -.37* | -.50** | -.41* | -.26 |
| Fitness of feedback | -.05 | .04 | -.10 | -.26 | -.11 |
| Child’s friendliness | -.06 | -.19 | .02 | -.18 | -.01 |
| Suitability for students’ age | .15 | .02 | .21 | .09 | .26 |
| Appropriateness of attractiveness of drill | -.49** | -.36* | -.51** | -.41* | -.19 |
| Suitability for students’ computer-skills | -.33 | -.26 | -.32 | -.23 | -.20 |
| Appropriateness of pace | -.20 | -.26 | -.18 | -.31 | -.30 |
| Appropriateness of playfulness | -.25 | -.16 | -.28 | -.23 | -.13 |
| Appropriateness of competition | .08 | -.03 | .13 | -.17 | .04 |

* Statistically significant at the 0.05 level
** Statistically significant at the 0.01 level

There were no positive correlations between any students’ post-test scores and teachers’ evaluations. If the teachers evaluated appropriateness of design of drill, appropriateness of colours of drill materials and appropriateness of attractiveness of drill higher, all students, boys, girls and high-achieving students got fewer points in post-tests. The teachers’ evaluations about the appropriateness of sounds of drill materials were negatively related to the post-test scores of all students, girls and high-achieving students. If the teachers evaluated the interest of presentation of learning material higher, the boys’ post-test scores were lower.

Discussion

Despite the fact that primary teachers spend almost all of the school-day with their students and for that reason should know their students and should be able to choose suitable educational software for them (Mei Mei-Yan, Walker, & Huang, 1999), this study indicated the opposite result. All the teachers’ evaluations, which were significantly related to the students’ post-test scores, were negatively correlated. Besides the significant correlations between the teachers’ evaluations and the students’ mean adjusted post-test scores, there was only one positive correlation coefficient – if the teachers evaluated appropriateness of pace higher, the low-achieving students’ learning increase was higher, too. This meant that if the teachers were of the opinion that the particular multimedia learning materials were good for some aspect of learning, the students gained lower results working with this drill and the opposite when the teachers were of the opinion that the particular learning material was poor for some aspect of learning.

The teachers also evaluated the effectiveness of a particular multimedia drill compared with traditional practice. This evaluation more directly indicated the effectiveness of the multimedia drill in the opinion of teachers. Unfortunately, this evaluation was negatively correlated with the mean adjusted post-test score of all students and for boys and girls. The
teachers were not able to recognise more effective drills. Correlations of the post-test scores with the evaluations by teachers on the effectiveness of a particular drill, compared with the traditional practice, was not significantly different. There was no reason to believe that if the primary school teachers chose multimedia learning materials instead of the traditional practice, the students would achieve higher learning results.

The only positive correlation coefficient was between the evaluation of the appropriateness of pace and mean adjusted post-test score of low-achieving students. There were no statistically significant correlations between the teachers’ evaluation of appropriateness of pace and mean adjusted post-test score in the case of other groups of students (all students, boys, girls and high-achieving students). Perhaps the teachers considered mostly the pace when selecting materials, which might be suitable for low-achieving students, because in class teachers usually take into account the learning pace of the low-achieving students.

Most of the negative correlation coefficients were in the case of the aspects describing the appearance and attractiveness of the drill materials. If the teachers evaluated the appropriateness of attractiveness of drill materials more highly, the students achieved lower results working with this drill. The appropriateness of design, sound and colours were overrated by the teachers and were ineffective for the students as well. As the teachers’ evaluations for the appropriateness of design, sound and colours were strongly correlated with the evaluation of the appropriateness of attractiveness of the drill materials (correlation coefficients accordingly $r=.92$, $r=.65$ and $r=.89$, all $p<.01$), it might be appropriate to conclude that the teachers evaluated these three aspects according to the attractiveness. The teachers evaluated more colourful drills with multimedia effects and sounds and did not discern the risks of the attractiveness for students.

The evaluations of the appropriateness of design, sound, colours and attractiveness of drill were negatively correlated with the post-test scores in the case of all students, boys, girls and high-achieving students, but there were no statistically significant correlations with the post-test scores for low-achieving students. But in the case of high-achieving students, the teachers’ evaluations of the appropriateness of design, sound, colours and attractiveness of drill were negatively correlated both with the post-test scores and with the mean adjusted post-test scores. The reason might be that attractive characteristics motivated the low-achieving students and therefore they achieved higher results with more attractive drills, but the same characteristics hindered the learning for the high-achieving students (Luik, 2009). Also, Van den Bergh and Vrana (1998) declared that increasing fluency might increase boredom of repetition.

Also, the evaluations related to the interest of presentation of learning material were negatively correlated with the boys’ post-test scores. Maybe as all the primary teachers were women, they did not know which presentation of learning material was interesting for boys and would increase the boys’ learning outcomes.

The teachers’ evaluation of the suitability of multimedia learning material for the students’ age was negatively correlated with all students and boys’ mean adjusted post-test scores. So if the teachers evaluated the drill as more suitable for the students’ age, the students achieved lower learning outcomes.
An interesting result was that the teachers’ evaluations about the plainness of the content, simplicity of manipulating, fitness of feedback and suitability for the students’ computer-skills were not related to any students’ test scores. So there was no reason to believe that if the primary school teachers evaluated the multimedia learning material higher, the students would get higher results. Or if the teacher considered the particular multimedia material low, the students would not get good results working with this material. Except the plainness of the content, all other mentioned aspects were characteristics for only the computer-based learning materials. Therefore it might be concluded that the teachers did not recognise the effective characteristics of computer-based possibilities and the students’ computer skills.

Conclusion

There were negative correlations between the ‘appropriateness of presented sound’ and the students’ learning outcome, but there were not statistically significant correlations between the evaluation of aspects, which were inherent only for the computer-based learning materials, like learner control and feedback. Also, the evaluation of the plainness of the content was not related to the students’ learning outcome. But the most important finding was that when the teachers evaluated the drill as more effective than traditional practice, the students achieved lower learning results. So the present study revealed that the teachers were not able to recognise efficient multimedia learning materials.

Vrasidas and McIsaac (2001) wrote that teacher education programmes play a crucial role for technology-based teaching and learning across the various disciplines. Today’s teachers should be able, besides utilising other teaching skills, to utilise instructional technology, particularly computer-based technologies. The teachers who participated in the study were educated in the field of computer literacy, but they were not able to discern effective multimedia learning materials. Noting this, there was no reason to suppose, that they were able to compose efficient multimedia learning materials (PowerPoint presentations, educational web-sites) themselves as well. Therefore courses for pre-service teachers on evaluating and designing efficient multimedia learning materials were needed in teacher education. Because information and communication technologies (ICT) reform is in progress and new applications appear every year, teaching of ICT skills is needed to insure in-service teachers’ sustainable development.

References:


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THE FACTORS OF WELL-BEING IN SCHOOLS AS A LIVING ENVIRONMENT ACCORDING TO STUDENTS’ EVALUATION

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Abstract

How do students describe their quality of school life, based on their views about what is pleasant and unpleasant about the school? How is students’ welfare related to education for sustainability? Theories of the quality of school life and authentic identity constitute the theoretical background of the present study. The school experiences of 185 Estonian and 161 Finnish students of different school types were studied by a semi-structured open questionnaire. The answers were analysed by a qualitative phenomenological method. The research findings reveal that the quality of school life of the students is diminished by the routine hierarchical working system and bad relations. It is supported by a cooperation-orientated atmosphere and meaningful learning experiences. The meaningfulness of school is sensed to be the most important factor in the students’ evaluation of their school experiences.

Key words: school experiences, pedagogical well-being, the meaning of school, ipse-identity

Introduction

The idea of sustainability in post-materialistic societies relies heavily on the quality of life of the human beings. The earlier worries about making a living have been replaced in welfare societies by the problem of self-fulfilment, sufficiency of emotional experiences and the quality of feelings – the importance of which cannot be reduced even by economic setbacks. The discourse of happiness and the quality of human life has emerged as an object of research in social and educational sciences. Because an important part of people’s lives is spent in different institutions, their impact on the quality of life and satisfaction and their feeling of fulfilment and joy has been raised as an important issue in relation to the conditions set in these institutions.

Happiness and life can be observed from several perspectives. The social perspective has to do with the standards of generally accepted welfare and happiness. The individual perspective deals with the subjective understanding of welfare and happiness. The philosophical-anthropological perspective treats welfare and happiness from the viewpoint
of general meaning and meaningfulness of the human existence. There has been a dispute about the relationship between the objective and the subjective approach to human life. There remains the question about the universal criteria of a successful human life at different ages and in different cultures, about what is universally bad and at which point the subjective factor has to be considered.

There is evidence that happy people are more active in society, more interested in other people, do not want to divorce, they live longer, work better and mostly act in a generally accepted way (Diener, 2000). Therefore, it is possible to find a direct link between the discourses of happiness and sustainability. In other words, if we first care for people, they will themselves take care of the rest.

The consumer society based on new-liberal values has put children into a contradictory reality. They form a measurable resource and as a resource they are obliged to serve school and society in the traditional manner. On the other hand, children and their feelings are more valued and their internal dependence on school has decreased (Ziehe, 1996). Competition between schools and the triumph of the client-based ideology give a reason to talk about the condition of the children at school and their satisfaction with school. Exertion and pain in the present for the sake of future happiness is giving a way to valuing the children’s present: they are not preparing for life, but are already living it in the present.

The balance between pedagogy and the quality of human life has been an eternal question (paedagogica perennis) insofar as the essence of pedagogy has been the responsibility for society’s future and for the life of a growing human being.

The dimension of hope is an integral part of pedagogy itself as it wishes to bring up future generations who will be able to create a better life and a better world. In other words, pedagogy, influenced by the spirit of modernism, essentially serves sustainability.

But what kind of pedagogy is sustainable? Mandolini (2007) argues that only spiritual and ethical education, as well as the anthropological values related to them – adequacy, respect for humanity – could connect sustainability and human development. Everybody is actively involved in self-transformation and life-plan configurations, and this determines subjective, internal sustainability. The external has to be subordinated to the subjective (Mandolini, 2007). In other words, the usual emphasis has shifted from acquiring knowledge about the external world to making one’s personality qualities the priority. One’s own authentic identity is the human being’s personal guarantee for sustainability, and his/her selfness (ipse) can act genuinely. The ipse-identity is known from the hermeneutic approach and defined as the self which is connected with the mode of the self and the life path. The content of ipse-identity is made up of questions related to the self: what kind of a person one is (evaluative identity), which activity orientations are chosen (practical identity) and what approach to life as a whole is (biographic identity) (Laitinen, 2009). The main premise of a happy life is considered to be identity authenticity, which gives confidence about the real existence of the self and security without external frames (Taylor, 2000). Authenticity – finding one’s own story – has today been considered the central imperative of personal goals in life. It means that one’s being is domesticated and recognised as one’s own and that life is trusted. In connection with identity authenticity, the existential qualities of being human are being emphasised, like autonomy, ethics,
responsibility, courage, vitality, spirituality, meaningfulness of life (Webster, 2005; Taylor, 2000; Laitinen, 2007; Mason, 2001; Ferrara, 2002; Saastamoinen, 2006).

A person’s happiness is authentic if a personality’s values are informed and independent. If one’s happiness is based on manipulation or socially generated desires, it is not authentic (Bognar, 2010).

**Pedagogical preconditions of the quality of a human being's life**

What kind of pedagogy is needed to fulfil the task of developing the authentic identity? A human being cannot develop into an authentic person with repressive pedagogy, when being under the will of an external authority and dealing with it constitutes the core of the experience. According to Skinnari (2004), students do not feel well at school if they are aided with ever more effective methods that convert them into tools for obtaining something, if performance-ideology dominates and a person faces the duty of making himself/herself into a saleable product. Moreover, as Skinnari (2004) acknowledges, making a product of oneself is not a very lofty aim, and seeing education as a medium for acquiring something is often also related to nonsensical experience. Socialisation into the existing reality cannot serve sustainability if there are too many signs of unsustainable development in this reality.

The concept of pedagogical love, defined by Skinnari (2004) as an unselfish relationship, helpful procedure, awakening of human potential and higher self-awareness, has come to life again. Loving attitude respects what already is in the child and does not define the final result: I know what kind of a person you should be. Pedagogical love should oppose the tendencies of making a human being into a thing and reducing his/her originality to being seen as an animal, as a product of the environment (Skinnari, 2004).

Noddings (2003) writes about the pedagogy of happiness and argues that happiness should be the main goal in life and education. She (Noddings, 2003) recognises that people learn best when they are happy and that happy people are seldom violent and cruel.

Education could be interpreted as caring for an emerging human being in the present, which is, at the same time, future-oriented as the present should help to form resources for a full life in future as well.

A newer concept is the concept of pedagogical well-being. Well-being at school is a precondition for meaningful learning, which, in its turn, makes such changes possible in human life that will actually help create well-being (Pietarinen, Soini, & Pyhältö, 2008). The school’s successful fulfilment of its tasks depends crucially on what kind of learning environment the school can create. The concept of pedagogical well-being can be interpreted as pedagogy with positive emotional experiences, supported learning processes and encouraged integrated development of a human being (Meriläinen, Lappalainen, & Kuittinen, 2008). Nowadays, the school is expected not only to share knowledge, but also to acknowledge the different needs of students, as well as discover and develop their strengths. It could be a breakthrough in conventional attitudes that have so far concentrated on students’ faults and mistakes and dealt with fixing them. In the name of a successful human life or, to put it differently, in the name of subjective sustainability, the theorists of
educational sciences have worked out the concept of socio-emotional competency as a necessary characteristic to be developed (Lappalainen, Hotulainen, Kuorelahti, & Thuneberg, 2008). The concept includes the development of cooperation skills, ability to observe one’s activities, set one’s goals and find protective internal mechanisms in complicated situations. A person who possesses such competencies is able to create and keep friendship relations, evaluate different factors determining his/her happiness and unhappiness and overcome depression and distress. Hosen, Solovey-Hosen and Stern (2002) acknowledge that socialisation is the question of developing emotional self-regulation. Students tend to learn what is related to their well-being and avoid the unpleasant and mistakes.

However, some steps have been taken to humanise school not only in Finland, but also in Estonia. Signals their respective societies receive from their schools show that schools are still a place of children’s ill-being. For instance, The Estonian Human Development Report of 2009 points out that among 25 European countries, Estonia stands out with regards to school unpleasantness, the low subjective feeling of well-being of students and high frequency of experienced school violence. Studying is neither fun nor interesting (Estonian Human Development Report, 2009). Does it mean that school is a bad place to be in or have the standards of students’ subjective well-being changed? Achievement and well-being values that students hold can be determinants, as well as outcomes of the conflict experiences (Hofer, Kilian, & Kuhnle, 2010).

Pedagogical well-being is created by environmental conditions, the nature of situations and also by internal emotional experiences. Though the conditions of the external situation are reflected in a person’s internal experiences, the internal dimension does not depend entirely on the external one. Former mental horizons and self-regulating mechanisms start functioning when a person experiences bad external conditions. These mechanisms influence whether the bad conditions are viewed as a challenge or as something against which one is powerless. Unreal wishes and expectations can make a human being feel unhappy also in objectively good circumstances (Diener, 2000).

The characteristics of pedagogical well-being essentially remind one of the main universal conditions of one’s successful life, which have been expressed in the works of many thinkers. Pietarinen, Soini and Pyhältö (2008) refer to the following features: 1) experience of meaningfulness that is born by the satisfaction of certain basic needs; 2) relations with social communities along with the possibility to be independent and free; 3) opportunity to pursue one’s intentions; 4) secure and benevolent social environment with moderate risks; 5) realistic goals through one’s own experiences; 6) nature of the pedagogical relation.

The concept of an active subject has here an emphasised meaning whereby mere subsistence differs from an active operating capability (Pietarinen, Soini, & Pyhältö, 2008). The latter is linked to the subject’s self-realisation, an opportunity to influence the environment and one’s existence in it. Pedagogical well-being is decreased by a great work load, the necessity to constantly protect oneself from problematic situations, compulsory performance – issues common in everyday school practice. Their continuous presence leads to destitute operation strategies when the individual’s scope of the world narrows and
deteriorates instead of being broadened and enriched, inasmuch as the meaningfulness of the activities disappears.

Notwithstanding the background of hedonistic values in the post-modern consumer society, the identity of pedagogical work should still prevail, bearing in mind the original task of pedagogy – to awaken the intention to develop, guide to making an effort and expanding consciousness and skills and becoming responsible for one’s own life, as well as wider entities. All this cannot happen only through the experience of well-being. Diener (2000) expresses a worry that too many ways of obtaining satisfaction leave people unmotivated and existing in the low state of a mere enjoyer. Speaking of well-being, one should ask a question: What kind of well-being does stimulate development? Seligman and Csikszentmihaly (2000) raise the question of what kind of childhood building bricks are good for later happiness. It is necessary to differentiate between simply pleasant experiences and those positive experiences which inspire a person to overcome limits, stimulate personal growth and encourage him/her to face the challenges of life. Negative emotions also reflect immediate problems and objective dangers, make people stop their adverse actions and promote adeptness. The human beings tend to be blind to values related to the preservation of positive emotions, but cultures which pay attention to creativity, virtues and high life quality are stable, peaceful and prosperous (Seligman & Csikszentmihaly, 2000). Culture is defined here as the set of shared meanings, shared beliefs and shared assumptions of the members of the community (Van Houtte, 2005).

**Research problem, methodology and method**

Analysing the reflections of Estonian and Finnish school children on what constitutes a good school for them, the following question was distinguished: What do the students’ evaluations of school pleasantness tell us about their quality of life in school? When comparing the school evaluations of the Finnish and the Estonian students, it was decided to interpret the students’ reflections from the point of view of pedagogical well-being.

Veenhoven (2000) differentiates the notions of life quality, well-being, happiness and welfare. They all depend on subjective evaluation. Well-being is described as the adaptive potential of a person. Life quality – in which classically the objective and subjective dimension is marked – is different from the pure satisfaction with life. The latter is rather relative, anchored more in social construction than in human nature. It is the reflection of wishes at some point and shows satisfaction of needs. Life quality has a more constant nature and refers, at the same time, to the quality of society from the point of view of its citizens’ happiness, as well as to the life quality of an individual human life (Veenhoven, 2000, 2005).

Pedagogical well-being and love are more connected with the notion of life satisfaction, because life quality links the outward conditions to the individual’s inner reflections, emphasising their relation. The future is also a dimension of pedagogical work – the present actions should have a good impact on building up the future. However, the things done by the teacher might not necessarily cause the immediate state of satisfaction in a child, since the good in the teacher’s deeds can be directed to the future. The pedagogical
task is a concern with the unique (Van Manen, 2002). At the same time, the future good should not be realised at the expense of the present moment as the pressure experienced in the present has also its side effects on the future. The meaning of the momentous event unites the outer and the inner for the participant: one is ready to suffer and labour for the sake of something valuable. If achieving something valuable is not the result of the pressure by outer forces but an outcome of personal recognition, then the efforts can be considered authentic. However, constant dissatisfaction can create a negative tuning in relation to life in general.

Veenhoven (2000) created a matrix containing several dimensions to assess the quality of life. According to this matrix, the authors interpreted the students’ reflections on what is pleasant and unpleasant about the school.

The matrix includes both external and internal qualities. The external qualities refer to the factors of life that are outside the person encountering them while the internal qualities exist as the inner experience itself. In addition to that, Veenhoven (2000) differentiates the potential and the actual: the chances and the results of good life. Not every result that outwardly seems to be useful coincides with the inner feeling of happiness. The experience becomes subjectively valuable if one perceives its meaning for one’s own existence.

A comparative study was carried out on the experiences of Estonian and Finnish students in the 8th and 11th forms in different types of schools. Interpretations of the self in school experiences were gathered by using semi-structured written answers from 161 Finnish and 185 Estonian students. The Finnish and Estonian students’ self-perception in school reality was studied in 5 different schools in Finland and 5 different schools in Estonia and in different age groups (the 8th and 11th form students). The data was collected in 2006–2008. The students came from different types of schools: from a basic school, a general secondary school, a private school, a Waldorf school and a Freinet school. Schools in towns and in the countryside were both represented. The present study seeks to find out whether and how the type of school influences the experience of well-being.

Data triangulation was used to increase the validity of the present study. Data triangulation refers to collecting data from different sources and at different points in time and space (Laherand, 2008). The frequency of similar answers (saturation) indicates that similar meanings exist among different groups under study. It substantiates the fact that a certain phenomenon occurs on a more general level. Such common meanings were also found in the present study. A trusting relationship with the students was developed, explaining them the aims of the present study and assuring them that the authors of written texts would remain known only to the researchers. The students had also the option to write a fake name on their questionnaire. Sufficient time was provided for the students to describe their experiences and perceptions by writing these in their own manner (no form was prescribed), and they could ask the researchers for further explanations.

The collected texts were analysed using qualitative content analysis and methods of phenomenological experience studies. The texts were categorised according to the different meanings they contained, based on the participants’ realm of experiences.

The texts were coded according to the schools and the students’ age and sex. To increase the reliability of the study, the researchers categorised the texts, based on their recurrent themes separately. To develop common categories, the researchers invited a
neutral research expert to assist while having continuous mutual discussions about the interpretation processes. Prior to the interpretation process, the researchers established their attitudes regarding school-related well-being and by explaining these to each other tried to neutralise their impact on the outcome of interpretations. To increase reliability, excerpts from texts were added to each argument. These excerpts serve as examples of typical views and experiences as expressed and described by the students repeatedly. The opinions voiced only by a few students or views that differ from the rest were highlighted. The researchers adjusted the categories established through the analysis of their content to the model of well-being by Veenhoven (2000).

The structure of the text below follows the same model. The researchers analysed the open answers given to two questions: 1) write down 3 or 4 reasons why school is a nice and pleasant place; 2) write down 3 or 4 reasons why you dislike school. The researchers were interested in what the students considered worth pointing out as good about the school and how it relates to the students themselves and the school as a place in their life.

The well-being and ill-being of what experience level are we dealing with? What do the students’ reflections about pleasantness/unpleasantness of school tell us? What meaning do the reflections acquire from the perspective of authentic identity as a developmental benefit? What is missing concerning the students’ development and how do they notice it? Some most typical text samples are provided in the present study, as well as those quite unique.

**Students’ assessment of their school and their life in them on the scale of pleasantness/unpleasantness**

*School is good and interesting*

Analysing the essence of the answers which describe the school, it was possible to differentiate the following categories: present dimension and future-oriented dimension. In the analysis of the present dimension, the following categories emerged: people, school environment, school processes, states of mind.

Future-targeted dimensions were: knowledge, education and wisdom, aspect of self-development, preparation for life. According to Veenhoven’s (2000) classification, it is possible to interpret the present dimension as the results of life (it is so now) and the future dimension as the chances of life (it is good for the future).

As for present dimension or what good school life has to offer, the students mention first and foremost the people who are differentiated by roles: students and teachers. The most indicative and summarising text samples are provided below. Mentioning peers – acquaintances, friends, new people – dominates the meanings describing a good day at school.
Can meet friends; interesting and different people; can talk to classmates; meeting new people; possibility to be among people in general; can speak about one’s problems; encircled by good people at school; fun to spend time with friends; strong bond with other schoolmates (Estonia – 168 meanings).

Get new mates and meet friends; no need to work alone; if something goes wrong, the mates support you, you can exchange thoughts with them; school is a social environment; can learn new important knowledge with classmates; friends to experience a special bond with (Finland – 155 meanings).

The main and strongest meaning is meeting mates, relations with them, the feeling of belonging. The Finnish students also mentioned the spirit of cooperation and learning together, which was missing in the statements of the young Estonians. Peers were important for the students of both the 8th and 11th form.

The number of meanings given to teachers was significantly smaller, in some schools only one or two.

Some teachers are cool; most teachers are nice; teachers are pleasant and understanding; funny teachers; in case I don’t understand, I can turn to them; school is pleasant, when I can socialise with teachers as equals; if the relation is not that of a master and a slave (Estonia – 22 meanings).

Teachers are nice, understanding, competent, humorous, good; treat everyone equally; they give encouraging and constructive feedback; they use various teaching methods, they can do things; you dare to ask them questions (Finland – 23 meanings).

While in the Estonian schools words of appraisal for teachers were said in every school and class, the students in three Finnish schools could not say anything good about them. The teachers of the Estonian Waldorf school were especially praised by their students. A similar praise was given to the teachers in the Freinet school in Finland. Kindness, understanding, being helpful, equality and humour help teachers to improve the young people’s quality of life at school.

Processes at school in which pupils could feel like doers, feelers, learners, could be divided into three groups by the meanings given by the students: 1) interesting studies; 2) hobbies and other events; 3) recreation. Large differences in liking the studies occurred here between the Finnish and Estonian young people. More than half of the Finnish students found something to praise their lessons for, whereas among the Estonians less than every sixth student made a positive remark. The Estonian students pointed out hobbies, events and activities, which was different from the Finnish young people. School as a place for just spending time was mentioned twice as often by the young Estonians than their Finnish peers.

The emotionally rich and diverse learning process as a factor of life quality has been emphasised more by the Finnish young people than the Estonian students.
Text samples:

*Interesting tests and research; sometimes you get to know something new and exciting; sometimes exciting things can be done even in classes; sometimes there are very interesting topics; we learn new and interesting things; we put our knowledge to use; there are also exciting classes; are given possibilities to develop our creative side (Estonia – 27 meanings).*

*Variable teaching; subjects are easy; you learn to do different things; the teaching of our school is high-level; I like the feeling of studying when I succeed in tests; I know I can do things; studying materials are interesting; it is great to be able to do new things; classes are challenging; I like to do different things; possibilities to show what you can do; sometimes you can get compliments for your contribution (Finland – 90 meanings).*

In Estonia the pleasantness of extracurricular activities highly exceeds that of the studies.

*Hobby group and choir, can travel with school, common outings are fun, a lot of different fascinating events take place, can take part in interesting undertakings, nice class parties.*

Some Finnish students (7) mentioned nature studies hobby group, nature hikes, music, dancing, high school prom, class excursions.

But students of both countries saw the school similarly as a way of passing the time which is accompanied by the common worry: what would I do with my days if there was no school?

*Can spend time; here’s something to do; can play ping-pong; the company does not let you get bored; don’t have to be at home; would be boring without school; that is a certain activity linked now to my life; if there was no school, I don’t know what I would do all day long during these years; do not have to be bored at home; I couldn’t think of anything better to do; a nice place to spend time, live our private lives in school (Estonia – 43 meanings).*

*Every day something new happens; time passes nicely; can spend the day usefully; I get the life rhythm thanks to school; it’s safe to know what happens next; fun to pass time; the school keeps my time schedule under control (Finland – 22 meanings).*

While the Finns are satisfied that the school structures their day, the fear of an empty space filled by school seems to underlie the answers of many Estonians.

The school environment as a term involves first and foremost the characteristics of the school’s physical environment for pupils of both countries: free milk, beautiful surroundings, fine-looking warm schoolhouse, good food, comfortable and homelike, large garden, possibility to be outside during the recess, possibility to run a lot. Those characteristics were recognised by pupils from all the Estonian schools and all the Finnish
The factors of well-being in schools as a living environment according to students'...

schools but one. Only a few people mentioned the spiritual atmosphere: friendly environment; good learning environment, not tedious; it is good to be here; I feel secure.

The opinions expressed by the students of the 11th form of the Estonian Waldorf school were completely different from all said above: one can express one's thoughts in school; good ideas spread here; you can listen to the peers' opinions in school; school provides a possibility to study to those who have learning difficulties. One Finnish student of the Freinet school also said: I can be myself and express my opinions. These reflections demonstrate the exceptional perception of school as a space for intellectual work, a community where 'myself' can find its place and the development takes place in an informal way too.

The states of mind, feelings evoked by being at school were more frequently mentioned by the Estonian students. Unfortunately, only one state of mind was identified by 35 Estonian young people there: fun, entertaining; it is often funny; we laugh and enjoy ourselves; we become smarter together with fun.

Two students from senior classes of an elite school received emotional well-being from the results of one's studies: fun to learn new things; nice feeling when you get a good mark. Three people among Finnish students had fun in school. For the Estonian students humour seems to be of utmost importance, it makes the life worth living and sometimes plays a compensating role.

The future benefit which determines the life chances as important skills, knowledge and abilities emerged within the future dimension of the school pleasantness. The school experience is perceived as future-oriented and students are aware of it and consider it good. Three groups of meanings were detected here: 1) knowledge, education and wisdom; 2) preparation for life; 3) personality qualities.

Knowledge, education and wisdom mean important opportunities of life that are offered by schools to the young people in both countries. The students perceive the broadening of horizons through new and important knowledge. While the Estonians found education and wisdom necessary for their own sake, for the Finnish students these were associated with the future benefit.

Education was important for all the young people in both countries. Some text samples are provided below.

Get necessary wisdom; get education; get new knowledge from both life and textbook; learn new things; become clever; get new interesting information; can get wisdom in school; an important place because you can gain knowledge (Estonia – 82 meanings).

Studies for the future; important because of general education; school teaches things that will be useful later; get ready to become adults; study a lot of new things, and it is rewarded at the end of the school year with good marks; study important things; become educated; study new things (Finland – 62 meanings).
The young Finns clearly see the pragmatic aspect of the studies and connect the acquired knowledge and skills with practical life. While the Estonians repeated the notion clever, the Finns never did this, pointing out that the studied material was new.

Preparation for life was equally significant for the students in both countries, while the Estonian students emphasised the readiness for abstract life in general (preparation for real life; to climb the life ladder; basics for life; abilities to manage in life; to get the basis for the rest of one’s life; friends for a lifetime). Beside the necessary teaching and knowledge for life, the Finnish students also strongly emphasised their future employment, which was mentioned by the Estonian students only a couple of times. That probably shows an idealistic attitude of young people and certainly a greater realistic perception of the Finns.

**Personal qualities**

These were mentioned particularly by the students of the elite schools in both countries, whereas much more by the Estonians (31 meanings compared to 10 of the Finnish students). Social skills develop thanks to friends and communication, which was especially emphasised by the Finnish young people; whereas for the Estonians social skills took the concrete form of socialising and the skill to consider other people. The students from an Estonian elite school developed courage, activity, identity, cooperation, contacts, behaviour, thinking, horizons. A student of an alternative teaching school said that it teaches to become a grown up. Multi-faceted self-development as a pleasant part of school was especially valued by the students of the 11th form in the Waldorf school: learn what you are good at, what you are bad at; knowledge that develops my personality; possible to research other people’s behaviour; teaches to deal with something tedious. Two Finnish students learn how to study and get an overview of their strong and weak points.

**School is tormenting and pointless**

By analysing the students’ written answers, it was possible to define, with certain reservations, the same major categories as in their descriptions of school pleasantness: people, learning process, school as environment, states of mind. Future dimension – possibilities for life – did not evolve here. The unpleasant qualities of school are the result of something constantly happening.

**People in school**

Teachers’ different qualities come in the forefront here, whereas the role of the peers diminishes. The teachers’ qualities, attitudes and their actions and mood make the students resentful. According to the Estonian students’ opinions, teachers are bullying; strange; unjust; stuck-up; unfair; ironic; bad; strict; too old; selfish; difficult to understand; awful; dumb; nasty; rigid; not human-centred; not competent. Observing their actions and attitude it occurs that they don’t teach understandably; rate by face; do not show understanding; do
The factors of well-being in schools as a living environment according to students’... not care; don’t admit their faults; shout; take their personal problems out on students; only think of their own subject; tell off; command; are choosy; assess too strictly and unfairly; find faults; have indifferent attitude; call names; insult; are unjust; cannot explain; discriminate; behave incompetently; don’t care for their subject; think that their subject is the only one to learn; can’t teach; give too much homework; expect miracles; make us nervous. As for the temper, they are always in a bad mood; evil; angry (Estonia – in 91 cases).

The Finnish young people (in 53 cases) think that teachers are dishonest; boring; old; nasty; bad; difficult; not suitable to work as teachers; constrictive; pathetic; childish. The Finnish young people don’t like their style. Observing their actions and attitude it occurs that they do wrong to those who are weak; are annoying; give boring classes; are displeased; can’t teach; only like good pupils; they think their subject is the most important; don’t appreciate decent pupils; have their favourites who suck up; can’t handle people; don’t realise that people learn differently; create more tension. Moreover, sometimes it happens that the teacher has a bad day and takes it out on us [pupils].

The Finnish young people were somewhat less critical towards teachers, at the same time, they cared more than the Estonians about the teachers’ professional abilities – their skill to teach. The students of both countries criticised the teachers for being unfair when dealing with students and having a critical-demanding attitude as the students perceived it.

Students and all the bad things connected with them were mentioned significantly less and mostly in the same way. The most disturbing factor was their behaviour and attitude towards their mates.

Schoolmates are unpleasant; ignorant; leaders and outcasts; arrogant; nasty to each other; not nice. In their relations and behaviour they are stuck-up; use drugs; bully; laugh at others; do not integrate with others; disturb the lessons; insult; mock; beat; nag; do not let to study; do not understand others; produce waste; get on one’s nerves. A student of an alternative teaching school: if you’re not rich, you are nobody (Estonia – 30 cases).

Schoolmates are unfriendly; unpleasant; nasty; boring. In relations and behaviour they damage school; bully; steal; make noise; disturb; shout like monkeys or bulls; become hated enemies; get on nerves. Most of the negative meanings quoted here (11) came from the 8th form of a city school (Finland – 41 cases).

The students of the 8th form suffered most because of their mates in both countries. The Finnish students mentioned substantially more bullying and school violence. Though it is also a big problem in the Estonian schools (Estonian Human Development Report, 2009), it was not especially emphasised, evidently because it is considered as a part of the normal school life. As it becomes clear, the teachers seem to be a greater problem than the peers for the Estonian students, while it is the other way round for the Finnish students.

Learning process called forth massive criticism from both the Estonian and Finnish students. The students pointed out boring classes, long and tiring schooldays, large amounts of homework, heavy workloads and the meaninglessness of the studied material.
Students said mostly that

- lessons are boring and monotonous; have to do uninteresting and tedious tasks;
- have to study things that do not interest you; no optional subjects; depressingy boring; have to write very much; fear to go to the lesson; quick tempo; superficial;
- very much cramming; few projects and little group work; don’t like the topic; no challenges; little development-stimulating activities; routine and revision; same rubbish every day; the bottom is tired of sitting; relatively tedious; long boring sitting; the lessons are done according to norms written down by politicians who are far away from education Estonia (mentioned 254 times).

The reiterated meanings are boredom, routine, tediousness. The students of the 8\textsuperscript{th} form of the private paid school were especially dissatisfied with the lessons.

The large work load and the length of a school day were mentioned all in all 107 times. The school day lasts long, exhausts and takes up all the time:

- long tiresome day; little time is left for other things; one has to be there so long and to go there so early; time passes slowly; starts too early; finishes too late; very tiring; too intense curriculum; no time to recover from the quick tempo; there’s too much strain; they demand more than you are able to do.

The students of the 8\textsuperscript{th} and 11\textsuperscript{th} form of the elite school especially complained about the work load, whereas the students from the Waldorf and Freinet schools complained the least. Too much home work was mentioned 53 times:

- they give us to study at home more than a human being can do; tedious and pointless home work; we are given piles of materials to study at the weekend; home work does not give you much; can’t go out with my friends; do not like to do day tasks in the evening.

The students of the elite school’s 8\textsuperscript{th} form were especially resentful about the big amount of home tasks.

The school lessons are most certainly not a quality time for the Estonian students. Time becomes a problem when the lesson is not engaging and seems to be exhausting. The meaninglessness of the lesson was mentioned 28 times and the compulsion associated with it:

- have to study things that are uninteresting and useless; we’re studying senseless things; have to study against one’s will; learning by heart of a certain subject seems to be pointless as I do not need it; studying the things we forget; has to be a possibility to choose subjects; why should we sit one fourth of our lives in the same building; school does not focus on helping the individual but produces ‘grey mass’.

There were doubts about the sense of the marks: it is pointless to measure a person’s intelligence in numbers; marks are more important here than knowledge.
Finland was mentioned 141 times. There is a particularly strong dissatisfaction with home tasks and tests (50) which are followed by the heavy work load and the general difficulty of being together (18): *hate home tasks; several tests on the same day; tests create stress; difficult subjects; doing home work takes too much time; long hard schooldays; sometimes it seems I could do something better than this.* Lessons were also criticised for boredom, though substantially less compared to the Estonians (11):

- some lessons are boring; hard to concentrate; sometimes it’s very boring;
- some lessons are nasty and distressing; don’t like the subjects I am bad at; too big challenges in some subjects; eurhythmics’ is terrible; don’t like that one has to be good at all things; no freedom of activity; only stress and coercion; non-variable ways of teaching.

The students also mentioned that there is much compulsion and one should be paid for doing the unpleasant things: *have to accept the things I don’t like; school makes a student into a thing; we’re forced to come to school but we’re not paid; the monetary salary paid for the marks would increase motivation.*

The motive of pointless and questionable studies was repeated several times (6): *senseless lessons and rules; some of the subjects are useless for the majority; school is too old-fashioned; wouldn’t go there if I could choose; I have other business to do; have to study useless subjects.*

The students of the Finnish Waldorf school were especially critical about the learning process.

School as environment brought forth resentment in mostly two issues: the school rules and the physical environment. The most unpleasant thing for the Finnish (52) and the Estonian (45) students was the early rising: *hard to get up in the morning; lessons start early; do not get enough sleep.* The school regulations gave rise to little dissatisfaction, 27 times from the Estonian students (*school uniform in a private school; going to school every day; locked doors; little freedom; ban on listening to a player; prohibition to leave the school territory*) and 11 from the Finnish students (*being late; mobile phone ringing in the lesson; can’t romp; it’s hell the whole day long; stupid rules; no freedom; only a feeling of hatred; school is imposing; compulsory attendance).*

The physical environment in school and especially school food aroused dissatisfaction in 25 cases among the Estonian students and in 32 cases among the Finnish students. While the Finns had much to reproach the school food for, the Estonians complained more about crowdedness, temperature conditions, absence of a sports ground and a school cafe. Crowdedness and noise were mentioned by the students of the 8th form in a Finnish city school. Some Estonian youngsters also criticised the small number of events and absence of activities during breaks. The Finnish students of the Waldorf school were more resentful than the others about their school environment.

School is a place with strict rules. The most thorny issues are connected with the lessons because of their little cognitive value, short time and a large amount of studying, accompanied by the teachers’ expressively unpleasant behaviour. This proved especially true for the Estonian children.
States of mind

Feelings and states of mind, connected with unpleasant school aspects, were also described. The main ones mentioned by the Estonian students (41) were tiredness, stress, boredom, routine, strain. And those emphasised by the Finns (43) were stress, but also tiredness, boredom, hardship, loneliness, sleepiness, feeling that one’s freedom is restricted. These are the states of mind associated with pressure, lost energy, one’s unused resources.

Discussion and conclusions

What do the student answers about their schools’ pleasantness/unpleasantness tell us about their quality of life?

On the basis of the Veenhoven’s (2000) chart, the authors looked at how the liveability of the environment is evaluated by the students from the viewpoint of both life chances and results and how the life-ability and the appreciation of life reveals itself in their written answers.

Formal studies and everything related to people in school, including teachers and students, have to be taken into account when assessing the environment’s liveability.

- The young people in both countries are extensively occupied by formal studies, and it generates ill-being, stress, tiredness and criticism as internal states (life-ability). The learning process (and strain associated with it) is not, in most cases, experienced as a meaningful challenge. Instead, it is viewed as pressure forced on them by an external will, which robs them of their living time.

- Talking about the good aspects of the environment, the learning process is perceived to be cognitively engaging and challenging, which is appreciated more by the Finnish young people. Everything that happens outside of the formal learning process is cognitively important for the Estonians, who, differently from their Finnish peers, do not see the learning process as quality time.

- Teachers are seen as the reason of the described ill-being because they are coercers and representatives of the institution. Only some students consider them to be so-called ‘teachers of life’ who lead and help the young. In their positive opinions, the Finnish students see the teacher as somebody who transmits wisdom and they value the teacher’s professionalism, whereas the Estonians value the teachers’ general attitude and how they treat them. In other words, our findings support earlier studies – relationship problems greatly outweigh the problems of study content in Estonian schools (Orn, 1997).

The aforementioned could be put into the category of life results according to the Veenhoven’s (2000) system. Making jokes can be considered an internal life-asserting experience valued by youngsters. Other feelings or states of mind were not even mentioned. Paradoxically, a joke follows the long harassment and fasting and signifies enjoyment and
The factors of well-being in schools as a living environment according to students’...

getting free. On the other hand, it can also be the humour born in the joy of getting together, which in any case indicates vitality.

The side of life chances emerges only when children speak about school positively. The importance of school is strongly perceived in the sense of acquiring different important things – knowledge, education and wisdom, preparation for adult life, personality qualities. It is believed that it is an investment for future. The community of peers in both lands offers important experiences which compensate for the pressure of the institution and seems to be the main environmental factor that makes life liveable. Secondly, there is an assurance that all that is going on contributes to their welfare – students create their so-called life chances. The Finnish students link them more with the practical side of life, while the Estonians associate them with the knowledge and education needed for an abstract life.

The knowledge of one’s weaknesses and strengths, of being a carrier of certain qualities, a doer, a creator and a counterpart was experienced as a life chance by only few youths in the context of school’s pleasantness. The negative and energy-reducing side was emphasised in the subjective emotional experience.

School is sensed as a physical environment rather than a place offering a possibility for mental development. Only a few young people perceived the school’s environment as a place for intellectual work and mentioned things related to its spiritual atmosphere. At the same time, school rules are not sensed anymore as harassing, limiting freedom or reducing life quality, the main discipline factor being the heavy study load.

These signs indicate that pedagogical well-being as described by theoreticians is more attainable by the Finnish students than by their Estonian peers; however, it still remains more of an ideal than reality for young people in both countries. Schools expect their students to fulfil their demands rather than experience the ability to act according to their individual intentions.

One has to question once again the price and side-effects on personality of the experiences lived through for the sake of the opportunities offered by school – knowledge, education, personality qualities, preparation for life (and for what life?). The main reason for ill-being, as pointed out by the young people, is the studying itself, subjectively perceived as joyless, burdening and carrying little meaning, being guarded by the teachers. The school has often been compared to a prison or a hospital (Alhanen, 2007). Once again, one is reminded – via the students’ meanings given to the schools – of the notion of a jail, which literally and figuratively imprisons people by denying them access to their own self. The way to one’s authentic identity is encumbered, and the nature of the pedagogical relationship is anything but loving. The school, which is first and foremost experienced as a compulsory institution, may try to improve certain conditions in order to understand its students–prisoners, to force them to study and to bring them up against their will, but the strife is doomed to failure at the very start. If studying is mostly perceived as a duty forced on them by external will and is not inwardly considered to be one’s own, it is impossible to speak about vitality or engaging and pleasant time, but only about emotionless existence. If basic needs are not satisfied, the human being focuses on their satisfaction, unable to strive for values that are more persistent and on a higher emotional level. A few words about the relationship between school and authentic identity are worthwhile. Human beings define themselves in a process they can identify with or feel alienated from. Liimets (2009) views
the human being as a road leading home, and she asks what and where home is. When
going to school, a person is on his/her way, the school way. It is a part of one’s life route,
which leads to the future and should be pleasant and meaningful, containing enough
challenges and moderate risks. Young people are possibly united by the same common
difficulties experienced in a similar way. It integrates them into a community, whose
members are joined by an aspiration to freedom and independence. It could be said that
philosophically the school exists for a person only if it has been domesticated as a way
home and the person himself/herself has become the way and an integral part of the school
via active processes and the contribution to it. This is possible only if the teachers walk the
way together with the students as companions, if they break out from their role of a jailor or
a product manufacturer and change the prison-like school into home. Otherwise we can
only speak about a ‘non-school’, which exists only as an edifice, without actually being
there. Thus, the school should be important, safe and interesting.

However, what could the school – the real school – mean for a young person on
his/her way of self-creation? The English word ‘important’ suggests that the school way
should have something that one would want to ‘import’ into one’s self, thus opening up the
borders and letting the self go to school, at the same time allowing the school into the self
and becoming the school. Therefore, it is possible to state that a studying human being is
the school way himself/herself, and he/she studies if he/she has domesticated the school,
has merged its processes into his/her life’s entirety, has interpreted them as his/her own.
The school has to be domesticated, has to be made home. In this case, studying at school
would not be an outward process, but the school would be a part of the human being and
would become the road to walk inside his/her own self towards his/her future identity.

The necessary socio-emotional competences are acquired in the company of
classmates and nice teachers. By interpreting the evaluations given by the students, one can
say that school teaches them primarily to succeed in dealing with the school itself – the
process whose by-products might also be desired personal qualities – or their absence,
opportunism and dependency. At the background of hedonistic values, pedagogical activity
should offer situations and challenges which awaken and feed internal sustainability,
meaningful efforts, a feeling of responsibility and initiative.

Self-realisation, meaningfulness of activities, aims that are perceived to be one’s own.
The active ability to operate and overcome limits as categories of pedagogical well-being
are an issue needing pedagogical solutions both in the good country of Finland and in
Estonia, which is still carrying the signs of the past, because these categories have not yet
become actual life values. As researchers, we are also on our way, the school way, which
we should build up together with the students. And then this way will actually exist.

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**Abstract**

One of the key ideas of the language immersion methodology is to guarantee sustainable development for children from non-Estonian families in respect to their linguistic and social development. The most important conditions are creating flexible possibilities to participate in language immersion groups and classes and applying the language immersion methodology in everyday teaching process systematically. The present research seeks to highlight teachers’ views on the sustainability of general competences of children who have completed the language immersion group in the kindergarten. The domain of general competences includes 32 sub-skills related to learning to learn and social skills, which were assessed by the teachers on a 5-point scale. For the sake of comprehensive data analysis, the general competences were divided into general competences fostering learning and learner-centred general competences. The present study reveals that language immersion methodology favours applying child-centred pedagogy in the actual teaching process and supports the sustainability of children’s linguistic and social development.

**Key words:** language immersion, general competence, sustainable development, teaching process, coping

**Introduction**

After Estonia gained independence from the Soviet Union in 1991, Russian speaking children in Estonia maintained the right to receive basic education in Russian but can opt for education in the Estonian language or in the bilingual programme. However, Estonian language of instruction policies are exemplary because they offer a range of options for language minority students: Russian-speaking schools, which are the mainstream schools for Russian-speaking children, Estonian-speaking schools and bilingual classes within Russian-speaking schools that use both Russian and Estonian, such as immersion programmes, most of which have only existed since 2000 (Kemppainen & Ferrin, 2002).

Estonia has chosen to implement its language immersion programme by adapting the Canadian model to reflect its own particular set of political, social and educational circumstances.
Language immersion is an approach to foreign language instruction in which the usual curricular activities are conducted in a foreign language (Genesee, Paradis, & Crago, 2004). Estonian language immersion programmes have been developed with Canada and Finnish support. The model of early language immersion in school has been used in Estonia since 2000 and in kindergarten since 2003.

In a language immersion programme at least 50% of subjects are studied in the target language. The methodology permits children to gain proficiency in the Estonian language while also developing their mother tongue. One-third of the Estonian population constitutes of non-Estonians. The majority do not speak the Estonian language and are not fully integrated in the social, political and cultural life of Estonia.

Multicultural society has encouraged looking for new possibilities in providing education for children raised in non-Estonian families in order to guarantee their sustainable development in the Estonian society. Parents and teachers devote an increasing attention to the question of how to support early official language acquisition for children from non-Estonian families. Year after year, the language immersion methodology has gained more popularity and it has become customary in Estonian schools and kindergartens. The methodology is used in 17 kindergartens and 31 schools. By now, studies have been conducted (Kukk, Talts, & Muldma, 2009), which highlight the viability of language immersion as a way of teaching. Undoubtedly, language learning should not be the only goal raising a child to become a fair citizen. It should rather support children’s native origin and respect their native language.

Pedagogical bases of language immersion

The language immersion principle is not only language-centred, but it is also an approach centred on children’s development that attempts to support their activeness and natural desire to learn (Marzano, 2004)

The aims of language immersion as a way of teaching can be viewed from different angles. McKay (2006) points out several beliefs, which researchers hold important in learning a foreign language. For instance, some researchers consider cognitive and motivational factors of utter importance, while others – social and cultural factors. Some researchers point out the importance of the aspects of teaching and learning, while a number of researchers – the approach to the process as a whole. The authors of this article highlights the development a children’s personality as a whole during the study process, and the language immersion methodology promotes it every way (Bennett 2004; Genesee, 1996; Potowski, 2002). Focusing on developing general competences, which include basic skills needed for learning and coping in life also create prerequisites for learning a language more successfully. The general competences can be promoted by child-centred pedagogy. Barnes (2007) points out the following aspects as prerequisites for children’s successful self-determination in the 21st century:

1. Certainty about the future as an important prerequisite for a child’s happiness. For the children participating in the language immersion programme this primarily means the possibility to be able to learn a second language in a safe
and versatile learning environment, where also their native language and culture are valued.

2. The central part of children’s study motivation is personal cognition to control different aspects of their everyday life. In the teaching process, children’s experiences can be interpreted, for instance, in terms of significance of the knowledge and impressions obtained through the mass media.

3. Possibilities to build and to intensify positive relations with one another. Language immersion programme as a whole is built on positive values, the important issues being reckoning with others, accepting differences and friendly cooperation. These values are transferred to children in every lesson.

4. In respect to children’s mental and physical health their positive self-appraisal is highly important. Children in language immersion classes need support and recognition from their teacher to actively participate in the study process, because it helps them to experience success.

Undoubtedly children in language immersion classes need an environment that would support their developmental potential (Gordon, 2005; Epstein & Janshorn, 2004). The physical factors of the environment, the educational conditions and the interaction between the environment and the individual should be taken into account (Hytönen, 2001). Teachers play a key role in guaranteeing children’s consistent and sustainable development, while, according to McLean (2006), the success in their effort is dependent on four principal factors: 1) how a teacher tries to understand and value a learner; 2) the curriculum that determines the goals and tendencies; 3) motivating learners; 4) a teacher’s feedback to students, which enables the learners to understand their development. All the four factors are connected by the dimension of relationships, within which contexts essential for learning are created (Kukk & Talts, 2008). The task of pedagogy is to reveal children’s activeness on the level of everyday activities. Valsiner (1988) accentuates the idea that children are passive objects reflecting different environmental impacts. The children are a part of an operation, the active side of counteraction, which has an impact on processes in the surrounding environment, and the changes occurring in the environment also influence the way the children act and develop.

Children who have completed their studies in the kindergarten have already passed one stage of studies in their life, and now they are entering the second one. Coping with the next stage is highly dependent on the level of children’s mental, social and physical development and how good is their psychological preparedness to meet the conditions and requirements of the school environment. The adaptation of children from the non-Estonian home environment in a study environment with the Estonian language instruction is undoubtedly more complicated than in the case of children raised in Estonian families, but, irrespective of the differences regarding the language level and culture, the children entering school can be characterised by a number of developmental peculiarities.
Methodology

This study focuses on the children who, in spring 2007, attended language immersion groups in the kindergarten and who finished the 1st form in spring 2008. The children’s learning results were assessed by 27 class teachers, whereas 11 of them had experience in working with a language immersion class. At the end of the study, 76 children were assessed. These children had the possibility to choose between the native-language school, the language immersion school or the Estonian-language school.

The children’s educational objectives in the 1st form were studied in nine target areas: general competences, language, mathematics, natural sciences, human studies, art and craft, music, physical education and assessment on subjects. This study focuses only on the area of general competences, which include learning and social skills (Talts & Kukk, 2008). The teachers who work with the children can adequately assess the children’s overall development. Therefore, the authors of this study gave a preference to the teacher’s assessment that has been formed through constant surveillance of children’s development. Thus, each statement was rated on a scale from one to five (1=very low level, 3=medium level, 5=excellent level). The descriptive statistics shows the average level of the children’s target areas of the general learning competences. Since the number of constituent skills in the area of general competences is rather large, the area is divided into two – general competences fostering learning (Figure 1) and learner-centred general competences (Figure 2), for the sake of clarity.

Results of research

Figure 1 depicts general competences fostering learning, which reveal the learner’s horizon, capability of intentional activity and specific learning skills. Figure 1 shows that, generally, the students have acquired the general competences for learning, because the averages of the assessments are predominantly over 4.0 points. Among the observed constituent skills, a very high assessment (x=4.52) should be stressed in regard with openness to new things, events and situations. The teachers have positively assessed the children’s readiness to feel themselves as a part of the group, act with others (x=4.36). The same can be said about enthusiasm about learning (x=4.36). It is also notable that, along with the children’s enthusiasm about new things, they also feel satisfied about completing an activity, which testifies to the children’s readiness and understanding of the outcome of activities, which is due to their age-related maturity. The lowest assessment is given to the children’s ability to look for and find information from different learning materials and reference books (x=3.97).
Obtained general competences of students in language immersion classes

Figure 1. Teachers’ assessments on general competences related to learning

Learner-centred general competences

We are dealing with highly important basic skills, which characterise the attitude of a learner as a personality towards himself/herself and other people. The learner-centred general competences, as articulated in this study, can be viewed as one part of students’ value education: the present-day Estonian school is facing a challenge – shifting from knowledge-centred school to values-centred school. It is very important to raise awareness on the issues related to values (Sutrop, 2009).

The teachers have highly assessed (Figure 2) the children’s positive self-appraisal (x=4.52), which is of utter importance for their well-balanced development and courage to express their own thoughts (x=4.49). These children also tend to believe in themselves (x=4.38), which is connected with high self-appraisal and courage to be open. In the teaching process, the teachers of language immersion classes take into account the children’s natural activeness, which guarantees their readiness to focus on the teacher, as well as on their own activity in the group.

The teachers have assessed the children’s skill to peacefully solve conflicts not very highly (x=3.75). The same also applies to waiting one’s own turn.
Discussion and conclusion

Based on the basic needs of the children in the 21st century – safe environment, an ability to control different aspects in everyday life, positive self-appraisal and relations with peers (Barnes 2007) – we can claim that the children who have completed a language immersion kindergarten are tended to be open, creative and active in various learning situations. These children also have positive self-appraisal and faith in their coping. Thus, these children are more prepared to adapt to the new stage in their educational life: the school environment, irrespective of the language of instruction they choose. The teachers have highly assessed the children’s readiness to be a part of the group, act with others, and the children’s attitude to learning is enthusiastic.

The results of this study show that culture awareness is of utter importance for teachers in the teaching process in order to help them provide suitable ways of learning and communicating, which would promote achieving the educational objectives that are realised through teachers’ practical activity and which reflect their pedagogical understanding and attitudes. Basing on this study, we can claim that early language immersion creates necessary preconditions for children’s sustainable development and promotes achieving the educational objectives.

The research findings are connected with the principles of language immersion as articulated by many researchers (Barnes, 2007; Bennett, 2004; Genesee, 1996; Genesee et al., 2004; McKay, 2006). It should also be noted that a child studying in a language
immersion group needs to have the same preconditions to commence school as a child studying in a regular class. These preconditions are interest in the surrounding world, readiness to study and a wish to communicate and act with peers and adults. Children-centred pedagogy expects both children and teachers to be actively involved in the process of learning. The driving force for developing study environment is the relationship between the child and the teacher.

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EFFECTING CHANGE THROUGH LEARNING NETWORKS: THE EXPERIENCE OF THE UK TEACHER EDUCATION NETWORK FOR EDUCATION FOR SUSTAINABLE DEVELOPMENT AND GLOBAL CITIZENSHIP

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Abstract

The paper discusses and evaluates the experience of the UK Teacher Education Network for education for sustainable development and global citizenship as a community of practice dedicated to embedding education for sustainable development and global citizenship in teacher education in the UK. The article sets out the global and UK policy context for education for sustainable development and global citizenship and outlines the differing government support and guidance for education for sustainable development and global citizenship in teacher education across the four nations of the UK. The paper concludes by arguing that the Network is successful in the first of the aims as there is now a vibrant UK wide teacher education community of practice in education for sustainable development and global citizenship whereby radical practice can be explored, questioned and shared. However, the rapidly changing government policy context for education particularly in England makes it difficult to predict how effectively the Network can affect policy change and/or long lasting change in course content so as to embed education for sustainable development and global citizenship in teacher education across the UK. The authors suggest that the Network will need to work alongside new and existing alliances to try to convince policy makers of the critical need to ensure that new teachers are equipped to introduce education for sustainable development and global citizenship in schools.

Key words: education for sustainable development, global citizenship, community of practice, teacher education

Introduction

Although there have been some considerable achievements over the last 20 years with regard to poverty eradication, it is clear that many of the Millennium Development Goals (MDGs) are unlikely to be fulfilled (UN MDG Report 2010). MDG 7 on environmental conservation has hardly been addressed and there has been very little evidence that concerns about poverty eradication and environmental degradation are being addressed
together or being integrated into policy and planning processes. In Cancun, in December 2010, the nations of the world signed up to some pledges to keep global temperatures to no more than a rise of 2 degrees C. Even if this were to be achieved the effects of such a rise could be catastrophic for fragile areas of the globe and would not prevent a dramatic change in climactic conditions worldwide (Lynas, 2007). These issues present a great challenge to teachers, since the young people of tomorrow will need a different range of skills, knowledge and understanding in order to survive.

There is a long history of environmental and development education in the UK, spanning many decades. This has been greatly influenced by non-government organizations (NGOs) like World Wide Fund for Nature and Oxfam whose education departments have developed innovative educational resources and training courses. After the Earth Summit in 1992 endorsed the importance of education for sustainable development (ESD), it was clear that development needs and environmental concerns needed to be considered within this overarching framework, rather than separately. Hence, for example, WWF, Oxfam and a consortium of NGOs came together in 1993 to develop a brand new master’s course in environmental and development education. This resulted in a unique collaboration between environmental and development organizations and the academy through London South Bank University (www.lsbu.ac.uk/efs). This collaboration has developed further through the UK Teacher Education Network. In order to respect the separate histories of environmental education and development education, it was decided to keep these identities through the name of the network, using the terms ‘global citizenship’ (GC) and ‘education for sustainable development’ (ESD). The two terms can be thought of as two sides of the same coin, with the notion of agency provided by ‘global citizenship’ and ‘education for sustainable development’ providing the context and processes. By working together in a collaborative way, we hope to build a movement which integrates issues of social and environmental justice, poverty eradication and ecological conservation, social and biological diversity.

The UK context

In many countries, there is now government policy in place for education for sustainable development, though not global citizenship, in all areas of the formal education sector, from schools to higher education. In addition, national legal requirements on sustainable development in relation to other sectors, such as the built environment, have created space and demand for training at a range of levels. At the international level, education was further endorsed at the second World Summit on Sustainable Development (WSSD), which took place in Johannesburg in 2002. This also attempted to make links between education for sustainable education and education for all (EFA – basic education as a requirement for the achievement of the Millennium goals on poverty reduction). The government of Japan also led the successful lobbying for education to be given the status of a UN Decade from 2005 to 2014. Education is now viewed as a prime lever for social change, described by UNESCO in the implementation plan for the Decade in the following way: “It [ESD]
means education that enables people to foresee, face up to and solve the problems that threaten life on our planet” (UNESCO, 2005, p. 5).

In the UK, environmental and development NGOs were initially responsible for taking forward the ESD/GC agenda though, in the last 5 years, there has been increasing support from the Labour government, for example, in relation to the school curriculum and the Sustainable Schools networks. In addition, the Learning and Skills sector has developed policy on sustainability as has the Higher Education sector (UK National Commission for UNESCO 2010). Specific approaches have also had results, such as the work of Oxfam, RSPB and WWF in Wales to incorporate ESD/GC in educational requirements. The Welsh Assembly further endorsed this with a dedicated staff member to oversee the incorporation of ESD and GC in the school curriculum and also within teacher education. A number of UK Regional Centres of Expertise have also been accredited by the United Nations University in order to take forward regional agendas in sustainability.

However, since the May 2010 General Election a new government coalition of Conservatives and Liberal Democrats has started to change the political landscape. Since May, the support for Sustainable Schools has been cut, along with the abolition of the Sustainable Development Commission (a quasi-independent body) which provided advice and critique on the government’s policies in relation to sustainable development. The global learning programme of the Department for International Development which funded much of the regional formal sector work in ESD/GC was also cut at a stroke, leaving many projects unfinished. Much of this has been justified by the need for government cuts in the face of the UK budget deficit caused by the bail out of UK banks. However, the choice of what to cut is inevitably a political decision, and it is interesting, though depressing, to note that one of the first targets for cuts has been work in ESD/GC. The challenge now is to continue to move forward in changing times and to find creative ways to develop ESD/GC across the formal education sector.

**Teacher education in the UK: ESD and global citizenship**

Institutions of Teacher Education fulfil vital roles in the global education community; they have the potential to bring changes within education systems that will shape the knowledge and skills of future generations. Often, education is described as the great hope for creating a sustainable future. Teacher education institutions serve as key change agents in transforming education and society so such a future is possible. (UN, 2005, p. 11)

What contribution can teacher educators make to the development of teachers as ‘change agents’ with the knowledge, skills and values to promote ESD in ways that enables young people to make a difference and bring about a better world? Within each of the four UK countries, teacher educators have worked to embed ESD/GC within the teacher educator curriculum with greater or lesser success.
England

In England, as elsewhere, ESD/GC in teacher education has often relied on the commitment of individuals and groups, and the curriculum provision for ESD/GC in initial teacher education (ITE) has therefore been patchy across the country. The development of a more coherent provision has been hindered by the fact that successive revisions of the Training Standards for ITE (Training and Development Agency, 2007), which govern the ITE curriculum in England have not made any explicit reference to ESD/GC. The current Standards make no explicit mention of the need for new teachers to develop knowledge, skills and attitudes in relation to these critical areas of knowledge, skills and values. There is little to encourage those involved in the training of new teachers to provide education for sustainable development and global citizenship a central place in the training programme. However, a group of ITE tutors committed to embedding ESD and global citizenship within ITE have worked together to develop a set of contextual questions which enable tutors and students to think about the global dimension of the Professional Standards (a group of ITE tutors and NGOs committed to embedding ESD/GC within ITE have worked together to develop). At the time of writing, it is not clear how the Standards for ITE might be revised under the coalition government but what seems clear is that there will be no explicit mention of the need for new teachers to receive training in ESD/GC. The recent government White Paper on education makes no mention of ESD/GC but emphasises, instead, the importance of new teachers receiving more training in some areas, such as early reading and mathematics, special educational needs and classroom management (DfE, 2010).

Wales

In contrast, the Standards for new teachers in Wales make specific references to education for sustainable development and global citizenship so as to enable new teachers to develop the knowledge, skills and attitudes to promote the ESD/Global Citizenship (GC) now embedded in the Welsh curriculum (Welsh Assembly, 2006). In the section on knowledge and understanding, there is a requirement that all new teachers are familiar with the most recent national guidance on the promotion of Education for Sustainable Development and Global Citizenship. In the section on Teaching and class management, it is possible to find the statement that student teachers should be trained to

\[\text{take appropriate opportunities to promote and teach education for sustainable development and global citizenship in all relevant aspects of their teaching (Welsh Assembly, 2006, p. 24).}\]

Curriculum guidance has also been developed in Wales around ESD/GC for teachers, teacher educators and trainee teachers to help them to embed this work within the curriculum and pedagogy. (Welsh Assembly, 2006, 2008; Bennell, 2008)
Scotland

The Teacher Education Standards for Scotland include explicit references to the requirement that new teachers know about and are committed to ESD/GC. For instance, in Standard 3.3 concerned with the need for new teachers to demonstrate that they value, respect and show commitment to the communities in which they work we find the requirement that new teachers will

\[
\text{know about environmental issues and be able to contribute to education for sustainable development;}
\]

\[
\text{know about the principles of education for citizenship and be willing to encourage pupils to be active, critical and responsible citizens within a local, national, international and global context. (GTCS, 2006, p. 9)}
\]

The International Development Education Association of Scotland (IDEAS) is a strong network of organizations that support ESD/GC within the curriculum. IDEAS has a strong presence in teacher education and has been influential in developing ESD/GC within the teacher education curriculum in Scotland (Wisely, Barr, Britton, & King, 2010). The arrangements for teacher education in Scotland are currently under review, it will be interesting to see how provision for ESD/GC might be altered in any potential revision of the Standards.

Northern Ireland

The Department for Employment and Learning (DEL) and the Department of Education (DE) have undertaken a joint review of teacher education. The purpose of the review was to ensure that the profession is best placed to cope with the changes facing the education sector in the coming years.

The Northern Ireland teacher competences as set out by the General Teaching Council for Northern Ireland (2006) in Teaching: the Reflective Profession (GTCNI) do not include any specific references to ESD/GC (GTCNI, 2006). As in England, it has been the inclusion of ESD/GC within the school curriculum that has helped to drive the need for ESD/GC within teacher education (Mc Quaid, 2008). However, in setting out the competences the GTCNI make a strong case for celebrating the complexity of teaching and rejects a reductionist approach to teacher education. It describes teachers as educators and moral agents who are both reflective and activist and adopts the approach of Dalmau and Gudjonsdottir (2002) in specifying the diverse roles of teachers as encompassing roles that embody elements such as critical reflection, research and change making. Thus, whilst there are no specific competences to do with ESD/GC the whole approach to teacher education is one that stresses the need for new teachers to be creative, reflective change makers – ‘competencies’ that sit well with ESD/GC.

Thus, in the four UK nations there are differences in the ways in which ESD/GC features in official documentation and guidance for teacher education. Wales and Scotland
have explicit standards and guidance; Northern Ireland and England make no explicit reference to ESD/GC though the whole approach within Northern Ireland resonates well with the aims and philosophy of ESD/GC. Of the four nations England is clearly the weakest with respect to government support and guidance for ESD/GC within teacher education.

The UK ESD/GC Teacher Education Network

The UK network evolved from collaboration with World Wide Fund for Nature UK, Oxfam and teacher educators. In the UK, environmental and development NGOs have been in the forefront of promoting and supporting ESD. The idea for a network was discussed at a WWF organized seminar for teacher educators where the patchiness of ESD/GC provision within teacher education across the UK was explored and, in 2007, the Centre for Cross Curricular Initiatives (CCCI) at London South Bank University (LSBU) launched the UK Teacher Education Network for ESD/GC with funding from ESCalate, the Higher Education Academy’s subject centre for Education, WWF-UK and the Training and Development Agency for Schools (TDA). We later received funding from Oxfam Education. The management of the network is undertaken by CCCI and is overseen by a steering group comprising key players from the four UK countries.

The Network has representation from nearly all UK TE providers, including School Centred Initial Teacher Training institutions (SCITTs) and further education, NGOs, subject associations, national educational bodies, including the University council for the Education of Teachers (UCET), the TDA, ESCalate and the Development Education association (DEA). We currently have a membership of over 70 teacher education providers (many with four or five individual members), 42 NGOs and 10 national educational bodies.

In 2007, at the launch of the Network in 2007, we agreed on two central aims:

1. to develop a UK wide community of practice in ESD/GC and teacher education, through which good practice can be shared and disseminated and further development can be initiated and developed across the sector;
2. in the longer term, to contribute to embedding ESD/GC in UK TE institutions in relation to ethos, curriculum content, learning and teaching and assessment.

These aims have been regularly revisited over the past 3 years but remain the central aims of the network. We have developed a range of strategies to meet these aims. These include the development of regional networks and groups across the UK; UK conferences; the use of the website to disseminate events, research, network conference proceedings, meetings with educational bodies in England including the TDA and the Department for Children, Schools and Families (now Department of Education). We have made links with international networks engaged in the same area of work. Since we began in 2007, we have been committed to developing and embedding a radical practice underpinned by theory and to develop a genuine community of practice for those committed to ESD/GC. Whilst we are
still on a long and sometimes difficult journey to meet these challenges, we are confident that we are on the right path.

The UK Network as a community of practice

Wenger (2006) describes communities of practice as groups of people who share a concern or a passion for something they do and learn how to do it better as they interact regularly.

The UK ED/GC ITE Network functions as a community of practice in a number of ways locally (within institutions), regionally, nationally and internationally. At a regional level meetings take place between tutors from ITE providers in a particular region to share practice around integrating ESD/GC into Initial Teacher Education programmes. The sharing of practice has resulted in innovation and change at some individual institutions. This course based learning impacts the PGCE students at these institutions and the pupils they teach while on teaching practice and potentially throughout their teaching career.

For example, two members of the London Regional group, University of East London (UEL) and the Open University have integrated ESD/GC concepts into their secondary PGCE courses as a result of participation in the group.

UEL snapshot:

Secondary PGCE students were required to work collaboratively on a global citizenship project. Across the different curriculum subject areas, they were training in. At an introductory session, students were allocated to a virtual school. Each virtual school picked one of four themes (‘Children’s Rights and Responsibilities’, ‘Conflict Resolution’, ‘Sustainability’ and ‘Identities’). These themes informed the cross curricular work on the virtual schools for the year. Each virtual school worked collaboratively between December 2009 and February 2010. During February, a whole day was allocated for all virtual schools to work together in preparation for the presentation of collaborative projects held in June 2010.

UEL are using the analysis of the evaluations of this project to inform the development of the project as it moves into its third year. During the course of the academic year 2010/2011, they will be looking at the way in which global citizenship is connected with the developments around the London 2012 Games and its legacy. The project will be enhanced in this iteration by the integration of an expectation that the PGCE students will develop and deliver a session around the contextualised global dimension with pupils from partner schools.

Projects like the one set up at the University of East London were made possible as a result of a small amount of funding provided by the London Group via the Department for International Development’s (DfID) Enabling Effective Support strategy, which in 2009 was renamed the Global Learning Strategy.

Regular meetings of regional groups provide opportunities for learning from one another, reflecting on and improving existing practice and support of developing new ideas. For instance, in 2011, a number of regional seminars funded and supported by Escalate are
taking place to facilitate the dissemination of work done by ITE institutions around the UK to schools and other ITE providers in the region who may not be aware of work taking place on integrating ESD/GC into ITE.

The work that takes place within the regions of the UK feeds into the steering group, which is largely comprised of representatives from across the region of the UK, so there is a sharing of the practice that is taking place at institutions within the regions. This sharing at the steering group level then feeds back into regional activities at individual institutions.

The activities of the network are shared internationally through papers delivered at conferences and through articles in journals. The UK Network is a member of the UNESCO International Network on Reorienting Teacher Training to address Sustainability, and this provides another means of disseminating the work carried out by teacher education providers. Two members of the UK Network delivered a paper on the way in which the UK Network operates as a learning community of practice at the 2008 UNESCO Teacher Education conference at Anatolian University, Eskisehir, in Turkey.

The multilayered nature of the UK Network means that there is a two-way flow of information between the different communities of practice (regional, national, and international) of which the Network is comprised, as in Figure 1 shown below.

![Multilayered nature of the UK Network and the relation of its groups to the international network](image)

Wenger (2006) notes that communities of practice operate along three dimensions in the field of education:

1. **Internally:** How to organize educational experiences that ground learning in practice through participation in communities around subject matters? This relates to the learning around ESD/GC that happens within an ITE institution.

2. **Externally:** How to connect the experience of students to actual practice through peripheral forms of participation in broader communities beyond the
walls of the school? This relates to the sharing of practice between institutions regionally and nationally through the network.

3. **Over the lifetime of students:** How to serve the lifelong learning needs of students by organising communities of practice focused on topics of continuing interest to students beyond the initial schooling period? This relates to the learning of beginning teacher beyond their initial training and how they might continue to develop their knowledge and understanding on ESD/GC as the progress in their teaching careers.

All three points on the list above have relevance to the work of the UK Network as a community of practice and the different levels at which it operates.

The development of the UK TE Network has been against a backdrop of changing and differing policies driving ESD/GC in the four UK countries, as outlined earlier. These differing policies and approaches were outlined at the first UK TE Network conference in 2008 and have informed the activities of the Network through representation from the four countries at Steering Group meetings. The Network has liaised with existing regional networks across the UK and has worked to establish or revive regional networks where appropriate. As the Network works across the four nations and different regions within them, it is important that we ensure that we continue to learn from the best practice and strategic thinking from the different nations and regions.

We are convinced from the feedback received from a range of sources that the Network has raised the profile of ESD/GC through the website, conferences, regional networks and events and through talking about the network aims and activities at educational and policy conferences and seminars across the four nations and internationally. In October 2009, the Steering Group identified the need to do more to raise the profile of ESD/GC within every ITE institution across UK. We decided to mount a survey of ESD/GC provision within teacher education across the UK to find out the ‘state of play’ across each region and nation and to develop further strategies for embedding provision across teacher education. The data from this survey is being analysed at the time of writing and the results will be published early in 2011. Early analysis would suggest that, while many ITE providers are attempting to embed ESD/GC within their training programmes and are making good use of support and resources from NGOs and other agencies, more needs to be done to help institutions share practice and link with each other, especially during times of enormous changes. The Network will take on this challenge.

Pivotal to the development of a learning community of practice is the Network Steering Group. The group comprises representatives from teacher education in England, Scotland, Northern Ireland, Wales and regions within England. It has also representation from NGOs, national educational bodies, such as ESCalate, the University Council for the Education of Teachers, the Development Education Association, all educational sectors and from the Training and Development Agency that regulates teacher education in England. Thus, the group includes a very important range of expertise and experience in relation to research, policy and practice. It is this group that decides Network policy and activities. The management team at CCCI LSBU is supported by and accountable to this steering group,
and this is an important feature of the way that the network operates, as it is seen to be inclusive, democratic and responsive to the needs of members.

**Annual conferences**

A major challenge for the Network is to ensure that we promote and share practice that is underpinned by theory and embraces critical thinking. The annual conference has been a useful vehicle through which to do this. Themes for each of the ESD/GC network conferences have engaged with current issues with an underlying focus on critical reflection to ensure that we challenge assumptions with respect to policy, research and practice and ask questions about the effectiveness and impact of the ESD/GC research and projects. For the inaugural conference in 2008, it was decided to call for critical presentations of practice, which would address one or more of the following areas:

- embedding ESD/GC in the ITE curriculum through subjects, thematic work, whole course development;
- partnerships between ITE institutions and NGOs, schools and other educational organizations;
- whole school approaches to ESD/GC;
- global linking.

Presenters were also asked to raise critical reflections in relation to the initiative described and situate the initiative in political and theoretical contexts. Presentations were uploaded onto the Network website and online conference proceedings published.

Feedback through evaluation comments was analysed and discussed by the Steering group. This analysis combined with participant suggestions for future conferences led to the proposal of the following themes for the 2009 conference:

- perspectives on ESD/GC: thoughts, challenges and tensions;
- researching the impact of ESD/GC ITE provision on beginning teachers;
- developing criticality through practice.

Both keynote presentations were concerned with criticality. Räsänen (2010) from Oulu University addressed developing criticality in new teachers, and Shah (2010) examined what criticality in ESD/GC means in policy and practice. During the Plenary, a panel of key policy makers from Scotland, Northern Ireland, Wales and England discussed what constitutes critical thinking in ESD/GC in beginner teachers.

The 2010 conference was entitled ‘Education of Hope: The Impact of ESD/GC on the Well-being of Teachers and Young People’. The following questions were posed in the guidance for the 2010 conference in order to explore and develop the theme of well-being and ESD/GC:

- Does ESD/GC provide hope or despair? Do we have to go through despair to get to hope?
- What do we mean by well-being? What impact does ESD/GC have on the well-being of beginner teachers and on young people? How can we evidence that impact?
• How can we develop a curriculum content and pedagogy that helps new teachers acquire the attributes they need to enable young people to ‘make a difference’? How can we mainstream this practice?

The Keynote address ‘The Long Transition: Educating for Optimism and Hope in Troubled Times’ given by Hicks (2010) set the context for the day. At each conference, there are opportunities for network, both formally and informally.

The Network website

To further support the learning community of practice all the outcomes from the conference are published online on the Network website (www.lsbu.ac.uk/ccc). This is supported by the publication of conference proceedings in hard copy so that the Network has a presence in libraries as well as providing the presenters with a more public audience for their papers. The website was launched initially on the Centre for Cross Curricula Initiatives site and soon moved to a linked independent site. Contacts, events and activities with examples of practice and policies are provided for each country. Academic articles and downloadable teaching resources are also available on the site.

Conclusion

At the launch in 2007, the Network had two aims: (1) to develop a UK wide community of practice in ESD/GC and Teacher Education (TE) through which good practice can be shared and disseminated and (2) to contribute to embedding ESD/GC in UK TE institutions. The researchers are confident that the primary aims are being fulfilled as there is now a vibrant UK wide teacher education community of practice in ESD/GC whereby radical practice can be explored, questioned and shared. The rapidly changing and somewhat depressing government policy context for education particularly in England makes it difficult to predict how effectively the Network can affect policy change and/or long lasting change in course content so as to embed ESD/GC in teacher education across the UK. The potential demise or scaling down of the subject centres of the Higher Education Academy will undoubtedly affect the substantial support that the Network currently receives from ESCalate as the subject centre for education. At the current time we are not clear what will happen to the Training and Development Agency, but it is highly likely that it will no longer be able to provide the support for the network that it has done in the past. However, new alliances and networks to defend and argue for ESD/GC in the curriculum are springing up. The Network will work alongside new and existing alliances to try to convince policy makers of the critical need to ensure that new teachers are equipped to develop effective ESD/GC in schools.

Whatever the challenges ahead we are confident that the Network is now strong enough to develop strategies to ensure that ESD/GC not only survives but further develops in this changing context. The title of our 2011 conference ‘Building Capacity for ESD/GC in Times of Change’ seems very appropriate for the next stage of our journey. We need to
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retain our optimism and hope and remember the words of Friere (1994, as cited in Hicks, 2010).

One of the tasks of the progressive educator is to unveil opportunities for hope, no matter what the obstacles might be.

References:


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Abstract

The present study attempts to highlight the main processes of the acquisition and development of various environmental perspectives and puts forward suggestions on how youth can be better addressed in the light of the research findings. The present paper involved the use of a number of focus groups and a contextual study that examined the development of environmental education on the Maltese islands, considered the main local environmental issues and subsequently analysed the main causes and mechanisms that have shaped the development of the local environment and the Maltese people. An environmental perspectives model was designed employing the technique of graphical display. The research results indicate relatively low positive behaviour towards the environment.

Key words: environmental education, attitudes, behaviour, youth

Introduction

The perception of environmental issues, attitude and knowledge of young people is of great importance due to a number of reasons:

- knowing what students think about the environmental issues will encourage pro-environmental education (Pawlowski, 1996);
- the involvement of youth in decision-making and the implementation of environmental and developmental programmes is critical to the long-term success of Agenda 21 (UNCED, 1992);
- college students are an important segment of society and warrant attention in terms of studying environmental attitudes, as they have been the leading crusaders in the modern environmental movement. For instance, the huge success of Earth Day 1970 in the USA was largely attributed to college students when approximately 1500 colleges participated in the campaign (Harper, as cited in Thapa, 2001);
- according to the Maltese National Youth Policy (Ministry of Education, 2004), the State should follow a policy that helps young people to take an active role in the protection and improvement of the environment for a
sustainable future and encourage young people to adopt a pro-environmental attitude.

Background to the study – the Maltese context

The environment

The Maltese islands are a small archipelago located in the centre of the Mediterranean. The Maltese archipelago comprises three inhabited islands – Malta, Gozo and Comino – with a number of uninhabited smaller islands. The most serious environmental problems arise from the fact that Malta is one of the smallest states in the world and one of the most densely populated. The high population density is augmented further by high tourist arrivals of about 1.2 million yearly (Mallia, Briguglio, Ellul, & Formosa, 2002). The main environmental issues on the island include waste production and management, reliance on fossil fuels for energy production, high private motor usage and freshwater production requiring a high energy input.

Environmental education development

Environmental education in Malta started off with environmental NGOs in the 1960’s, mainly in response to the major environmental issues on the island. The awareness raising campaign was a very long affair, hindered in its development by a number of factors that lead to the slow growth of environmental education in the islands. These factors include:

- the highly competitive educational system;
- the non-committal policy of the government;
- the colonial mentality.

In the formal education sector one of the major problems is the dominant educational ideology that suppresses creativity and rewards rehearsed words in examinations. Individual teachers who are interested in the environment may attempt to highlight environmental education, but the majority of teachers are hampered with little timetable time and lack of locally produced resources. Some materials currently used in schools were produced for use in other countries, and their transferability in the local context should be cautiously studied.

With regards to the local government, it is apparent that the Maltese government mainly funds projects that have short term goals. Additionally, the lack of a clear national policy on environmental education has resulted in a waste of human resources and the shelving of long-term environmental education initiatives. Due to the fact that Malta was a colony for a long time, a number of anthropologists have indicated that the Maltese people seem to have a problem realising they own the island itself and its environment (Boissevain, 1990). Subsequently, they do not attach much importance to the outside environment. Furthermore, although the Maltese native language is taught and understood
by everyone, the English language is still considered to be more prestigious. The situation started to improve mainly in response to the requirements imposed on the country by the European Union. The government is now realising that the environmental education is an effective and long-term solution to ensure environmental sustainability. Many government officials speak of their commitment towards sustainability, but their concern is mainly short-term.

Research in the field of youth studies

There is a considerable body of literature relating to research on the environmental knowledge and attitude. A lot of research has been carried out on primary and secondary school pupils and also on the general population. However, much less emphasis has been placed on the studies that concern post-compulsory education students aged 16–18.

The majority of the studies that focus on students at the secondary school level were primarily quantitative (Barrett & Kuroda, 2002; Kaplowitz & Levine, 2005; Makki, Abd-El-Khalick, & Boujaoude, 2003; Mogenson & Nielsen, 2001; Tuncer, Ertepinar, Tekkaya, & Sungur, 2005). There are some qualitative studies (Sivek, 2002). The majority of studies reported a positive attitude towards the environment, except a study by Gambro and Switzky (1996), and a variety of levels of environmental knowledge. Other findings indicate poor knowledge of environmental issues (Kuhlemeier, Huub, & Nijs, 1999; Gambro & Switzky, 1999). The majority of the studies did not actually investigate whether youth had taken any actions in relation to the environment.

Few environmental knowledge and attitude studies have been carried out in dense island communities (Volk & Cheak, 2003; Hsu, 2004; Hsu & Roth, 1996). These studies are primarily quantitative, except a study by Volk and Cheak (2003).

Hsu and Roth’s (1996) study assessed the environmental knowledge and attitudes of a different age group but included a variety of statistical analysis that indicated the significance of certain results. Although the level of environmental knowledge was generally high, relatively negative environmental attitudes were exhibited.

Qualitative studies are few, therefore a potentially fruitful area of research is the use of qualitative methods to carry out research on environmental knowledge, attitudes and actions towards the environment of youth. One way to maximise the potential benefit of these studies is to apply these methods to the local scenario which has been relatively understudied.

Outline of the methodology

The present study is primarily qualitative, employing hermeneutic/constructivist approaches. It included the use of focus groups and the analysis of the local social, cultural and environmental milieu in which environmental knowledge, attitudes and actions develop. The first part of the study included ‘immersion’ into various areas of literature that are relevant to the research area to provide a better understanding and provide insights on
the Maltese situation. The literature review included a number of areas which were then condensed to the following working titles: local environmental issues; development of environmental education; studies of youth and environmental issues.

The results from the issues studied in the three main areas of literature review were used to provide the background for the study. Additionally, the analysis and subsequent synopses of these main issues provided a link between the research questions and the research design. This approach allowed the exploration of Maltese youth in the main post-secondary institutions and was instrumental to shed light on their knowledge, attitudes and actions towards the environment and the processes that lead to the development of such environmental knowledge, attitudes and actions.

The study

There were four focus groups with a total of 28 youngsters. These were selected through purposeful sampling. More groups seldom produce new insights and generally reach the point of ‘saturation’ where additional data collection no longer generates new insights (Glaser and Strauss, 1967). The first one was a pilot group and the transcript was examined a number of times by colleagues for feedback.

The main structure of the focus group interviews was as follows:

- What are your concerns about the environment?
- What do you think are the causes of environmental problems?
- How do you think we can improve the Maltese environment?
- What do you do to protect the environment? What actions do you think you can possibly do?
- How do you get informed about the environment? How reliable do you think this information is?

An analysis of the focus groups was carried out during and after the data collection. The 6–8 participants in each focus group volunteered and owing to their student status had certain characteristics in common that relate to the topic of the focus group. The researcher acted as a moderator or an interviewer in all the groups and tried to ‘create a permissive and nurturing environment that encourages different perceptions and points of view, without pressuring participants to vote, plan or reach consensus’ (Krueger, 1994). In all the focus groups, the participants explored the environmental issues facing the Maltese people both from a personal and social perspective. For instance, there was recognition of the potentially high personal cost of acting pro-environmentally. Alternatively, politicians were seen to have short-term interests, not always in line with environmentally responsible, long-term planning.

The qualitative data analysis was based on an adaptation of the approach identified by Vaughn, Schumm and Sinagub (1996) who suggested four processes:

1. identifying the big ideas – the participants’ words and ideas and the intensity with which the participants responded provide an initial framework;
2. unitising the data – identifying units of information from the text that will later become the basis for forming themes;
3. categorising the units – bring together the units of data identified above that are related to the same content;
4. identifying the themes – after considering the big ideas and the categorisation of the units the main themes are identified and refined.

The selection of the ‘quotes’ to include was informed by a professional judgement of what was important and significant for the context of the study. This, in turn, was based on the considerations of trustworthiness and transparency in qualitative studies, insights gained from the literature review and the existing knowledge of environmental education in Malta and the Maltese environmental-political context rooted in:

- experience in teaching environmental science to college students;
- experience of local and global environmental issues at the Malta Environment and Planning Authority and at the Ministry for Rural Affairs and the Environment;
- experience in the environmental education programmes.

The findings

No previous focus group study has ever been made on youth and the environment in Malta. The present qualitative study has brought to the surface quite a range of views regarding the Maltese environment. The facilitator asked general questions to stimulate discussion regarding the participants’ perceptions of the local environment. With no direct influence from the facilitator, the participants introduced into discussion several broad themes, the main points of which are summarised below.

Trust in the political system and the media

The participants’ trust in the political system was overwhelmingly negative in practically all of the focus groups. The majority of participants sensed that the political parties in Malta are mainly interested in power.

*Their only interest is in politics and power.*

(Julianne, 2.84)

Most of the participants were very frustrated by the fact that the media in Malta are manipulated, to a great extent, by political parties.
Maybe the Maltese national television station – the others are just political stations – they just talk about politics – and the news is that either all is good or all is a disaster. I only watch the Maltese national one. It is the best out of the three local ones.

(Samantha, 1.136)

The participants mentioned two main reasons for their belief in the view that the government does not do enough for the environment in terms of laws and law enforcement. Both laws and law enforcement are seen as being one way of how the political party in power can lose votes. The following statements illustrate this premise well, as the participants recount from their own experiences why they perceived the government as dragging its feet on both courses of action.

*The problem is that IT is afraid of the people.*

(Pierre, 1.19)

*Who?*

(Moderator, 1.20)

*The government – if it enforces something it can negatively influence the voters.*

(Pierre, 1.21)

*I am not saying that I agree with the government or something – but if it enforces the laws it will work against him. For example, when the labour government enforced the importation laws, everyone turned against it, because that is how illegal objects used to enter.*

(Roslyn, 2.86)

Participants also scrutinised the current work carried out by the government with respect to the environment. The general feeling was that of ‘apathy’ on the governments’ part. The perception is that the government is doing very little to protect the environment. Other participants discussed suggestions and explored thoughts on what they really expect from the government.
The government does not do a lot about the environment. We pay taxes, don’t we? Well, actually my mother pays taxes. The government does not do a lot for the environment.

(Oliver, 1.24)

The focus group participants were very positive about the information on the environment provided by schools.

Mainly from schools. And there are some campaigns on television and other campaigns.

(Gianluca, 1.119)

Personal actions

Many participants reported a variety of different personal actions they perform for the environment. Nonetheless, many of these actions do not actually cost anything, with the exception of one participant who reported the use of biodegradable detergents even though they cost more than traditional detergents. The majority of personal actions reported, involved separating waste into different streams or using reusable items.

I collect all batteries. I collect them in a bag. I do not throw them away.

(Naomi, 1.83)

I use rechargeable batteries whenever it is possible.

(Samantha, 1.84)

When I go shopping, I normally take a cloth bag with me.

(Gianluca, 1.86)

It is interesting to note, however, that, when given a choice, a number of students choose environmentally friendly practices.
There were offers from the banks regarding the opening of accounts. If you open it with HSBC, they plant a tree in your name, but if you open the account with BOV they give you a present. I preferred to open my account with HSBC, so now I have a tree planted in my name.

(Paulette, 2.142)

The influence of parents on youth’s personal actions came across as creating a number of occasionally, conflicting concerns. Some parents appear to be providing environmental role models for their children, while other parents perform environmental friendly practices only for their financial payback. Some parents are reported to be totally uninterested in personal actions towards the environment and students report that this attitude may have in fact infiltrated to them as well from their parents.

For me, it is a question of education. Why do I have to switch off? Because I shall have to listen to my mum shouting for an unspecified period of time.

(Loredana, 3.95)

It could be, because my parents also waste a lot. However, now they are putting some breaks on as the bills are really becoming expensive. But they only worry about the money – and they annoy me with their shouting.

(Matthew, 4.66)

Civic responsibility

The participants in the focus groups were very distressed when discussing civic responsibility. The general perception was that the Maltese public lacks civic responsibility towards the environment. The participants fervently wished for more enforcement and an increase in fines. The participants were positive on instances where people were fined by wardens for environmental offences but generally sceptical of the effectiveness of the enforcement system in its entirety.

The people that dump should be properly fined. There are people who should have been fined one thousand Malta Liri. But this fine is not being really applied by wardens. People contact each other that wardens are coming, and then no one is caught in the act.

(Loredana, 3.67)
A statement that received approval from a number of participants in the focus group was that financial incentives are being seen as the main driving force behind the environmental responsibility. People are not enticed to behave in a pro-environmental way because of the environment.

*I think that a lot of people reduce their use of electricity because it makes financial sense rather because of the environmental benefit.*

(Matthew, 4.55)

A number of participants mentioned they do not bother to write letters to politicians or people in authority. Their perception is that these people will not give importance to these letters as they are written by teenagers.

*It is a waste of time. They will not give any importance to what we write.*

(Larkin, 3.97)

**The Maltese people and the local environment**

The participants think that the Maltese people attribute much importance to local politics. One participant pointed out that this tendency seems to have reached ‘a way of life’ status in the Maltese society. Some local people may be termed political fanatics.

*The Maltese are fanatics. About 97% of all those that could vote actual went out to vote in the last elections. We are on top as one of the countries that has the highest voting turnout. I will try to bring that down. It is senseless, isn’t it?*

(Matthew, 4.53)

A characteristic which was frequently mentioned by the participants was the perception of the profusion of corruption in all strata of the Maltese society. The participants reported two reasons: politics and the Maltese society, where everyone knows everyone else.

*Because there are preferences. Because I know that person, and I know that if I am caught doing something I know I will be freed, because he will not take notice of me.*

(John, 4.20)

**Education and the role of schools**

The participants described the schooling process as being generally positive in the provision of environmental information, but lacking when it comes to actual or effective
environmental action. Sometimes the provision of information in the schooling process was considered to be a very important aspect of schooling. In most cases, the participants believed that mainly science teachers provide trustworthy information about the environment.

*Mainly the teachers that teach us environmental science and environmental studies. But you do find other teachers that try to raise awareness.*

(Gianluca, 1.36)

The participants had challenging experiences that relate to actual pro-environmental actions that are done in schools, mainly because their perception was that it was pointless. Thus, the participants were very reluctant to separate waste as, in the end, the waste bins were still mixed up together by the caretakers and sometimes by the students themselves that did not separate waste.

*For instance, in our class we had two different bins: one for paper and one for plastic, however, nobody used them a lot*. (*Stephanie, 1.37*)

*Why, what was the problem?* (*Moderator, 1.38*)

*We were the problem. We still ended up with two dustbins full of mixed rubbish.* (*Stephanie, 1.39*)

*The students are the problem.* (*Samantha, 1.40*)

*We also used to have dustbins in the school. But then, the caretakers used to jumble up everything again notwithstanding our effort. It was no use. The dustbins were in our classes and they use to tell that they keep them separate. But we knew that they (the caretakers) actually mixed everything up.* (*Oliver, 1.41*)
The participants also raised questions concerning the ultimate role of local schooling. Their perception was mainly meritocratic, in a sense that schooling is mainly there to provide certification. The participants would hesitate to attend courses if no certificate is gained in the end.

*I think that the real problem is the educational system rather than the teacher. The educational system makes you look at something with a certain perspective. Only certificates are important here, learning is not. Why do you think there are all these students here? You really think they come here because they are interested in learning. Most of them come for a certificate.*

(Michelle, 4.107)

*I am not afraid to say that this is the reason why I come to school. I primarily attend school because of certificates, although I am interested in interesting lessons.*

(Matthew, 4.108)

*Well, if you do not get certificates, you will end being cut off from the rest.*

(Michelle, 4.109)

Several students commented about the usefulness or otherwise of books especially in a school context. One prevalent issue of particular concern was the fact that most books that are currently being used are not locally produced ones but foreign and, therefore, do not focus on the local issues.

*I do not know what to say about books. With all respect, they are boring. I like to buy certain books on animals. My mother tells me it’s a waste, books on tigers and lions. But the school books, are not nice, I close the science ones as they make me afraid.*

(Paulette, 2.168)

*I did not buy the school books. I learn a lot from what I see, the environment all around us.*

(Terence, 2.169)

*I bought them for nothing, because I never open them.*

(Emilio, 2.170)
Why didn’t you buy books or use them.

(Moderator, 2.171)

They are on America, not on Malta.

(Emilio, 2.172)

Thoughts about the future

A number of focus group participants had a number of negative comments about the environmental future of the Maltese islands. They expressed their concern on the way waste is managed and the mentality of people that dump waste in the environment.

The environment will soon be destroyed. We are not taking care of it and are becoming a dump site.

(Tiziana, 3.2)

I agree with Tiziana. It is being destroyed. Everyone is throwing waste – we are destroying everything. No trees are left in the wild, everyone throws old fridges outside.

(Loredana, 3.6)

On the other hand, some participants had a more optimistic outlook and stated that more people are now continuing to study and also mentioned that the fertility level of the Maltese people is decreasing. These factors were seen to contribute towards increased environmental awareness and a stabilisation or decrease in the population.

Malta will eventually move forward, there are many more people continuing to study.

(Gianluca, 1.177)

Overpopulation is a huge problem.

(Stephanie, 1.178)
Overpopulation will eventually go down. There will be fewer children. We shall emigrate looking for better jobs.

(Gianluca, 1.179)

An overarching response brought up by a number of participants was the importance to increase local environmental awareness. Some participants argued in favour of their possible contribution to increase awareness in the family, at school and at work. Other participants compared Malta to other countries when it comes to dumping. Awareness raising was suggested as a way forward in this regard.

Involve the family. Increase awareness of my friends at work, at school. I am really annoyed when someone throws rubbish on the ground. I really get upset.

(Naomi, 1.115)

In other countries outside of Malta – you do not see paper rubbish on the ground. For example, in New Zealand if you walk barefooted – your feet remain clean.

(Naomi, 1.116)

My mother used to remove her shoes somewhere in the U.K. – about twenty years ago. When I went abroad and came back, I thought that there is a disaster in Malta.

(Samantha, 1.117)

Two other general issues which were identified from the focus groups as requiring much more investment and attention in future were transport and alternative energy. The question of incentives and costs was always at the forefront of the discussions as the participants believed that people, for instance, will not change their habit of predominantly using private transport unless there are incentives or diminished costs involved.

The importance of education in raising environmental awareness was highlighted in the focus groups. In particular, the participants believed in the positive effects of outdoor education on environmental awareness. These findings concur with certain other pieces of work where outdoor experiences have been shown to be important influences on environmental awareness and/or environmental sensitivity (Sivek, 2002).

Environmental perspectives model

The three distinct axes of young people’s perspectives emerged with regard to the island’s environmental future:
• optimism and pessimism (rooted in the perception of society);
• empowerment and helplessness (rooted in the perception of individual);
• ownership and detachment (rooted in the perception of environment).

The majority of perspectives appear to occupy various points created by the intersection of these three continuum lines, around a transition area between the main polar views. The present research does not provide a statistical analysis of the responses in order to pinpoint various locations on the model that would represent groups of youth; rather, the model represents the confines of all the perceptions that were discovered.

Figure 1. Environmental perspectives model

Optimism and pessimism

The majority of the participants believe that the Maltese environmental quality has deteriorated over the past years and is in a poor state at the moment. Nonetheless, individuals come to terms with this reality in different ways. The optimists have a positive outlook and argue that more people are now continuing to study, and the fertility level of the Maltese people is decreasing. They understand the limitations of the Maltese people and institutions, but also believe that by collective work and effort our children can and should inherit a better world. Pessimists have a number of negative comments about the environmental future of the Maltese islands. They are concerned about the waste issue and the mentality of local people that dump waste in the environment and who are not really
interested in the environment. Pessimists view the Maltese people and institutions as being too corrupt with their main interest as economic gain. This continuum line appears to be rooted in the young people’s perceptions on the Maltese society itself.

_Malta will eventually move forward. Much more people are continuing to study._

(Gianluca, 1.178)

_Last year we had an exchange with an English group – and they participated in a workshop on the environment, they discussed and we took a backseat. I did not understand anything. We are a small country when compared to England._

(Stephanie, 1.177)

_Empowerment and helplessness_

The participants appear to be actively interested and involved in the environmental activities and have a genuine interest in ‘saving the planet’. Some concrete suggestions are put forward, including the possible reclamation of land around the Maltese islands by using demolished waste. This was seen as a possible future scenario, but the students were concerned about the possible impacts on the marine environment. The research participants appear to be active or even pro-active with regard to the events unfolding before them and argue in favour of their own possible contribution to increase environmental awareness in the family, at school and at work in the foreseeable future. On the other hand, helplessness is identified by the participants who view trying to be pro-environmental as a complete waste of time. These participants live by the maxim ‘let the future unfold itself then we will see’. They appear to be somewhat passive to the events unfolding before them. In this continuum there is the fatalistic, ‘let it be; I cannot do anything about it’ approach to the active ‘I have to (and can) do something about it’. This continuum line appears to be rooted in the young peoples’ perceptions of themselves as individual persons, and ‘costs’ and ‘incentives’ appear to play a major part in this continuum.

_I do not do anything because it still is futile. Even if you separate waste, the waste collectors will still put all waste in the same collector. It is not worthwhile._

(Larkin, 3.81)

_We only use a small amount of water and electricity. All the water we use is nearly entirely coming from the rain because we have a well and we take care of it. We use the water throughout the year, even in summer._

(Emma, 3.84)
Ownership and detachment

The majority of participants believe that the environmental quality has deteriorated over the past years. Nonetheless, some participants appeared to be detached from the local environment, continuously shoving responsibility to the government as if the environment is not their responsibility. Their appreciation of the Maltese environment is very low, and they see it as impoverished when compared to other environments in other geographic regions. They make few connections between their current and future quality of life and the quality of the environment. Other participants showed a higher sense of ownership. They are aware of the uniqueness of our environment and have a good grasp of the complexities and social shades of local environmental issues. They view the environment as a delicate, intricate web. They are aware that their future quality of life depends on the quality of sustaining the environment. This continuum appears to be rooted in the young peoples’ perceptions of the local environment itself.

*It is mainly the government that should take action. If the government knows that there are these problems, it should churn out some more regulations. And people need to follow the regulations.*

(Michelle, 4.18)

*If you have furniture that is still usable but you still want to get rid of it, you can send it to Appogg. Appogg is the centre that caters for beaten up women. My father works in the centre, he collects furniture from people and then gives it to the people who are in need and registered with Appogg.*

(Sarah, 4.25)

Conclusion and discussion

The importance of schooling as a provider of good and reliable environmental information has been highlighted in the present study. Nevertheless, more consistency across schools is required, and outdoor education needs to be included in the agenda. In the present study, television is thought of as being the major source of young people’s environmental information, and school is the second major provider. The present study also shows convergence with other studies (Pawlowski, 1996; Ivy, Lee, & Chuan, 1998; Connell, Fien, Lee, Sykes, & Yencken, 1999; Barrett & Kuroda, 2002; Said, Yahaya, & Ahmadun, 2007) where the media were highlighted as the main source of environmental information. In the present study, television has also been afforded a high score for provision of information, but it has a lower rating of reliability. Political interference seems to be a major obstacle.

It is clear that students are more knowledgeable about the global environment than about the local environment. This situation has possibly been brought about by a number of factors, but the main concern is the lack of textbooks on the Maltese environment.
The importance of factors that influence attitudes has been highlighted in the present study, as these are significantly related to pro-environmental behaviour. The findings on the effect of the local context are supported by Hampel, Holdsworth and Boldero (1996), when they argue that lower socio economic status people would be expected to be more sensitised to the environmental problems and more concerned about them than those in more socially advantaged circumstances. These people have the most dangerous and dirty jobs and more often live in blighted urban areas near busy roads, toxic waste sites, polluting factories, power lines and contaminated water (Hallen, 1994, as cited in Hampel, Holdsworth, & Boldero, 1996). The importance of parents as environmental role models was highlighted in a study by Sivek (2002), where both the mother and the father achieved high scores as important role models. Moreover, the significance of parents in supporting pro-environmental behaviour was emphasised by Connell et al. (1999), where the highest degree of full support for environmental action was from their ‘immediate families’.

NGOs, local policy makers and local educators have to take these findings very seriously when devising new environmental education programmes. This is to ensure that such programmes do not just lead to an accumulation of knowledge, but also to improved pro-environmental behaviour. The researchers should start studying the effectiveness or otherwise of such programmes, so that maximum benefit is derived from the limited financial and human resources available.

As a number of environmental problems in Malta are getting worse, the role of young people and future generations in working towards a possible solution becomes more important. In this scenario, schools should be main stakeholders not only in terms of educational policies but also in relation to environmental policies, both at the regional and national level.

Youth have a very positive perception of schools and the information schools supply enjoys a very good reception by youth. Policy makers should attain a primary importance to the implementation of education for sustainable development. Information is properly being supplied by schools, but policy makers need to understand that more knowledge does not necessarily lead to enhanced pro-environmental behaviour. The government should implement education for sustainability in the primary school curriculum. This change needs to be accompanied by the removal of the 11+ exam which has been identified through the contextual study as the main factor that reduces the possibility of environmental education in the classroom.

At all the primary and secondary school levels, the physical campuses and grounds should be made as sustainable as possible with the use of electricity generation through PV panels and micro wind turbines, waste separation at source, energy conservation with energy saving bulbs, low flush toilets, solar water heaters for water heating, gardens that reflect the Maltese natural environment rather than ornamental and exotic planting and the use of composting heaps.

Most of the suggestions provided above should not be sporadic efforts by individuals or single schools, but should come through a national system that co-ordinates activities and ensures consistency across all schools. In the local scenario, it is imperative that the government leads the way by a project that aims to support activities that can fully engage
with local youth in order to increase awareness and pro-environmental behaviour. Leading by example is sorely desired by the present youth population.

References:


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WASHBACK EFFECTS OF HANDOUTS ON THE TEACHING AND LEARNING PROCESS IN HIGHER EDUCATION INSTITUTIONS IN ETHIOPIA: ADAMA UNIVERSITY IN FOCUS

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Abstract

The present study investigates the washback effects of handouts on the teaching and learning process in the higher education institutions of Ethiopia, particularly in Adama University. A descriptive survey and analytical research methods were employed in the present study. A questionnaire, an interview, a document and content analysis were employed to collect data. The data was analysed using quantitative and qualitative approaches. The data gathered through the close-ended items of the questionnaire was analysed quantitatively using the chi-square statistic, whereas the data collected via some interview guides and some items of the questionnaire was analysed using the percentage. Besides, the qualitative data gathered via the open-ended items of the questionnaire, some items of the interview were analysed qualitatively. The research results reveal that the way handouts are being prepared and used in higher education institutions of Ethiopia does not encourage active and independent learning. Some recommendations which are deemed crucial for alleviating the problem are suggested.

Key words: handout, washback effect, teaching and learning process, higher education institution

Introduction

Education is a fundamental human right which is the key to sustainable development, peace and stability among countries. Besides, education is an indispensable means for effective participation in society and economies of the twenty-first century which is influenced by globalisation (King, 1995). As such, it has a direct and positive effect on earnings, farm productivity and human fertility, as well as an intergenerational effect on children’s health and nutrition. Over the past decades, the world has made a remarkable progress towards expanding access to education, and a striking grand achievement has been registered regarding school age population (King & Hill, 1993; Raudenbush & Willms, 1991).

For education to play these decisive roles, according to Lockheed and Verspoor (1991), it should meet quality standard in terms of inputs (facilities, qualified teachers,
parents and community support), processes (effective leadership, monitoring and evaluation, accountability, community participation, effective teaching-learning and student assessment) and outputs (high student learning, societal and individual returns). Though quality in education is relative and not easy to define and measure. As suggested by some scholars (Cook & Cook, 1998; Farrell, 1989; Fuller, 1986), the quality of education largely depends on the teaching-learning process.

An assumption that higher education can play a great role in both raising awareness among students about sustainable development and giving them the skills to put it into practice is unquestionable. Concerning this argument, Marginson (2008) argues that research is seen as central to the future of nations. The positive impacts of higher learning institutions on the economic development and poverty reduction, particularly in developing countries like Sub-Saharan Africa, are underscored. In this regard, Kofi Annan, as cited in Bloom, Canning and Chan (2006) states that the university must become a primary tool for Africa’s development in the new century. Universities can help develop African expertise; they can enhance the analysis of African problems; strengthen domestic institutions; serve as a model environment for the practices of good governance, conflict resolution and respect for human rights, and enable African academics to play an active part in the global community of scholars.

Despite this fact, enrolment rates in higher education in Sub-Saharan Africa are the lowest in the world. Although the gross enrolment ratio has increased in the past 40 years, it is still only 5 percent. The region’s progress has been dwarfed by rapid gains in other regions. The growth in enrolment rate has been slow in Sub-Saharan Africa, and the absolute gap by which it lags behind other regions has increased rapidly. The region’s present enrolment ratio is in the same range as that of other developing regions 40 years ago (ibid, 2006).

Cognizant of the decisive role education plays to speed up the overall socio-economic progress of the country, the government of Ethiopia has given a high priority to education in its strategy of capacity building and economic development. Since the issuance of the Education and Training Policy (1994), the Ethiopian Ministry of Education has produced a document entitled Higher Education System Overhaul (HESO) that outlines a reform for its tertiary education. Similar to the situation in other African countries, the reform’s objectives are to ensure equity, access, accountability, relevance and responsiveness to the demands of the Ethiopian people (Ashcroft, 2004; Wondimu, 2004; Kassaye, 2005; Margo, 2006; Semela, 2006). In sum, the reform process emphasises the perspective of poverty reduction and bringing about sustainable development.

However, unless the graduates of these higher learning institutions have the necessary knowledge, skills and attitude that the present world demands, it is difficult to realise the aspired development. In this regard, among other things, the inputs being used in the teaching-learning process have far reaching impacts. Regarding this point, Rajput (1996) argues that the resources for learning that a teacher and his/her students use can influence the effectiveness of the instructional programme. The creative use of such materials will increase the probability that the students learn more, retain better and improve their performance. One of these inputs is the handout being prepared and used by teachers in the teaching and learning process, particularly in higher education establishments.
Theoretical framework and basic questions of the study

A handout is an elusive concept. This is because different scholars define it in different ways. For certain people, a handout is something given for free or without compensation. In this sense, a handout is related to a charitable gift. For some other people, a handout is a resource which supports the teaching and learning process. A handout is considered to be a paper-based resource that supports the teaching and learning process which can free students from excessive note taking or supplement information not easily available elsewhere. Ideally, it should aid learning and may increase attention and motivation and help students to follow the development of an idea or argument.

Similarly, Ellington and Race (1993) describe handouts as types of information providing materials that are given to students or trainees, usually in connection with the lesson to be taught or a programme of some sort. They include sets of notes, tables, diagrams, maps and illustrative or extension materials.

Moreover, according to Wallace (1999), a handout helps students remember a presentation long after it is over, presents information visually, which meets the needs of visual learners, allows students to concentrate on presentation rather than trying to write down everything the teacher says, provides students with a guide to help them with future research and gives the teacher something to refer to when planning future sessions.

Here, it is clear that a handout particularly addresses the interests of visual learners. Tal (2005) states that transformative pedagogies require an approach that goes beyond traditional formats and addresses the various educational needs of the learners at the cognitive, psychomotor and affective levels.

Higher education establishments should implement pedagogical transformation that promotes transformative and interdisciplinary learning. This effort, among other things, helps the learners to engage in critical thinking, reflection, dialogue, problem-solving and knowledge production instead of simply consuming the ready-made knowledge.

The need for handouts to facilitate the teaching and learning process, especially in higher education establishments in developing countries like Ethiopia where there is an acute shortage of references, is unquestionable. But the way the handouts are being prepared and used should encourage students to become voracious readers.

In line with the importance of practicing active learning in the teaching and learning process, according to the Education and Training Policy of Ethiopia (1994), the development of problem-solving capacity in the content of education, curriculum structure and approach, focusing on the acquisition of scientific knowledge and practicum is of utter importance. This implies that the policy is in favour of the constructivism position that argues that humans generate knowledge and meaning from an interaction between their experiences and their ideas.

However, some studies (Serbessa, 2006; Margo, 2005; Margo, 2002) suggest that there is tension between what is stated in the education policy and what is being practised in the actual educational setting of Ethiopia in terms of the practices of active learning. In other words, though the policy emphasises the student-centred approach, the actual practice is still dominated by the teacher-centred approach where students become passive recipients.
This situation is a “one-size-fits-all” approach to teaching and fails to take the diversity of students and their needs and interests into account. Learning theories show that people normally learn in a quite different modalities, visual, auditory, kinaesthetic (Tessema, 2006). This, in turn, implies that we should emphasise the application of multiple approaches to cater for the diverse learning styles of the students. Regarding this point, McLaren (1989) claims that schools are cultural arenas where a heterogeneity of ideological and social forms often collide in an incessant struggle for dominance.

Here, the researcher argues that one element which makes the traditional teacher-centred approach to be sustained in the education system of Ethiopia is the use of handouts, which encourage too much passivity in the students. Hence, there is a need for conducting a research and rectify the mismatch between the intended purpose of using handouts and their limiting side effects on students’ learning in the target university. Accordingly, the present research attempts to answer the following questions:

- How do Adama University teachers prepare their handouts? Are there any guidelines in the university helpful for preparing activity-based handouts?
- Do Adama University teachers know the general principles to be followed in preparing activity-oriented handouts?
- Do the teachers know how to use handouts effectively?
- To what extent do the teachers encourage alternatives to handouts such as internet, website, worksheets, references, module guide, and the likes?

Research design and methodology

In the present research, a handout refers to the sheets of paper that university instructors provide students to conduct the teaching and learning process. A washback effect refers to the flashback or the side effect of using handouts in students’ learning.

The present study objective is to assess the washback effects of handouts on the teaching and learning process in higher education establishments of Ethiopia in general and in Adama University in particular.

In the present study, the research methods which were employed are the descriptive survey research method and the analytical research method with a special focus on a survey and a content analysis. A content analysis was used to analyse the extent to which the handouts being used in Adama University enhance self-learning, problem-solving skill, independent work, further reading and critical thinking. In short, through this method, it was checked whether the handouts are written in prose form, which does not call for asking and answering questions while reading, or gapped form, i.e. skeleton notes and worksheets that require the students to fill in via further reading/thinking thus removing passive elements in a situation where all the information is provided.

A survey was used to gather information from the sample instructors and students concerning the details of issues related with using handouts in the university. Moreover, a document analysis was employed to check whether or not there exists a guideline helpful for preparing handouts that enhance active learning in the university.
The sources of data in the present study were instructors of Adama University, some students of the university, documents and some sample handouts. In short, both primary and secondary sources were used in the present study.

In the present research, out of the total of 632 teachers of Adama University, twenty five percent of them i.e. 158 teachers were selected as samples using simple random sampling and stratified sampling techniques. The simple random sampling technique was used to create a situation in which each teacher gets an equal chance to be included in the sample. On the other hand, the stratified sampling technique was employed to make the number of male and female teachers proportionally represented in the sample. Moreover, some handouts which are being prepared and used by Adama university teachers were taken from selected departments, and multistage sampling was used to select the chapters, topics, subtopics and the pages randomly.

In the present study, the data was gathered using four data collection instruments: a questionnaire, an interview, a content and document analysis. However, before using the tools for collecting the main data, a pilot study was conducted. The questionnaire was distributed among 20 randomly selected teachers. The reliability coefficients were computed using the internal consistency methods (Cronback, 1951, in Ferguson and Takane, 1989), and amendments were made accordingly. At last, the reliability of the overall instrument was found out to be $\alpha=0.78$.

According to Gay (1980), if a reliability coefficient is $\geq 0.50$, it can be accepted as a reliable instrument. So, based on this parameter, the items were found to have good grounds to be used in collecting the relevant data for the study.

To get additional data to that obtained from the teachers through a questionnaire, an interview was used as a data collection tool. To this end, a semi-structured interview was carried out to collect related information from some selected teachers and students.

A content analysis, on the other hand, was employed to check whether the staff of Adama University prepare handouts in activity-based ways that foster further reading or not. Furthermore, some documents were analysed to ascertain whether there exists a sound guideline for preparing handouts in the university.

To collect relevant data for the study, a questionnaire which comprises 17 items was designed. Moreover, to get additional data, semi-structured interview schedules were prepared. The items of the questionnaire and the interview were revised in such a way that they address the objectives of the study. Then, the questionnaire was distributed among 158 sample teachers. 140 teachers returned the questionnaire. To make the results of the study more valid and reliable, the interviews were carried out with randomly selected teachers and students. Furthermore, the obtained data was substantiated using a content and document analysis.

The data that was gathered using the four tools was analysed using both quantitative and qualitative approaches. The data that was collected through the close-ended items of the questionnaire and some items of the interviews were analysed quantitatively by applying a statistical method involving the chi-square statistic and the percentage.

Nevertheless, before applying the chi-square ($x^2$), the results obtained from 140 teachers through the questionnaire were sorted out and tallied. In scoring the responses of the subjects, the positively and negatively stated items were sorted out and the negatively
stated items were reverse-scored and assigned scores and frequency numbers accordingly. Then, the chi-square was employed to determine the statistical significance of differences between the proportions of responses in the groups. The five-point scale was reduced into a dichotomous scale as the present study seeks to find out the washback effects of handouts on students’ learning in Adama University. The value of the neutral option, namely, that of ‘undecided’ was liquidated proportionally to the disagree and agree sides (Babbie, 1995, as cited in Margo, 2008). The level of significance, in all the cases, was determined at p<0.05. The data that was gathered using open-ended items of the questionnaire, some items of the interview, a content analysis and document analysis were not tabulated or computed.

Results and discussion

To check the extent to which the respondents use handouts in the teaching and learning process, a simple question was addressed in the questionnaire: *How often do you use handouts in the courses you teach?* In response to this question, out of the total 140 respondents, 21.43% said they use handouts very frequently in the courses they teach; 71.43% of the respondents reported that they use handouts frequently in the respective courses they teach; only 7.14% of the respondents said that they use handouts rarely. None of them said that they do not use handouts at all. This, in turn, reveals that almost all of the instructors use handouts at Adama University.

<table>
<thead>
<tr>
<th>No.</th>
<th>Observed frequency</th>
<th>x²</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Disagree</td>
<td>Agree</td>
</tr>
<tr>
<td>1</td>
<td>I use a handout to cover a lot of contents within a limited time.</td>
<td>43.01</td>
</tr>
<tr>
<td>2</td>
<td>I use a handout frequently to get relief from writing everything in the classroom.</td>
<td>42.22</td>
</tr>
<tr>
<td>3</td>
<td>A handout encourages students to be absent from classes.</td>
<td>28.09</td>
</tr>
<tr>
<td>4</td>
<td>I think that the handouts which provide thorough information for students are counterproductive.</td>
<td>100.00</td>
</tr>
<tr>
<td>5</td>
<td>I think that handouts have a negative impact on teachers’ regular attendance.</td>
<td>34.41</td>
</tr>
</tbody>
</table>

*Sequel to Table 1 see on p. 135.*
As can be seen from Table 1, the calculated $X^2$ value of all of the items is greater than the $X^2$ critical value (1, 0.05) which is 3.84. The explanations given for each of the items is presented as follows.

In Table 1, the first item deals with whether Adama University instructors use handouts to cover a lot of contents within a limited time. Regarding this, the chi-square calculated value (20.66) is greater than the chi-square critical value (1, 0.05), which is 3.84. As can be seen from Table 1, the magnitude and direction of the difference indicate that most of Adama University teachers use handouts to cover a lot contents within a short time.

Table 1 also shows the degree to which Adama University teachers use handouts frequently to get relief from writing everything in the classroom. Concerning this, the calculated $X^2$ value is 22.04. As compared to the $X^2$ critical value (1, 0.05) which is 3.84, it is by far greater which indicates the fact that most of the teachers in the university use handouts frequently to get relief from writing and/or doing everything in the classrooms.

Similarly, Table 1 depicts whether or not most of the teachers think that handouts encourage students to be absent from classes. In this case, the calculated $X^2$ value (49.37) is greater than the chi-square critical value (1, 0.05)=3.84. Hence, most of the teachers in Adama University feel that handouts make students not attain classes regularly. The interview made with some selected informants also revealed that if teachers use handouts which have detailed descriptions of the course contents, students show little interest towards classroom attendance thinking that they can compensate the classroom lesson via independent readings.

Table 1 also illustrates whether most instructors feel that the handouts which provide thorough information for students are counterproductive. In this regard, the $X^2$ calculated value (25.92) by far exceeds the $X^2$ critical value (1, 0.05) that is 3.84. Therefore, the magnitude and direction of the difference show that the majority of the staff of Adama University is not aware of the negative consequences of preparing handouts explicitly.
Moreover, Table 1 presents whether the teachers think that handouts have a negative impact on teachers’ regular attendance. Concerning this, the $x^2$ calculated value (35.97) is greater than the $x^2$ table value (1, 0.05) that is 3.84. Hence, the majority of the teachers feel that handouts make teachers to be absent from their regular teaching duties. In other words, the teachers think that if handouts are given to students, the students can read them, and the regular teaching responsibility can be compensated through students’ independent reading.

Furthermore, Table 1 shows whether or not incomplete/compartmentalised handouts have the tendency to make students voracious readers. Accordingly, the calculated value of $x^2$ is 29.02. Compared to the $x^2$ table value (1, 0.05) which is 3.84, it is great. So, the magnitude and direction of the difference clearly show that the majority of teacher educators think that incomplete/compartmentalised handouts do not have the tendency to make students voracious readers.

Table 1 depicts whether the teachers use alternatives such as worksheets, reference materials and other materials except handouts in the respective courses. In this regard, the calculated value of $x^2$ is 18.69. But, the magnitude and direction of the difference apparently show that the majority of teacher educators do not use alternatives, such as worksheets, reference materials and other materials in the respective courses they teach.

Table 1 also shows whether the teachers feel that handouts help them minimise excessive works in lesson(s) preparation and delivery. Concerning this, the calculated value of $x^2$ is 44.64. Compared to the critical value, the result is great and this implies that the majority of the teachers think that handouts help them to minimise their workload in both lessons’ preparation and delivery.

Lastly, Table 1 shows whether the teachers feel that activity-based handouts have more advantages over those prepared in another form in relation to promoting active learning. Regarding this, the calculated value of $x^2$ is 41.70. As compared to the critical value, it is great, and this implies that the teachers are aware of the advantages of using activity-oriented handouts instead of those prepared in another form to actively involve the learners.

In general, as it is shown in Table 1, regarding the overall use of handout and its flash back effects on the teaching and learning process, the calculated value of $x^2$ is 288.01. Compared to the $x^2$ critical value (at 1, 0.05=3.84), it is by far great, which indicates that all the items cited above, except a degree, are the key factors why Adama University teachers use handouts in the teaching and learning process.

As far as another question: Why do you think that university teachers frequently use handouts in the contemporary Ethiopian context of education? is concerned, the respondents reported that the main reasons are to cover a lot of portions within a very limited time, encourage students to read the handout before the actual class, minimise the workload and make the teaching and learning process as easy as possible. Besides, the respondents indicated more reasons: to overcome shortage of reference materials, make the students focus only on certain items as they are not interested in reading references, get time for running other personal businesses. Some teachers consider giving handouts a tradition Moreover, teachers lack the skill of how to create active learning environment, how to positively respond and treat students, how to address individual differences and how to ease and facilitate students’ learning.
To get additional information to the one gathered via the questionnaire, an interview was carried out with six randomly selected teachers, and most of them said that they usually use handouts to enrich what they teach, make students read during their spare time, cover excessive portions within limited time, help students develop reading habits and minimise the shortage of reference materials. One of the instructors said that:

Most instructors use handouts to conform to the longstanding teaching tradition in the universities of Ethiopia. Hence, they think that so far the students get something to read in relation to the course they learn. Nobody thinks about the side effects of the handouts that the students are using as resources. Moreover, since the instructors use handouts extensively, students consider handouts as sole sources of knowledge. As a result, they are totally dependent on the handouts given to them in the respective courses.

Another teacher responded to the interview as follows:

I use handouts mainly to cover some topics I should cover. I do not have the intention and skills to prepare activity-oriented handouts. Such preparation requires special training and the provision of adequate facilities.

Similarly, an interview was conducted with 10 randomly selected students, and almost of all them said that they use handouts to get ready-made information instead of searching for it in different books, get relief from writing lecture notes in the classes, easily get the focus of the subject teacher and minimise anxiety during examinations. During the interview, one of the students said that:

Handouts make university students get ready-made resources in relation to the courses they learn. So, they minimise worries as students can easily get the focus of the course under consideration. Hence, I really want our teachers to give us well-organized handouts all the time. If I get handouts, I even do not care whether I attend classes or not.

Another student said:

Handouts are very important for university students as they help the students read in advance what the respective course teacher teaches. Besides, students can get additional time for entertainment and can even start reading only when exam dates approach.

Moreover, the content analysis on the selected handouts gathered from the teachers revealed that almost all of the handouts are prepared in an informative form. It does not call for further reading on the part of the students. In other words, the handouts lack pre-task activities, in-task activities and post-task activities that encourage further reading and critical thinking. In some cases, the handouts are directly copied from books and lack the inputs of the subject teachers. On the contrary, relatively, the handouts being used by social science teachers somehow consist of the inputs of the respective subject teachers.
Furthermore, a document analysis was performed to check whether or not there exists a guideline or a model for preparing activity-based handout in the university. The results of the analysis showed that there is no any framework in the university that guide teachers for preparing handouts that enhance active learning as intended in the education and training policy of Ethiopia.

The majority of Adama University teachers make use of handouts in an informative format, though the education policy calls for an activity-based format. Moreover, there are no guidelines for preparing handouts in the university.

It was found that the majority of the instructors of the university lack awareness regarding the impacts of using handouts that provide thorough information.

The study revealed that the majority of teachers use handouts for the following reasons:

- to cover a lot of units within a very limited time;
- to enable students to read the handouts before the actual class;
- to minimise the workload;
- to make the teaching and learning process as easy as possible;
- to minimise a shortage of reference materials;
- to make the students focus only on certain items;
- to get time for running other personal businesses or to moonlight,
- to conform to the prevailing tradition;
- to backup students’ poor capacity of taking notes;
- to maintain instructional sustainability as the handouts will remain with the learners;
- to maintain uniformity among the different groups of students;
- to satisfy students’ high dependency on handouts.

It was also found that most of the Adama University teachers do not encourage students to use worksheets, references, module guides and other materials.

**Recommendations**

On the basis of the research findings, some recommendations are put forward.

1. To help Adama University teachers to prepare activity-based handouts, teachers’ awareness should be raised. In this regard, training programmes which focus on how to transform the present isolated, teacher-centred and lecture note-bound mode of delivery into student-centred, interactive learning environment should be provided.

2. The teachers should be provided with guidelines for designing handouts which comprise pre-task, in-task and post-task activities will be included in the handout instead of using the conventional informative format.

3. To further enhance the students’ learning, the university should make reference materials available, particularly provision of up-to-date references
and access to e-media should be made available for both teachers and students.

References:


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